Current Affairs
(Consolidation)

November 2022
(Part – II)

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Polity and Governance

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Registration of Birth and Death (RBD) Act, 1969

Why in News?

Recently, the Union Home Ministry proposed **amendment to the Registration of Birth and Death (RBD) Act, 1969**.

➢ The bill will be introduced in the winter session of parliament.

What are the Proposed Amendments?

➢ It has been proposed to **make birth certificates a mandatory document for almost every sphere of life —** admission in educational institutions, inclusion in the voter list, appointment in Central and State government jobs, issue of driving licence and passport.

➢ It shall be **mandatory for hospitals and medical institutions to provide a copy of all death certificates,** stating the cause of death, to the local registrar apart from the relative of the deceased.

   ❍ According to the Civil Registration System (CRS) report, **the registration level of births for the country increased to 92.7% in 2019 from 82.0% in 2010** and that of registered deaths increased from 66.9% in 2010 to 92.0 % in 2019.

   ❍ CRS is an **online system for registration of births and deaths** under the operational control of the RGI.

What is the Need for the Amendments?

➢ The draft amendments would enable the **Registrar General of India (RGI) under the Ministry of Home Affairs (MHA)** to "maintain a database of registered birth and deaths at the national level".

➢ The birth and death database at the national level that will be available with the RGI may be used to update the **Population Register, the Electoral Register, and the Aadhar, ration card, passport and driving licence databases.**

➢ If the amendments are implemented, the **Centre could use the data to update the National Population Register (NPR)** that was first prepared in 2010 and revised through door-to-door enumeration in 2015.

   ❍ The NPR already has a database of 119 crore residents and under the Citizenship Rules, 2003, it is the first step towards the creation of a **National Register of Citizens (NRC).**

What is Registration of Birth and Death (RBD) Act, 1969?

➢ Registration of Births and Deaths in India is **mandatory with the enactment of RBD, Act 1969** and is done as per the place of occurrence of the event.

➢ Under the RBD Act, it is the **responsibility of the States to register births and deaths.**

➢ State governments have **set up facilities for registering births and deaths and keeping records.**

Note:

- ➤ A Chief Registrar appointed in every State is the executive authority for implementation of the Act.
  - ○ A hierarchy of officials at the district and lower levels do the work.
- ➤ The RGI, appointed under this Act, is responsible for coordinating and unifying the implementation of the RBD Act.

State of India's Health Sector

Why in News?

Recently, **Fifteenth Finance Commission** chairperson N.K. Singh addressed the **Confederation of Indian Industry (CII)'s 19th Health Summit 2022** and highlighted various issues in the sector.

- ➤ The CII **works to create and sustain an environment conducive to the development of India**, partnering industry, Government, and civil society, through advisory and consultative processes.

What are the Recommendations/Issues Highlighted?

- ➤ **Inclusion of Health in the Concurrent List:**
  - ○ Under the Constitution, the **term 'health' should be included in the Concurrent List.**
  - ○ Also made a **pitch for universalising health insurance** to capture **'the missing middle'.**
    - ● **The Missing Middle:** People who are not rich enough to buy private health cover nor poor enough to qualify for government schemes.
- ➤ **Increasing Public Outlays:**
  - ○ There is **a need to enhance public outlays** [on health] to 2.5% of GDP by 2025.
    - ● This would entail a **major jump over this year's Budget numbers and require States to target 8% of their Budgets** towards the health sector, which is 'a daunting challenge'.
- ➤ **Inter-State Variations on Health Spending:**
  - ○ The need is to **recognise the large inter-State variations on health spending and outcomes.**
    - ● For instance, except Meghalaya, states are spending less than 8% of their Budget on the health sector, with the average being at 5.18% in 2018–19.

- ● The per capita health spending of Bihar, Uttar Pradesh and Jharkhand is about half that of Kerala and Tamil Nadu.
- ➤ **Development Financial Institution:**
  - ○ The **Finance Commission chief also suggested setting up a development financial institution for the health sector.**
    - ● Development Financial Institutions are **specialized institutions set up primarily to provide development/ Project finance** especially in developing countries. These are usually majority-owned by national governments.
- ➤ **Restructuring CSS:**
  - ○ Additionally, it was suggested that **Centrally Sponsored Schemes (CSS)** should be restructured to make them more flexible for states to adapt and innovate.

What is the Scenario of the Healthcare Sector in India?

- ➤ **About:**
  - ○ The healthcare industry comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment.
  - ○ India's healthcare delivery system is **categorised into two major components - public and private.**
    - ● The government (public healthcare system) comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of **Primary Healthcare Centres (PHCs)** in rural areas.
    - ● The private sector provides a majority of secondary, tertiary, and quaternary care institutions with major concentration in metros, tier-I and tier-II cities.
- ➤ **Potential of the Indian Health Sector:**
  - ○ India's competitive advantage lies in its large pool of well-trained medical professionals. India is also **cost competitive compared to its peers in Asia** and western countries. The cost of surgery in India is about one-tenth of that in the US or Western Europe.
  - ○ India has all the essential ingredients for the exponential growth in this sector, including a large population, a robust pharma and medical supply chain, 750 million plus smartphone users, **3rd largest**

Note:

start-up pool globally with easy access to VC **(Venture Capital Fund)** funding and innovative tech entrepreneurs looking to solve global healthcare problems.

❍ India will have **about 50 clusters for faster clinical testing of medical devices** to boost product development and innovation.

❍ The sector will be **driven by life expectancy, shift in disease burden, changes in preferences,** growing middle class, increase in health insurance, medical support, infrastructure development and policy support and incentives.

❍ As of 2021, the **Indian healthcare sector is one of India's largest employers** as it employs a total of 4.7 million people. The sector has generated 2.7 million additional jobs in India between 2017-22 - over 500,000 new jobs per year.

What are the Related Initiatives?
➢ **National Health Mission**
➢ **Ayushman Bharat**
➢ **Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)**
➢ **National Medical Commission**
➢ **PM National Dialysis Programme**
➢ **Janani Shishu Suraksha Karyakram (JSSK)**
➢ **Rashtriya Bal Swasthya Karyakram (RBSK)**

First E-collectorate in Bihar

Why in News?

Saharsa became the first district in Bihar to be declared paperless (e-office) with an aim to end the Great Indian Red Tape.

What is an e-Office Initiative?
➢ E-Office is a Mission-Mode project as part of e-Governance Initiatives.
➢ The **e-office initiative goes back to 2009,** but the towering piles of paperwork were–and still are–a hurdle too high to cross.
  ❍ Idukki in Kerala became paperless in 2012 and Hyderabad in 2016.
➢ It aims to significantly improve the operational efficiency of **Government Ministries and Departments** through improvement in the workflow mechanism and office procedure manuals.

What is Red Tape?

➢ It is a **derisive term for excessive regulation or rigid conformity** to formal rules that is considered redundant or bureaucratic and hinders or prevents action or decision-making.

➢ It is **usually applied to the government** but can also be applied to other organisations like corporations.

➢ It **generally includes the filling out of seemingly unnecessary paperwork**, obtaining of unnecessary licenses, having multiple people or committees approve a decision and various low-level rules that make conducting one's affairs slower and/or more difficult.

What are the Consequences of Red Tapism?

➢ **Increased Cost of Doing Business:**
  ❍ In addition to time and money spent filling out forms, **red tape reduces productivity and innovation in businesses.**
  ❍ Small businesses are particularly burdened by this and may discourage people from starting up a new business.

➢ **Poor Governance:**
  ❍ Because of red tape, **contracts are not enforced consistently, and administration is delayed**, resulting in delayed justice, especially for the poor. The burden of red tape requirements prevents many to enjoy their rights due to delayed governance and delayed distribution of welfare measures.

➢ **Citizen Dissatisfaction:**
  ❍ The **delays caused by government processing and the costs associated with them remain a source of dissatisfaction** among citizens. **Red Tapism leads to a sense of loss of trust in the government's process** most of the time, leaving citizens with unresolved problems.

➢ **Delay in Scheme Implementation:**
  ❍ Each new government scheme is met with red tape that eventually kills the larger objective for which it was launched.
  ❍ Lack of proper monitoring, delayed release of funds, etc., are common associated issues connected to Red Tapism.

➢ **Corruption:**
  ❍ According to a World Bank study, **corruption increases with increasing red tape.**
  ❍ By complicating the normal flow of businesses, bureaucracy breeds corruption and lowers growth.

Note:

drishti

What is the Need to End Red Tape?

➢ **Bring Efficiency:**
  ○ Digitisation can help in bringing efficiency, transparency and accountability.

➢ **Increased Employee Productivity:**
  ○ It has **increased employee productivity** and reduced the number of workers required to process one file since files are processed within a day.
  ○ In the government system, it is said that the faster a file moves, the faster a policy will be implemented.

➢ **Bring Accountability:**
  ○ The online system has also brought in more accountability and staff members cannot sit on files for days on end.

➢ **A Step towards Good Governance:**
  ○ Technology is the first step towards good governance and a corruption-free system.
  ○ The more technology we implement, the easier our service delivery will be to the public.

Election Commission of India

Why in News?

In a recent ruling, the **Supreme Court** claimed the government pays lip service to the independence of Election Commissioners, pointing out that **Chief Election Commissioners' terms have fallen from over eight years in the 1950s to less than three hundred days since 2004.**

What is the Election Commission of India?

➢ **About:**
  ○ The **Election Commission of India (ECI)** is an autonomous constitutional authority responsible for administering Union and State election processes in India.
    ● It was **established in accordance with the Constitution on 25th January 1950** (celebrated as **national voters' day**). The secretariat of the commission is in New Delhi.
  ○ The body administers elections to the Lok Sabha, Rajya Sabha, and State Legislative Assemblies in India, and the offices of the President and Vice President in the country.

● It is not concerned with the elections to panchayats and municipalities in the states. For this, the Constitution of India provides for a separate **State Election Commission.**

➢ **Constitutional Provisions:**
  ○ **Part XV (Article 324-329) of the Indian Constitution:** It deals with elections and establishes a commission for these matters.
  ○ **Article 324:** Superintendence, direction and control of elections to be vested in an Election Commission.
  ○ **Article 325:** No person to be ineligible for inclusion in, or to claim to be included in a special, electoral roll-on grounds of religion, race, caste or sex.
  ○ **Article 326:** Elections to the House of the People and to the Legislative Assemblies of States to be based on adult suffrage.
  ○ **Article 327:** Power of Parliament to make provision with respect to elections to Legislatures.
  ○ **Article 328:** Power of Legislature of a State to make provision with respect to elections to such Legislature.
  ○ **Article 329:** Bar to interference by courts in electoral matters.

➢ **Structure of ECI:**
  ○ Originally the **commission had only one election commissioner** but after the Election Commissioner Amendment Act 1989, it was made a multi-member body.
  ○ The **Election Commission shall consist of the Chief Election Commissioner (CEC)** and such number of other election commissioners, if any, as the President may from time-to-time fix.
  ○ Presently, it consists of the CEC and two Election Commissioners.
    ● At the state level, the election commission is helped by the Chief Electoral Officer who is an IAS rank Officer.

➢ **Appointment & Tenure of Commissioners:**
  ○ The **President appoints CEC and Election Commissioners.**
  ○ They have a **fixed tenure of six years**, or up to the age of 65 years, whichever is earlier.
  ○ They enjoy the same status and receive salary and perks as available to Judges of the **Supreme Court (SC)** of India.

Note:

➤ **Removal:**
  ○ They can **resign anytime or can also be removed** before the expiry of their term.
  ○ The CEC can be removed from office only through a process of removal similar to that of a SC judge by Parliament.

➤ **Limitations:**
  ○ The Constitution has **not prescribed the qualifications** (legal, educational, administrative or judicial) of the members of the Election Commission.
  ○ The **Constitution has not specified the term of the members of the Election Commission.**
  ○ The **Constitution has not debarred the retiring election commissioners** from any further appointment by the government.

What are the Powers and Functions of ECI?

➤ **Administrative:**
  ○ To determine the territorial areas of the electoral constituencies throughout the country on the basis of the **Delimitation** Commission Act of Parliament.
  ○ To prepare and periodically revise electoral rolls and to register all eligible voters.
  ○ To **grant recognition to political parties** and allot election symbols to them.
  ○ Election Commission ensures a level playing field for the political parties in election fray, through strict observance by them of a **Model Code of Conduct** evolved with the consensus of political parties.
  ○ It decides the **election schedules for the conduct of elections,** whether general elections or bye-elections.

➤ **Advisory Jurisdiction & Quasi-Judicial Functions:**
  ○ Under the Constitution, the **Commission has advisory jurisdiction** in the matter of post-election disqualification of sitting members of Parliament and State Legislatures.
    ● The opinion of the Commission in all such matters is binding on the President or, as the case may be, the Governor to whom such opinion is tendered.
  ○ Further, the **cases of persons found guilty of corrupt practices at elections which come before the SC and High Courts are also referred to the Commission for its opinion** on the question as to whether such person shall be disqualified and, if so, for what period.

  ○ The **Commission is vested with quasi-judicial power** to settle disputes relating to splits/ mergers of recognised political parties.
  ○ The Commission has the power to disqualify a candidate who has failed to lodge an account of his election expenses within the time and in the manner prescribed by law.

Operation of Quasi-judicial Courts

Why in News?

The most critical issue faced by **Quasi-judicial Courts** is the **lack of adequate supervision** and **ownership** by the administrative and political leadership.

➤ Data on the level of pendency or the speed of disposal is not compiled in many states.

What is a Quasi-judicial Body?

➤ **About:**
  ○ A **quasi-judicial body** is "an organ of Government **other than a Court or Legislature**, which affects the **rights of private parties** either through adjudication or rulemaking".
  ○ It is **not mandatory** that a Quasi-Judicial Body has to necessarily be an organisation **resembling a Court of Law.**
    ● For example, the **Election Commission of India** is also a Quasi-Judicial Body but **does not have its core functions as a Court of Law**.
  ○ Some examples of Quasi-Judicial Bodies in India are:
    ● **National Green Tribunal**
    ● **Central Information Commission (CIC)**
    ● **Lok Adalat**
    ● **Finance Commission**
    ● **National Consumer Disputes Redressal Commission**
    ● **Income Tax Appellate Tribunal**
    ● **Railway Claims Tribunal**

➤ **Role in Governance:**
  ○ In the **conventional judicial process**, a large section of the populace for the fear of expenditure may hesitate from approaching the Courts, thus defeating the purpose of justice.

- **Quasi-judicial bodies**, on the other hand, have an **overall low-cost** which **encourages people to seek redressal** for their grievances.
  - Tribunals and other such bodies **do not follow any lengthy or complex procedure** for submitting application or evidence etc.
  - Quasi-judicial bodies, while taking up specific matters, **majorly help by sharing the massive workload of the Judiciary**.
    - Like the **National Green Tribunal** adjudicating the matters related to environment and **pollution**.
  - Quasi-judicial bodies are accessible, free from technicalities, expeditious and proceed more rapidly and efficiently as manned by experts.
- **Challenges:**
  - Data on the **level of pendency or the speed of disposal** is not compiled in many states.
  - There is a class of quasi-judicial agencies that are not discussed in conversations on the pendency of cases.
    - These are generally **handled by the revenue authorities** and largely relate to **land, tenancy, excise, arms, mining, or preventive functions** under the **Criminal Procedure Code**. Usually, many of these offices are understaffed.
    - Their engagement with duties such as law and order, protocol, coordination and other administrative functions **leaves them with much less time for court work.**
    - Their access to **court clerks and record keepers is limited.** Computers and video recorders are not available in many of these courts.
    - Several of the presiding officers lack proper knowledge of law and procedures, which has landed many civil servants in deep trouble in sensitive matters such as those related to arms licenses.

What Measures can be taken to Improve Quasi-judicial Courts?

- The government should make the **efficient functioning of these agencies a priority** and clearly articulate **its position on the issue**.
- **Detailed data** on the functioning of these agencies must be collected and published from time to time, at least annually.

  - These should be **laid before the concerned legislatures**.
  - These results should be the **basis of decisions regarding the rationalising of staff strength**.
- An **electronic platform** should be established to handle all ancillary work related to the administration of justice, such as filing of complaints, issue of summons, movement of case records between courts, issuing copies of the judgments and so on.
  - It could establish a sound basis for analysing the functioning of these bodies and facilitate the publication of statistics.
- **Annual inspections of the subordinate courts** should be made mandatory.
  - This should be an important indicator for assessment by the superior authority. The inspections could become the basis of customised training of presiding officers.
- **Interdisciplinary research on the functioning of these courts** should be encouraged.
  - This would identify the areas of improvement such as legal reforms or issue of clear guidelines.
- Regular **training and orientation** of the adjudicating authorities should be taken up from time to time.
- The **state index of performance of these quasi-judicial courts** be made and published.
  - It would draw the attention of the states to their performance in comparison to others and help them identify areas of weakness.
- Important decisions, guidelines and directions **could be compiled and published on the portal of the apex adjudicating** forum such as the Board of Revenue.
  - These would be helpful to lower-level agencies.
- More **rigorous induction training of officials** handling judicial work would be helpful.
  - The importance of judicial work should be instilled among the trainees and the skill and confidence in handling them should be developed.
- **Procedural reforms** such as minimising adjournments, mandatory filing of written arguments and other such reforms proposed by bodies like the Law Commission for reform of the Civil Procedure Code should be adopted by these adjudicating bodies.

Note:

Digital Personal Data Protection Bill 2022

Why in News?

The Union Government has released a revised personal data protection bill, now called t**he Digital Personal Data Protection Bill, 2022**.

➤ The Bill has been introduced after 3 months of the withdrawal of the Personal Data Protection Bill, 2019.

What are the Seven Principles of the 2022 Bill?

➤ **Firstly**, usage of **personal data** by organisations must be done in a manner that is **lawful, fair to the individuals concerned and transparent to individuals.**

➤ **Secondly**, personal data must **only be used for the purposes** for which it was collected.

➤ **The third principle** talks of **data minimisation**.

➤ **The fourth principle** puts an emphasis on **data accuracy** when it comes to collection.

➤ **The fifth principle** talks of how personal data that is collected **cannot be "stored perpetually by default"** and storage should be **limited to a fixed duration**.

➤ **The sixth principle** says that there should be **reasonable safeguards to ensure** there is "no **unauthorized collection or processing** of personal data".

➤ **Seventh principle** states that "the person who decides the purpose and means of the processing of personal data **should be accountable for such processing**".

What are the Key Features of the Digital Personal Data Protection Bill?

➤ **Data Principal and Data Fiduciary:**
  ○ **Data Principal** refers to the individual whose **data is being collected**.
    ● In the case of children (**<18 years**), their parents/ lawful guardians will be considered their "**Data Principals**".
  ○ **Data Fiduciary** is the entity (individual, company, firm, state etc), which decides the "**purpose and means of the processing of an individual's personal data**".
    ● **Personal Data** is "any data by which an individual can be identified".

● **Processing** means "the entire cycle of operations that can be carried out in respect of personal data".
  ○ **Significant Data Fiduciary:**
    ● **Significant Data Fiduciaries** are those who deal with a high volume of personal data. The **Central government** will define who is designated under this category based on a number of factors.
    ● Such entities will have to appoint a '**Data protection officer**' and an independent **Data Auditor**.
➤ **Rights of Individuals:**
  ○ **Access to Information:**
    ● The bill ensures that individuals should be able to "**access basic information**" in languages specified in the **eighth schedule of the Indian Constitution**.
  ○ **Right to Consent:**
    ● Individuals need to **give consent before their data is processed** and "every individual should know **what items of personal data** a Data Fiduciary wants to collect and the **purpose of such collection** and further processing".
    ● Individuals also have the **right to withdraw consent** from a Data Fiduciary.
  ○ **Right to Erase:**
    ● Data principals will have the right to **demand the erasure and correction** of data collected by the data fiduciary.
  ○ **Right to Nominate:**
    ● Data principals will also have the **right to nominate an individual** who will exercise these rights in the event of their death or incapacity.
➤ **Data Protection Board:**
  ○ The Bill also proposes to set up a **Data Protection Board** to ensure compliance with the Bill.
  ○ In case of an unsatisfactory response from the Data Fiduciary, the consumers can file a complaint to the **Data Protection Board.**
➤ **Cross-border Data Transfer:**
  ○ The bill allows for **cross-border storage and transfer of data** to "certain notified countries and territories" provided they have a **suitable data security landscape,** and the **Government can access data** of Indians from there.

Note:

- ➢ **Financial Penalties:**
  - ○ **For Data Fiduciary:**
    - The bill proposes to **impose significant penalties** on businesses that undergo data breaches or fail to notify users when breaches happen.
    - The penalties will be imposed ranging from Rs. 50 crores to Rs. 500 crores.
  - ○ **For Data Principal:**
    - If a **user submits false documents while signing up for an online service**, or files frivolous grievance complaints, the user could be fined up to Rs 10,000.
- ➢ **Exemptions:**
  - ○ The government can **exempt certain businesses from adhering to provisions of the bill** on the basis of the **number of users and the volume of personal data** processed by the entity.
    - This has been done keeping in mind **startups** of the country who had complained that the Personal Data Protection Bill, 2019 **was too "compliance intensive".**
  - ○ **National security-related exemptions**, similar to the previous 2019 version, **have been kept intact.**
    - The **Centre has been empowered** to exempt its agencies from adhering to provisions of the Bill in the interest of **sovereignty and integrity of India**, **security of the state**, **friendly relations with foreign states**, **maintenance of public order** or **preventing incitement** to any cognisable offence.

Why is Digital Personal Data Protection Bill Significant?

- ➢ The new Bill offers significant **concessions on cross-border data flows**, in a departure from the previous Bill's contentious requirement of local storage of data within India's geography.
- ➢ It offers a relatively **soft stand on data localisation requirements** and permits **data transfer** to select global destinations which is likely to **foster country-to-country trade agreements**.
- ➢ The bill recognises the data principal's **right to postmortem privacy (Withdraw Consent)** which was missing from the PDP Bill, 2019 but had been recommended by the **Joint Parliamentary Committee (JPC)**.

How has India Strengthened Data Protection Regime?

- ➢ **Justice K. S. Puttaswamy (Retd) vs Union of India 2017:**
  - ○ In August 2017, a nine-judge bench of the Supreme Court in **Justice K. S. Puttaswamy (Retd) Vs Union of India** unanimously held that Indians have a **constitutionally protected fundamental right to privacy** that is an intrinsic part of life and liberty under **Article 21**.
- ➢ **B.N. Srikrishna Committee 2017:**
  - ○ Government appointed a **committee of experts for Data protection** under the chairmanship of **Justice B N Srikrishna** in August 2017, that submitted its report in July 2018 along with a draft Data Protection Bill.
    - The Report has a wide range of recommendations to **strengthen privacy law in India** including **restrictions on processing and collection** of data, Data Protection Authority, **right to be forgotten**, **data localisation** etc.
- ➢ **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021:**
  - ○ **IT Rules (2021)** mandate social media platforms to exercise greater diligence with respect to the content on their platforms.

What Data Protection Laws are there in Other Nations?
- ➢ **European Union Model:**
  - ○ **The General Data Protection Regulation** focuses on a **comprehensive data protection** law for processing of personal data.
  - ○ In the EU, the right to privacy is enshrined as a **fundamental right** that seeks to protect an **individual's dignity and her right** over the data she generates.
- ➢ **US Model:**
  - ○ There is **no comprehensive set of privacy rights or principles in the US** that, like the EU's GDPR, addresses the use, collection, and disclosure of data.
  - ○ Instead, there is **limited sector-specific regulation**. The approach towards data protection is different for the public and private sectors.
    - The activities and powers of the government vis-a-vis personal information are well-defined and addressed by broad legislation such as the **Privacy Act**, the **Electronic Communications Privacy Act**, etc.

Note:

- For the private sector, there are **some sector-specific norms.**
- **China Model:**
  - New Chinese laws on **data privacy and security** issued over the last 12 months include the **Personal Information Protection Law (PIPL)**, which came into effect in November 2021.
    - It gives **Chinese data principals new rights** as it seeks to prevent the misuse of personal data.
  - **The Data Security Law (DSL)**, which came into force in September 2021, requires business data to be **categorized by levels of importance**, and puts new restrictions on cross-border transfers.

National Press Day

Why in News?

National Press Day is celebrated across India every year on **16th November** to commemorate the setting up of the **Press Council of India.**

What is the Press Council of India?

- **About:**
  - It was first set up in **1966 under the Indian Press Council Act, 1965**, on the recommendations of the **first Press Commission,** with the two-fold objective of **preserving the freedom** of the press by **maintaining and improving the standards** of newspapers and the news agencies in India
  - As a quasi-judicial autonomous authority, it was **reestablished in the year 1979 under an Act of Parliament, Press Council Act, 1978.**
  - The Press Council of India is the **only body to exercise an authority even over the instruments of the State** in its duty to safeguard the independence of the press.
- **Structure:**
  - The Council is a body corporate having perpetual succession consisting of a **Chairman and 28 members**.
    - The Chairman is selected by the **Speaker of the Lok Sabha**, the **Chairman of the Rajya Sabha** and a **member elected amongst themselves by the 28 members of the Council.**
- **Objectives:**
  - To preserve the freedom of the Press.

- To maintain and improve the standards of newspapers and news agencies in India.
- **Roles & Responsibilities:**
  - **Role:**
    - The council can undertake **studies and express its opinion** in regard to any bill, legislation, law or other matters concerning the Press and convey its opinion to the Government or the persons concerned.
    - In matters of public importance, the Council may take cognizance and constitute a Special Committee to make an on-the-spot inquiry.
  - **Responsibilities:**
    - To help newspapers and news agencies to maintain their independence.
    - To build up a code of conduct for newspapers, news agencies and journalists in accordance with high professional standards.
    - To ensure on the part of the newspapers, news agencies and journalists, the maintenance of high standards of public taste and foster a due sense of both the rights and responsibilities.

Religious Conversion

Why in News?

Recently, the **Supreme Court** has asked the Centre to step in and make very serious and sincere efforts to tackle the issue of **Forced Religious Conversion.**

What was Petition and the Court's Ruling?

- The petition sought a declaration that fraudulent religious conversion by "intimidation, threatening, deceivingly luring through gifts and monetary benefits" offends **Articles 14, 21, 25 of the Constitution.**
- The plea pointed out that in the 1977 ruling in the *Rev Stainislaus versus State of Madhya Pradesh case*, the Supreme Court had said: "It has to be remembered that **Article 25(1) guarantees 'freedom of conscience'** to every citizen, and not merely to the followers of one particular religion and that, in turn, postulates that there is no fundamental right to convert another person to one's own religion.
- The SC, while hearing the petition sought directions to the Centre and states to **take stringent steps** to check such conversions.

➢ The court has said that **forced conversion is very dangerous** and may affect security of the nation and freedom of religion and conscience.

➢ This is because if a person purposely undertakes the conversion of another person to his religion, as distinguished from his effort to transmit or spread the tenets of his religion, that **would impinge on the freedom of conscience** guaranteed to all the citizens of the country alike.

What is Religious Conversion?

➢ Religious conversion is the **adoption of a set of beliefs identified with one particular religious** denomination to the exclusion of others.

➢ Thus "religious conversion" would describe the **abandoning of adherence to one denomination** and affiliating with another.
  ○ For example, Christian Baptist to Methodist or Catholic, Muslim Shi'a to Sunni.

➢ In some cases, religious conversion "marks a **transformation of religious identity** and is symbolized by special rituals".

What is the Need for Anti-Conversion Laws?

➢ **No Right to Proselytize:**
  ○ The Constitution confers on each individual the fundamental right to profess, practice and propagate his religion.
    ● Proselytizing is the act of trying to convert another individual from the convertee's religion to the converter's religion.
  ○ The individual right to freedom of conscience and religion **cannot be extended to construe a collective right to proselytize**.
  ○ For the right to religious freedom belongs equally to the person converting and the individual sought to be converted.

➢ **Fraudulent Marriages:**
  ○ In the recent past, several instances have come to the notice that whereby people **marry persons of other religion by either misrepresentation or concealment** of their own religion and after getting married they force such other person to convert to their own religion.

➢ **SC Observations:**
  ○ Recently, the Supreme Court took judicial notice of instances of people marrying by either misrepresentation or concealment of their own religion.
  ○ According to the court, **such incidents not only infringe the freedom of religion of the persons** so converted but also militate against the secular fabric of our society.

What is the Status of Anti-Conversion Laws in India?

➢ **Constitutional Provision:**
  ○ The Indian Constitution under **Article 25 guarantees** the freedom to profess, propagate, and practice religion, and allows all religious sections to manage their own affairs in matters of religion; subject to public order, morality, and health.
  ○ However, no person shall force their religious beliefs and consequently, no person should be forced to practice any religion against their wishes.

➢ **Existing Laws:**
  ○ There has been **no central legislation restricting or regulating religious conversions**.
  ○ However, since 1954, on multiple occasions, **Private Member Bills** have been introduced in (but never approved by) Parliament, to regulate religious conversions.
  ○ Further, in 2015, the Union Law Ministry stated that Parliament does not have the legislative competence to pass anti-conversion legislation.

➢ **Anti-Conversion Laws in Various States:**
  ○ Over the years, **several states have enacted 'Freedom of Religion'** legislation to restrict religious conversions carried out by force, fraud, or inducements.
    ● Orissa Freedom of Religion Act, 1967; Gujarat Freedom of Religion Act, 2003; Jharkhand Freedom of Religion Act, 2017; Uttarakhand Freedom of Religious Act, 2018; The Karnataka Protection of Right to Freedom of Religion Act, 2021.

What are the Issues Associated with Anti-Conversion Laws?

➢ **Uncertain and Vague Terminology:**
  ○ The uncertain and vague terminology like misrepresentation, force, fraud, allurement presents a serious avenue for misuse.

- These terms leave room for ambiguities or are too broad, extending to subjects far beyond the protection of religious freedom.
- **Antithetical to Minorities:**
  - Another issue is that the present anti-conversion laws focus more on the prohibition of conversion to achieve religious freedom.
  - However, the broad language used by the prohibitive legislation might be used by officials to oppress and discriminate against minorities.
- **Antithetical to Secularism:**
  - These laws may pose a threat to the secular fabric of India and the international perception of our society's intrinsic values and legal system.

Digital Shakti 4.0

Why in News?

The **National Commission for Women (NCW)** has recently launched the fourth phase of the Digital Shakti Campaign.

- NCW launched it in collaboration with CyberPeace Foundation and Meta.

What is Digital Shakti?

- **About:**
  - Digital Shakti started in June 2018 to help **women across the nation to raise the awareness level on the digital front.**
  - It is helping women in reporting & redressal mechanisms, data privacy and usage of technology for their benefits.
  - The third phase of the program was started in March 2021 with the launch at Leh.
- **Digital Shakti 4.0:**
  - Digital Shakti 4.0 is focused on **making women digitally skilled and aware to stand up against any illegal/inappropriate** activity online.
  - It aims to ensure safe cyber spaces for women.
- **Achievements:**
  - Through the Digital Shakti project, over **3 Lakh women across India have been made aware of cyber safet**y tips and tricks, reporting & redressal mechanisms, data privacy and usage of technology for their benefits.

What is National Commission for Women?

- It was set up as **a statutory body in January 1992** under the National Commission for Women Act, 1990.
- Its mission is to **strive towards enabling women to achieve equality and equal participation in all spheres of life** by securing her due rights and entitlements through suitable policy formulation, legislative measures, etc.
- Its functions are to:
  - Review the **constitutional and legal safeguards for women.**
  - Recommend remedial legislative measures.
  - Facilitate redressal of grievances.
  - Advise the Government on all policy matters affecting women.

Freedom of Speech of People holding Public Offices

Why in News?

Recently, the **Supreme Court** stated that **people holding public office should exercise self-restriction** and not blabber things which are disparaging or insulting to other countrymen.

- A five-judge Constitution bench reserved its verdict on whether **restrictions can be imposed on a public functionary's right to freedom of speech and expression.**

What are the Highlights of Judgement?

- **About:**
  - The court observed **there is always a civil remedy available to citizens on account of a public functionary** making a speech that affects someone.
  - The court noted that irrespective of what Article 19(2) may say, there is a **constitutional culture in the country where there is an inherent limitation or a restriction** on what people holding responsible positions say.
    - **Article 19 (2) relates to the powers of the State to make laws imposing reasonable restrictions** on the exercise of the right to freedom of speech and expression in the interest of sovereignty and integrity of the country, public order, decency, morality etc.

Note:

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- ➢ **Earlier Judgement:**
  - ❍ In 2017, a three-judge bench had **referred to the Constitution bench various issues for adjudication, including whether a public functionary or a minister can claim freedom of speech** while expressing views on sensitive matters.
    - The need for an authoritative pronouncement on the issue arose as there were arguments that a **minister cannot take a personal view** and his statements have to be in sync with government policy.
  - ❍ The court earlier said that it **will consider whether the Fundamental Right of Speech and Expression would be governed** under reasonable restriction of decency or morality or other preferred fundamental rights would also have an impact on it.

What is the Code of Conduct?

- ➢ A code of conduct is a **set of rules, standards of behaviour or practices for an individual or organization that guide the decisions**, procedures and systems of an organization in a way that contributes to the welfare of its stakeholders.
  - ❍ For example, the **Election Commission of India's Model Code of Conduct** is a set of guidelines issued by the Election Commission of India for conduct of political parties and candidates during elections mainly with respect to speeches, polling day, polling booths, portfolios, election manifestos, processions and general conduct.
- ➢ Similarly, a **set of codes of rules are prescribed for civil servants** with regard to their conduct in performing their duties.

What are the Seven Principles of the Code of Conduct for Civil Servants?

- ➢ **Selflessness:** Holders of public office **should take decisions solely in terms of the public interest.** They should not do so in order to gain financial or other material benefits for themselves, their family, or their friends.
- ➢ **Integrity:** Holders of public office **should not place themselves under any financial or other obligation** to outside individuals or organisations that might influence them in the performance of their official duties.
- ➢ **Objectivity:** In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, holders of public office should make choices on merit.
- ➢ **Accountability: Holders of public office are accountable for their decisions** and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.
- ➢ **Openness:** Holders of public office **should be as open as possible about all the decisions** and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.
- ➢ **Honesty:** Holders of public office have a **duty to declare any private interests** relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.
- ➢ **Leadership:** Holders of public office **should promote and support these principles by leadership and example.**

UIDAI Enrollment of Prisoners

Why in News?

Recently, as a special measure to enroll prison inmates across the country, the **Unique Identification Authority of India (UIDAI)** has agreed to accept the **Prisoner Induction Document (PID) as a valid document** for enrolment or update of Aadhaar.

- ➢ Though the campaign to extend Aadhaar facility to prisoners was launched in 2017, **the process did not take off on expected lines** since enrolment to the scheme required valid supporting documents prescribed by the UIDAI.

What is the Unique Identification Authority of India?

- ➢ **Statutory Authority:** The UIDAI is a statutory authority established on 12th July 2016 by the Government of India under the jurisdiction of the Ministry of Electronics and Information Technology, following the provisions of the **Aadhaar Act 2016.**
  - ❍ The UIDAI was initially set up by the Government of India in January 2009, as an attached office under the aegis of the **Planning Commission.**
- ➢ **Mandate:** The UIDAI is mandated to assign a **12-digit unique identification (UID) number** (Aadhaar) to all the residents of India.

Note:

❍ The overall Aadhaar saturation level in the country has crossed 93%, and in the case of the adult population it is nearly 100%

What is the Significance of Aadhaar?

➢ **Promoting Transparency and Good Governance:** Aadhaar number is **verifiable in an online, cost-effective way.**

❍ It is unique and robust enough to eliminate duplicates and fake identities and thus used as a basis/primary identifier to roll out several Government welfare schemes thereby promoting transparency and good governance.

➢ **Helping Bottom of the Pyramid:** Aadhaar has **given identity to a large number of people who did not have any identity earlier.**

❍ It has been used in a range of services and has helped in bringing **financial inclusion**, broadband and telecom services, **direct benefit transfers** to the bank account of citizens in a transparent manner.

➢ **Neutral:** Aadhaar number is **devoid of any intelligence and does not profile people based on caste, religion, income, health and geography.**

❍ The Aadhaar number is a proof of identity, however, it does not confer any right of citizenship or domicile in respect of an Aadhaar number holder.

➢ **People-Centric Governance:** Aadhaar is a **strategic policy tool for social and financial inclusion**, public sector delivery reforms, managing fiscal budgets, increasing convenience and promoting hassle-free people-centric governance.

➢ **Permanent Financial Address:** Aadhaar can be **used as a permanent Financial Address and facilitates financial inclusion** of the underprivileged and weaker sections of the society and is therefore a tool of distributive justice and equality.

❍ Thus, the Aadhaar identity platform is one of the key pillars of **'Digital India'.**

What are the Concerns related to Aadhaar?

➢ **Misuse of Aadhaar Data:**

❍ Many private entities in the country **insist on an Aadhaar card, and users often share the details.**

❍ There's no clarity on how these entities keep these data private and secure.

❍ More recently with **Covid-19** testing, many would have noticed that most labs insist on Aadhaar card data, including a photocopy.

● It should be noted that it is **not mandatory to share this for getting a Covid-19 test done.**

➢ **Excessive Imposition:**

❍ In 2018, the Supreme Court ruled that **Aadhaar authentication can be made mandatory only for benefits paid from the Consolidated Fund of India** and that alternative means of identity verification must always be provided when Aadhaar fails.

● Children were exempt but **aadhaar continues to be routinely demanded from children for basic rights** such as anganwadi services or school enrolment.

➢ **Arbitrary Exclusions:**

❍ Central and state governments have made **routine use of the "ultimatum method"** to enforce the linkage of welfare benefits with Aadhaar.

❍ In this method, **benefits are simply withdrawn or suspended if the recipients fail to comply with the linkage instructions** in good time, such as failing to link their job card, ration card or bank account with Aadhaar.

➢ **Fraud-prone Aadhaar-enabled Payment System (AePS):**

❍ AePS is a **facility that enables someone who has an Aadhaar-linked account to withdraw money** from it anywhere in India through biometric authentication with a "business correspondent" – a kind of mini-ATM.

● There have been **rampant abuses of this facility by corrupt business correspondents.**

Election Commission of India

Why in News?

In a recent ruling, the **Supreme Court** claimed the government pays lip service to the independence of Election Commissioners, pointing out that **Chief Election Commissioners' terms have fallen from over eight years in the 1950s to less than three hundred days since 2004.**

What is the Election Commission of India?

➢ **About:**

❍ The **Election Commission of India (ECI)** is an autonomous constitutional authority responsible for administering Union and State election processes in India.

Note:

- It was **established in accordance with the Constitution on 25ᵗʰ January 1950** (celebrated as **national voters' day**). The secretariat of the commission is in New Delhi.
  - The body administers elections to the Lok Sabha, Rajya Sabha, and State Legislative Assemblies in India, and the offices of the President and Vice President in the country.
    - It is not concerned with the elections to panchayats and municipalities in the states. For this, the Constitution of India provides for a separate **State Election Commission.**

➢ **Constitutional Provisions:**
  - **Part XV (Article 324-329) of the Indian Constitution:** It deals with elections and establishes a commission for these matters.
  - **Article 324:** Superintendence, direction and control of elections to be vested in an Election Commission.
  - **Article 325:** No person to be ineligible for inclusion in, or to claim to be included in a special, electoral roll-on grounds of religion, race, caste or sex.
  - **Article 326:** Elections to the House of the People and to the Legislative Assemblies of States to be based on adult suffrage.
  - **Article 327:** Power of Parliament to make provision with respect to elections to Legislatures.
  - **Article 328:** Power of Legislature of a State to make provision with respect to elections to such Legislature.
  - **Article 329:** Bar to interference by courts in electoral matters.

➢ **Structure of ECI:**
  - Originally the **commission had only one election commissioner** but after the Election Commissioner Amendment Act 1989, it was made a multi-member body.
  - The **Election Commission shall consist of the Chief Election Commissioner (CEC)** and such number of other election commissioners, if any, as the President may from time-to-time fix.
  - Presently, it consists of the CEC and two Election Commissioners.
    - At the state level, the election commission is helped by the Chief Electoral Officer who is an IAS rank Officer.

➢ **Appointment & Tenure of Commissioners:**
  - The **President appoints CEC and Election Commissioners.**
  - They have a **fixed tenure of six years**, or up to the age of 65 years, whichever is earlier.
  - They enjoy the same status and receive salary and perks as available to Judges of the **Supreme Court (SC)** of India.

➢ **Removal:**
  - They can **resign anytime or can also be removed** before the expiry of their term.
  - The CEC can be removed from office only through a process of removal similar to that of a SC judge by Parliament.

➢ **Limitations:**
  - The Constitution has **not prescribed the qualifications** (legal, educational, administrative or judicial) of the members of the Election Commission.
  - The **Constitution has not specified the term of the members of the Election Commission.**
  - The **Constitution has not debarred the retiring election commissioners** from any further appointment by the government.

What are the Powers and Functions of ECI?

➢ **Administrative:**
  - To determine the territorial areas of the electoral constituencies throughout the country on the basis of the **Delimitation** Commission Act of Parliament.
  - To prepare and periodically revise electoral rolls and to register all eligible voters.
  - To **grant recognition to political parties** and allot election symbols to them.
  - Election Commission ensures a level playing field for the political parties in election fray, through strict observance by them of a **Model Code of Conduct** evolved with the consensus of political parties.
  - It decides the **election schedules for the conduct of elections,** whether general elections or bye-elections.

➢ **Advisory Jurisdiction & Quasi-Judicial Functions:**
  - Under the Constitution, the **Commission has advisory jurisdiction** in the matter of post-election disqualification of sitting members of Parliament and State Legislatures.

Note:

- The opinion of the Commission in all such matters is binding on the President or, as the case may be, the Governor to whom such opinion is tendered.
  - Further, the **cases of persons found guilty of corrupt practices at elections which come before the SC and High Courts are also referred to the Commission for its opinion** on the question as to whether such person shall be disqualified and, if so, for what period.
  - The **Commission is vested with quasi-judicial power** to settle disputes relating to splits/ mergers of recognised political parties.
  - The Commission has the power to disqualify a candidate who has failed to lodge an account of his election expenses within the time and in the manner prescribed by law.

Draft Prevention of Cruelty to Animal (Amendment) Bill-2022

Why in News?

Recently, the Government has introduced the **draft Prevention of Cruelty to Animal (Amendment) Bill-2022** to amend the six-decade-old law **Prevention of Cruelty to Animal Act, 1960.**

➢ The draft has been prepared by the Ministry of Fisheries, Animal Husbandry and Dairying.

What are the Proposed Amendments?

➢ **Bestiality as a Crime:**
  - The draft includes **'bestiality' as a crime under the new category of 'gruesome cruelty'.**
    - "Bestiality" means any kind of sexual activity or **intercourse between human being and animal.**
    - Gruesome cruelty has been defined as "**an act that leads to extreme pain and suffering to the animals** which may cause lifelong disability or death".

➢ **Punishment for Gruesome Cruelty:**
  - A **minimum fine of Rs 50,000 may be imposed and may be increased to Rs 75,000** by a judicial magistrate in consultation with the jurisdictional veterinarians, or the cost may be determined by the judicial magistrate whichever is more, or a maximum fine of one year that may be extended to three years.

➢ **Punishment for killing an Animal:**
  - A maximum 5-year imprisonment, along with a fine.

➢ **Freedoms to Animals:**
  - The draft also proposes insertion of a new Section 3A, which provides 'five freedoms' to animals.
  - It shall be the duty of every person having charge of an animal to ensure that the animal in his care or under his charge has:
    - Freedom from thirst, hunger and malnutrition
    - Freedom from discomfort due to environment
    - Freedom from pain, injury and diseases
    - Freedom to express normal behaviour for the species
    - Freedom from fear and distress

➢ **Community Animals:**
  - In the case of community animals, the local government shall be responsible for their care.
    - The draft proposals introduce the **community animal as "any animal born in a community for which no ownership** has been claimed excluding wild animals as defined under the **Wildlife Protection Act, 1972.**

What does the Prevention of Cruelty to Animals Act, 1960 say?

➢ **About:**
  - It discusses **different forms of cruelty, exceptions, and killing of a suffering animal** in case any cruelty has been committed against it, so as to relieve it from further suffering.
  - The legislative intent of the Act is to **"prevent the infliction of unnecessary pain or suffering on animals".**
  - The **Animal Welfare Board of India (AWBI)** was established in 1962 under Section 4 of the Act.
  - This Act provides for **punishment for causing unnecessary cruelty and suffering to animals.** The Act defines animals and different forms of animals.
    - In the case of a first offence, **fine which shall not be less than ten rupees but which may extend to fifty rupees.**

Note:

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- In the case of a second or subsequent offence committed within three years of the previous offence, **fine which shall not be less than twenty-five rupees** but which may extend to one hundred rupees or with imprisonment for a term which may extend to three months, or with both.
- It **provides the guidelines relating to experimentation on animals for scientific purposes.**
- The Act **enshrines the provisions relating to the exhibition of the performing animals**, and offences committed against the performing animals.

➢ **Criticism:**
- The Act has been **criticised for being 'speciesist'** (put very simply, the assumption that humans are a superior species deserving more rights), for its quantum of punishment being negligible, for not defining 'cruelty' adequately, and for slapping a flat punishment without any gradation of crimes.

Assam-Meghalaya Border Dispute

Why in News?

Recently, six people were **killed and several others injured during an alleged clash** between the **Assam Police** and a mob in an area bordering the **West Karbi Anglong district of Assam** and **Mukroh village in Meghalaya**'s West Jaintia Hills.

➢ The killings come ahead of the **second phase of talks between the two states** to resolve their **boundary dispute.**

What is Assam-Meghalaya Border Dispute?

➢ **About:**
- **Assam and Meghalaya** have a longstanding dispute in **12 stretches of their 884-km shared border**.
- **The Assam-Meghalaya border dispute are the areas of** Upper Tarabari, Gazang reserve forest, Hahim, Langpih, Borduar, Boklapara, Nongwah, Matamur, Khanapara-Pilangkata, Deshdemoreah Block I and Block II, Khanduli and Retacherra.

➢ **History:**
- During British rule, undivided Assam included present-day **Nagaland**, **Arunachal Pradesh, Meghalaya and Mizoram**.
  - Meghalaya was **carved out in 1972**, its boundaries demarcated as per the **Assam Reorganisation (Meghalaya) Act of 1969**, but has held a **different interpretation of the border since**.
  - In 2011, the Meghalaya government had identified **12 areas of difference with Assam**, spread over approximately 2,700 sq km.

➢ **Major Point of Concern:**
- A major point of contention between Assam and Meghalaya is the **district of Langpih in West Garo Hills** bordering the **Kamrup district of Assam**.
- Langpih was part of the **Kamrup district during the British colonial period** but post-Independence, it became **part of the Garo Hills and Meghalaya**.
  - Assam considers it to be **part of the Mikir Hills in Assam**.
  - Meghalaya has questioned **Blocks I and II of the Mikir Hills** -now **Karbi Anglong region** - being part of Assam.
    - Meghalaya says **these were parts of erstwhile United Khasi** and **Jaintia Hills** districts.

➢ **Attempts to Resolve Dispute:**
- In 1985, under the Assam chief minister and Meghalaya chief minister, an **official committee was constituted** under the former **Chief Justice of India** Y V Chandrachud.
  - However, **a solution was not found**.
- Both state governments identified **six out of 12 disputed areas for resolution** in the first phase:
  - Three areas contested between **West Khasi Hills district** in Meghalaya and **Kamrup in Assam**, two between **RiBhoi in Meghalaya** and **Kamrup-Metro**, and one between **East Jaintia Hills** in Meghalaya and **Cachar in Assam**.

❍ After a series of meetings and visits by teams to the disputed areas, **both sides submitted reports** based on five mutually agreed principles:

- Historical perspective, ethnicity of local population, contiguity with boundary, peoples' will and administrative convenience.

❍ **A final set of recommendations were made jointly**:

- Out of 36.79 sq km of disputed area taken up for settlement in the first phase, **Assam would get full control of 18.46 sq km** and **Meghalaya of 18.33 sq km.**

- In March 2022, a Memorandum of Understanding was signed based on these recommendations.

❍ The second round of discussions for the remaining six phases **is to commence by the end November 2022.**

What Additional Can be done to Resolve the Dispute?

➢ Boundary disputes between the states can be settled by using **satellite mapping of the actual border locations**.

➢ Reviving the **Inter-state council** can be an option for resolution of an Inter-state dispute.

    ❍ Under **Article 263 of the Constitution**, the Inter-state council is **expected to inquire and advise** on disputes, discuss subjects common to all states and make recommendations for better policy coordination.

➢ Similarly, **Zonal councils** need to be revived to discuss the matters of common concern to states in each zone—matters relating to social and economic planning, border disputes, inter-state transport, etc.

➢ India is the epitome of unity in diversity. However, in order to strengthen this unity furthermore, both the centre and state governments, need to imbibe the ethos of **cooperative federalism**.

Which Other States of India are Involved in Border Disputes?

➢ **Belagavi Border Dispute:**

    ❍ The **Belagavi Border Dispute** is between the states of **Maharashtra** and **Karnataka**.

- Belgaum or Belagavi is **currently part of Karnataka** but is claimed by Maharashtra.

    ❍ In 1957, slighted by the implementation of the **States Reorganisation Act, 1956**, Maharashtra **demanded readjustment of its border with Karnataka**.

➢ **Odisha's Border Dispute:**

    ❍ **The Odisha Border Dispute** is between the states of **Odisha** and **Andhra** Pradesh.

    ❍ Odisha and Andhra Pradesh have been locked in a territorial dispute over **Kotia gram panchayat since 1960**. Disputes pertain over 21 villages in Kotia gram panchayat.

    ❍ In 2006, Odisha sent a complaint to the Central Government under Section 3 of the **Inter-State River Water Disputes (ISRWD) Act, 1956** regarding its water disputes with Andhra Pradesh pertaining to **Inter-State River Vamsadhara**.

Regulatory Framework for Online Bond Platform Providers

Why in News?

   Securities and Exchange Board of India (SEBI) has come out with a regulatory framework for online bond platform providers in a bid to **streamline their operations.**

➢ **Online Bond Platform Providers (OBPPs)** would be companies incorporated in India and they should register themselves as stock brokers in the debt segment of the stock exchange, as per the framework that would be effective immediately.

What is the Need for a Regulatory Framework?

➢ With the bond market offering tremendous scope for development, particularly in the non-institutional space, there is a **need to place checks and balances in the form of transparency in operations** and disclosures to the investors dealing with such **Online Bond Platforms (OBPs)**, measures for mitigation of payment.

➢ During the past few years, **there has been an increase in the number of OBPPs** offering debt securities to non-institutional investors. Most of them are fintech companies or are backed by stock brokers.

➢ There has been a significant increase in the number of registered users who have transacted through them.

➢ Operations of OBPs **were outside SEBI's regulatory purview.**

What are the New Rules?

➢ After obtaining registration as a stock broker in the debt segment of a stock exchange, an entity would have to apply to the bourse to act as an OBPP.

Note:

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- The new rules mandate **registration certificate as a stock broker from SEBI** to act as an online bond platform provider.
- Those acting as an online bond platform provider without registration certificate provider prior to 9th november 2022 continue to do so for a period of three months.
- People will have to comply with the conditions of registrations as specified by the SEBI from time to time.
- The entity would have to ensure compliance with the minimum disclosure requirements. It would also have to disclose on its platform all instances of conflict of interest, if any, arising from its transactions or dealings with related parties.

What Is the Bond Market?

- **Bonds:**
  - Bonds are units of corporate debt **issued by companies and securitized as tradeable assets.**
  - A bond is referred to as a **fixed-income instrument since bonds traditionally paid a fixed interest rate** (coupon) to debtholders.
  - Variable or floating interest rates are also now quite common.
  - Bond prices are inversely correlated with interest rates: when rates go up, bond prices fall and vice-versa.

- **Types of Bonds:**
  - **Convertible Bond:**
    - Unlike regular bonds that are redeemed upon maturity, a **convertible bond gives the purchaser a right or an obligation to convert** the bond into shares of the issuing company.
    - It features a fixed tenure and **pays out interest payments periodically** at predetermined intervals.
  - **Fixed Coupon Rate Bonds:**
    - In these types of bonds, the interest is fixed from the date of issue. Most of the corporate and government bonds are of fixed coupon rate and the interest or coupon is provided annually, semi-annually, quarterly or monthly till the redemption date.
  - **Floating Coupon Rate Bonds (FRB):**
    - In these bonds, the coupon rate fluctuates at a predefined time till the date of maturity. Here

interest rate depends on a benchmark which it follows to determine the coupon rate in each coupon payment. In the case of FRB Bond, the coupon rate depends on the **T-bills** yield.

- **Zero Coupon Bonds:**
  - These bonds are those bonds where the issuer does not provide any coupon payment to the holder till the maturity date. Here the bonds are issued below the face value amount and on the date of redemption or maturity. Bonds are redeemed on the face value amount. Here the difference between the redemption price and the issue price is the return for an investor. In India, Treasury-Bills are the Zero-Coupon Bonds.

- **Cumulative Coupon Rate Bonds:**
  - These bonds are issued with a coupon rate but the coupon payment is done at the time of redemption. Usually, corporates issue these types of bonds.

- **Inflation Indexed Bonds:**
  - These bonds provide protection from inflation. It is primarily issued by the government. Here the coupon rate is dependent on the inflation rate. Usually, the coupon rate equals the inflation rate and the additional rate provided over the inflation rate.

- **Sovereign Gold Bonds (SGBs):**
  - As per the Reserve Bank of India **SGBs** are government securities denominated in grams of gold.
  - These are the substitutes for holding physical gold. Investors have to pay the issue price in cash and the bonds will be redeemed in cash on maturity.

- **Bond Market:**
  - The bond market broadly describes a **marketplace where investors buy debt securities** that are brought to the market by either governmental entities or corporations.
  - National governments generally use the proceeds from bonds to finance infrastructural improvements and pay down debts.
  - Companies issue bonds to raise the capital needed to maintain operations, grow their product lines, or open new locations.

Note:

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○ Bonds are either issued on the **primary market, which rolls out new debt, or traded on the secondary marke**t, in which investors may purchase existing debt via brokers or other third parties.

➢ **Online Bond Platform:**

○ As per SEBI, it is an electronic system other than a recognised stock exchange or an electronic book providing platform, on which debt securities are listed or proposed to be listed are offered and transacted.

● The online bond platform provider means any person operating or providing such a platform.

Sugamya Bharat Abhiyan

Why in News?

The **Sugamya Bharat Abhiyan (Accessible India Campaign)** is going to complete 7 years in December 2022.

➢ The aim of the Campaign is to make a **barrier-free and conducive environment** for Divyangjans (**Persons with Disabilities - PwDs**) all over the country.

What is the Accessible India Campaign?

➢ **About:**

○ It was launched by the Prime Minister of India on **International Day of Persons with Disabilities** on 3rd December 2015.

➢ **Implementing Agency:**

○ AIC is the nationwide flagship campaign of the **Department of Empowerment of Persons with Disabilities (DEPwD)**, Ministry of Social Justice and Empowerment.

➢ **Background:**

○ **Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act,**

1995 categorically provided for non-discrimination in transport and in the built environment.

● It needs to be noted that the **Rights of Persons with Disabilities Act, 2016** replaced the PwD Act, 1995 to comply with **United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)** .

○ **UNCRPD**, to which India is a signatory, under Article 9 casts obligations on the Governments for ensuring to PwDs accessibility to:

● Information

● Transportation

● Physical Environment

● Communication Technology

● Accessibility to Services as well as emergency services.

➢ **Components of AIC:**

○ Built Environment Accessibility

○ Transportation System Accessibility

○ Information and Communication Eco-System Accessibility

How has the Accessible India Campaign Performed?

➢ **Built-Up Environment:**

○ Access Audit of 1671 buildings completed.

○ 1,630 Government buildings, including 1030 Central Government buildings have been provided with features of accessibility.

➢ **Transportation Sector:**

○ **Airports:**

● 35 International Airports and 55 Domestic Airports have been provided with features of accessibility.

● Ambulifts are available at 12 airports.

○ **Railways:**

● All 709 A1, A & B category railway stations have been provided with seven Short Term Facilities.

● 603 railway stations have been provided with 2 Long Term Facilities.

○ **Roadways:**

● 1,45,747 (29.05%) buses have been made partially accessible and 8,695 (5.73%) made fully accessible

Note:

- ➢ **ICT Ecosystem (Websites):**
  - ○ Nearly 627 Central and State/UT government websites have been made accessible.
- ➢ **Accessibility in TV viewing:**
  - ○ 19 private news channels are telecasting partially accessible news bulletins.
  - ○ 2,447 news bulletins have been telecast with subtitling/sign-language interoperation.
  - ○ 9 general entertainment channels have telecast 3686 scheduled programs/movies using subtitling
- ➢ **Education:**
  - ○ Out of 11,68,292 government and government aided schools, 8,33,703 schools (71%) have been made barrier free with the provision of ramps, handrails and accessible toilets
- ➢ **Monitoring**:
  - ○ Activities under the Accessible India Campaign are being monitored through a **Management Information System (MIS)** portal.
- ➢ **Sugamya Bharat App:**
  - ○ Helping in **crowdsourcing grievances of accessibility** being faced on ground in infrastructure and services and forwarding for redressal.
  - ○ Helpful in creating **sensitization and awareness generation** about importance of accessibility.
  - ○ COVID-19 related complaints which are meant only for Divyangjans are being given top priorities.

What are the Recent Initiatives to Empowerment of Disables?

- ➢ **India:**
  - ○ **Unique Disability Identification Portal**
  - ○ **DeenDayal Disabled Rehabilitation Scheme**
  - ○ **Assistance to Disabled Persons for Purchase/ fitting of Aids and Appliances**
  - ○ **National Fellowship for Students with Disabilities**
- ➢ **Global:**
  - ○ **International Day of Persons with Disabilities**
  - ○ **UN Principles for People with Disabilities**

Old Pension Scheme

Why in News?

A few political parties are promising to restore to the **Old Pension Scheme** in some states.

What is the Old Pension Scheme?

- ➢ **About:**
  - ○ The scheme assures **life-long income, post-retirement.**
  - ○ Under the old scheme, **employees get a pension under a pre-determined formula which is equivalent to 50%** of the last drawn salary. They also get the benefit of the revision of Dearness Relief (DR), twice a year. The payout is fixed and there was no deduction from the salary. Moreover, under the OPS, **there was the provision of the General Provident Fund (GPF).**
    - ● GPF is available only for all the government employees in India. Basically, it allows all the government employees to contribute a certain percentage of their salary to the GPF. And the total amount that is accumulated throughout the employment term is paid to the employee at the time of retirement.
  - ○ The Government bears the **expenditure incurred on the pension.** The scheme was **discontinued in 2004.**
- ➢ **Concerns:**
  - ○ **Unfunded Pension Liability:**
    - ● The main problem was that the pension liability remained unfunded — that is, there was **no corpus specifically for pension, which would grow continuously and could be dipped** into for payments.
    - ● The Government of India budget provided for pensions every year; there was no clear plan on how to pay year after year in the future.
  - ○ **Unsustainable:**
    - ● The OPS was also unsustainable. For one, pension liabilities would keep climbing since pensioners' benefits increased every year; like salaries of existing employees, pensioners gained from indexation, or what is called **'dearness relief'.**
    - ● And two, better health facilities would increase **life expectancy, and increased longevity** would mean extended payouts.
    - ● This has led to a massive pension burden on the Union and state Governments.

Note:

What was Planned to Address Related Concerns?

➢ In 1998, the Union Ministry of Social Justice and Empowerment commissioned a report for an **Old Age Social and Income Security (OASIS)** project. An expert committee submitted the report in January 2000.

➢ The primary **objective of OASIS was targeted at unorganised sector** workers who had no old age income security.

➢ The OASIS report recommended individuals could invest in three types of funds — safe, balanced, and growth — to be floated **by six fund managers.**

➢ The balance would be invested in corporate bonds or government securities. Individuals would have unique retirement accounts, and would be required to invest at least Rs 500 a year.

➢ Post retirement, at least Rs 2 lakh from the retirement account would be used to purchase an annuity.
  ○ An annuity **provider invests the amount and provides** a fixed monthly income — which was Rs 1,500 when the report was prepared — for the remainder of the individual's life.

What was the Origin of the New Pension Scheme?

➢ **About:**
  ○ The OASIS report became the basis for the New Pension Scheme, which was notified in December 2003.
  ○ The Central Government introduced the **National Pension System (NPS)** with effect from January 2004 (except for armed forces).
    ● In 2018-19, to streamline the NPS and make it more attractive, the Union Cabinet approved **changes in the scheme** to benefit central government employees covered under NPS.
  ○ The NPS was launched as **a way for the government to get rid of pension liabilities.**
    ● According to a news report that cited research from the early 2000s, India's pension debt was reaching uncontrollable levels.
  ○ On introduction of NPS, the Central Civil Services (Pension) Rules, 1972 was amended.
  ○ After retirement they can withdraw a part of the pension amount in a lump sum and use the rest to buy an annuity for a regular income.

➢ **Implementation:**
  ○ NPS is being implemented and regulated by PFRDA (Pension Fund Regulatory and Development Authority) in the country.
  ○ **National Pension System Trust (NPST)** established by PFRDA is the registered owner of all assets under NPS.

➢ **Features:**
  ○ The All-Citizens Model of the NPS allows all citizens of India (including NRIs) **aged between 18 - 70 years** to join NPS.
  ○ It is a participatory scheme, where employees contribute to their pension corpus from their salaries, with matching contributions from the government. The funds are then invested in earmarked **investment schemes through Pension Fund Managers**.
    ● In this NPS, those employed by the government contribute 10% of their basic salary to NPS, while their employers contribute up to 14%.
    ● In 2019, the Finance Ministry said that Central government employees have the option of selecting the Pension Funds (PFs) and Investment Pattern.
  ○ At retirement, they **can withdraw 60% of the corpus**, which is tax-free and the remaining 40% is invested in annuities, which is taxed.
  ○ Even private individuals can opt for the scheme.

Issues with the NPS:

  ○ Unlike OPS, the NPS requires **employees to deposit 10% of the basic pay,** along with the dearness allowance.
  ○ There is no GPF advantage and the amount of pension is not fixed.
  ○ The major issue with the scheme is that it is market-linked and return-based. In simple terms, **the payout is uncertain.**

Constitution Day

Why in News?

Prime Minister of India launched **various new initiatives under the e-court project** including Virtual Justice Clock, JustIS mobile App 2.0, Digital court and S3WaaS Websites on **Constitution Day, 26th November 2022.**

Note:

What are the Initiatives under the E-Court Project?

➢ **Virtual Justice Clock** is an initiative to exhibit vital statistics of the justice delivery system at the Court level.

➢ **JustIS Mobile App 2.0** is a tool available to judicial officers for effective court and case management by monitoring pendency and disposal of cases.

➢ **Digital court** is an initiative to make the court records available to the judge in digitised form to enable the transition to Paperless Courts.

➢ **S3WaaS Websites** is a framework to generate, configure, deploy and manage websites for publishing specified information and services related to district judiciary.

What is Constitution Day?

➢ It is celebrated on **26th November** every year.

➢ It is also known as **National Law Day.**

➢ On this day in 1949, the **Constituent Assembly of India formally adopted the Constitution of India** that came into force on 26th January 1950.

➢ The Ministry of Social Justice and Empowerment on 19th November 2015, notified the decision of the Government of India **to celebrate 26 November as 'Constitution Day'.**

How was the Constitution Framed?

➢ In 1934, **M N Roy** first proposed the idea of a constituent assembly.

➢ Under the Cabinet Mission plan of 1946, elections were held for the **formation of the constituent assembly.**

➢ The Constitution of India is framed by the Constituent Assembly. The Constituent Assembly of India appointed a number of committees to deal with different tasks related to the framing of the constitution.

➢ The **8 major committees** and their heads are mentioned below:

  ○ **Drafting Committee** – B. R. Ambedkar

  ○ **Union Power Committee** – Jawaharlal Nehru

  ○ **Union Constitution Committee** – Jawaharlal Nehru

  ○ **Provincial Constitution Committee** – Vallabhbhai Patel

  ○ **Advisory Committee on Fundamental Rights, Minorities and Tribal and Excluded Areas** – Vallabhbhai Patel

  ○ **Rules of Procedure Committee** – Rajendra Prasad

  ○ **States Committee (Committee for Negotiating with States)** – Jawaharlal Nehru

  ○ **Steering Committee** – Rajendra Prasad

What are the Key Facts about the Constitution of India?

➢ World's **lengthiest Constitution.**

➢ **Federal System** with **Unitary Features.**

➢ **Parliamentary Form of Government.**

➢ The framing of the Constitution took over **2 years, 11 months and 18 days.**

➢ The original copies of the Indian Constitution weren't typed or printed. They have been **handwritten** and are now kept in a helium-filled case within the library of the Parliament.

➢ **Prem Bihari Narain Raizada** had written the unique copies of the Constitution of India.

➢ Originally, the Constitution of India was **written in English and Hindi.**

➢ The **basic structure of the Indian Constitution** stands on the **Government of India Act, 1935.**

➢ The Constitution of India has also **borrowed some of its features** from a number of countries.

	Indian onstitution Borrowed Feature	
1.	**British Constitution**	➢ Parlianntary fom 1 of Government. Ruic of Law. Law making procedure. Single Citizen. hip: Institution of Speaker. doctrine of pleasure tenure of civil servants.
2.	**American Constitution**	➢ Judicial System. Fundanntal Rihts
3.	**Canadian Con titution**	➢ Federal System with a strong central authority: Residual power. Centre State Relation.
4.	**Irish Constitution**	➢ Directive Principles. Election of the President of India
5.	**Australian Constitution**	➢ Concurrent list Freedom of Trade & Service withi n country
6.	**Weimar Constitution**	➢ Emcrj?.ency Provision
7.	**Soviet Constitution**	➢ Five Ycar Plans: Fundamental duties
8.	**Govt of India Act 1935**	➢ Office of the overnor. oowers of the federal iurv.
9.	**South African**	➢ Amend ment of Constitution.

Note:

National Centre of Excellence for Green Port & Shipping

Why in News?

Recently, **India's first National Centre of Excellence for Green Port & Shipping (NCoEGPS)** was launched at **"INMARCO 2022"** held in Mumbai.

➢ The INMARCO is a quadrennial International Maritime Conference and Exhibition, hosted by the Institute of Marine Engineers (India).

What is NCoEGPS?

➢ **About:**

○ It is a major **initiative by the Ministry of Ports, Shipping and Waterways (MOPSW)** towards providing greener solutions.

○ The NCoEGPS will be working under the framework of the **Sagarmala programme of the MoPSW.**

○ **The Energy and Resources Institute (TERI)** is the **knowledge and implementation partner** for this project.

➢ **Aim:**

○ The centre aims to develop a **regulatory framework and alternate technology adoption road map for Green Shipping** to foster **carbon neutrality and circular economy (CE)** in shipping sector in India.

● Green Shipping refers to the use of resources and energy to transport people and goods by ship and specifically concerns the reduction in such resources and energy in order to **preserve the global environment from Green House Gases (GHGs) and environmental pollutants generated by ships.**

○ India intends to **increase the share of renewable energy to 60% of the total power demand** of each of its major ports from a present share of less than 10%.

● This will be through **solar and wind-generated power.**

➢ **Objectives:**

○ **To empower 'Make in India'** in Port, Coastal and Inland water transport, and Engineering by developing state of art technologies and application products.

○ **To enable fast-track innovations** in order to provide most appropriate solutions to various challenges in these sectors.

○ **To create a pool of competent manpower** to the industry equipped with state of the art theoretical and practical knowhow.

○ **Self-sufficiency in providing short term solutions** through scientific studies technology development technical arm in identifying and analysing complex problems and solving issues.

➢ **Significance:**

○ It is a major attempt towards **realising Mission Lifestyle for the Environment (LiFE) movement** as it aims to **transform ports and shipping turn more Environment friendly.**

○ The Center will **interact with all the ports, shipping, maritime states in understanding their problems and offering solutions** through well proven and upstream scientific approaches.

➢ **Related Initiatives:**

○ The ports have also aimed to reduce **Carbon emissions per ton of cargo handled by 30% by 2030.**

○ The **Maritime Vision Document 2030** is a 10 Year blueprint on **India's vision of a sustainable Maritime sector and vibrant blue economy.**

○ India has been selected as the first country under the **IMO's Green Voyage 2050 project** to conduct a **pilot project related to Green Shipping.**

What is Green Voyage 2050 Project?

➢ The **Green Voyage 2050 Project** is a **partnership project between the Government of Norway and International Maritime Organisation (IMO) launched in May 2019** aiming to transform the shipping industry **towards a lower carbon future.**

➢ The global partnership is **supporting developing countries, including Small Islands Developing States (SIDS) and Least Developed Countries (LDCs)**, in meeting their commitment towards relevant climate change and energy efficiency goals, for international shipping, **through supporting the Initial IMO Green House Gas (GHG) Strategy.**

➢ One of the important aims of GreenVoyage2050 is to **spur global efforts to demonstrate and test technology solutions.**

Note:

Economic Scenario

Highlights

- Rooftop Solar Installations
- MAARG Portal
- Increasing Demand of Coal
- Russian Banks open Vostro Accounts in India
- RBI's Concerns on Slow Deposit Growth
- National Milk Day
- Financing India's Urban Infrastructure

- Friendshoring
- 5th Meeting of Governing Council of NIIF
- Unemployment in India
- Concerns over RBI's Orders on Non-Compliance
- Finance Commission
- Direct Benefit Transfer Scheme
- SHAKTI Policy

Rooftop Solar Installations

Why in News?

Rooftop solar capacity installations in India fell 29% to 320 megawatt (MW) in July-September 2022, according to Mercom Research India.

What are the Findings?

➢ **Cumulative Installations:**
  ○ At the end of Q3 2022, cumulative rooftop solar (RTS) installation**s reached 8.3 GW.**
  ○ Gujarat became the **leading state with the highest rooftop solar installations,** followed by Maharashtra and Rajasthan.
  ○ The top 10 states accounted for **approximately 73% of cumulative rooftop solar installations.**

➢ **Decline in Installations:**
  ○ During January-September, the installations at 1,165 MW were also down 11% compared with 1,310 MW in the corresponding nine-month period of 2021.

➢ **Causes of Decline:**
  ○ Solar installations are trending down because **their costs have risen.**
  ○ The market is struggling **with supply issues because of the Approved List of Module and Manufacturers (ALMM),** and installers are finding it a tough environment to operate in overall.

What is Rooftop Solar?

➢ **About:**
  ○ Rooftop solar is a **photovoltaic system** that has its electricity-generating solar panels mounted on the rooftop of a residential or commercial building or structure.
  ○ Rooftop mounted systems are small compared to ground-mounted photovoltaic power stations with capacities in the megawatt range.
  ○ Rooftop PV systems on residential buildings typically feature a capacity of about 5 to 20 kilowatts (kW), while those mounted on commercial buildings often reach 100 kilowatts or more.

➢ **Challenges:**
  ○ **Flip-Flopping Policies:**
    ● Although many companies began using solar energy, flip-flopping (sudden real or apparent change of policy) policies remained a major hurdle, especially when it came to power distribution companies (discoms).
    ● Industry executives point out RTS was becoming attractive for several consumer segments when discoms and state governments started tightening regulations for the sector.
      ▪ India's **Goods and Service Tax (GST) Council** recently hiked the GST of many components of the solar system from 5% to 12%.
      ▪ It will increase RTS's capital cost by 4-5%.
  ○ **Regulatory Framework:**
    ● The growth of the RTS segment is highly dependent on the regulatory framework.

- Slow growth has been primarily caused by the absence or withdrawal of state-level policy support for the RTS segment, especially for the business and industrial segment, which makes up the bulk of target consumers.

❍ **Inconsistent Rules on Net and Gross Metering:**
- Net metering regulations are one of the major obstacles facing the sector.
- According to a report, Power ministry's new rules that **excludes rooftop solar systems above 10 kilowatts (kW) from net-metering** would stall adoption of larger installations in India affecting the country's rooftop solar target.
  - The new rules mandate net-metering for rooftop solar projects up to 10 kW and gross metering for systems with loads above 10 kW.
  - Net metering allows surplus power produced by RTS systems to be fed back into the grid.
  - Under the gross metering scheme, **state DISCOMS compensate consumers with a fixed feed-in-tariff for the solar power** supplied to the grid by the consumer.

❍ **Low Financing:**
- The Union Ministry of New and Renewable Energy (MNRE) has advised banks to give loans for RTS at subsidised rates. However, nationalised banks hardly offer loans to RTS.
- Thus, many private players have come into the market that offer **loans for RTS at higher rates like 10-12%.**

lines of the Conference of the Parties (COP-21), with 121 solar resource rich countries lying fully or partially between the tropic of Cancer and tropic of Capricorn as prospective members.
➤ **One Sun, One World, One Grid:** It has been taken up under the technical assistance program of the World Bank. Its objective is to aid in developing a worldwide grid through which clean energy can be transmitted anywhere, anytime.
➤ **National Solar Mission** (A part of National Action Plan on Climate Change).

MAARG Portal

Why in News?

Recently, **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry** has launched a call for **startup** applications for registration on the **Mentorship, Advisory, Assistance, Resilience and Growth (MAARG) portal.**

What is MAARG Portal?

➤ **About:**
  ❍ MAARG portal is the **National Mentorship Platform by Startup India.**
  ❍ It is a **one-stop platform to facilitate mentorship for startups** across diverse sectors, functions, stages, geographies, and backgrounds.

Key Functions of MAARG Program

| AI engine to match relevant mentors and startups | Track mentor and startup interactions to deliver impact | Enable video calls and communication via platform | Mobile friendly interface for ease of use | Recognition and benefits for mentor contribution | Facilitate ecosystem enablers to host custom programs | Provide feedback, query, and grievance mechanism |

➤ **Key Features:**
  ❍ Mentorship programs for ecosystem enablers
  ❍ Mobile-friendly user interface
  ❍ Recognition for contributing mentors
  ❍ Video and audio call options
➤ **Phases:** The MAARG Portal is being operationalized in three phases:
  ❍ **Phase I: Mentor Onboarding**
    - Successfully launched and executed, 400+ expert mentors are onboarded across sectors.

Note:

○ **Phase II: Startup Onboarding**
  ● DPIIT is launching the onboarding of startups on the MAARG Portal with effect from 14th November 2022.

○ **Phase III: MAARG Portal Launch and Mentor Matchmaking**
  ● Final launch where the mentors will be matched to the startups DPIIT has initiated onboarding process of startups under Phase II.

➢ **Significance:**
  ○ Startups can now **effectively connect with academicians, industry experts, successful founders, seasoned investors,** and **other experts** from across the globe, through **Artificial Intelligence (AI) based matchmaking,** to get personalized guidance on growth and strategy.

What is Startup India?

➢ **It is a flagship initiative of the Government of India,** intended to catalyse startup culture and build a strong and inclusive ecosystem for innovation and entrepreneurship in India.
  ○ A startup is **an enterprise that is initiated by its founders around an idea or a problem** with a potential for significant business opportunity and impact.

➢ Since its launch in 2016, **Startup India has rolled out several programs with the objective of supporting entrepreneurs,** and transforming India into a country of job creators instead of job seekers.

➢ In 2022, **India has become the 3rd largest start-up ecosystem** in the world after the US and China.

Increasing Demand of Coal

Why in News?

Despite the country's efforts to switch to renewable energy, **coal will remain India's dominant energy source.**

What is the State of Energy Capacity of the Country?

➢ According to the projections by Climate Action Tracker, fossil fuel makes up for over half the installed energy capacity in the country and is expected to touch around 266 gigawatts by 2029-2030.

➢ **Domestic coal requirement is expected to rise to 1,018.2 million tonnes by 2031-32** from 678 MT in 2021-2022.

○ This means **coal consumption will increase 40% in India.**

What is the Reason for Increasing Coal Demand?

➢ Iron and steel production uses coal and there are not **many technologies to replace the fuel immediately.**

➢ **Continued expansion of India's economy is expected during 2022-2024**, with annual average GDP growth of 7.4%, fuelled partially by coal.

➢ India's push to domestic coal mining through both Coal India and auction of coal blocks to private companies, coal usage in India will increase as it **plateaus in other parts of the world, including China.**

➢ The central government has opened **up coal mining for the private sector, claiming it as one of its most ambitious coal sector reforms.**
  ○ The government anticipates that it will bring efficiency and competition in coal production, attract investments and best-in-class technology, and help create more jobs in the coal sector.

What is Coal?

➢ **About:**
  ○ It is a type of fossil fuel found in the form of sedimentary rocks and is often known as **'Black Gold'**.
  ○ It is a conventional source of energy and is widely available. It is used as a domestic fuel, in industries such as iron and steel, steam engines and to generate electricity. Electricity from coal is called thermal power.
  ○ The leading coal producers of the world include China, US, Australia, Indonesia, India.

➢ **Distribution of Coal in India:**
  ○ **Gondwana Coal Fields (250 million years old):**
    ● **Gondwana coal makes up to 98 % of the total reserves** and 99 % of the production of coal in India.
    ● Gondwana coal forms India's metallurgical grade as well as superior quality coal.
    ● It is found in Damodar (Jharkhand-West Bengal), Mahanadi (Chhattisgarh-Odisha), Godavari (Maharashtra), and Narmada valleys.
  ○ **Tertiary Coal Fields (15 – 60 million years old):**
    ● Carbon content is very low but is rich in moisture and Sulphur.

Note:

- Tertiary coalfields are mainly confined to extra-peninsular regions
- Important areas include Assam, Meghalaya, Nagaland, Arunachal Pradesh, Jammu and Kashmir, Himalayan foothills of Darjeeling in West Bengal, Rajasthan, Uttar Pradesh, and Kerala.

➢ **Classification:**
  - ❍ **Anthracite** (80 - 95% carbon content, found in small quantities in J&K).
  - ❍ **Bituminous** (60 - 80% carbon content and is found in Jharkhand, West Bengal, Odisha, Chhattisgarh and Madhya Pradesh).
  - ❍ **Lignite** (40 to 55% carbon content, high moisture content and is found in Rajasthan, Lakhimpur (Assam) and Tamil Nadu).
  - ❍ **Peat** (less than 40% carbon content and it is in the first stage of transformation from organic matter (wood) to coal).

Russian Banks open Vostro Accounts in India

Why in News?

The **Reserve Bank of India (RBI)** has allowed the opening of nine special vostro accounts in two Indian Banks (UCO Bank and IndusInd Bank) for the settlement of payments in rupee for trade between India and Russia.

➢ Russia's two largest banks — Sberbank and VTB Bank — are the first foreign lenders to have received approval from the RBI towards settling international trade transactions in rupee.

➢ A Vostro account is just **another name for a Nostro account.** It is an account held by a bank that **allows the customers to deposit money** on behalf of another bank.

What is the Background?

➢ In July 2022, the RBI had unveiled a **mechanism to settle international transactions in rupee** to promote the **growth of global trade**, with emphasis on exports from India, as well as pushing rupee as an international currency.

➢ It is also expected to enable trade with sanction-hit nations such as Russia.

➢ According to the mechanism finalised by the RBI, banks of partner countries can approach authorised dealer banks in India for opening special rupee vostro accounts. The authorised dealer bank will then have to seek approval from the central bank with details of such an arrangement.

What is a Nostro Account?

➢ A Nostro account is an account held by a bank in another bank. It allows the customers to deposit money in the bank's account in another bank. It is often used if **a bank has no branches in a foreign country.** Nostro is a Latin word that means **"ours".**

  - ❍ Let's presume bank "A" does not have any branches in the Russia, but bank "B" does. Now, to receive the deposits in the Russia, **"A" will open a Nostro account with "B".**
  - ❍ Now, if any customers in the Russia want to send money to "A", they can deposit it **into A's account in "B"**. "B" will transfer the money to "A".

➢ The main difference between a deposit account and a Nostro account is that the former is held by individual depositors while **foreign institutions hold the latter.**

What is a Vostro Account?

➢ The word Vostro means yours in Latin.

➢ A Nostro account is a **Vostro account for the bank** that opens the account.

  - ❍ In the above example, the account will be **called a Vostro account for bank "B".** The Vostro account accepts the payments on **behalf of the account holder's bank.**

➢ If a person deposits money in the Vostro account, it will be **transferred to the account holder's bank.**

➢ Nostro and Vostro accounts are held in **a foreign denomination.**

➢ Vostro accounts enable **domestic banks to provide international banking services** to their clients who have global banking needs.

➢ Vostro account services include executing wire transfers, performing foreign exchange transactions, enabling deposits and withdrawals, and expediting international trade.

What is Rupee Payment Mechanism?

➢ **About:**
  - ❍ Authorized Dealer Banks in India had been permitted to open **Rupee Vostro Accounts.**

Note:

- Indian importers undertaking imports via this mechanism will make **payment in INR which will be credited into the Special Vostro account of the correspondent bank** of the partner country, against the invoices for the supply of goods or services from the overseas seller.
- Indian exporters using the mechanism will be paid the export proceeds in INR from the balances in the designated Special Vostro account of the correspondent bank of the partner country.
- Indian exporters **may receive advance payment against exports from overseas importers** in **Indian rupees** through the above Rupee Payment Mechanism.
  - Before allowing any such receipt of advance payment against exports, Indian **banks need to ensure that available funds** in these accounts are first used towards payment obligations arising out of already executed export orders/ export payments in the pipeline.
  - Balance in Special Vostro Accounts c**an be used for: payments for projects and investments, export/ import advance** flow management, and investment in Government Treasury Bills, **Government securities, etc.**

➢ **Existing Mechanism:**
  ❍ If a company exports or imports, **transactions are always in a foreign currency** (excluding with countries like Nepal and Bhutan).
  ❍ So, in case of imports, the **Indian company has to pay in a foreign currency** (mainly dollars and could also include currencies like pounds, Euro, yen etc.).
  ❍ The Indian company g**ets paid in foreign currency in case of exports and the company converts that foreign currency to rupee** since it needs rupee for its needs, in most of the cases.

What are the Benefits of this Mechanism?

➢ **Promote Growth:**
  ❍ It will promote growth of global trade and **will support the increasing interest** of the global trading community in INR.
➢ **Trade with Sanctioned Countries:**
  ❍ Ever since sanctions were imposed on Russia, trade has been **virtually at standstill with the country due to payment problems.**

- As a result of the trade facilitation mechanism introduced by the RBI we see the payment issues with Russia easing.
➢ **Forex Fluctuation:**
  ❍ The move would also reduce the **risk of forex fluctuation**, especially looking at the Euro-Rupee parity.
➢ **Arrest Fall of Rupee:**
  ❍ Amid ongoing rupee weakness, this mechanism aims at reducing demand for foreign exchange, by promoting rupee settlement of trade flows.

RBI's Concerns on Slow Deposit Growth

Why in News?

Recently, the RBI has raised concerns over the lagging growth in deposits in relation to credit growth, asset quality, and adoption of new-age technology solutions and advised banks to remain watchful.

Why have Banks been Asked to Remain "Watchful"?

➢ RBI said the domestic macroeconomic outlook can be best characterised as resilient but **sensitive to formidable global headwinds.**
➢ The present Global headwinds are **emanating from three sources;**
  ❍ **Russian actions in Ukraine** impacting energy **supplies** and prices (especially in Europe),
  ❍ **Economic slowdown** in China because of frequent lockdowns due to its zero-**Covid** policy,
  ❍ **Increased cost-of-living** because of resulting **inflationary pressures.**
➢ Thus, monetary policies across the globe, especially of advanced economies, are being tightened, spurring concerns **about financial stability risk in emerging and developing economies.**

What about Deposit and Credit Growth?

➢ Banks' credit-disbursing **bandwidth is determined by its in-house reserves.** More importantly, demand for credit increases with greater economic activity.
➢ As per the RBI, aggregate credit demand domestically bears **an "uneven profile" at present.**

Note:

- Urban demand appears **robust and rural demand which was muted has also started acquiring some strength** recently.

- Commercial bank credit growth too has been surging, led by services, personal loans, agriculture and industry, in that order.

- This reflects the **growing preference for bank credit for meeting working capital** requirements.

  ○ As per the RBI's latest weekly data for scheduled commercial banks, aggregate deposits have grown 8.2% in comparison to 11.4% on a year-over-year basis whereas credit off-take has jumped 17% in comparison to a 7.1% increase on a YoY basis.

- As per CRISIL it is not that **deposit growth has fallen materially,** but that credit growth has risen in the last few quarters.

- During the pandemic, owing to lower economic activity credit growth was on a lower trajectory. Now with economic activity returning to normalcy, the credit growth has picked up — especially in the previous three quarters.

How has been Banks' Asset Quality?

- The **Gross Non-Performing assets (GNPAs)** have consistently declined, with net NPAs **sliding down to 1% of total assets.**

- Liquidity cover is robust and profitability is shored up. However, market participants have **raised concerns with respect to corporates i**n light of the macroeconomic situation.

- The reason for the improving asset quality is the **de-leveraging that has happened in corporate India over the years** wherein most corporates have been able to cut down on their debt level and improve their credit profiles.

  ○ Corporate NPAs are expected to come down in the current amid upcoming fiscals due to **the setting up of the National Asset Reconstruction Company Ltd** which is expected to take over some of the legacy corporate loan NPAs which are still with banks.

National Milk Day

Why in News?

Department of Animal Husbandry is **celebrating National Milk Day** on 26th November 2022.

- **National Gopal Ratna Awards 2022** are conferred as part of the celebrations.

- Animal Quarantine Certification Services are also to be inaugurated.

- June 1 is observed as **World Milk Day** every year.
  What is National Milk Day?

- The day celebrates **the importance of milk in a person's life**. And to promote the **benefits related to the milk** & milk industry and **to create awareness among people about the importance of milk** and milk products.

- 26th November 2022 commemorates **101st birth anniversary of Dr. Verghese Kurien, the "Father of White Revolution in India".**

- **Dr. Verghese Kurien (1921-2012):**

  ○ He is known as the **'Father of White Revolution in India'**.

  ○ He **is famous for his 'Operation Flood',** which is known as the **world's largest agricultural program.**

  ○ He established 30 institutions that are **run by various farmers and workers.**

Dr. Verghese Kurien - The Milk Man Of India
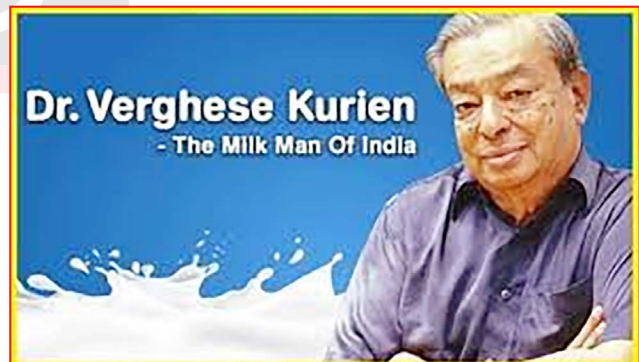
  ○ He also played a key role in the **establishment and success of Amul Brand.**

  ○ Because of his efforts only, India **became the largest producer of milk in 1998**, surpassing the U.S.

  ○ He also helped manage the **Delhi Milk Scheme and corrected the prices.** He also helped India **become self-sufficient in edible oils.**

  ○ He was honoured with several awards, including the **Ramon Magsaysay Award (1963), Krishi Ratna (1986)** and **World Food Prize (1989).**

  ○ He is also the recipient of India's highest civilian awards- **Padma Shri** (1965), **Padma Bhushan (1966) and Padma Vibhushan (1999).**

Note:

What was White Revolution of India?

➤ **About:**
- ○ **Operation Flood** was launched on 13th January, 1970. It was the world's largest dairy development programme.
- ○ Within 30 years, the operation **helped double milk available per person in India,** making dairy farming India's largest self-sustainable rural employment generator.
- ○ The operation gave **farmers direct control over the resources they create, helping them direct their own development**. This was achieved not only by mass production, but by production by the masses. It is also now known as the **"White Revolution".**

➤ **Phases:**
- ○ **Phase I (1970-1980):** This phase was financed by the sale of butter oil and skimmed milk powder donated by the **European Union** through the World Food Program.
- ○ **Phase II (1981 to 1985):** During this phase, the number of milk sheds increased from 18 to 136, milk outlets were expanded to about 290 urban markets, a self-sustaining system was set up that included 4,250,000 milk producers spread across 43,000 village cooperatives.
- ○ **Phase III (1985-1996):** This phase enabled the dairy cooperatives to expand and gave a finishing touch to the programme. It also strengthened the infrastructure required to procure and market increasing volumes of milk.

➤ **Objectives:**
- ○ Increase milk production ("a flood of milk").
- ○ Increase rural incomes.
- ○ Reasonable prices for consumers.

➤ **Significance:**
- ○ It helped dairy farmers **direct their own development, placing control of the resources** they create in their own hands.
- ○ It has helped **India become the largest producer of milk** in the world in 2016-17.
- ○ Currently, India is the world's largest milk producer, with **22% of global production.**

➤ **Related Initiatives:**
- ○ **Animal Husbandry Infrastructure Development Fund (AHIDF)**
- ○ **National Animal Disease Control Programme**
- ○ **Rashtriya Gokul Mission**
- ○ **National Artificial Insemination Programme**
- ○ **National Livestock Mission**

Financing India's Urban Infrastructure

Why in News?

Recently, the report, titled **"Financing India's Urban Infrastructure Needs: Constraints to Commercial Financing and Prospects for Policy Action"** was released by the **World bank**.

➤ The report **underlines the urgent need to leverage more private and commercial investments** to meet emerging financial gaps.

What are the Highlights of the Report?

➤ **Investment Required:**
- ○ **India will need to invest USD 840 billion over the next 15 years** into urban infrastructure if it is to effectively meet the needs of its fast-growing urban population.

➤ **People Living in Urban Cities:**
- ○ By 2036, **600 million people will be living in urban cities in India**, representing 40% of the population.
  - This is **likely to put additional pressure on the already stretched urban infrastructure** and services of Indian cities – with more demand for clean drinking water, reliable power supply, efficient and safe road transport amongst others.
  - Currently, the central and state governments finance over 75% of city infrastructure, while **Urban Local Bodies (ULB) finance 15% through their own surplus revenues.**
  - Only 5% of the infrastructure needs of Indian cities are currently being financed through private sources.

➤ **Slow Implementation of Centre's Flagship Urban Missions:**
- ○ There has also been **slow implementation performance by states and Urban Local Bodies (ULBs)** on several of the Centre's flagship Urban Missions— such as the **Smart Cities Mission (SCM)** and the **Pradhan Mantri Awas Yojana (PMAY)** for

instance— due to constraints on implementation capacity at the city level.

- ULBs across India **have so far executed only about one-fifth of the cumulative cost or outlay of approved projects** under SCM and **(Atal Mission for Rejuvenation and Urban Transformation (AMRUT)** over the last six financial years.

➢ **PPP transactions for Urban Infrastructure:**

○ **Public Private Partnership (PPP)** transactions for urban infrastructure in India registered a **marked decline in the last decade both in monetary value and transaction volume**— 124 PPP projects have been awarded in the urban sector since the year 2000 worth a total cost of USD5.5 billion.

○ However, **PPP project awards have declined substantially after a "brief but substantial spike"** between the years 2007 and 2012 when most of these projects were awarded. Only one-third of all PPP investments awarded since 2000 came in the last decade— including 55 projects worth USD17 billion.

What are the Suggestions?

➢ It is recommended to **expand the capacities of city agencies to deliver infrastructure** projects at scale.

○ Currently, the **10 largest ULBs were able to spend only two-thirds of their total capital budget** over three recent fiscal years.

➢ Over the medium term, the report suggests a **series of structural reforms including those in the taxation policy and fiscal transfer system.**

○ It can **allow cities to leverage more private financing**.

➢ It recommended **making the transfer of funds to cities formula-based** and unconditional and increasing the mandates of city agencies gradually.

What is Urbanisation?

➢ **About:**

○ **Urbanization** refers to the population shift from rural to urban areas, the corresponding decrease in the proportion of people living in rural areas, and the ways in which societies adapt to this change.

➢ **Causes of Urbanisation:**

○ **Natural Increase of Population:** It occurs when the number of births exceeds the number of deaths.

➢ **Rural to Urban Migration:** It is driven by pull factors (that attract people to urban areas) and push factors (that drive people away from the rural areas).

- Employment opportunities, educational institutions and urban lifestyle are the main pull factors.

- Poor living conditions, lack of educational and economic opportunities and poor health care facilities are the main push factors.

➢ **Global Urbanisation:**

○ The most urbanized regions include Northern America (with 83% of its population living in urban areas (as of 2022), Latin America and the Caribbean (81%), Europe (75%) and Oceania (67%).

○ The level of urbanization in Asia is now approximately 52%.

○ Africa remains mostly rural, with 44% of its population living in urban areas.

➢ **Related Initiatives:**

○ **India's Initiatives for Urbanisation:**

- Schemes/Programmes Related to Urban Development:
  - Smart Cities
  - AMRUT Mission
  - Swachh Bharat Mission-Urban
  - HRIDAY
  - Pradhan Mantri Awas Yojana-Urban

- Government Initiatives for **Slum Dwellers**/ Urban Poor:
  - Pradhan Mantri Garib Kalyan Yojana
  - Atmanirbhar Bharat Abhiyan (self-reliant India)

Friendshoring

Why in News?

Recently, the US secretary of treasury has pushed for "friendshoring" to diversify trade away from countries that are present at geopolitical risk.

What is Friendshoring?

➢ Friendshoring is a strategy where **a country sources the raw materials, components and even manufactured goods from countries that share its values.** The

Note:

dependence on the countries considered a "threat" to the stability of the supply chains is slowly reduced.

➢ It is also called **"allyshoring"**.
  ○ For the US, Russia has long presented itself as a reliable energy partner, but in the Ukraine war, it has **weaponized the gas against the people of Europe.**
    ● It's an example of how **malicious actors can use their market positions to try to gain geopolitical leverage** or disrupt trade for their own gain.

➢ Friend-shoring or ally-shoring has become **a means for the US to influence firms to move their sourcing and manufacturing site**s to friendly shores—often back to the **same shores in the case of the US.**

➢ The purpose of Frienshoring is **to insulate countries' supply chains** from less like-minded nations, such as China in case of the US.

What can be the Implications of Friendshoring?

➢ Friendshoring may push the world towards a **more isolated place for trade and reverse the gains of globalization**. It is a part of the **"deglobalisation" process.**

➢ After the global economy has been influenced by the years-long lockdown of Covid-19, any form of protectionism **will further disrupt the already unstable global supply chain.**

➢ This new form of **protectionism will not be conducive to globalization** while affecting the global supply chain and economy. And in the long term, this could backfire if a company relies on some country—for lithium for batteries, say, or precious metals for computer chips—feels alienated.

➢ Also, as this becomes a trend, the **world will gradually be separated**, and it will be hard for countries to work together for the well-being of humanity.

5ᵗʰ Meeting of Governing Council of NIIF

Why in News?

Recently, the Union Minister for Finance & Corporate Affairs chaired the **5ᵗʰ meeting of the Governing Council (GC) of National Investment and Infrastructure Fund (NIIF)**.

What are the Highlights of the Meeting?

➢ **India Japan Fund:**
  ○ In a Memorandum of Understanding, NIIF and Japan Bank for International Development (JBIC) have **proposed to establish NIIF's first bilateral fund - the "India Japan Fund"** - with contributions coming from the Government of India (GoI).
  ○ The MoU was **signed recently on 9ᵗʰ November, 2022.**

➢ **NBFCs:**
  ○ The GC noted that the two infrastructures **Non-Banking Financial Companies (NBFCs)**, where NIIF has majority stakes, have increased their combined loan book from Rs. 4,200 crores to Rs. 26,000 crores in 3 years without experiencing any **Non-Performing Loans (NPLs).**
  ○ The **GC also guided NIIF to undertake advisory activities** proactively to support central and state governments to create a pipeline of investible **Public-Private Partnership (PPP)** projects.

➢ **Exploring Opportunities under Different Schemes:**
  ○ The Finance Minister **exhorted the NIIFL team also to explore opportunities under the National Infrastructure Pipeline, PM GatiShakti and National Infrastructure Corridor**.
    ● These schemes **include a big pool of investible greenfield and brownfield investment projects**, and to try and crowd in commercial capital into those opportunities.

➢ **Status of Three Funds:**
  ○ The GC was apprised of the current status of the 3 funds that are currently managed by NIIFL –
    ● **Master Fund: Invests primarily in operating assets** in core infrastructure sectors such as roads, ports, airports, power, etc.
    ● **Fund of Funds (FoF)** : **Managed by fund managers with experience in infrastructure** and related sectors in India. Green Infrastructure, Mid-Income & Affordable Housing, Infrastructure Services, and allied sectors are some of the areas of focus.
    ● **Strategic Opportunities Fund (SoF):** SOF has been established with the **objective to provide long-term capital to high-growth future-ready businesses in India.** The fund's strategy is to build a portfolio of large entrepreneur-led or professionally managed domestic champions and unicorns.

Greenfield vs Brownfield Investment

➤ **Greenfield Project:**

○ It refers to investment in a manufacturing, office, or other physical company-related structure or group of structures in an area where no previous facilities exist.

➤ **Brownfield investment:**

○ The projects which are modified or upgraded are called brownfield projects.

○ The term is used for purchasing or leasing existing production facilities to launch a new production activity.

What is the National Investment and Infrastructure Fund (NIIF)?

➤ NIIF is a **government-backed entity established to provide long-term capital** to the country's infrastructure sector.

○ The Indian government has a 49% stake in NIIF with the rest held by foreign and domestic investors.

○ With the Centre's significant stake, NIIF is considered India's quasi-sovereign wealth fund.

➤ It was **set up in December 2015 as a Category-II Alternate Investment Fund.**

➤ Across its three funds, it manages over USD 4.3 billion of capital.

○ Its registered office is in New Delhi.

Unemployment in India

Why in News?

Recently, the **National Statistical Office (NSO)** has released the **Periodic Labour Force Survey (PLFS)**.

➤ The unemployment rate in urban areas for persons aged above 15 eased to 7.2% in July-September 2022 from 9.8% in July-September 2021.

What are the Key Findings of the PLFS (July-September 2022)?

➤ **Unemployment Ratio:**

○ The unemployment ratio is defined as the **percentage of persons unemployed** among the persons in the labour force.

○ The unemployment rate was **6.6% for men** and **9.4% for women** (9.3% and 11.6% in July-September 2021).

➤ **Worker-Population Ratio (WPR):**

○ The WPR is defined as the **percentage of employed persons** in the population.

○ The WPR in urban areas for persons aged 15 and above stood at **44.5%** (42.3% in July-September 2021).

○ The WPR among **men was 68.6%** and **19.7% among women** (66.6% and 17.6% in 2021).

➤ **Labour Force Participation Rate (LFPR):**

○ It is defined as the **percentage of persons in the labour force** who are **working or seeking or available for work** in the population, in urban areas for persons aged 15 and above.

○ It increased to **47.9%** (46.9% in July-September 2021).

○ The LFPR among **men was 73.4%** and **21.7% among women** (73.5% and 19.9%, in July-September 2021).

What is the Periodic Labour Force Survey?

➤ Considering the importance of the availability of labour force data at more frequent time intervals, the **National Statistical Office (NSO),** Ministry of Statistics & Programme Implementation launched the **Periodic Labour Force Survey (PLFS)** in April 2017.

➤ **The objective of PLFS is primarily twofold:**

○ To estimate the **key employment and unemployment indicators** (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate) in the short time **interval of three months for the urban areas only** in the **Current Weekly Status (CWS).**

○ To estimate employment and unemployment indicators **in both Usual Status and CWS** in both rural and urban areas **annually**.

What is Unemployment?

➤ Unemployment occurs when a person who is **actively searching for employment is unable to find work**.

○ Unemployment is often used as a **measure of the health of the economy**.

➤ **NSO** defines employment and unemployment on the **following activity statuses of an individual:**

Note:

○ Working (engaged in an economic activity) i.e., '**Employed**'.

○ Seeking or available for work i.e., '**Unemployed**'.

○ Neither seeking nor available for work.

- The first two constitute the **labour force** and unemployment rate is the **percent of the labour force** that is without work.

- **Unemployment rate** = (Unemployed Workers / Total labour force) × 100.

What are Different Types of Unemployment?

➢ **Disguised Unemployment:**

○ It is a phenomenon wherein **more people are employed than actually needed**.

○ It is primarily traced in the **agricultural and the unorganised sectors** of India.

➢ **Seasonal Unemployment:**

○ It is an unemployment that occurs **during certain seasons** of the year.

○ **Agricultural labourers** in India rarely have work throughout the year.

➢ **Structural Unemployment:**

○ It is a category of unemployment arising from the **mismatch between the jobs available in the market** and the **skills of the available workers** in the market.

○ Many people in India do not get jobs due to lack of requisite skills and due to poor education level, it becomes difficult to train them.

➢ **Cyclical Unemployment:**

○ It is a **result of the business cycle**, where unemployment **rises during recessions** and **declines with economic growth**.

○ Cyclical unemployment figures in India are negligible. It is a phenomenon that is mostly found in capitalist economies.

➢ **Technological Unemployment:**

○ It is the loss of jobs due to changes in technology.

○ In 2016, **World Bank** data predicted that the proportion of jobs threatened by automation in India is 69% year-on-year.

➢ **Frictional Unemployment:**

○ The **Frictional Unemployment also called as Search Unemployment**, refers to the **time lag between the jobs** when an individual is searching for a new job or is switching between the jobs.

○ In other words, an employee **requires time for searching a new job or shifting from the existing to a new job**, this inevitable time delay causes frictional unemployment.

➢ **Vulnerable Employment:**

○ This means, **people working informally, without proper job contracts** and thus **sans any legal protection**.

○ These persons are **deemed 'unemployed'** since **records of their work are never maintained.**

○ It is one of the **main types of unemployment in India.**

What are the Major Causes of Unemployment in India?

➢ **Social Factors:**

○ In India the **caste system is prevalent**. The work is prohibited for specific castes in some areas.

○ In big joint families having big business, many such persons will be available **who do not do any work and depend on the joint income of the family**.

➢ **Rapid Growth of Population:**

○ Constant **increase in population** has been a big problem in India.

- It is one of the main causes of unemployment.

➢ **Dominance of Agriculture:**

○ Still in India nearly **half of the workforce is dependent on Agriculture.**

- However, **Agriculture is underdeveloped** in India.

- Also, it provides seasonal employment.

➢ **Fall of Cottage and Small industries:**

○ The **industrial development** had adverse effects on **cottage and small industries.**

○ The production of cottage industries **began to fall and many artisans became unemployed**.

➢ **Immobility of Labour:**

○ **Mobility of labour** in India is low. Due to **attachment to the family**, people do not go to far off areas for jobs.

○ Factors like **language, religion, and climate** are also responsible for low mobility.

➢ **Defects in Education System:**

○ Jobs in the **capitalist world have become highly specialised** but India's **education system does not provide the right training and specialisation** needed for these jobs.

Note:

○ Thus, many people who are willing to work become unemployed due to lack of skills.

What are Government's Initiatives to Curb Unemployment?

➢ **Support for Marginalized Individuals for Livelihood and Enterprise (SMILE)**

➢ **PM-DAKSH (Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi)**

➢ **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**

➢ **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**

➢ **Start Up India Scheme**

➢ **Rozgar Mela**

Concerns over RBI's Orders on Non-Compliance

Why in News?

Since January 2020, the **Reserve Bank of India (RBI)** has imposed monetary penalties worth Rs 73.06 crore in 48 cases involving banks for violation of provisions of RBI's certain directions.

➢ RBI penalizes banks on violations of non-Compliance with certain provisions under **Section 35 A of the Banking Regulation Act, 1949.**

What are the Issues with the RBI Orders?

➢ **Sparse access to Information:**

○ Customers and investors of banks have only **sparse access to information on non-compliance** of RBI directions by banks.

○ Unlike in the case of other financial regulators, RBI provides details only to the **entity being penalised for violation.**

➢ **Do not hear the Party:**

○ RBI in its orders don't only give reasons and detailed explanations, but they also **don't hear the party.**

● Whereas compared to the penalty orders passed by the two other regulators – the **Securities and Exchange Board of India (SEBI)** and **Insurance Regulatory and Development Authority (IRDAI)** – for any non-compliance **are more elaborate with details about the violation and the modus operandi.**

● SEBI hears the concerned party or at least gives **them some opportunity to provide explanations**, before taking action. If not satisfied, the party can also challenge the Sebi's decision in SAT.

➢ **RBI's Orders cannot be Challenged:**

○ Currently, the RBI is the only regulatory institution **which doesn't have an appellate body.**

○ Since no one can appeal, these (RBI's) orders are not challenged on merit. So, with this kind of arrangement in the regulatory system, **RBI can easily get away with passing only a cursory or main order** without giving reasons and explanation.

● But the RBI has a system of the **Banking Ombudsman** where an aggrieved bank customer can raise disputes or unfair actions and services of a bank.

➢ **RBI's Arguments:**

○ When RBI passes orders for any irregularity at a bank, they usually make **references to certain clauses or sub-clauses** of the regulation under which the non-compliance has happened. So, there is no need for any further elaboration in the order passed.

○ RBI should not make public all the details in their orders. This might create **unnecessary fear in the minds of people and they can lose confidence** in the banks.

What is Banking Regulation Act, 1949?

➢ It regulates **banking firms** in India. It was **passed as the Banking Companies Act 1949** and was changed to the Banking Regulation Act,1949 from 1st March 1966.

➢ This **act empowers the RBI to issue licence to commercial banks,** regulate shareholders' shareholding and voting rights, **supervises the appointment of boards and management,** regulates the operations of banks, giving instructions for audit, control moratorium, merger, and liquidation, issues instructions to the banks in the interests of public welfare & banking policy, **impose a penalty on banks if required**.

➢ In **2020,** the government passed an ordinance to change the **Banking Regulation Act, 1949**, making all the co-operatives **come under the supervision of the Reserve Bank**, so that the interests of t**he depositors can be protected properly.**

Note:

drishti

Finance Commission

Direct Benefit Transfer Scheme

Why in News?

Most economists advocate the conversion of all agricultural subsidies into direct income support i.e., **Direct Benefit Transfer** to farmers.

What is Direct Benefit Transfer Scheme?

➢ **Aim:** It has been visioned as an aid for simpler/faster flow of information and funds to the beneficiaries and to reduce the fraud in the delivery system.

➢ **Implementation:** It is a mission or an initiative by the government of India started on 1st January 2013 as a way to reform the government delivery system.

○ Central Plan Scheme Monitoring System (CPSMS), the earlier version of the **Public Financial Management System (PFMS)**, of the Office of Controller General of Accounts, was chosen to act as the common platform for routing of the Direct Benefit Transfer.

➢ **Components of DBT:** Primary components in the implementation of DBT schemes include Beneficiary Account Validation System, a robust payment and reconciliation platform integrated with **Reserve Bank of India (RBI)**, **National Payments Corporation of India (NPCI)**, **Public & Private Sector Banks**, **Regional Rural Banks and Cooperative Banks** (core banking solutions of banks, settlement systems of RBI, Aadhaar Payment Bridge of NPCI) etc.

➢ **Schemes under DBT:** There are 310 Schemes from 53 Ministries under DBT. Some important schemes are:

○ **Pradhan Mantri Fasal Bima Yojana**, **National Food Security Mission**, **Pradhan Mantri Krishi Sinchai Yojana**, **PM KISAN**, **Swachh Bharat Mission Gramin**, **Atal Pension Yojana**, **National AYUSH Mission**.

➢ **Aadhaar not Mandatory:** Aadhaar is not mandatory in DBT schemes. Since Aadhaar provides unique identity and is useful in targeting the intended beneficiaries, Aadhaar is preferred and beneficiaries are encouraged to have Aadhaar.

What are the Benefits of DBT?

➢ **Expanded the Coverage of Services:** In a mission-mode approach, it endeavoured to open bank accounts for all households, expanded **Aadhaar** to all and scaled up the coverage of banking and telecom services.

➢ **Instant and Easy Money Transfer:** It created the Aadhaar Payment Bridge to enable instant money transfers from the government to people's bank accounts.

○ This approach not only **allowed all rural and urban households to be uniquely linked under varied government schemes** for receiving subsidies directly into their bank accounts but also transferred money with ease.

➢ **Financial Assistance:** In rural Bharat, DBT has allowed the government to provide financial assistance effectively and transparently to farmers with lower transaction costs – be it for fertilisers or any of the other schemes.

Note:

➢ **Transfer of Funds & Social Security:** In urban India, the **PM Awas Yojana** and **LPG Pahal scheme** successfully use DBT to transfer funds to eligible beneficiaries. Various scholarship schemes and the **National Social Assistance Programme** use the DBT architecture to provide social security.

➢ **A Door to New Opportunities:** DBT under rehabilitation programmes such as the **Self Employment Scheme for Rehabilitation of Manual Scavengers (SRMS)** opens new frontiers that enable social mobility of all sections of society.

What are the Issues Regarding DBT?

➢ **Lack of Accessibility:** One of the most prominent issues faced by citizens attempting to enroll is the lack of accessibility/proximity to enrolment points, unavailability, or erratic availability of officials/operators responsible for enrolment, etc.

➢ **Shortage of Facilities:** Still there are many rural & tribal areas, which don't have banking facility and road connectivity. There is aslo a need for **financial literacy which would enhance awareness among people.**

➢ **Uncertainties:** Delays in accepting and pushing the applications forward. There is difficulty in procuring the required documentation and errors/issues found therein.

➢ **Disruption in the Process:** In terms of receiving money in their bank accounts through DBT, one of the most prominent issues is disruptions to payment schedule.

    ○ **Reasons for disruptions could be** spelling errors in Aadhaar details, pending KYC, frozen or inactive bank accounts, mismatch in Aadhaar and bank account details, etc.

➢ **Lack of Beneficiaries: Various Direct Benefit Transfer (DBT) schemes**, including the **Pradhan Mantri Kisan Samman Nidhi (PM-Kisan),** the Telangana government's Rythu Bandhu and Andhra Pradesh's YSR Rythu Bharosa **do not reach tenant farmers**, i.e., those who undertake cultivation on leased land.

SHAKTI Policy

Why in News?

Recently, the Ministry of Power has announced **a Scheme for Procurement of Aggregate Power of 4500 MW** on competitive basis for five years on Finance, Own and Operate (FOO) basis under **B (v) of SHAKTI Policy.**

What are the Key Features of the Scheme?

➢ Under the scheme, PFC Consulting Ltd has invited **bids for the supply of 4,500 MW.**

    ○ PFC Consulting Limited (A wholly owned subsidiary of PFC Ltd) has been designated as the **Nodal Agency by the Ministry of Power.**

➢ The Ministry of Coal has been requested to allocate around 27 MTPA (Million Tonnes per Annum) for this.

➢ This scheme is expected to help the states that **are facing power shortage and also help generation plants to increase their capacities.**

What is SHAKTI Policy?

➢ **About:**

    ○ **Ministry of Power (MoP)** in 2017 cleared the Coal Linkage Policy known as **SHAKTI (Scheme to Harness and Allocate Koyla Transparently in India).**

    ○ The Policy provides coal linkages **to power plants which lack fuel supply agreements (FSAs)** through coal auctions.

➢ **Objectives:**

    ○ The aim of the Shakti scheme is to **ensure the availability of coal to all the Thermal Power Plants** in India, in a way that is transparent and objective.

    ○ The scheme is supposed to be beneficial not just for the infrastructure sector, but also for the **public sector banks which have huge loans unpaid a**t the end of the power companies.

    ○ The scheme also aims to **reduce the dependence on imported coal and promote domestic industries.**

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International Relations

Highlights

- Indo-Pacific Regional Dialogue (IPRD-2022)
- India-Australia Economic Cooperation and Trade Agreement
- Young Professionals Exchange between India and UK
- G-20 Summit 2022
- India Norway Maritime Cooperation
- Treaties Against Nuclear Weapons
- Meeting of China-Indian Ocean Region Forum
- India and Gulf Cooperation Council
- India and Refugee Policy

Indo-Pacific Regional Dialogue (IPRD-2022)

Why in News?

Recently, the fourth edition of Indo Pacific Regional Dialogue concluded in Delhi.

What is Indo Pacific Regional Dialogue (IPRD)?

➢ **About:**
  ○ IPRD is an **apex level international annual conference** of the **Indian Navy.**
    ● In 2018, the initial conception of an IPRD was made.
    ● With the exception of 2020, when it had to be postponed owing to the **Covid-19,** the event has been hosted annually since its initial year in 2018.
  ○ The **National Maritime Foundation (NMF)** is the Navy's knowledge partner and chief organizer of each edition of the event.
➢ **Theme for 2022:**
  ○ **Operationalising the Indo-Pacific Oceans Initiative**
➢ **Objectives:**
  ○ The IPRD **reviews the current geopolitics in the Indo-Pacific region** and identifies opportunities, dangers, and problems that might be present.
  ○ IPRD remains crucial to its interests because one of the main goals of the NMF is to **conduct analyses of international relations and geopolitical factors** that are important to India strategically,

What is the Indo-Pacific Oceans Initiative (IPOI)?

➢ It was articulated by the Indian Prime Minister at the **14th East Asia Summit (EAS) in 2019.**
➢ It is a comprehensive and inclusive construct for regional cooperation that is focused on seven interconnected spokes or pillars:
  ○ Maritime Security
  ○ Maritime Ecology
  ○ Maritime Resources
  ○ Disaster Risk-reduction and Management
  ○ Trade-Connectivity and Maritime Transport
  ○ Capacity-building and Resource sharing
  ○ Science, Technology and Academic Cooperation

What is the Indo-Pacific Region?

➢ **About:**
  ○ Indo-Pacific is a recent concept. It was about a decade ago that the world started talking about the Indo-Pacific; its rise has been quite significant.
  ○ One of the reasons behind the popularity of this term is an understanding that the **Indian Ocean and the Pacific are a linked strategic theater.**
    ● Also, the centre of gravity has shifted to Asia. The reason being maritime routes, the Indian Ocean and the Pacific provide the sea lanes. The majority of the world's trade passes through these oceans.
➢ **Significance:**
  ○ The Indo-Pacific region is **one of the most populous and economically active regions of the world** which includes four continents: Asia, Africa, Australia and America.

Note:

❍ The dynamism and vitality of the region is self-evident, **60% of the world's population and 2/3rd of the global economic** output makes this region a global economic centre.

❍ The region is also a **great source and destination for Foreign Direct Investment.** Many of the world's critical and large supply chains have an Indo-Pacific connection.

❍ There are **vast reserves of marine resources in the Indian and Pacific Oceans** combined, including offshore hydrocarbons, methane hydrates, seabed minerals and **rare earth metals.**

● Sizable coastlines and **Exclusive Economic Zones (EEZs)** provide littoral countries with competitive capabilities for exploiting these resources.

● In turn, a number of the world's largest economies are located in the Indo-Pacific region, including India, U.S.A, China, Japan, Australia.

India-Australia Economic Cooperation and Trade Agreement

Why in News?

Recently, the Australian Parliament approved the India-Australia Economic Cooperation and Trade Agreement (Ind-Aus ECTA).

What is Ind-Aus ECTA?

➤ It is the first **Free Trade Agreement (FTA)** that India has signed with a major developed country in over a decade.

➤ The **Agreement encompasses cooperation across the entire gamut of bilateral economic and commercial relations** between the two friendly countries, and covers areas like:

❍ Trade in Goods, Rules of Origin

❍ Trade in Services

❍ Technical Barriers to Trade (TBT)

❍ **Sanitary and Phytosanitary** (SPS) measures

❍ Dispute Settlement, Movement of Natural Persons

❍ Telecom, Customs Procedures

❍ Pharmaceutical products, and Cooperation in other Areas

➤ ECTA provides for an **institutional mechanism to encourage and improve trade** between the two countries.

➤ The **ECTA between India and Australia covers almost all the tariff lines** dealt in by India and Australia respectively.

❍ India will benefit from preferential market access provided by Australia on 100% of its tariff lines.

❍ This includes all the labour-intensive sectors of export interest to India such as Gems and Jewellery, Textiles, leather, footwear, furniture etc.

❍ On the other hand, India will be offering preferential access to Australia on over 70% of its tariff lines, including lines of export interest to Australia which are primarily raw materials and intermediaries such as coal, mineral ores and wines etc.

➤ Under the agreement, **Indian graduates from STEM (Science, Technology, Engineering and Mathematics)** will be granted extended post-study work visas.

❍ Australia will also set up a programme to grant visas to young Indians looking to pursue working holidays in Australia.

❍ Annual Visa quota of 1800 is to be instituted for India Yoga teachers and Chefs.

➤ It is also **estimated that 10 lakh jobs will be created** as a result of ECTA.

How has been the India-Australia Relation so far?

➤ India and Australia enjoy excellent bilateral relations that have undergone transformational evolution in

Note:

recent years, developing along a positive track, into a friendly partnership.

➤ This is a special partnership characterised by **shared values of pluralistic, parliamentary democracies, Commonwealth traditions**, expanding economic engagement, long standing people-to-people ties and increasing high level interaction.

➤ The India-Australia Comprehensive Strategic Partnership initiated during the **India-Australia Leaders' Virtual Summit** held in June 2020 is the cornerstone of India-Australia multi-faceted bilateral relations.

➤ Growing India-Australia economic and commercial relations contribute to the stability and strength of a rapidly diversifying and deepening bilateral relationship between the two countries.

➤ **India and Australia have been each other's important trading partners.**
  ○ Australia is the 17th largest trading partner of India and India is Australia's 9th largest trading partner.
  ○ India-Australia bilateral trade for both merchandise and services is valued at USD 27.5 billion in 2021.
  ○ India's merchandise exports to Australia grew 135% between 2019 and 2021. India's exports consist primarily of a broad-based basket largely of finished products and were USD 6.9 billion in 2021.
  ○ India's merchandise imports from Australia were USD 15.1 billion in 2021, consisting largely of raw materials, minerals and intermediate goods.

➤ India and Australia are partners in the trilateral **Supply Chain Resilience Initiative (SCRI)** arrangement along with Japan which seeks to enhance the resilience of supply chains in the **Indo-Pacific Region.**

➤ Further, India and Australia are also members of the **QUAD grouping (India, the US, Australia and Japan),** also comprising the US, and Japan, to further enhance cooperation and develop partnership across several issues of common concern.

Young Professionals Exchange between India and UK

Why in News?

Recently, **United Kingdom (UK) and India** decided to launch a **Young Professionals Exchange in 2023.**

➤ UK will offer **3000 degree-holding Indians in the 18-30 year age group places to work for up to two years.**

➤ The scheme will commence in early 2023 and be on a reciprocal basis.

Why is the Indo-UK Partnership Important?

➤ **For UK:** India is a **key strategic partner for the UK in the Indo-Pacific** both in terms of market share and defence, as was underscored by the signing of the Defence and International Security Partnership between India and the UK in 2015.
  ○ For Britain, a successful conclusion of an **Free Trade Agreement (FTA)** with India would provide a boost to its 'Global Britain' ambitions as the UK has sought to expand its markets beyond Europe since **Brexit**.
  ○ **Britain has been trying to seize opportunities in the growing economies** of the Indo-Pacific to cement its place on the global stage as a serious global actor.
    • The British would be better able to achieve this goal with good bilateral relations with India.

➤ **For India:** The **UK is a regional power in the Indo-Pacific as it possesses naval facilities** in Oman, Singapore, Bahrain, Kenya, and British Indian Ocean Territory.
  ○ The UK has also confirmed USD 70 million of British International Investment funding to support the usage of renewable energy in India, which will help in building renewable energy infrastructure and developing solar power in the region.
  ○ **India has sought easy market access for Indian fisheries, pharma,** and agricultural products besides duty concession for labour-intensive exports.

What are the Current Major Bilateral Issues between the Both Countries?

➤ **Extradition of Indian Economic Offenders:**
  ○ The issue is **the extradition of Indian economic offenders** who are presently seeking shelter in Britain and using the legal system to their advantage.
  ○ Offenders like Vijay Mallya, Nirav Modi and others have long taken shelter under the British system despite clear cut Indian cases against them which warrant extradition.

➤ **Umbilical link between the British and Pakistani Deep State:**
  ○ This **legacy of the long-gone British Raj in the sub-continent** allows Britain to box in a higher weight category with the help of Pakistan on imperial follies of Jammu and Kashmir.

Note:

❍ The presence of a large Muslim community from the sub-continent in the UK, particularly from areas like Mirpur of Pakistan-occupied Kashmir adds to dissonance apart from the trap of vote bank politics.

➤ **Non-Acceptance by White British:**

❍ The unacceptance of the rise of India as a global power by white British people is another issue.

● India under the current Prime Minister has **left behind Britain as the fifth largest economy in GDP terms** and is on the way up.

● There is **no difference between a modern and confident Indian and a British colonial Indian** in terms of skin colour or the imperial legacy of the British Empire.

G-20 Summit 2022

Why in News?

Recently, the 17th annual summit of G-20 was hosted by the Indonesian G20 presidency in Bali under the theme **'Recover Together, Recover Stronger'.**

➤ Now, India has **assumed the charge of the G20 presidency** and the 18th summit will be held in India in 2023.

What are the Outcomes of the Summit?

➤ **Condemning Russian Aggression:**

❍ Member countries adopted **a declaration deploring Russia's aggression in Ukraine "in the strongest terms"** and demanding its unconditional withdrawal.

❍ They also recognised that while most members condemned the war in Ukraine, "there were other views and different assessments of the situation and sanctions".

➤ **Focus on Global Economy:**

❍ The G20 economies **agreed in their declaration to pace interest rate rises carefully to avoid spillovers** and warned of **"increased volatility" in currency moves**, a sea change from last year's focus on mending the scars of the **Covid-19 pandemic.**

➤ **Food Security:**

❍ The leaders **promised to take coordinated action to address food security challenges** and applauded the **Black Sea grains initiative**.

➤ **Climate Change:**

❍ G20 leaders **agreed to pursue efforts to limit the global temperature increase to 1.5 degrees Celsius** - confirming they stand by the temperature goal from the **2015 Paris Agreement on climate change**.

➤ **Digital Transformation:**

❍ Leaders **recognised the importance of digital transformation** in reaching the sustainable development goals.

❍ They **encouraged international collaboration to further develop digital skills and digital literacy** to harness the positive impacts of digital transformation, especially for women, girls, and people in vulnerable situations.

➤ **Health:**

❍ Leaders also **expressed their continuous commitment to promoting a healthy and sustainable recovery** which builds towards achieving and sustaining universal health coverage.

❍ They welcomed the **establishment of a new financial intermediary fund for pandemic prevention,** preparedness and response (the 'Pandemic Fund') hosted by the World Bank.

❍ Leaders reaffirmed their **commitment to strengthen global health governance,** with the leading and coordination role of **World Health Organisation (WHO)** and support from other international organisations.

What are the Challenges before the G-20 Member Countries?

➤ **Impact of Russia's Invasion of Ukraine:**

❍ **Russia's invasion of Ukraine** has **not only created massive geopolitical uncertainty but also spiked global inflation.**

❍ The associated sanctions by the West have further queered the pitch.

● Persistently high inflation — at historic highs in several countries — has eroded purchasing power across these countries, thus dragging down economic growth.

➤ **Impact of Rising Inflation:**

❍ In response to high **inflation**, **central banks across countries have raised interest rates**, which, in turn, have dampened economic activity further.

Note:

○ **Some of the biggest major economies such as the US and the UK are set to face a recession**; others, such as those in the euro area, are likely to slow down to almost a halt.

➢ **Slowdown of Major Economies:**

○ China, one of the major engines for global growth, is **witnessing a sharp slowdown as it struggles with a real estate crisis.**

➢ **Rising Geopolitical Rifts:**

○ The world economy is struggling with **geopolitical rifts such as the tensions between the US and China**, the two biggest economies in the world, or the decline in trade between the UK and the euro area in the wake of the Brexit decision.

What is the G20?

➢ **About:**

○ The G20 was formed in 1999 in the backdrop of the financial crisis of the late 1990s that hit East Asia and Southeast Asia in particular.

○ It aims to secure global financial stability by involving middle-income countries.

○ Together, the G20 countries include 60% of the world's population, 80% of global GDP, and 75% of global trade.

➢ **Members:**

○ Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the EU.

India Norway Maritime Cooperation

Why in News?

Recently, the 8th **Norway-India** Joint Working Group Maritime meeting was held in Mumbai, India.

➢ Norway has the **technical expertise in Maritime sector** and India has **huge potential for development of Maritime sector and large pool of trained seafarers**, which make both countries natural complementary partners.

➢ **Earlier, India had also prepared Maritime India Vision 2030**, which has identified more than 150 initiatives across various maritime sectors like ports, shipping and waterways focusing on capacity augmentation etc.

What are the Key Discussions of the Meeting?

➢ Discussion was held on **use of alternative fuels** like **green ammonia and hydrogen** for futuristic shipping.

➢ **The Norwegian Green Shipping Programme** has been successful and the experience and expertise was shared in the meeting.

➢ India and Norway are part of the **Green Voyage 2050 project.**

○ Both parties agreed on **willingness, devotion, partnership and capacity building** for achieving common goals.

➢ India is a signatory to **Hongkong Convention for Recycling of Ships**.

○ In the meeting, India requested that **European Union regulation should not hinder recycling of non-European countries** which are compliant as per International Convention.

○ Norway was requested **not to prolong Ship recycling to India** as a lot of investment has been made by Indian recyclers.

➢ The Norwegian delegation will also take part in **INMARCO, the Green Shipping Conclave**, and the **Maritime ShEO conference**.

○ The Maritime ShEO conference is supported by Norway and focused on **maritime diversity** and **sustainability**, including **gender equality** in the maritime industry.

What is Maritime India Vision 2030?

➢ **About:**

○ **Maritime India Vision (MIV) 2030** is a ten-year blueprint for the **maritime sector** released by

the Prime Minister of India at the **Maritime India Summit** in November 2020.

❍ MIV 2030 has been formulated in consultation with over 350+ public and private sector stakeholders, comprising ports, shipyards, inland waterways, trade bodies and associations, national and international industry and legal experts.

➢ **Themes:**

❍ MIV 2030 is based on **10 themes covering all the facets of the Indian maritime sector** and is a comprehensive effort to define and meet **national maritime objectives:**

- Develop best-in-class Port infrastructure.
- Drive Exchange to Exchange Logistics Efficiency and Cost Competitiveness.
- Enhance Logistics Efficiency through Technology and Innovation.
- Strengthen Policy and Institutional Framework to Support all Stakeholders.
- Enhance Global Share in Ship Building, Repair and Recycling.
- Enhance Cargo and Passenger Movement through Inland Waterways.
- Promote Ocean, Coastal and River Cruise Sector.
- Enhance India's Global stature and Maritime Co-operation.
- Lead the World in Safe, Sustainable & Green Maritime Sector.
- Become Top Seafaring Nation with World Class Education, Research & Training.

➢ **Key Targets 2030:**

❍ **Three Major Ports** with >300 Million Ton Per Annum (MTPA) cargo handling capacity.

❍ **More than 75%** of Indian cargo transshipment handled by Indian ports.

❍ **More than 85%** of cargo handled at Major Ports by **Public Private Partnership**/ other operators.

❍ Average vessel turnaround time (containers) of **less than 20 hours.**

❍ **Global ranking of Top 10** in ship building and ship repair.

❍ **More than 15 Lakh** annual cruise passengers.

❍ **More than 60%** share of renewable energy at Major Ports.

Treaties Against Nuclear Weapons

Treaties Against Nuclear Weapons
Part - I

Nuclear Weapons

- The most dangerous weapons on earth; a **bomb or missile that uses nuclear energy to cause an explosion.**
- Nuclear weapons release energy either by **nuclear fission (atomic bombs) or nuclear fusion (hydrogen bombs).**
- Even a single weapon is potent of **destroying a whole city,** potentially **killing millions, jeopardising the natural environment** and lives of future generations.
- They were used for the **first and last time in WW-II** by the US in 1945 **on Hiroshima and Nagasaki.**

Treaty on the Non-Proliferation of Nuclear Weapons (NPT 1970)

- **Objective:**
  - Prevent the spread of nuclear weapons and its technology
  - Foster peaceful uses of nuclear energy
  - Further the goal of nuclear disarmament
- **Member States:**
  - 191 with **5 nuclear-weapon states (NWS)** (US, Russia, UK, France & China)
- **Nuclear-Weapon States:**
  - Those who **manufactured & exploded** a nuclear weapon or nuclear explosive device **before 1st January 1967**
- **Significance:**
  - **Only binding treaty** to the goal of disarmament by the NWS
- **India and NPT:**
  - India (along with Pakistan, Israel, North Korea, and South Sudan) is **not a member**
  - Opposes it as a **discriminative disarmament policy**
  - India's policy - **No First Use against NWS** and **no use against non-NWS**
- **NPT Review Conference:**
  - **Undertakes review** of the treaty's implementation **quinquennially**

Drishti IAS

Treaties Against Nuclear Weapons   Part II

Drishti IAS

Missile Technology Control Regime (MTCR) (1987)

- An informal and voluntary partnership
- Not legally binding
- Established in 1987 by G7 countries

Objective: To prevent the proliferation of missile and UAV (Unmanned Aerial Vehicle) technology capable of carrying ≥500 kg payload for range >300 km

MTCR Categories

Category I Items
- Complete rocket and UAV systems (>500 kg payload for >300 km)
- Such items are subjected to unconditional strong presumption of denial for export

Category II Items
- Less-sensitive and dual-use missile related components and other complete missile systems (range >300 km)
- Their export is subject to licensing requirements

35 Member Countries   **India** inducted into the MTCR in 2016 as the 35th member   **China** not a member

Mandate on Members
- Prohibition from supplying missiles and UAV systems controlled by the MTCR to non-members.
- In 1992, the ambit was extended to all Weapons of Mass Destruction – nuclear, chemical & biological.

Secretariat: No formal Secretariat; France serves as MTCR's Point of Contact

MTCR and UN: No formal linkage but remains committed to the UN's non-proliferation and export control efforts

Significance for India
- Can procure high-end missile technology
- Can run joint programmes for development of UAVs with other countries

Comprehensive Nuclear-Test-Ban Treaty (CTBT) (1996)

Objective: Ban all nuclear explosions - everywhere, by everyone

Negotiated At: Conference on Disarmament in Geneva 1996 (adopted by UNGA)

185 Signatories   Treaty will enter into force after all 44 States listed in Annex 2 will ratify it (States having nuclear facilities at the time the Treaty was negotiated and adopted)

Out of 44, 36 countries have ratified

8 Annex-2 Countries Not Ratified
- China, North Korea, Egypt, India, Iran, Israel, Pakistan and the US
- India, North Korea and Pakistan haven't also signed the Treaty

CTBT Organisation
- Promotes the Treaty so that it can enter into force
- Headquartered in Vienna

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Meeting of China-Indian Ocean Region Forum

Why in News?

Recently, the **China International Development Cooperation Agency (CIDCA)**, held a meeting of the **China-Indian Ocean Region Forum** in which 19 countries took part but **not India.**

What are the Key Highlights of the Meet?

➢ **Theme:** Shared Development: Theory and Practice from the Perspective of the Blue Economy.

➢ **Participating Countries:**

○ Indonesia, Pakistan, Myanmar, Sri Lanka, Bangladesh, Maldives, Nepal, Afghanistan, Iran, Oman, South Africa, Kenya, Mozambique, Tanzania, Seychelles, Madagascar, Mauritius, Djibouti, Australia and representatives of 3 international organisations were present.

○ **India** was reportedly **not invited.**

➢ **Marine Disaster Prevention and Mitigation Cooperation Mechanism:**

○ China proposed to establish a marine disaster prevention and mitigation cooperation mechanism **between China and countries in the Indian Ocean region.**

○ China expressed its willingness to **provide necessary financial, material, and technical support** to countries in need.

What does China Seek from the Meet?

➢ China is contending for influence in the **strategic Indian Ocean region with substantial investments in ports** and infrastructure in several countries.

➢ China has made **substantial investments in ports and infrastructure investments in several countries**, including Pakistan and Sri Lanka.

➢ China has acquired **Sri Lanka's Hambantota port on a 99-year lease besides building the port at Pakistan's Gwadar** in the Arabian Sea opposite India's western coast and infrastructure investments in the Maldives.

What are the Concerns?

➢ China has often been **accused of engaging in "debt diplomacy"** in these countries under its Belt and Road Initiative allegedly in the name of infrastructure development.

➢ Since 2008, China has regularly deployed a contingent of naval warships in the Gulf of Aden and established its **first foreign military base in Djibouti in 2017.**

➢ At the same time India's absence is seen as an attempt to **challenge India's traditional presence in the region** amid apprehensions of politicization of the Indian Ocean region. Moreover, the Chinese Foreign Ministry refused to disclose **who the participants were from other countries.**

○ India has been a traditional partner and supporter of Indian Ocean Region (IOR) countries.

How is India's Presence in IORA?

➢ In addition, to act as a first responder during major crises in the littoral countries, India regularly engages with the **Indian Ocean littoral countries through such mechanisms as the Indian Ocean Rim Association (IORA)** and **Indian Ocean Navies Symposium (IONS)** under the vision of **Security and Growth for All in the Region (SAGAR).**

➢ India has strong influence in the Indian Ocean region where India-backed organisations like the IORA have taken strong roots.

➢ India continues to **promote its official policy of "coordination, cooperation and partnership"** in the regional maritime domain.

➢ As coordinator to the priority area on disaster risk management, India has published guidelines for IORA. It has also urged partners to join the **Coalition for Disaster Resilient Infrastructure** launched at the UN in September 2019.

➢ India has been trying to emerge as the net provider of information in the IOR and in that direction it created the **Information Fusion Centre** located in Gurugram to assist member countries of IOR with real-time crisis information. Bangladesh, Mauritius, Maldives, Sri Lanka and Seychelles have been part of the information support structure of India.

What is the Indian Ocean Rim Association?

➢ It was **established in 1997** and is a regional forum that seeks to build and expand understanding and mutually beneficial cooperation through a consensus-based, evolutionary and non-intrusive approach.

Note:

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> ➤ **IORA has 23 member states** and 9 Dialogue Partners.
>   ○ **Members:** Australia, Bangladesh, the Comoros, France, India, Indonesia, Iran, Kenya, Madagascar, Malaysia, Maldives, Mauritius, Mozambique, Oman, Seychelles, Singapore, Somalia, South Africa, Sri Lanka, Tanzania, Thailand, the United Arab Emirates and Yemen.
>   ○ **China is a dialogue partner** in the IORA.
> ➤ The IORA Secretariat is based in **Mauritius.**
> ➤ The association gains importance by the fact that the Indian Ocean carries half of the world's container ships, one-third of the world's bulk cargo traffic and two-thirds of the world's oil shipments.
> ➤ It is a **lifeline of international trade and transport and the Indian ocean region is woven together by trade routes** and commands control of major sea-lanes.

India and Gulf Cooperation Council

Why in News?

India and the **Gulf Cooperation Council (GCC)** have agreed to pursue a **Free Trade Agreement (FTA) between the two regions and resume the negotiations.**

➤ GCC is a **union of six countries in the Gulf region** — Saudi Arabia, the UAE, Qatar, Kuwait, Oman and Bahrain. The council is the largest trading bloc of India.

GULF COOPERATION COUNCIL

Why is the Gulf Region Crucial for India?

➤ India has enjoyed centuries of good relations with countries like Iran, while smaller gas-rich nation Qatar is one of India's closest allies in the region.

➤ India shares good relations with most of the countries in the Gulf.

➤ The two most important reasons for the **relationship are oil and gas, and trade.**
  ○ Qatar accounts for **41% of India's total natural gas imports.**

➤ Two additional reasons are the **huge number of Indians who work in the Gulf countries,** and the remittance they send back home.
  ○ As per a research paper published by the **Reserve Bank of India**, in the financial year 2020-21, remittances from the UAE to India were USD15.40 billion, which is 18% of India's total inward remittances.

What is the State of the India-GCC Trade Relationship?

➤ India's exports to the GCC member countries **grew by 58.26% to about USD 44 billion** in 2021-22 against USD 27.8 billion in 2020-21.

➤ **Bilateral trade in goods has increased to USD 154.73 billion** in 2021-22 from USD 87.4 billion in 2020-21.

➤ **Services trade between the two regions was valued at around USD 14 billion** in 2021-22, with exports aggregated at USD 5.5 billion and imports at USD 8.3 billion.

➤ **GCC countries contribute almost 35% of India's oil imports** and 70% of its gas imports.

➤ **India's overall crude oil imports from the GCC in 2021-22** were about USD 48 billion, while LNG and LPG imports in 2021-22 stood at about USD 21 billion.

What is the Status of Indian Trade Agreements with Other Countries?

➤ **India-Australia Trade Agreement:**
  ○ Recently, the Australian Parliament **approved the India-Australia Economic Cooperation and Trade Agreement (Ind-Aus ECTA).**
  ○ It is the **first Free Trade Agreement (FTA) that India has signed with a major developed country** in over a decade.

Note:

- The Agreement encompasses cooperation across the entire gamut of bilateral economic and commercial relations between the two friendly countries.

➤ **India-European Union FTA:**
- India and the EU restarted their FTA negotiations in goods and services in early 2021 after a gap of eight years.
- The two regions **aim to work out pacts in investments and geographic indications parallel to FTA engagement.**
- Round three of India-EU FTA talks will begin later this year at Delhi.

➤ **India-UK FTA:**
- Over the next few months, India and the United Kingdom will start talks on a free trade agreement (FTA).
- On the agenda is securing a patent regime against evergreening by pharma companies, seeking easier work visas as well as access to Indian movies in the region under the proposed FTA.

➤ **India-UAE CEPA**
- The Comprehensive Economic Partnership Agreement (CEPA) between **India and the United Arab Emirates (UAE) came into force from 1st May, 2022**
- **CEPA provides for an institutional mechanism to encourage and improve trade** between the two countries.

➤ **India-Canada CEPA:**
- Canada had previously been working to advance negotiations on a Foreign Investment Promotion Protection Agreement (FIPA) and a CEPA.
- In August 2022, India and Canada confirmed that they **would hold the fourth round of negotiations to secure an Early Progress Trade Agreement (EPTA),** an intermediate step till a Comprehensive Economic Partnership Agreement (CEPA) is reached.

India and Refugee Policy

Why in News?

Recently, many **Kuki-Chin refugees** from Chittagong Hill Tract Area in Bangladesh entered Mizoram (India) fearing an attack from Bangladesh security forces against them.

➤ Mizoram Government expressed sympathy for the refugees, who belong to the Chin-Kuki-Mizo communities, and resolved to give **temporary shelter, food and other relief as per convenience of the state government**.

What Causes these Refugee Influx?

➤ The CHT (Chittagong Hill Tracts) is an impoverished hilly, forested area that sprawls over more than 13,000 sq km of the Khagrachari, Rangamati, and Bandarban districts of **southeastern Bangladesh**, bordering **Mizoram to the east, Tripura to the north, and Myanmar to the south** and southeast.

➤ A significant portion of the population is tribal, and **culturally and ethnically different from the majority Muslim Bangladeshis** who live in the country's deltaic mainland.

➤ The tribal population of the CHT has ethnic links wit**h tribal populations in the adjacent areas of India, mainly in Mizoram.**
- Mizoram shares a **318-km-long border with Bangladesh**

➤ Mizoram is already playing host to about 30,000 refugees who have been fleeing fighting in Myanmar's Chin state since around July-August 2021.

How are Refugees Protected in India?

➤ India ensures that refugees can access protection services that are on a par with their **fellow Indian hosts.**

➤ For those refugees registered directly by the Government such as those from Sri Lanka, they are entitled to Aadhaar cards and PAN cards to enable their economic and financial inclusion.
- They can have access to national welfare schemes and contribute effectively to the Indian economy.

➤ However, for those registered with **UNHCR, such as refugees from Afghanistan, Myanmar and other countrie**s, while they have access to protection and limited assistance services, they do not possess government-issued documentation.
- Thus, they are unable to open bank accounts and don't get benefit from all government welfare schemes, and are thus inadvertently left behind.

What is India's Refugee Policy?

➤ India **lacks specific legislation to address the problem of refugees**, in spite of their increasing inflow.

➢ India is not a party to **the 1951 Refugee Convention and its 1967 Protocol,** the key legal documents pertaining to refugee protection.

  ○ **However, India has had a stellar record on** the issue of refugee protection. India has a moral tradition for assimilating foreign people and culture.

➢ Moreover, the **Foreigners Act, 1946, fails to address the peculiar problem**s faced by refugees as a class.

  ○ It also gives unbridled power to the Central government to deport any foreign citizen.

➢ Further, the constitution of India also respects the life, liberty, and dignity of human beings.

  ○ The Supreme Court in the *National Human Rights Commission vs. State of Arunachal Pradesh (1996)* held that "while all rights are available to citizens, persons including foreign citizens are entitled to the right to equality and the right to life, among others."

➢ Further, **Article 21 of the Constitution encompasses the right of non-refoulement.**

  ○ Non-refoulement is the principle under international law which states that a person fleeing persecution from his own country should not be forced to return to his own country.

What is the Status of Refugees in India?

➢ Since its independence, **India has accepted various groups of refugees from neighbouring countries, including:**

  ○ **Partition refugees** from **Pakista**n in 1947.

  ○ **Tibetan refugees** that arrived in 1959.

  ○ **Chakma and Hajong** from present day Bangladesh in early 1960s.

    ● Other Bangladeshi refugees in 1965 and 1971.

  ○ **Sri Lankan Tamil refugees** from the 1980s.

  ○ Most recently **Rohingya refugees** from Myanmar, 2022.

Why Hasn't India Framed a Law on Refugees Yet?

➢ **Refugees vs Immigrants:** In the recent past, many people from neighboring countries tend to illegally immigrate to India, not because of state persecution but in search of better economic opportunities in India.

  ○ While the reality is that much of the debate in the country is about **illegal immigrants, not refugees,** the two categories tend to get bunched together.

➢ **Open Scope of Maneuver:** Absence of legislation has allowed India to keep its options open on the question of refugees. The government can declare any set of refugees as illegal immigrants.

  ○ This was the case that has **happened with Rohingya** (they are stateless, Indo-Aryan ethnic group who reside in Rakhine State, Myanmar), despite the UNHCR verification, the government decided to deal with them as trespassers under the Foreigners Act or the Indian Passport Act.

What is the Current Legislative Framework to Handle Refugees?

➢ **Foreigners Act of 1946:** Under Section 3, the Central government is empowered to detect, detain and deport illegal foreign nationals.

➢ **Passport (Entry into India) Act, 1920 :** Under Section 5, authorities can remove an illegal foreigner by force under Article 258(1) of the Constitution of India.

➢ **Registration of Foreigners Act of 1939:** Under this, there is a mandatory requirement under which all foreign nationals (excluding overseas citizens of India) visiting India on a long-term visa (more than 180 days) is required to register themselves with a Registration Officer within 14 days of arriving in India.

➢ **Citizenship Act, 1955:** It provided provisions for renunciation, termination, and deprivation of citizenship.

➢ Further, **Citizenship Amendment Act, 2019 (CAA)** seeks to provide citizenship only to Hindu, Christian, Jain, Parsi, Sikh, and Buddhist immigrants persecuted in Bangladesh, Pakistan, and Afghanistan.

What is the Difference Between Refugees and Migrants?

➢ Refugees are people outside their countries of origin who are in need of international protection because of a serious threat to their life, physical integrity or freedom in their country of origin as a result of persecution, armed conflict, violence or serious public disorder.

  ○ **Migrants** leave their country because they want to work, study or join a family.

➢ There are well-defined and specific grounds, which have to be satisfied before a person can qualify to be a 'refugee'

  ○ There is no internationally accepted legal definition of a migrant.

Note:

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Social Issues

Highlights

- *Rural Daily Wages*
- *National Suicide Prevention Strategy*
- *Nai Chetna-Pahal Badlav Ki*
- *World's Population Touches 8 Billion*
- *Same-sex Marriage under the Special Marriage Act, 1954*

Rural Daily Wages

Why in News?

Recently, the **Reserve Bank of India (RBI)** released data on daily wage payments in India.

What are the Findings?

➢ **Agricultural Workers:**
  ○ In Madhya Pradesh (MP), **male agricultural workers in rural areas got a daily wage of just Rs 217.8** while in Gujarat, it worked out to Rs 220.3 in the year ended March 2022.
    ● Daily wages in both the states are below the national average of Rs 323.2.
  ○ **Kerala leads in highly paid agricultural workers** with an average wage of Rs 726.8 per worker.
    ● The high wages in Kerala have attracted farm workers from other poorly paid states with around 25 lakh migrant workers reportedly living in the state.
  ○ In Jammu & Kashmir, farm workers get an average wage of Rs 524.6, Himachal Pradesh Rs 457.6, and Tamil Nadu Rs 445.6 per person.

➢ **Non-agricultural Workers:**
  ○ In the case of male non-agricultural workers, the **lowest wage was in MP with an average wage of Rs 230.3** while Gujarat workers got a daily wage of Rs 252.5 and Tripura Rs 250 — all below the national average of Rs 326.6.
  ○ **Kerala again leads in non-agricultural workers' wages** with Rs 681.8 wage per person.
    ● Kerala was followed by J&K, Tamil Nadu and Haryana for the year ended March 2022.

○ Gujarat and Madhya Pradesh are again below the national average of Rs 373.3 in the case of rural male construction workers.
    ● Gujarat rural construction workers got an average wage of Rs 295.9, MP Rs 266.7 and Tripura Rs 250.

➢ **Construction Workers:**
  ○ Daily wage for rural construction workers was Rs 837.7 in Kerala, Rs 519.8 in J&K, Rs 478.6 in Tamil Nadu and Rs 462.7 in Himachal Pradesh.

DAILY WAGES OF MALE RURAL AGRI WORKERS

■ 2020-21   ■ 2021-22   Average daily per person in ₹

POORLY PAID STATES | HIGHLY PAID STATES

State	2020-21	2021-22
MP	217.6	217.8
Gujarat	213.1	220.3
UP	274.5	288
Bihar	272.6	290.3
Maharashtra	267.7	284.2
Kerala	706.5	726.8
J&K	501.1	524.6
HP	421.7	457.6
Tamil Nadu	434.2	445.6
Haryana	384.8	395
National Average	309.9	323.2
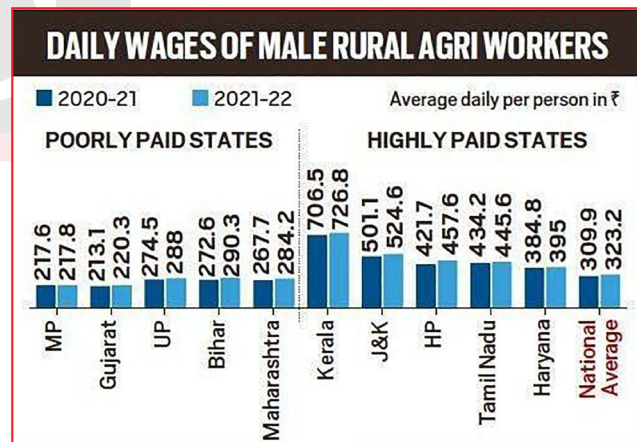
What are the Issues associated with Rural Wages?

➢ Rural jobs are **dependent on agriculture** which in turn is influenced by monsoon and rabi and kharif production.
➢ Low agricultural prices contribute to lower incomes in rural areas.
➢ Most new jobs in the rural areas are for unskilled workers, so the wages and nature of the work are unattractive.
➢ There is a strong gender disparity, where the female worker is paid only 70% of what the male worker earns.

Note:

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➢ Productivity increases without wage increases could offset the impact of real wage increases on welfare.

What are the Related Initiatives?

➢ **Deen Dayal Upadhayay Grameen Kaushalya Yojana**

➢ **Pradhan Mantri Kaushal Vikas Yojana**

➢ **Mahatma Gandhi National Rural Employment Guarantee Act**

➢ **National Rural Livelihood Mission**

➢ **Pradhan Mantri Awas Yojana**

National Suicide Prevention Strategy

Why in News?

Recently, the Ministry of Health and Family Welfare, Government of India has announced the "**National Suicide Prevention Strategy**".

➢ It is the **first of its kind in the country**, with time-bound action plans and multi-sectoral collaborations to achieve **reduction in suicide mortality by 10% by 2030**.

➢ The strategy is in line with the **World Health Organisation**'s **South East-Asia Region Strategy for suicide prevention.**

What is National Suicide Prevention Strategy?

➢ The strategy broadly seeks to **establish effective surveillance mechanisms** for suicide within the next three years.

➢ It seeks to establish **psychiatric outpatient departments** that will provide **suicide prevention services** through the **District Mental Health Programme** in all districts within the next five years.

➢ It also aims to **integrate a mental well-being curriculum** in all educational institutions within the next eight years.

➢ It envisages **developing guidelines for responsible media reporting** of suicides, and restricting access to means of suicide.

What is the Status of Suicides in India?

➢ **National Figures:**

○ In India, **more than one lakh lives** are lost every year to suicide, and it is the top killer in the 15-29 years category.

○ From 2019-22, the suicide rate has increased from **10.2 to 11.3 per 1,00,000 population**.

➢ **National Crime Records Bureau (NCRB)** has recently released report of "**Accidental Deaths & Suicides in India Report 2021**". It provides the category wise records as follows:

○ **Daily Wager:**

RISING SUICIDE RATE OF DAILY WAGE WORKERS
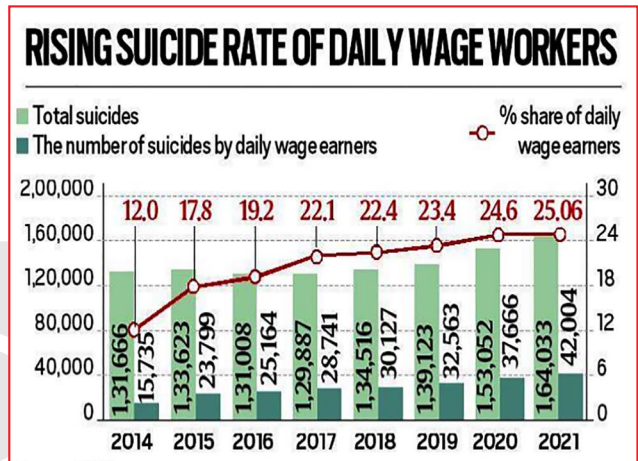
● Daily wage earners remained the largest profession-wise group among suicide victims in 2021, **accounting for 42,004 suicides** (25.6%).

● The share of daily wagers death by suicide has **crossed the quarter mark for the first time.**

● At the national level, the number of suicides **increased by 7.17% from the years 2020 to 2021.**

  ■ However, the number of suicides in the daily wage group rose by 11.52% during this period.

○ **Farming Sector:**

● The overall share of "**Persons engaged in farming sector**" among the total recorded suicides stood at 6.6% during 2021.

○ **Profession Wise Distribution:**

Profes sionategory	2020	2021	% Share in total Suicides in 2021	% Increase in suicides during 2021
Daily Wage Earner	37666	42004	25.6	11.52

Note:

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Other Persons	20543	23547	14.4	14.62
House wii	22374	23179	14.1	3.60
Self Employed Person	17332	20231	12.3	16.73
Profes ional/ alaried Persons	14825	15870	9.7	7.05
Unemployed Person	15652	13714	8.4	-12.38
tudent	12526	13089	8	4.49
Persons Engaged in F rming Sector	10677	10881	6.6	1.91
Retired Per on	1457	1518	0.9	4.19
Total	**153052**	**164033**	**100**	**7.17**

- The highest increase of 16.73% was recorded by "**self-employed persons**".
- The "**unemployed persons**" group was the only one that saw a decline in suicides, with the number dipping by 12.38% from 15,652 in 2020 to 13,714 suicides in 2021.
  - **Reasons for Suicide:**
    - 33.2%: Family Problems (other than marriage related problems)
    - 4.8%: Marriage Related Problems
    - 18.6%: Illness
  - **State:**
    - **Maharashtra topped the country** in terms of the number of suicides reported in 2021 followed by **Tamil Nadu and Madhya Pradesh.**
    - Maharashtra contributed 13.5% to the total number of suicides registered across the country in 2021.
  - **Union Territories:**
    - **Delhi** recorded the highest number of 2,840 suicides.

What are India's Initiatives to Reduce Suicides?

- **Mental Healthcare Act, 2017:**
  - **MHA 2017** aims to provide mental healthcare services for persons with mental illness.
- **KIRAN:**
  - The Ministry of Social Justice and Empowerment has launched a 24/7 toll-free helpline "**KIRAN**" to provide support to people facing anxiety, stress, depression, suicidal thoughts and other mental health concerns.
- **Manodarpan Initiative:**
  - **Manodarpan** is an initiative of the Ministry of Education under Atmanirbhar Bharat Abhiyan. It is aimed to provide psychosocial support to students, family members and teachers for their mental health and well-being during the times of Covid-19.

What is the National Crime Records Bureau?
- NCRB, headquartered in New Delhi, was set-up in 1986 under the **Ministry of Home Affairs** to function as a **repository of information on crime and criminals** so as to assist the investigators in linking crime to the perpetrators.
- It was set up based on the recommendations of the **National Police Commission (1977-1981)** and the **MHA's Task Force (1985)**.
- NCRB brings out the **annual comprehensive statistics of crime across the country** ('Crime in India' report).
  - Having been published since 1953, the report serves as a crucial tool in understanding the law and order situation across the country.

Nai Chetna-Pahal Badlav Ki

Why in News?

Recently, the Ministry of Urban Development launches the "**Nai Chetna-Pahal Badlav Ki**"- A Community-led **National Campaign Against Gender-Based Discrimination.**

- Kerala also launched the campaign under the umbrella of the Kudumbashree Mission.

What is the Nai Chetna-Pahal Badlav Ki Campaign?

- **About:**

Note:

○ It is a **four-week campaign**, aiming at equipping **women to recognise and prevent violence** and making them **aware of their rights**.

○ Activities will be centred on the theme of '**Gender equality** and **gender-based violence**.'

➤ **Aim:**

○ This will be an **annual campaign** focussing on **specific gender issues each year**. The focus area of the campaign this year is **gender-based violence**.

➤ **Implementing Agency:**

○ This campaign will be implemented by all states in collaboration with **Civil Society Organisations (CSO)** partners, and actively executed by all levels including the **states, districts and blocks,** engaging the community institutions along with the extended community.

➤ **Significance:**

○ The campaign will bring together **all line departments and stakeholders** to create a **concerted effort in acknowledging, identifying and addressing** the issues of violence.

What is the Kudumbashree Mission?

➤ It is the **poverty eradication** and **women empowerment programme** implemented by the **State Poverty Eradication Mission (SPEM)** of the Government of Kerala.

➤ The name Kudumbashree in Malayalam language means '**Prosperity of the Family**'. The name represents '**Kudumbashree Mission**' or SPEM as well as the **Kudumbashree Community Network**.

What is the National Rural Livelihoods Mission?
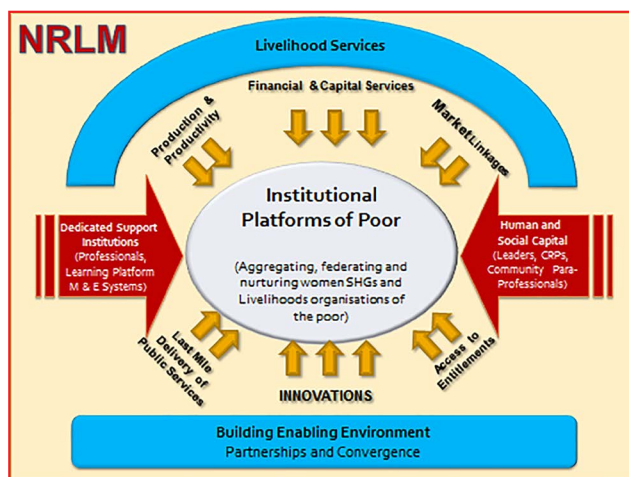
➤ **About:**

○ It is known as **"Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM)"**.

○ It is a **centrally sponsored programme**, launched by the Ministry of Rural Development in June 2011.

○ The government accepted the recommendation of the **Prof. Radhakrishna Committee** and restructured "**The Swarnjayanti Gram SwarozgarYojana (SGSY)**" into "**National Rural Livelihoods Mission (NRLM)**" in FY 2010-11.

➤ **Aim:**

○ To **reduce poverty** by enabling the **poor households to access gainful self-employment** and skilled wage employment opportunities, resulting in appreciable improvement in their livelihoods on a sustainable basis, through building strong grassroots institutions for the poor.

➤ **Sub-Schemes:**

○ **MKSP:**

● In order to promote **agro-ecological practices** that increase women farmers' income and reduce their input costs and risks, the Mission has been implementing the **Mahila Kisan Shashaktikaran Pariyojana (MKSP)**.

○ **SVEP and AGEY:**

● As part of its n**on-farm livelihoods strategy**, DAY-NRLM is implementing **Start-Up Village Entrepreneurship Programme (SVEP)** and **Aajeevika Grameen Express Yojana (AGEY)**.

■ SVEP aims to support entrepreneurs in rural areas to set up local enterprises.

■ AGEY, launched in August 2017, to provide safe, affordable and community monitored rural transport services to connect remote rural villages.

○ **DDUGKY:**

● **Deendayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY)** aims at building placement-linked skills of the rural youth and placing them in relatively higher-wage employment sectors of the economy.

○ **RSETIs:**

● The Mission, in partnership with 31 Banks and State Governments, is supporting **Rural Self Employment Institutes (RSETIs)** for skilling rural youth to take up gainful self-employment.

Note:

What are the Major Causes of Gender Based Violence?

➢ **Social/Political/Cultural factors:**

  ○ Discriminatory social, cultural or religious laws, norms and practices that **marginalize women and girls** and fail to respect their rights.

  ○ **Gender stereotypes** are often used to justify violence against women. Cultural norms often dictate that men are aggressive, controlling, and dominant, while women are docile, subservient, and rely on men as providers. These norms can foster a culture of outright abuse.

  ○ Collapse of family, social and communal structures and disrupted roles within the family often expose women and girls to risk and limit coping mechanisms and avenues for protection and redress.

➢ **Judicial Barriers:**

  ○ Lack of **access to justice institutions and mechanism**s, resulting in a culture of impunity for violence and abuse.

  ○ Lack of **adequate and affordable legal advice** and representation.

  ○ Lack of adequate **victim/survivor and witness protection mechanisms.**

  ○ IInadequate legal framework, including national, traditional, customary and religious law, that discriminates against women and girls.

➢ **Individual Barriers:**

  ○ Threat or fear of stigma, isolation and social exclusion and exposure to further violence at the hands of the perpetrator, the community or the authorities, including arrest, detention, ill-treatment and punishment.

  ○ Lack of information about **human rights** and on how and where to seek remedies.

What are the Impacts of Violence Against Women?

➢ It seriously affects **all aspects of women's health-physical, sexual and reproductive, mental and behavioural health,** thus preventing them from realizing their full potential.

➢ Violence and threat of violence **affects women's ability to participate actively,** and as equals, in many forms of social and political relationships

➢ Workplace harassment and domestic violence has an impact on women's participation in the workforce and their economic empowerment.

➢ Sexual harassment **limits the educational opportunities and achievements of girls**.

What can be done to Eliminate Gender Based Violence?

➢ Gender Based Violence (GBV) can be eliminated through **collective efforts of society, government and individuals.**

➢ Training **healthcare providers** to recognize and respond to gender-based violence is one of the most important ways of identifying and assisting victims.

➢ The **media is a key conduit for making GBV visible**, advertising solutions, informing policy-makers and educating the public about legal rights and how to recognize and address GBV.

➢ School systems are instrumental to stopping GBV before it starts. Regular curricula, sexuality education, school counseling programs and school health services can all convey the message that violence is wrong and can be prevented.

➢ A number of studies have shown that **involving entire communities** in recognizing, addressing and working to prevent GBV is **one of the surest ways of eliminating it.**

World's Population Touches 8 Billion

Why in News?

According to the **United Nations Population Fund (UNPFA)**, the **human population across the globe touched 8 billion.**

➢ As of 2022, **more than half the world's population lives in Asia**, **China and India being the two most populous countries** with more than 1.4 billion people each.

Note:

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A REMARKABLE MILESTONE

8,000,000,000

figure flashed on the World population clock on Tuesday

UN Growth Estimates

9 billion+ by 2037　　**10 billion** by 2058

"**8** bn **hopes** bn **dreams** bn **possibilities**"

the UNPF tweeted as it announced the global population has hit 8 billion.
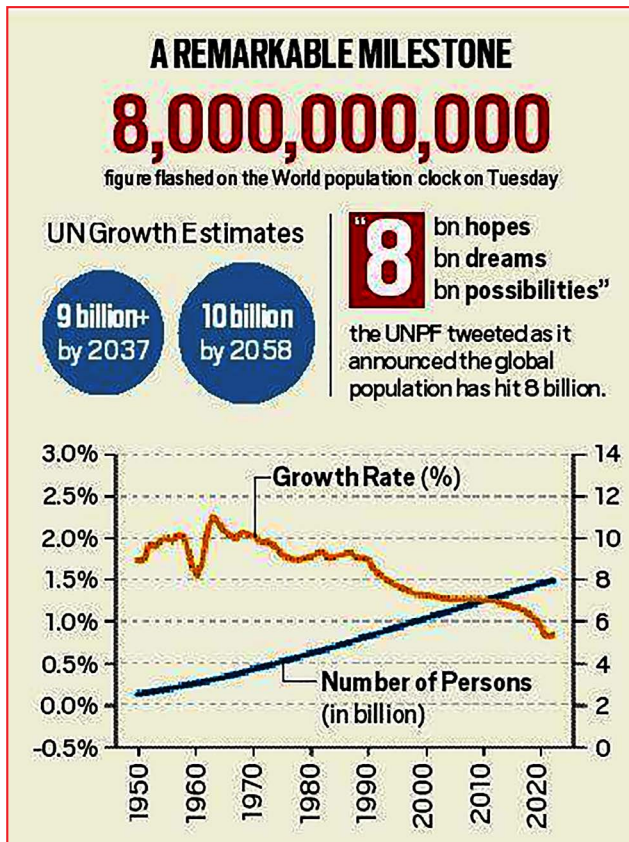
What are the Trends of Population Growth?

➢ **Overall Decrease in Population Growth Rate:**
  ○ According to UN, it took the **global population 12 years to grow from 7 billion to 8 billion**, it will take approximately **15 years until 2037, for it to reach 9 billion.**
    ● This indicates that overall growth rate of global population is slowing.
  ○ The UN population report said the global population is growing at its **slowest rate since 1950, having fallen under 1% in 2020.**
    ● The world's population could grow to around 8.5 billion in 2030 and 9.7 billion in 2050.
    ● It is projected to reach a peak of around 10.4 billion people during the 2080s and to remain at that level until 2100.
  ○ According to the UN, **60% of the global population lives in a region where the fertility rate is below replacement level.**
    ● In 1990, 40% lived in a region where fertility rate was below replacement level.

➢ **High-Fertility Levels in Poor Countries:**
  ○ Countries with the highest fertility levels tend to be **those with the lowest income per capita.**
  ○ **More than half of the projected increase** in the global population up to 2050 will be concentrated in eight countries: **the Democratic Republic of the Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines** and **the United Republic of Tanzania.**
    ● Countries of sub-Saharan Africa are expected to contribute more than half of the increase anticipated through 2050.

➢ **International Migration:**
  ○ International migration is now the driver of growth in many countries, with **281 million people living outside their country of birth in 2020.**
  ○ All South Asian nations including **India, Pakistan, Nepal, Bangladesh and Sri Lanka have seen high levels of emigration** in recent years.

What are the Findings about India's Population?

➢ **Stabilising Population Growth:**
  ○ According to UN, India's fertility rate has hit **2.1 births per woman i.e., replacement-level fertility** and is **further declining.**
  ○ While India's population growth is stabilising, it is **"still growing at 0.7% per year"** and is set to surpass China in 2023 as the world's most populous country.
    ● According to UN, China's population is no longer growing and may start declining as early as 2023.
  ○ The **World Population Prospects 2022,** put **India's population estimate at 1.412 billion** in 2022, compared with **China's 1.426 billion.**
    ● India is likely to peak at **1.7 billion population in 2048** and then start **declining to 1.1 billion at the end of century.**

➢ **World's Largest Adolescent Population:**
  ○ According to UNFPA estimates, **68% of India's population is between 15-64 years old in 2022**, while **people aged 65 and above comprise 7%** of the population.
    ● Over **27%** of the country's population is between the **age of 15-29.**

Note:

- **At 253 million,** India is also home to the **world's largest adolescent population (10-19 years).**
- India has **its largest ever adolescent and youth population.**
- India will continue to have **one of the youngest populations in the world till 2030** and is currently experiencing a **demographic window of opportunity, a "youth bulge" that will last till 2025.**

What is the United Nations Population Fund?
➢ **About:**
  ○ It is a **subsidiary organ of the UN General Assembly** and works as a **sexual and reproductive health agency.**
  ○ The **UN Economic and Social Council (ECOSOC)** establishes its mandate.
➢ **Establishment:**
  ○ It was established as a **trust fund in 1967 and began operations in 1969.**
  ○ In 1987, it was **officially renamed the** United Nations Population Fund but the **original abbreviation,** 'UNFPA' for the United Nations Fund for Population Activities **was retained.**
➢ **Objective:**
  ○ UNFPA works directly to tackle **Sustainable Development Goals on health (SDG3), education (SDG4) and gender equality (SDG5).**
➢ **Funding:**
  ○ UNFPA is **not supported by the UN budget**, instead, it is entirely supported by **voluntary contributions of donor governments,** intergovernmental organizations, the private sector, foundations and individuals.

Same-sex Marriage under the Special Marriage Act, 1954

Why in News?

Recently, the **Supreme Court** has issued notice to the Centre and the **Attorney General for India** on a plea by two gay couples seeking recognition of same-sex marriage under the **Special Marriage Act, 1954.**

➢ As a result of several petitions, a two-judge bench headed by **Chief Justice of India D Y Chandrachud issued the notice.**

➢ The non-recognition of same-sex marriage amounted to **discrimination that struck at the root of dignity and self-fulfillment of LGBTQ+ couples.**

What are the Arguments of the Petitioners?

➢ The Act is ultra vires the Constitution to the extent it **discriminates between same-sex couples and opposite sex couples**, denying same-sex couples both legal rights as well as the social recognition and status that flows from marriage.
  ○ The Special Marriage Act of 1954 ought to apply to a marriage between any two persons, regardless of their gender identity and sexual orientation.

➢ If not, the Act, in its present form **should be declared violative of the fundamental rights to a dignified life and equality** as "it does not provide for solemnisation of marriage between same sex couple".

➢ The Act should **grant same sex couple the same protection** it allowed inter-caste and inter-faith couples who want to marry.

➢ There has been **insufficient progress by simply decriminalizing homosexuality**; **equality must extend to all spheres of life**, including the home, the workplace, and public places, for LGBTQ+ individuals.
  ○ Current population of LGBTQ+ are 7% to 8% of the population of the country.

What is the Legality of Same-Sex Marriages in India?

➢ The right to marry is **not expressly recognized either as a fundamental or constitutional right under the Indian Constitution.**

➢ Though **marriage is regulated through various statutory enactments**, its recognition as a fundamental right has only developed through judicial decisions of India's Supreme Court. Such declaration of law is binding on all courts throughout India under **Article 141** of the Constitution.

What are the Views of Supreme Court on Same Sex Marriages?

➢ **Marriage as a Fundamental Right (*Shafin Jahan v. Asokan K.M. and others 2018*):**
  ○ While referring to **Article 16 of Universal Declaration of Human Rights** and the Puttaswamy case, the

SC held that the right to marry a person of one's choice is integral to **Article 21** of the Constitution.

- **Article 16 (2)** in the Indian constitution provides that there cannot be any discrimination on grounds only of religion, race, caste, sex, descent, place of birth, residence or any of them.
  - ○ The **right to marry is intrinsic to the liberty which the Constitution guarantees as a fundamental right**, is the ability of each individual to take decisions on matters central to the pursuit of happiness.

Matters of belief and faith, including whether to believe are at the core of constitutional liberty.

➢ **LGBTQ Community Entitled to all Constitutional Rights (*Navjet Singh Johar and others v. Union of India 2018*):**
  - ○ The **SC held that members of the LGBTQ community "are entitled**, as all other citizens, to the full range of constitutional rights including the liberties protected by the Constitution" and are entitled to equal citizenship and "equal protection of law".

What is the Special Marriage Act (SMA), 1954?

➢ **About:**
  - ○ Marriages in India can be **registered under the respective personal laws Hindu Marriage Act, 1955, Muslim Marriage Act, 1954, or under the Special Marriage Act, 1954.**
  - ○ It is the **duty of the Judiciary to ensure that the rights of both the husband and wife are protected.**
  - ○ The **Special Marriage Act, 1954 is an Act of the Parliament of India** with provision for civil marriage for people of India and all Indian nationals in foreign countries, irrespective of religion or faith followed by either party.
  - ○ When a person solemnises marriage under this law, then the marriage is not governed by personal laws but by the Special Marriage Act.

➢ **Features:**
  - ○ Allows people from two different religious backgrounds to come together in the bond of marriage.
  - ○ Lays down the procedure for both solemnization and registration of marriage, where either of the husband or wife or both are not Hindus, Buddhists, Jains, or Sikhs.
  - ○ Being a secular Act, it plays a key role in liberating individuals from traditional requirements of marriage.

■■■

Note:

Science & Technology

Highlights

- Red Planet Day
- PSLV-C54
- Food-Animal Farming and Antimicrobial Resistance
- Third Attempt for Artemis I
- Russia's Advanced Fuel Option for KKNPP
- Semi-Automated Offside Technology
- Photonic Crystal
- SARAS 3 Telescope and Clues to First Stars

Red Planet Day

Why in News?

28th November is marked as Red Planet Day commemorating the day when **National Aeronautics and Space Administration (NASA)** mission Mariner 4 was launched in 1964.

➢ Mariner 4 captured significant information on, and photographs of, Mars for the first time.

What are the Key Points Related to Mars?

➢ **Size and Distance:**
  ○ It is the **fourth planet from the Sun** and the second-smallest planet in the Solar System.
  ○ Mars is about half the size of Earth.
➢ **Similarity to the Earth (Orbit and Rotation):**
  ○ As Mars orbits the Sun, it completes one rotation every 24.6 hours, which is very similar to one day on Earth (23.9 hours).
  ○ Mars' axis of **rotation is tilted 25 degrees** with respect to the plane of its orbit around the Sun. This is similar to Earth, which has an axial tilt of 23.4 degrees.
  ○ Mars has distinct seasons like Earth, but they last longer than seasons on Earth.
  ○ Martian days are called **sols—short for 'solar day'.**
➢ **Other Features:**
  ○ The reason Mars looks reddish is due to oxidation or rusting of iron in the rocks, and dust of Mars. Hence it is also called the Red Planet.
  ○ It has the largest volcano in the solar system i.e., Olympus Mons.

  ○ It has two small moons, **Phobos and Deimos.**

What are the Various Mars Missions?

➢ NASA has a **lander (Mars Insight), two rovers (Curiosity and Perseverance)**, and **three orbiters (Mars Reconnaissance Orbiter, Mars Odyssey, MAVEN)**
➢ **ExoMars rover (2021) (European Space Agency)**
➢ **Tianwen-1: China's Mars Mission (2021)**
➢ **UAE's Hope Mars Mission (UAE's first-ever interplanetary mission) (2021)**
➢ **India's Mars Orbiter Mission (MOM) or Mangalyaan (2013)**
➢ **Mars 2 and Mars 3 (1971) (Soviet Union)**

PSLV-C54

Why in News?

Recently, the **Indian Space Research Organisation (ISRO)** has successfully launched the **Polar Satellite Launch Vehicle (PSLV) C54** from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

➢ This was the **56th flight of PSLV**, which marks the **final mission for the year for PSLV-C54 rocket.**

What are the Satellites Launched?

➢ **Nano Satellite-2 for Bhutan (INS-2B):**
  ○ **About:**
    - **INS-2B satellite is** a collaborative mission between India and Bhutan with **two payloads.**
      - **NanoMx,** a multispectral optical imaging payload developed by Space Applications Centre (SAC)

- **APRS-Digipeater** which is jointly developed by DITT-Bhutan and URSC was successfully deployed.
  ❍ **Significance of INS-2B:**
    - It will **provide high-resolution images to Bhutan for the management of the country's natural resources**.
    - The launch of the new satellite is part of **India's efforts to back Bhutanese King Jigme Khesar Namgyel Wangchuck's plans to use advanced technology,** including ICT and space technology, for the development of Bhutan.
    - The collaboration **also fits in with India's "neighbourhood first" policy.**
- **Anand:**
  ❍ The Anand three axis stabilized Nano satellite is **a technology demonstrator for miniaturized electro-optical payload** and all other sub-systems like TTC, power, onboard computer and ADCS from Pixxel, India was also placed in the orbit successfully.
- **Astrocast:**
  ❍ Astrocast, a 3U spacecraft, is a technology demonstrator satellite for the Internet of Things (IoT) as the payload. There are 4 nos. of Astrocast Satellites in this mission. These spacecrafts are housed within an ISISpace QuadPack dispenser.
  ❍ The dispenser protects the satellite from contamination.
- **Thymbolt Satellites:**
  ❍ The Thybolt is a 0.5U spacecraft bus that includes **a communication payload to enable rapid technology demonstration and constellation development for multiple users** from Dhruva Space using their own Orbital Deployer with a minimum lifetime of 1 year.
- **EOS-6:**
  ❍ Earth Observation Satellite-06 (EOS-06) is the **Oceansat series' 3rd-generation satellite** envisaged to observe ocean colour data, sea surface temperature and wind vector data to use in oceanography, climatic and meteorological applications.
  ❍ The satellite also **supports value added products such as potential fishing zones using chlorophyll**, Sea Surface Temperature (SST) and wind speed and land based geophysical parameters.

Food-Animal Farming and Antimicrobial Resistance

Why in News?

Poor animal health in factory farming can negatively affect food safety, our environment and climate, leading to **Antimicrobial Resistance (AMR).**

➢ Factory farming or intensive food-animal farming is the **intense and confined farming of animals** such as pigs, cows, and birds. They are industrial facilities that raise large numbers of animals, **mostly indoors, in conditions intended to maximise production at a minimal cost.**

What are the Issues?

➢ The suffering of animals within farms around the world is too often overlooked or seen to be separate from the **big issues such as pandemics** and the public health crisis, **climate change** and biodiversity loss, food insecurity and malnutrition.
  ❍ In reality, this can **exacerbate the global problems as well** as causing immense cruelty to billions of animals.

➢ Producing more than 50 billion factory-farmed land animals each year to satisfy growing demand for cheap meat requires using breeds of genetically uniform **animals squashed together**, creating an **ideal breeding ground for disease** that can jump to humans.
  ❍ When diseases jump from one species to another, they often become more infectious and cause **more serious illness and death**, leading to global pandemics.
  ❍ Bird flu and swine flu are **two key examples where new strains constantly emerge** from intensively farmed animals.

➢ However, there is an **addition to this list — Antimicrobial Resistance** which is overlooked among these big issues.

➢ The **overuse of antibiotics on factory farms leads to superbugs that spread to workers**, the environment and into the food chain.

➢ Factory farms, characterised by substandard husbandry practices and poor animal welfare, **drive the increased use of antimicrobials**, and are connected to the emergence of AMR alongside a range of **zoonotic pathogens.**

Note:

What is AMR and How Prevalent is it in India?

➤ AMR is the **resistance acquired by any microorganism** (bacteria, viruses, fungi, parasite, etc.) against antimicrobial drugs that are used to treat infections.

  ○ It occurs when a microorganism changes over time and no longer responds to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death.

  ○ The **World Health Organisation (WHO)** has identified **AMR as one of the top ten threats to global health**.

➤ In India, **over 56,000 newborn deaths each year due to sepsis** caused by organisms that are resistant to first line antibiotics.

➤ A study reported by **ICMR (Indian Council of Medical Research)** from 10 hospitals showed that when Covid patients acquire drug-resistant infections in hospitals, the mortality is almost 50-60%.

➤ The multi-drug resistance determinant, **New Delhi Metallo-beta-lactamase-1 (NDM-1)**, emerged from this region.

  ○ Africa, Europe and other parts of Asia have also been affected by multi-drug resistant typhoid originating from South Asia.

What Initiatives have been taken by the Government to Prevent AMR?

➤ **AMR Surveillance and Research Network (AMRSN) was launched in 2013, to generate evidence and capture trends and patterns** of drug resistant infections in the country.

➤ **The National Action Plan on AMR** focuses on One Health approach and was launched in April 2017 with the aim of involving various stakeholder ministries/departments.

➤ ICMR along with **Research Council of Norway (RCN)** initiated a joint call for research in antimicrobial resistance in 2017.

➤ ICMR along with the Federal Ministry of Education and Research (BMBF), Germany has a joint **Indo-German collaboration for research on AMR.**

➤ ICMR has initiated **Antibiotic Stewardship Program (AMSP)** on a pilot project across India to control misuse and overuse of antibiotics in hospital wards and ICUs.

Third Attempt for Artemis I

Why in News?

   National Aeronautics and Space Administration (NASA) has successfully launched its **unmanned Moon mission Artemis I** on 16th November 2022.

➤ After multiple delays caused by technological failures and natural disasters spread across two months, the **Space Launch System (SLS)** rocket has been lifted off from the **Kennedy Space Centre in Cape Canaveral, Florida.**

What is the Artemis I Mission?

➤ Artemis I is an **uncrewed mission** of NASA.

  ○ Named after the sister of Apollo in Greek mythology, it is NASA's successor to the Apollo lunar missions from fifty years ago.

➤ It will test the agency's **Space Launch System (SLS) rocket** and **Orion crew capsule.**

  ○ The SLS is the largest new vertical launch system NASA has created since the Saturn V rockets used in the 1960s and 1970s.

➤ Artemis I is the first in a series of increasingly complex missions to build a **long-term human presence** at the Moon for decades to come.

  ○ The **primary goals for Artemis I** are to demonstrate Orion's systems in a spaceflight environment and ensure a safe re-entry, descent, splashdown, and recovery prior to the first flight with crew on Artemis II.

➤ It is only a lunar Orbiter mission even though, unlike most Orbiter missions, it has a return-to-Earth target.

What is the Importance of Artemis I Mission?

➤ Artemis I is the **first step into that new space age of achieving the promise of transporting humans** to new worlds, of landing and living on other planets, or maybe meeting aliens.

➤ The CubeSats it will carry are equipped with instruments meant for **specific investigations and experiments**, including **searching for water** in all forms and for **hydrogen that can be utilised** as a source of energy.

➤ **Biology experiments** will be carried out, and the impact of **deep space atmosphere on humans** will be investigated through the effect on **dummy 'passengers'** on-board Orion.

Note:

What are the Upcoming Artemis Missions?

➢ **Artemis II:**

  ❍ It will take off in **2024.**

  ❍ Artemis II will have a **crew aboard Orion** and will be a test mission to confirm that all of the **spacecraft's systems will operate as designed** when it has humans on board.

  ❍ But the Artemis II launch will be similar to that of Artemis I. A crew of four astronauts will be aboard Orion as it and ICPS orbit the Earth twice before moving to the direction of the Moon.

➢ **Artemis III:**

  ❍ It is scheduled for 2025, and is expected to ferry astronauts to the moon for the first time since the apollo missions.

What are India's Moon Exploration Efforts?

➢ **Chandrayaan 1:**

  ❍ Chandrayaan-1 was India's first mission to Moon under **Chandrayaan project.**

  ❍ It was launched successfully in October 2008 from Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota, Andhra Pradesh.

    ● **Indian Space Research Organisation (ISRO)** lost communication with Chandrayaan-1 on 29th August 2009.

➢ **Chandrayaan-2:**

  ❍ **Chandrayaan-2** is India's **second mission to the moon** and comprises a fully indigenous Orbiter, **Lander (Vikram)** and **Rover (Pragyan)**.

  ❍ The Rover Pragyan is **housed inside Vikram lander.**

SUCCESSOR TO APOLLO

The much-hyped Artemis is the successor to Nasa's famous Apollo space programme.

By 2025, it aims to return man to the moon and later establish a base that may serve as a stepping stone to future human exploration of Mars

THE FIRST OF MANY

Artemis I entails a 25-day flight bringing the Orion capsule to within 97km of the lunar surface before flying 64,400km beyond the moon and looping back to Earth. The capsule is expected to splash down at sea on Dec 11. For this mission, Orion carried a simulated crew of three fitted with sensors to measure radiation levels and other stresses that astronauts would experience.

Artemis 2 will take off in 2024 and will carry a crew of three on a lunar orbit without any touchdown on the moon.

Artemis 3 is scheduled for 2025, and is expected to ferry astronauts to the moon for the first time since the Apollo missions.

➢ **Chandrayaan-3:**

  ❍ The ISRO recently announced India's third lunar mission **Chandrayaan-3**, which will comprise a lander and a rover.

Russia's Advanced Fuel Option for KKNPP

Why in News?

Recently, the **Russian state-owned Nuclear Energy** corporation **Rosatom** has offered a more **Advanced Fuel Option** to India's **largest nuclear power station** at Kudankulam, Tamil Nadu.

➢ It will allow its **reactors to run for an extended two-year cycle** without stopping to load fresh fuel.

What did Russia Offer to India?

➢ **Update to KKNPP Reactors:**

  ❍ Rosatom's nuclear fuel division, **TVEL Fuel Company**, is the current supplier of **TVS – 2 M fuel for the two VVER 1,000 MWe reactors,** generating power in the **Kudankulam Nuclear Power Project (KKNPP)**. This fuel has an 18-month fuel cycle, meaning that the reactor **has to be stopped for fresh fuel loading every one-and-a-half years**.

    ● TVEL has now offered the more modern **Advanced Technology Fuel (ATF)**, whose **fuel cycle is 24 months**.

➢ **Benefits of the Update:**

  ❍ It will ensure **more efficiency, additional power generation** due to prolonged operation of the reactor and **sizable savings of the foreign exchange** needed to buy fresh fuel assemblies from Russia.

Note:

What is Nuclear Energy?

➢ **About:**
  ○ **Nuclear energy** comes from **splitting atoms in a reactor to heat water** into steam, **turn a turbine** and **generate electricity**.
  ○ Inside nuclear power plants, nuclear reactors and their equipment **contain and control the chain reactions**, most commonly fueled by **Uranium-235**, to produce heat through fission.
  ○ **Emissions from Nuclear Power Generation:**
    • Nuclear power is **zero-emission**. It has **no greenhouse gases** or air pollutants.
  ○ **Land Usage:**
    • According to US government data, a 1,000-megawatt nuclear plant requires 360 times less land than a similar-capacity wind farm and 75 times less land than solar plants.

➢ **Significance for India:**
  ○ **Availability of Thorium:**
    • India is the **leader of the new resource of nuclear fuel called Thorium**, which is considered to be the **nuclear fuel of the future.**
    • With the availability of Thorium, India has the **potential to be the first nation** to realise the dream of a fossil fuel-free nation.
  ○ **Cuts Import Bills:**
    • Nuclear energy will also **relieve the nation of about $100 billion annually** which we spend on importing petroleum and coal.
  ○ **Stable and Reliable Source:**
    • The **greenest sources of power** are definitely **solar** and **wind**.
      ▪ But solar and wind power, despite all their advantages, **are not stable** and are **dependent excessively on weather** and sunshine conditions.
      ▪ Nuclear power, on the other hand, provides a relatively clean, high-density source of reliable energy with an international presence.

What are India's Initiatives Regarding Nuclear Energy?

➢ India has consciously proceeded to explore the possibility of tapping nuclear energy for the purpose of power generation.

  ○ In this direction a **three-stage nuclear power programme** was formulated by **Homi Bhabha in the 1950s**.
➢ **The Atomic Energy Act, 1962** was framed and implemented with the set objectives of using two naturally occurring elements **Uranium** and **Thorium** as nuclear fuel in Indian Nuclear Power Reactors.
➢ In December, 2021, the Government of India informed **Parliament** about building ten indigenous **Pressurised Heavy Water Reactors (PHWRs)** to be set up in fleet mode and had granted "**in principle approval**" for 28 additional reactors, including 24 to be imported from France, the U.S. and Russia.
➢ In December, 2021, the Centre has given in-principle (first step) approval for setting up of **six nuclear power reactors at Jaitapur in Maharashtra**.
  ○ The Jaitpur Project is a key component of the **strategic partnership between India and France.**
  ○ **Jaitapur would be the world's most powerful nuclear power plant**. There would be **six state-of-the-art Evolutionary Power Reactors (EPRs)** with an installed capacity of **9.6 GW that will produce low carbon electricity.**
  ○ The six nuclear power reactors, which will have a capacity of 1,650 MW each, **will be set up with technical cooperation from France.**

How many Nuclear Power Plants does India have?

➢ Presently, India has **22 operating nuclear power reactors**, with an installed capacity of 6780 MegaWatt electric (MWe). Some major power plants are:
  ○ **Tarapur Atomic Power Station** (TAPS), in Maharashtra
  ○ **Rajasthan Atomic Power Station** (RAPS), in Rajasthan
  ○ **Madras Atomic Power Station** (MAPS), in Tamil Nadu
  ○ **Kaiga Generating Station** (KGS), in Karnataka
  ○ **Kudankulam Nuclear Power Station** (KKNPS), in Tamil Nadu
  ○ **Narora Atomic Power Station** (NAPS), in Uttar Pradesh
  ○ **Kakrapar Atomic Power Station** (KAPS), in Gujarat
➢ Among these, 18 reactors are **Pressurised Heavy Water Reactors (PHWRs)** and 4 are **Light Water Reactors (LWRs)**.

Note:

Semi-Automated Offside Technology

Why in News?

➢ **Federation Internationale de Football Association (FIFA)** is using **Semi-Automated Offside Technology (SAOT) for offside decisions** in the ongoing football world cup.

➢ The point of the offside rule is to prevent attacking players from perpetually camping in front of the opponent's goal.

What is Semi-Automated Offside Technology?

➢ SAOT is a **support tool for the video match officials and the on-field officials** to help them make faster, more reproducible and more accurate offside decisions.

➢ There are two parts to the technology — **a sensor inside the match ball that** is held using suspension technology, and existing tracking tools that are part of the Video Assistant Referee (VAR) system.

Semi-automated offside technology

A new system to detect the position of the ball and all 22 players should enhance Video Assistant Refereeing at the World Cup

KICK POINT PRECISION
Automatically detects when and where ball is kicked

Connected Ball Technology:
Suspension System holds and stabilises inertial measurement unit (IMU) motion sensor
IMU transmits inertia data of ball – kick-point, location, direction – at 500Hz, 500 times per second

IMU

Video

| 0 | 100 | 200 | 300 | 400 | 500 |

Conventional VAR: 50 frames per second

PLAYER POSITIONS
Artificial Intelligence
Assigns and tracks up to 29 data points for each player

Defender
Furthest data point defines offside line

12 cameras in roof track positions of ball and all players 50 times/second

①

③
OFFSIDE
Alert triggered and validated in Video Operation Room

Logged
Extremities relevant to offside calls

②
System tracks when ball is received by player in offside position when ball was kicked

OFFSIDE LINE

Data point projects beyond offside line

Decision communicated to referee

④

Sources: FIFA, adidas   Pictures: Getty Images   © GRAPHIC NEWS

➢ **Every time the ball is hit, data is sent in real time** (at a whopping 500 frames per second) to a network of antennae installed around the playing field.

➢ Additionally, **there are 12 Hawk-Eye cameras set up around the turf that shadow both the ball and the players**, with as many as 29 separate points in the human body tracked.

➢ The coming together of the ball sensor and the Hawk-Eye cameras is in effect SAOT.

➢ These **two data sets are run through artificial intelligence software** which generates automated alerts about offsides to the match officials. This replaces the manual effort taken in poring over replays for minutes on end.

Photonic Crystal

Why in News?

A soft tunable **photonic crystal with enhanced thermal stability and optical purity** developed by researchers that reflects vivid colours in the visible spectrum has **potential applications in making more durable and better reflective displays and laser devices.**

What are Photonic Crystals?

➢ **About:**
   ○ Photonic crystals are **optical nanostructures in which the refractive index changes periodically.**
      ● Refractive index, also called index of refraction is the measure of the bending of a ray of light when passing from one medium into another.
   ○ This affects the **propagation of light in the same way that the structure of natural crystals gives rise to X-ray diffraction** and that the atomic lattices (crystal structure) of semiconductors affect their conductivity of electrons.
   ○ Photonic crystals **occur in nature in the form of structural coloration and animal reflectors.**
      ● Examples found in nature include **opal, butterfly wings, peacock feathers**, etc., exhibiting distinct iridescent colors.

➢ **Uses:**
   ○ Photonic crystals promise to be **useful in a range of applications ranging from reflection coatings to optical computers** when artificially produced or engineered in laboratories.

Note:

drishti

○ They **enable the PCs to exhibit structural colours in the visible spectral regime**.

○ Researchers have also been on the **constant lookout for tuning the properties in-situ post-fabrication.**

○ The development of advanced photonic materials and devices using **Liquid Crystals (LC) that exhibit self-organization**, phase transitions, and molecular orientation behaviors in response to external stimuli is attracting significant interest.

SARAS 3 Telescope and Clues to First Stars

Why in News?

Recently, by using the **SARAS-3 Radio Telescope**, scientists have determined the properties of a radio luminous galaxy that was formed just 200 million years after the Big Bang, a period known as the Cosmic Dawn.

➤ Researchers have used **data from SARAS 3 to throw light on the energy output, luminosity, and masses of the first generation of galaxies** that are bright in radio wavelengths.

What are the Findings?

➤ The new information **on the period Cosmic Dawn** gave an insight into the properties of the **earliest radio loud galaxies** that are usually powered by **supermassive black holes.**

➤ SARAS 3 had improved the understanding of **astrophysics of Cosmic Dawn by telling astronomers that less than 3% of the gaseous matter within early galaxies was converted** into stars, and that the earliest galaxies that were bright in radio emission were also strong in X-rays, which heated the cosmic gas in and around the early galaxies.

What is SARAS-3 Radio Telescope?

➤ SARAS is a niche high-risk high-gain experimental effort of RRI (Raman Research Institute).

○ SARAS-3 was deployed over Dandiganahalli Lake and Sharavathi backwaters, located in Karnataka, in early 2020.

➤ SARAS aims to design, build and deploy in India a precision radio telescope to detect extremely faint radio wave signals from the depths of time, from our "Cosmic Dawn" when the first stars and galaxies formed in the early Universe.

What are Radio Waves and Radio Telescopes?

➤ **Radio Waves:**

○ Radio waves have the longest wavelengths in the electromagnetic spectrum. They range from the **length of a football to larger than our planet.** Heinrich Hertz proved the existence of radio waves in the late 1880s.

○ The range of the radio spectrum is considered to be **3 kilohertz up to 300 gigahertz.**

➤ **Radio Telescope:**

○ Radio telescopes collect weak radio light waves, bring it to a focus, amplify it and make it available for analysis.

○ They help study naturally occurring radio light from **stars, galaxies, black holes, and other astronomical objects.**

○ These specially-designed **telescopes observe the longest wavelengths of light, ranging from 1 millimetre to over 10 metres long.** For comparison, visible light waves are only a few hundred nanometers long, and a nanometer is only 1/10,000th the thickness of a piece of paper. In fact, we don't usually refer to radio light by its wavelength, but by its frequency.

Note:

Environment & Ecology

Highlights

- *Compensation to Climate Change*
- *Loss and Damage Funding for Climate Damages*
- *Mobilising Green Funds*
- *State of the Climate in Asia 2021*
- *Leith's Soft-shelled Turtle*
- *Cryosphere Loss*
- *Arittapatti Biodiversity Heritage Site*
- *Global Offshore Wind Alliance*
- *Climate Change and Global Health*
- *Leadership for Industry Transition Summit*
- *Carbon Border Tax*
- *Red Crowned Roofed Turtle*
- *Recommendations for Carbon Removals Mechanism*
- *Muli Bamboo*

- *Great Knot*
- *Olive Ridley Turtles*
- *Climate Change Performance Index 2023*
- *India's Net Zero Strategy*
- *Amazon Rainforest*
- *Waste Water Management*
- *Severe Climate Disasters of 2022 and COP27*
- *Russia's Nuclear-Powered Icebreaker*
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- *India Abstains to Vote Against Reopening Ivory Trade*
- *CCUS Policy Framework and its Deployment*
- *Life of Plastic*
- *Himalayan Yak*
- *Black Corals*

Compensation to Climate Change

Why in News?

At the G-20 summit in Bali, **rich nations including the U.S, Japan, and Canada have pledged USD 20 billion to wean Indonesia off coal and** reach **carbon neutrality** by 2050.

What is the Importance of Compensation?

➢ Between 1900 and now, **developed countries have benefited from industrial development**, which also led to **Greenhouse Gas (GHG) emissions**.
  - Data from the Global Carbon Project shows that between 1751 and 2017, 47% of the CO_2 emissions came from the U.S. and the EU-28. In total, just 29 countries.
➢ Developing countries **were relatively late in starting out** on economic development.
  - They may be **contributing to emissions now,** but that is a weak reason to ask them to stop economic development.

  - **For Example:** A farmer in rural Africa can claim that his country has not added to emissions historically, but because of the U.S. or Russia's industrialisation, his agriculture yields are declining. Or an urban worker in South America has to work, without choice, in unforgiving heat wave conditions caused by the developed world's emissions of the past.

What are the Consequences of the State of Emission?

➢ **Emissions attributable to the U.S. over 1990-2014 caused losses** that are concentrated around 1–2% of per capita GDP across nations in South America, Africa, and South and Southeast Asia, where temperature changes have likely impacted labour productivity and agricultural yields.
  - But emissions may have also helped a few countries, such as those in Northern Europe and Canada.
➢ Moody's Analytics estimates that by the **middle of the century, Canada would see a rise in GDP of 0.3% as warmer climates** spur agriculture and labour productivity.
➢ According to the UN Environment Programme's annual **emissions gap report for 2022 , the international**

Note:

community is falling far short of the Paris goals, with no credible pathway to 1.5°C in place.

Where about India's Emissions?

➤ According to the **'Emissions Gap Report 2022'**, **India is among the top seven emitters** (others being China, the EU-27, Indonesia, Brazil, the Russian Federation and the U.S.).

  ○ These seven, plus international transport, accounted for 55% of global GHG emissions in 2020.

  ○ Collectively, **G-20 members** are responsible for 75% of global GHG emissions.

➤ **Some GHG emissions are unavoidable.** In the context of India's population, **its emissions are far lesser per head, than for others.**

  ○ **World average per capita GHG emissions were 6.3 tonnes of CO_2 equivalent** (tCO2e) in 2020.

  ○ The U.S. is way above this level at 14, followed by 13 in the Russian Federation and 9.7 in China. India remains far below the world average at 2.4.

What are the Related Steps by India?

➤ India announced that it will reach **carbon neutrality by 2070.**

➤ India has also **committed to generate 500 GW of renewable energy capacity by 2030,** bringing down emission intensity of **Gross Domestic Product (GDP)**, as well as raising **forest cover.**

➤ In last year's coal agreement, India drafted the language.

  ○ It was **changed from "phase-out" to "phase-down" of coal.**

    ● It **reflects the country's ground realities of large energy requirements,** met predominantly by thermal power, to spur economic development.

Loss and Damage Funding for Climate Damages

Why in News?

At the recently concluded **COP27 summit**, delegates from the **United Nations agreed to create a 'Loss and Damages' fund** which will compensate the most vulnerable countries for their losses due to climate-related disasters.

What is 'Loss and Damage' Funding?

➤ **'Loss and Damage' refers to impacts of climate change that cannot be avoided either by mitigation** (cutting **greenhouse gas emissions**) or adaptation (modifying practices to buffer against climate change impacts).

➤ They also include **not only economic damage to property but also loss of livelihoods**, and the destruction of biodiversity and sites that have cultural importance.

➤ This **broadens the scope for affected nations** to claim compensation.

How has the Concept of Loss and Damage Evolved?

➤ Since the **United Nations Framework Convention on Climate Change** was formed in the early 1990s, loss and damage due to climate change have been debated.

➤ The **Least Developed Countries** Group has **long aimed to establish accountability and compensation for loss and destruction.**

  ○ However, historically blamed for the climate catastrophe, **rich countries have overlooked the concerns of vulnerable countries.**

➤ **Warsaw International Mechanism on Loss and Damages (WIM)** was founded in 2013 without funding after extensive pressure from developing countries.

  ○ However, during the **2021 COP26 climate summit in Glasgow**, a 3-year task force was established to consider a funding arrangement for loss and damage.

➤ So far, **Canada, Denmark, Germany, New Zealand, Scotland** and the **Belgian province** of Wallonia have all **expressed interest in loss and damage funding.**

What are the Concerns regarding the Establishment of the Fund?

➤ As far as future COP negotiations are concerned, **it only commits to creating a fund and leaves it up to discussion how it will be set up** and, most importantly, who will contribute to it.

  ○ While there have been nominal commitments by certain countries to donate to such a fund, the estimated L&D is already over USD 500 billion.

  ○ During negotiations in COP27, the **European Union pressed hard for China, the Arab states and "large, developing countries"** (probably even

Note:

India) to contribute on the grounds that they were large emitters.

➢ There is **no agreement yet on what counts as "loss and damage"** caused by climate change - which could include **infrastructure damage, property damage, and cultural assets whose value is hard to quantify.**

   ❍ Climate funding so far has **focused mostly on cutting carbon dioxide emissions** in an effort to curb **global warming**, while about a third of it has gone toward projects to help communities adapt to future impacts.

What are India's Related Initiatives?

➢ **National Adaptation Fund for Climate Change (NAFCC):**

   ❍ It was established in 2015 to meet the cost of adaptation to climate change for the State and Union Territories of India that are particularly vulnerable to the adverse effects of climate change.

➢ **National Clean Energy Fund:**

   ❍ The Fund was created to promote clean energy, and funded through an initial **carbon tax** on the use of coal by industries.

   ❍ It is governed by an Inter-Ministerial Group with the Finance Secretary as the Chairman.

   ❍ Its mandate is to fund research and development of innovative **clean energy technology** in the fossil and non-fossil fuel-based sectors.

➢ **National Adaptation Fund:**

   ❍ The fund was established in 2014 with a corpus of Rs. 100 crores with the aim of bridging the gap between the need and the available funds.

   ❍ The fund is operated under the Ministry of Environment, Forests, and Climate Change (MoEF&CC).

Mobilising Green Funds

Why in News?

Recently, at the **United Nations Framework Convention on Climate Change Conference (UNFCCC) of Parties 27** in Sharm el-Sheikh (Egypt), countries agreed that a **complete transformation of the international financial system** was needed to significantly scale up resources for **Climate Action.**

➢ The money **currently being channelised for climate action** is barely 1%-10% of the estimated requirements.

What is Climate Finance?

➢ It refers to local, national, or transnational financing—**drawn from public, private and alternative sources of financing**—that seeks to support mitigation and adaptation actions that will address **climate change**.

➢ The UNFCCC, **Kyoto Protocol**, and the **Paris Agreement** call for financial assistance from Parties with **more financial resources** (Developed Countries) to those that are **less endowed and more vulnerable** (Developing Countries).

➢ This is in accordance with the principle of "**Common but Differentiated Responsibility and Respective Capabilities" (CBDR)**.

   ❍ CBDR is a principle within the UNFCCC that acknowledges different capabilities and differing responsibilities of individual countries in addressing climate change. The principle of CBDR is enshrined in Earth Summit 1992, held in Rio de Janeiro, Brazil.

How much Fund is Needed for Climate Action?

➢ The global transition to a low-carbon economy would **likely require about USD 4-6 trillion every year till 2050**.

➢ About **USD 4 trillion would need to be invested annually** in the **renewable energy** sector till 2030 if the **net-zero emissions targets were to be achieved.**

➢ The cumulative requirement of the developing countries, just for implementing their climate action plans, **was about USD 6 trillion between 2022-2030.**

   ❍ It means that at least 5% of the global **Gross Domestic Product** (GDP) would need to be directed into climate action every year.

   ❍ Just a few years ago, the estimated requirements ranged between 1 and 1.5% of global GDP.

➢ The USD 100 billion amount that the developed countries have promised to mobilise every year represents practically the entire money in play right now.

   ❍ Even this **USD 100 billion has not yet been fully realised.**

   ❍ Developed countries say they would reach this target by 2023. As of now, all that is flowing in is about USD 50-80 billion every year.

Note:

What are the Challenges in Mobilization of Climate Fund?

➤ Even if developed countries increase their contributions, **it will likely result in only a marginal increase** in the overall pie.
  ❍ The more significant jump would come from **businesses and corporations investing money** into **green projects**.

➤ In climate finance till now, **private investments have lagged behind public money**.
  ❍ Barely 30% of current financial flows are coming from private sources.

➤ The current rules and regulations of the global financial system make it **extremely difficult for large numbers of countries to access international finance**, particularly those with political instabilities, or weaker institutional and governance structures.

➤ Climate finance flows through a maze of channels — **bilateral, regional, multilateral.**
  ❍ It is in the form of grants, concessional loans, debt, equity, carbon credits, and more.
  ❍ There are differences of opinion over whether **a particular sum of money is actually climate-related.** There are widely differing assessments of the **quantum of climate finance currently being mobilised.**

How can Tax be a source to the Climate Fund?

➤ Bulk of the **additional financial resources to fight climate change** would come from the **pockets of the common citizen**, in the form of taxes.

➤ The use of **petrol and diesel, and other fossil fuels** can be taxed.

➤ The production of **coal is already being taxed** for several years in India, and it has been **generating valuable resources for the government**, which has utilized it mainly for investing in **clean technologies.**
  ❍ These funds have also been utilised for works in the **Clean Ganga Mission** and during the **Covid-19 pandemic**.

➤ Newer forms of **Carbon Tax are likely to be imposed** on businesses as well.
  ❍ In many cases, these would filter down to the common person of the country.

What are India's Initiatives for Climate Finance?

➤ **National Adaptation Fund for Climate Change (NAFCC):**
  ❍ **NAFCC** was established in 2015 to **meet the cost of adaptation to climate change** for the State and Union Territories of India that are particularly vulnerable to the adverse effects of climate change.

➤ **National Clean Energy Fund:**
  ❍ The Fund was created to **promote clean energy**, and funded through an initial **carbon tax on the use of coal by industries**.
  ❍ It is governed by an **Inter-Ministerial Group with the Finance Secretary** as the Chairman.
  ❍ Its mandate is to **fund research and development of innovative clean energy** technology in the fossil and non-fossil fuel-based sectors.

➤ **National Adaptation Fund:**
  ❍ The fund was **established in 2014** with a corpus of Rs. 100 crores with the aim of **bridging the gap between the need and the available funds.**
  ❍ The fund is operated under the **Ministry of Environment, Forests, and Climate Change (MoEF&CC).**

State of the Climate in Asia 2021

Why in News?

Recently, the State of the Climate in Asia 2021 report was published by the **World Meteorological Organization** and the **UN Economic and Social Commission for Asia and the Pacific (ESCAP).**

What are the Findings of the Report?

➤ **Floods and storms accounted for 80% of the natural disasters** that struck Asia in 2021.
  ❍ **Asian countries incurred financial losses worth USD 35.6 billion in 2021** because of natural disasters. Flooding was the event with **"by far the greatest impact in Asia in terms of fatalities and economic damage."**
  ❍ This showed that the economic impact of such disasters is on the rise compared to the average of the last twenty years.

Note:

- ➤ **India suffered a total loss of USD 3.2 billion from flooding** and the country faced heavy rains and **flash floods** during the monsoon season between June and September 2021.
  - ○ These events resulted in about 1,300 casualties and damaged crops and properties.
  - ○ The country was **only second to China in the Asian continent in this regard.**
- ➤ Similarly, **storms also caused significant economic damage**, especially in India (USD 4.4 billion), followed by China (USD 3 billion) and Japan (USD 2 billion).
  - ○ During 2021, **India experienced five cyclonic storms (Tauktae, Yaas, Gulab, Shaheen, Jawad)** with maximum sustained wind speeds of ≥ 34 knots.
    - ● Additionally, in 2021, **thunderstorms and lightning claimed around 800 lives** in different parts of the country.

What are the Reasons for these Disasters?

- ➤ **Arabian Sea and Kuroshio Current's Rapid Warming:**
  - ○ Due to the **Arabian Sea** and **Kuroshio Current's rapid warming, these regions are warming three times faster than the average global upper-ocean temperature.**
    - ● Ocean warming could contribute to **sea level rise**, alter storm paths and ocean currents and increase stratification.
    - ● **Upper-ocean warming is important because it directly affects the atmosphere** in terms of convection, winds, cyclones and so on.
    - ● The deep ocean does not affect the atmosphere directly.
  - ○ The Arabian Sea is unique because it has pathways to receive excess heat through atmospheric tunnels and bridges and mixed warm water from various oceans is pumped into it.
  - ○ But in the case of the Kuroshio Current system, **the current system takes warm water from the tropics and stronger winds force more heat into the current.**
- ➤ **La Nina:**
  - ○ The last two years were also **La Nina** years and during this time, the pressure patterns set up in India go from North to South, which drives circulations from Eurasia and China.

  - ○ This can **cause excessive rainfall patterns over parts of India**, particularly in the Southern Peninsular, which gets the Northeast monsoon. The excess last year was related to the La Nina pressure pattern.

What are the Suggestions?

- ➤ **Investment in Adaptation:**
  - ○ In order to adapt to climate change, India would need to invest USD 46.3 billion annually (which amounts to 1.7% of India's GDP).
    - ● Generally, **comparison to the GDP reflects the capacity of a country to invest in adaptation.**
  - ○ Some adaptation priorities that **require high investment include resilient infrastructure, improving dry land agriculture**, resilient water infrastructure, multi-hazard early warning systems and nature-based solutions.
  - ○ For coastal states of India with an increased risk of cyclone surges, **nature-based solutions assume significance and protecting mangroves could help cushion the impact of storms.**
- ➤ **Adaptation Fund:**
  - ○ India does not have a **separate adaptation fund**, but the money is embedded in several schemes by the agriculture, rural and environmental sectors.
  - ○ For example, flagship projects such as the **Mahatma Gandhi National Rural Employment Scheme,** which had an annual budget of USD 13 billion in 2020, should address adaptation in disaster-prone areas.
    - ● **Around 70% of its budget is marked to go into natural resource** management and to build resilient infrastructure.

Leith's Soft-shelled Turtle

Why in News?

At its **19th Meeting in Panama**, the Conference of Parties to CITES adopted **India's proposal to move Leith's Softshell Turtle from Appendix II to Appendix I.**

- ➤ India's proposal for inclusion of **Jeypore Hill Gecko** (*Cyrtodactylus jeyporensis*) in Appendix II.

What is the Significance of the Listing?

- ➤ The CITES Appendix I listing of this Turtle species **would ensure that legal international trade in the species** does not take place for commercial purposes.

Note:

➢ It would also **ensure that international trade in captive-bred specimens only takes place from registered facilities** and further that higher and more proportionate penalties are provided for illegal trade of the species.

➢ The listing of the Leith's soft-shell turtle, thereby, **strengthens its CITES protection status to ensure better survival of the species.**

What is Leith's Soft-Shelled Turtle?

➢ **About:**
  ○ Leith's Softshell Turtle (*Nilssonia leithii*) is a **large freshwater soft-shelled turtle** which is endemic to peninsular India and it inhabits rivers and reservoirs.

➢ **Threats:**
  ○ The species has been subject to intensive exploitation over the past 30 years.
  ○ It has been poached and illegally consumed within India. It has also been illegally traded abroad for meat and for its calipee.
  ○ The population of this turtle species is **estimated to have declined by 90% over the past 30 years** such that the species is now difficult to find.

➢ **Protection Status:**
  ○ The **International Union for Conservation of Nature (IUCN) Red List:** Critically Endangered
  ○ **Wildlife Protection Act (WPA):** Schedule IV
  ○ **CITES:** Appendix I

Cryosphere Loss

Why in News?

At **COP27**, a broad coalition of 18 governments joined together to create a new high-level group **'Ambition on Melting Ice (AMI) on Sea-level Rise and Mountain Water Resources'.**

What is AMI Group?

➢ The "AMI" group aims t**o ensure impacts of cryosphere loss is understood by political leaders and the publi**c, and not only within mountain and polar regions, but throughout the planet.

➢ The founding governments of the group include Chile (co-chair), Iceland (co-chair), Peru, Czech Republic, Nepal, Finland, Senegal, Kyrgyz Republic, Samoa, Georgia, Switzerland, New Zealand, Monaco, Vanuatu, Sweden, Tanzania, Liberia, Norway and Mexico.

What is the Declaration of the Group?

➢ **Impact of Climate Change:**
  ○ **Climate change** has already caused dramatic changes in the global cryosphere, Earth's snow and ice regions.
  ○ Lives and livelihoods are **threatened by, and some already lost from,** these changes. Indigenous peoples in both the Arctic and mountain regions have been among the earliest affected.
    ● The **IPCC Sixth Assessment Cycle reports**, including the Special Report on Ocean and Cryosphere in a Changing Climate, conclude that such changes in the cryosphere will **worsen with each additional increment of global warming and greenhouse gas emissions in the atmosphere.**
  ○ The consequences will **occur both within and far beyond those in polar and mountain regions.**
    ● In polar fisheries, in addition to warming these include rapid acidification of polar oceans, which scientists say will reach a critical threshold at 450ppm – a level we are on track to reach in just 12 years.

➢ **Suggestions:**
  ○ Protecting the cryosphere through vigorous climate action is not a matter for mountain and polar nations alone: it is a matter o**f urgent global concern,** because the greatest impacts on human communities lie well outside these regions.
  ○ Rapid decreases in global greenhouse gas emissions, to keep alive the possibility of limiting global warming to 1.5°C, **are our best option to limit cryosphere losses** and the resulting chain of potential catastrophes.
  ○ The need to make pre-2030 emissions reductions a matter **of urgency is an imperative for the benefit of all our societies.**

What is the Cryosphere?

➢ **About:**
  ○ The cryosphere is the part of the **Earth's climate system that includes solid precipitation, snow, sea ice, lake and river ice, icebergs, glaciers and ice caps**, ice sheets, ice shelves, permafrost, and seasonally frozen ground.
  ○ The term "cryosphere" traces its origins to the **Greek word 'kryos' for frost or ice cold.**

Note:

❍ The cryosphere extends globally, existing seasonally or perennially at most latitudes, not just in the **Arctic, Antarctic, and mountain regions, and in approximately one hundred countries.**

● The largest continental ice sheets are found in Antarctica.

❍ Approximately **70% of the Earth's freshwater exists as snow or ice**.

➢ **Impacts of Cryosphere on Global Climate:**

❍ **Albedo:**

● Snow and ice have high **albedo**. They reflect most of the light without being absorbed and helps in cooling of the earth. Thus, presence or absence of snow and ice affects the **heating and cooling of Earth's surface.**

● This influences the **entire planet's energy balance.**

❍ **Feedback Loop:**

● Melting of ice **reduces the reflective surface,** and, the ocean and land are darker in color, which absorb more solar radiation, and then **release the heat to the atmosphere.**

● This **causes more warming and so more ice melts.** This is known as a feedback loop.

❍ **Permafrost:**

● Permafrost is potentially a major source of **methane** and carbon dioxide.

● The **permafrost** of the polar region has trapped **tons of carbon inside its soil**.

● If 'feedback loop' aggravates, the carbon is released **in form of methane- a powerful greenhouse gas**- which causes the global warming.

● Permafrost contains about 1,400 to 1,600 billion tons of carbon.

■ In terms of **carbon budgets**, in the 1.5°C climate warming scenario, the melting of permafrost is **estimated to result in a range of 150–200 Gt CO2-eq emissions, while at 2+°C** degrees would result in at about 220–300 Gt CO2-eq by 2100, comparable to the total emissions of countries like Canada or the entire EU.

❍ **Melting of Cryosphere:**

● Melting of cryosphere affects the volume of water in oceans. Any changes in the water

cycle, **affects global energy / heat budget, and thereby global climate.**

■ The emission of GHGs and changes in albedo from a melting Arctic are projected to more than double the Arctic's contribution to global warming by 2100.

Arittapatti Biodiversity Heritage Site

Why in News?

Recently, the **Tamil Nadu Government** issued a notification declaring **Arittapatti in Melur block**, Madurai district, a **Biodiversity Heritage Site (BHS).**

➢ It is Tamil Nadu's first and India's 35th Biodiversity Heritage Site.

What are the Key Facts about Arittapatti?

➢ Arittapatti village is **rich in ecological and historical significance**, it houses around **250 species of birds** including three important **raptors; birds of prey namely**:

❍ Laggar Falcon

❍ Shaheen Falcon

❍ Bonelli's Eagle

➢ It is also home to wildlife such as the **Indian Pangolin, Slender Loris** and **Pythons**.

➢ The biodiversity-rich area is surrounded by a **chain of seven hillocks or inselbergs** that serve as a watershed, charging '**72 lakes, 200 natural springs and three check dams.**'

➢ **The Anaikondan Lake**, built during the reign of **Pandiyan kings** in the 16th century is one among them.

➢ Several **megalithic structures, rock-cut temples, Tamil Brahmi inscriptions** and **Jain beds** add to the historical significance of the region.

What is a Biodiversity Heritage Site?

➢ **About:**

❍ Biodiversity heritage sites are well-defined areas that are unique, ecologically fragile ecosystems with **high diversity of wild and domesticated species, presence of rare and threatened species, and keystone species.**

➢ **Legal Provision:**

❍ As per provision under **Section 37(1) of 'Biological Diversity Act, 2002'**, The **State Government may,**

Note:

from time to time in **consultation with the local bodies**, notify in the Official Gazette, **areas of biodiversity importance** as under this Act.

➢ **Restrictions:**

❍ Creation of BHS may **not put any restriction on the prevailing practices and usages** of the local communities, other than those **voluntarily decided by them**. The purpose is to **enhance the quality of life of the local communities** through conservation measures.

➢ **First BHS of India:**

❍ **Nallur Tamarind Grove** in Bengaluru, Karnataka was the first Biodiversity Heritage Site of India, declared in 2007.

➢ **Last Five Additions to BHS:**

❍ Debbari or Chabimura in Tripura (September 2022)

❍ Betlingshib & its surroundings in Tripura (September 2022)

❍ Hajong Tortoise Lake in Assam (August 2022)

❍ Borjuli Wild Rice Site in Assam (August 2022)

❍ Amarkantak in Madhya Pradesh (July 2022)

Biodiversity Heritage Sites

Well-defined, unique, ecologically fragile ecosystems with high diversity of wild and domesticated species, presence of rare and threatened species, and keystone species and having significant cultural, ethical or aesthetic values.

Declaring Authority
Under Section 37(1) of 'Biological Diversity Act, 2002', The State Government may, from time to time, in consultation with the local bodies, notify in the Official Gazette, areas of biodiversity importance as BHS.

Restrictions Imposed
Creation of BHS may not put any restriction on the prevailing practices and usages of the local communities, other than those voluntarily decided by them.

As of November 2022, there are

35 BHS in India.

First and Latest Additions
First: Nallur Tamarind Grove in Bengaluru, Karnataka (January 2007)

Latest: Arittapatti in Madurai, Tamil Nadu (November 2022) (India's 35th BHS)

Last 5 Additions
• Debbari or Chabimura in Tripura (September 2022)
• Betlingshib & its surroundings in Tripura (September 2022)
• Hajong Tortoise Lake in Assam (August 2022)
• Borjuli Wild Rice Site in Assam (August 2022)
• Amarkantak in Madhya Pradesh (July 2022)

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Global Offshore Wind Alliance

Recently, nine new countries sign up for Global Offshore Wind Alliance at COP27.

➢ **Nine new countries:** Belgium, Colombia, Germany, Ireland, Japan, the Netherlands, Norway, the UK, and the US.

➢ Australia announces to sign up with global offshore wind alliance.

What is Global Offshore Wind Alliance (GOWA)?

➢ It was established **to ramp up of offshore wind** in order to tackle the climate and energy security crises.

➢ It was set up by the **International Renewable Energy Agency (IRENA),** Denmark and the **Global Wind Energy Council**.

❍ GWEC was established in 2005 to **provide a credible and representative forum** for the entire wind energy sector at an international level.

➢ Several **organizations are supporting the alliance** and promoting offshore wind in their respective regions.

❍ Both IRENA and the International Energy Agency (IEA) **expect that offshore wind capacity will need to exceed 2000 GW in 2050**, from just over 60 GW today, to limit the rise in global temperatures to 1.5 degree Celsius and achieve **net zero**.

❍ To reach this target, **GOWA will aim to contribute to accelerating growth** to reach a total of at least 380 GW installed capacity by the end of 2030.

What is Offshore Wind Energy?

➢ **About:**

❍ **Wind energy today typically comes in two different "types": onshore wind farms** which are large installations of wind turbines located on land, and offshore wind farms which are installations located in bodies of water.

❍ **Offshore wind energy refers to the deployment of wind farms** inside the water bodies. They utilise the sea winds to generate electricity. These wind farms either use fixed-foundation turbines or floating wind turbines.

● A fixed-foundation turbine is built in shallow water, whereas a floating wind turbine is built in deeper waters where its foundation is anchored

Note:

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in the seabed. Floating wind farms are still in their infancy.

- ○ Offshore wind farms must be at least 200 nautical miles from the shore and 50 feet deep in the ocean.
- ○ Offshore wind turbines produce electricity which is returned to shore through cables buried in the ocean floor.

➤ **Status of Wind Energy in India:**

- ○ India's electricity generation from wind reached **39.2 gigawatts (GW) a year in March 2021.** An addition of another 20 GW over the next five years is expected to happen soon.
- ○ The compound annual growth rate for wind generation has been 11.39% between 2010 and 2020, and for installed capacity, it has been 8.78%.
- ○ More than **95% of commercially exploitable resources are located** in seven states: Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu.

➤ **Policies related to Wind Energy:**

- ○ **National Wind-Solar Hybrid Policy:** The main objective of the National Wind-Solar Hybrid Policy, 2018 is to provide a framework for promotion of large grid connected wind-solar PV hybrid systems for optimal and efficient utilization of wind and solar resources, transmission infrastructure and land.
- ○ **National Offshore Wind Energy Policy:** The National Offshore wind energy policy was notified in October 2015 with an objective to develop the offshore wind energy in the Indian **Exclusive Economic Zone (EEZ)** along the Indian coastline of 7600 km.

What are the Benefits of Offshore Wind Energy?

➤ **Wind speed over water bodies is high** and is consistent in direction. As a result, offshore wind farms generate more electricity per installed capacity.

➤ **Fewer offshore turbines are required to produce the same capacity of energy** as compared to onshore ones.

➤ Offshore wind farms have **a higher CUF (capacity utilisation factor)** than onshore wind farms. Therefore, offshore wind power allows for longer operating hours.

- ○ A wind turbine's CUF is equal to the average output power divided by the maximum power capabilities.

➤ It's possible to build **bigger and taller offshore windmills**, resulting in increased energy harvest.

➤ Furthermore, the **wind flow is not restricted by hills or buildings**.

Climate Change and Global Health

Why in News?

According to the Lancet Countdown report on Health and Climate Change: Health at the Mercy of Fossil Fuels, **reliance on fossil fuels is increasing the risk of disease, food insecurity** and other illnesses related to heat.

What are the Findings of the Report?

➤ **Impact on Health:**

- ○ **Climate change affects the social and environmental determinants of health** — clean air, safe drinking water, sufficient food and secure shelter.

➤ **Population Exposed to Heatwave:**

- ○ **Rapidly increasing temperatures exposed people**, especially vulnerable populations (adults above 65 years old and children younger than one) to 3.7 billion more **heatwave** days in 2021 than annually in 1986–2005.

➤ **Infectious Diseases:**

- ○ The **changing climate is affecting the spread of infectious disease**, raising the risk of emerging diseases and co-epidemics.
- ○ For instance, **it records that coastal waters are becoming more suited for the transmission of Vibrio pathogens.**
- ○ The **number of months suitable for malaria transmission has increased** in the highland areas of the Americas and Africa.
  - ● The **World Health Organization (WHO)** has predicted that between 2030 and 2050, **climate change is expected to cause approximately 2,50,000 additional deaths** per year, from **malnutrition**, **malaria**, **diarrhoea** and heat stress.

➤ **Food Security:**

- ○ **Every dimension of food security is being affected by climate change.**
- ○ **Higher temperatures threaten crop yields directly,** with the growth season shortening for many cereal crops.

Note:

○ **Extreme weather events disrupt supply chains**, thereby undermining food availability, access, stability, and utilisation.

○ The **prevalence of undernourishment increased during the Covid-19 pandemic,** and up to 161 million more people face hunger in 2020 than in 2019.

● This situation is now worsened by **Russia's invasion of Ukraine**.

➢ **Fossil Fuel:**

○ The **Russia-Ukraine war has led many countries to search for alternative fuels to Russian oil and gas**, and some of them are still turning back to traditional thermal energy.

○ Even if it were a temporary transition, renewed interest in coal could reverse gains in air quality and accelerate climate change that threatens human survival.

What are the Suggestions?

➢ **Health-Centric Response:**

○ **A health-centred response to the coexisting climate, energy, and cost-of-living crisis** provides an opportunity to deliver a healthy, low-carbon future.

● **Improvements in air quality will help prevent deaths resulting from exposure to fossil fuel-derived ambient PM2.5**, and the stress on low-carbon travel and increase in urban spaces would result in promoting physical activity which would have an impact on physical and mental health.

➢ **Transition to Balanced and More Plant-Based Diets:**

○ An **accelerated transition to balanced and more plant-based diets would help reduce emissions from red meat** and milk production, and prevent diet-related deaths, besides substantially reducing the risk of **zoonotic diseases**.

○ This sort of health-focused shifts would **reduce the burden of communicable and non-communicable diseases**, reduce the strain on health-care providers, and leading to more robust health systems.

➢ **Global Coordination:**

○ **Global coordination, funding, transparency, and cooperation between governments**, communities, civil society, businesses, and public health leaders is required to reduce or prevent the vulnerabilities that the world is otherwise exposed to.

Leadership for Industry Transition Summit

Why in News?

India and Sweden hosted the **Leadership for Industry Transition (LeadIT) Summit**, on the sidelines of **COP27 at Sharm El Sheikh** in Egypt.

➢ The summit was followed by the public launch of the LeadIT Summit Statement 2022 in the India Pavilion at COP27.

What are the Highlights of the Summit?

➢ LeadIT members re-emphasized the commitment to pursuing the **low-carbon transition**.

➢ The event included roundtable discussions that focused on **finance and other cross-sectoral issues** and views on the requirements for successful low-carbon transitions.

➢ The members also committed to providing **technical assistance to new members and emerging economies**. The importance of de-risking investments in the transition of heavy industries in emerging and developing countries was also highlighted.

➢ The summit concluded with the adoption of the summit statement by the members of LeadIT .

What is LeadIT?

➢ **About:**

○ The LeadIT initiative lays specific focus on hard to abate sectors that are key stakeholders in the global climate action and require specific interventions.

○ It gathers countries and companies that are committed to action to achieve the **Paris Agreement.**

○ It was launched by the governments of Sweden and India at the **UN Climate Action Summit in 2019 and is supported by the World Economic Forum.**

○ LeadIT members subscribe to the notion that energy-intensive industries can and must progress on low-carbon pathways, aiming to achieve **net-zero carbon emissions by 2050.**

➢ **Members:**

○ The total membership of LeadIT is 37 including countries and companies together.

● Japan and South Africa, the latest members of the initiative.

Note:

Carbon Border Tax

Why in News?

Recently, a consortium of countries that includes India has jointly opposed the Carbon Border Taxes proposed by the **European Union (EU)** at 27th edition of the **Conference of Parties (COP)** in Sharm El Sheikh, Egypt.

What is a Carbon Border Tax?

➢ A carbon border adjustment tax is **a duty on imports based on the amount of carbon emissions** resulting from the production of the product in question. As a price on carbon, it discourages emissions. As a trade-related measure, it affects production and exports.

➢ The proposal is part of the European Commission's European Green Deal that endeavours to make Europe the first climate-neutral continent by 2050.

➢ A carbon border tax is **arguably an improvement from a national carbon tax.**

  ❍ A national carbon tax is a fee that a government imposes on any company within the country that burns fossil fuels.

What are the Causes Behind Imposing Carbon Tax?

➢ **EU and Climate Change Mitigation:** The EU has declared to cut its carbon emissions by at least 55% by 2030 compared to 1990 levels. Till date, these levels have fallen by 24%.

  ❍ However, emissions from imports contributing to 20% of the EU's CO_2 emissions are increasing.

  ❍ Such a carbon tax would incentivise other countries to reduce GHG emissions and further shrink the EU's carbon footprint.

➢ **Carbon Leakage:** The Emissions Trading System of the EU makes operating within the region expensive for certain businesses.

  ❍ The EU authorities fear that these businesses might prefer to relocate to countries that have more relaxed or no emission limits.

    ● This is known as 'carbon leakage' and it increases the total emissions in the world.

What are the Issues?

➢ **Response of the BASIC Countries:** The **BASIC (Brazil, South Africa, India and China) countries'** grouping had opposed the EU's proposal in a joint-statement terming it "discriminatory" and against the principles of equity and **'Common but Differentiated Responsibilities and Respective Capabilities' (CBDR-RC).**

  ❍ These principles acknowledge that richer countries have a responsibility of providing financial and technological assistance to developing and vulnerable countries to fight climate change.

➢ **Impact on India:** The EU is India's third largest trading partner. By increasing the prices of Indian-made goods in the EU, this tax would make Indian goods less attractive for buyers and could shrink demand.

  ❍ The tax would create serious near-term challenges for companies with larger greenhouse gas footprint.

➢ **Non-Consensual with Rio Declaration:** The EU's notion of having a uniform standard all over the world for the environment is not borne out by the global consensus contained in the **Article 12 of the Rio Declaration** which says that the standards applicable to developed countries cannot be applied to developing countries.

➢ **Change in the Climate-Change Regime:** The greenhouse content of these imports would also have to be adjusted in the greenhouse gas inventories of the importing countries which essentially implies that GHG inventories would have to be reckoned not on the production basis but at the point of consumption basis.

  ❍ This would turn the entire climate change regime upside down.

➢ **Protectionist Policy:** The policy can also be regarded as a disguised form of protectionism.

  ❍ Protectionism refers to government policies that restrict international trade to help domestic industries. Such policies are usually implemented with the goal of improving economic activity within a domestic economy.

  ❍ There is the risk that it becomes **a protectionist device, unduly shielding local industries from foreign competition** in so-called 'green protectionism'.

Red Crowned Roofed Turtle

Why in News?

India has proposed to protect the **Red-Crowned Roofed turtle** at the 19th Conference of the Parties to **CITES (Convention on International Trade in Endangered Species)** in Panama.

Note:

What are the Highlights of the Conference?

➤ India has raised a proposal to the United Nations Convention on International Trade in Endangered Species on Wild Fauna and Flora for the addition of the riverine species to **Appendix I from current Appendix II.**

  ○ The species covered by CITES are listed in **three Appendices as per the degree of protection** they need:

    ● **Appendix I** includes species threatened with extinction.

    ● **Appendix II** includes species not necessarily threatened with extinction but (where trade must be controlled).

    ● **Appendix III** contains species that are protected in at least one country, which has asked other CITES parties for assistance in controlling the trade.

➤ The 19th Conference of the Parties to CITES is being asked to consider stricter trade regulations **for nearly six hundred species of animals and plants believed to be under increased threat of extinction** from international trade.

What is a Red Crowned Roofed Turtle?

➤ **Scientific Name:** *Batagur kachuga.*

➤ **Common Names:** Bengal roof turtle, Red-crowned roofed turtle.

➤ **About:**

  ○ Red Crowned Roofed Turtle is one of the **24 species endemic to India**, is characterised by the bright colours such as red, yellow, white and blue on the faces and necks of the males.

➤ **Distribution:**

  ○ It is a **freshwater turtle species found in deep flowing rivers** with terrestrial nesting sites.

  ○ The Red-crowned roofed turtle is **native to India, Bangladesh and Nepal**.

  ○ Historically, the species was **widespread in the Ganga River**, both in India and Bangladesh. It also occurs in the Brahmaputra basin.

  ○ Currently in India, the **National Chambal River Gharial Sanctuary is the only area with a substantial population of the species**, but even this Protected Area and habitat are under threat.

➤ **Threats:**

  ○ The species is highly **susceptible to major hydrological projects and their impacts** on river flow dynamics and nesting beaches, and water pollution. Since human activities on and along the river are disturbing, the entanglement in fishing nets has led to a significant impact on subpopulations.

  ○ Degradation of **habitat due to pollution and large-scale development activities** like water extraction for human consumption and irrigation and irregular flow from the upstream dams and reservoirs are the main threats to these species.

  ○ Sand mining and **growing of seasonal crops** along Ganga River are majorly affecting the sandbars along the river that are used by the species for nesting.

  ○ Overharvesting the animal for **illegal consumption and illegal international trade are other reasons** for its extinction threat.

    ● Over 11,000 tortoises and freshwater turtles have been seized in India from 2009-2019, found a study by TRAFFIC, a global NGO working on trade in wild animals and plants and their conservation.

➤ **Conservation Status:**

  ○ The **International Union for Conservation of Nature (IUCN) Red List**: Critically Endangered

  ○ **Wildlife Protection Act (WPA):** Schedule I

  ○ **CITES :** Appendix II

Recommendations for Carbon Removals Mechanism

Why in News?

At the **CoP 27**, many concerns were raised over recommendations to include carbon removals for **carbon-trading** mechanisms under the **United Nations.**

➤ As per the civil society groups, **carbon removals do not align** with the **1.5-degree goal of the Paris Agreement.**

What are the Related Provisions of the Paris Agreement'?

➤ **Article 2.1:**

  ○ Article 2.1 of the 2015 Paris Agreement aims to hold **increasing temperatures to "well below 2°C above pre-industrial levels"** while "pursuing efforts" towards the more ambitious limit of 1.5°C.

Note:

- ➢ **Article 6.4:**
  - ❍ It establishes a mechanism under the UN to **allow countries to voluntarily cooperate to meet their climate targets.**
    - ● A country that has **earned credits** by **reducing greenhouse gas emissions** can sell them to another country to help it meet its climate target.
  - ❍ Under Article 6.4, **a supervisory body** has also been constituted, **tasked with making recommendations on carbon removals,** including reporting, monitoring and addressing concerns over the technology and social impacts.

What is Understood by Carbon Removal?

- ➢ **About Carbon Removal:**
  - ❍ 'Carbon removal' means removing carbon dioxide from the atmosphere. It can be **land-based like afforestation or reforestation,** direct air capture (where big machines suck CO2), soil carbon sequestration using no-till agriculture and other practices, **sequestering carbon** from biofuel, and the like.
- ➢ **Ocean-based Removal:**
  - ❍ Oceans have a **vast potential for storing carbon dioxide naturally.** It is a quick process of removing carbon from the atmosphere.
    - ● Nutrients like iron can increase photosynthesis among phytoplankton, **which then incorporate carbon into their system.** The remaining uneaten planktons sink to the bottom and lock up the carbon.
  - ❍ Some ocean-based removals i**nclude pumping CO$_2$ into the ocean by spreading iron (ocean fertilisation)** or pumping nutrient-rich waters from the depths to the surface and pumping surface waters downward to transport carbon to the ocean depths.
- ➢ **Supervisory Body's Recommendations about Carbon Removal:**
  - ❍ The supervisory body has proposed methodologies under land-based, and engineering-based approaches, such as direct air capture and ocean fertilisation for 'removals'.

What are the Concerns Raised about Carbon Removal?

- ➢ The recommendations provided by the supervisory body of 6.4 could **lead to the violation of the rights of indigenous peoples.**
  - ❍ Poorly implemented afforestation or other approaches could adversely impact local livelihoods of indigenous peoples.
- ➢ The **recommendations do not distinguish between types of removals**, including each activity's requirements, risks and implications.
- ➢ These recommendations may "**potentially throw open the door to geoengineering schemes that risk undermining the integrity** of the Paris Agreement and setting the world on a course to blow past 1.5°C.
- ➢ Issuing **credits based on land-based removals is problematic** because these **ecosystems are not permanent.** For example, they can be wiped out by wildfires induced by climate change.
- ➢ The impacts of dumping more CO$_2$ into the deep oceans **are not known and with iron fertilisation,** more carbon and nutrients are transported into the deeper ocean, which may **be a threat in future.**
- ➢ The living things down in the ocean will break down the carbon, which could transfer **acidification to the deep ocean.**

What are the Suggestions?

- ➢ Scientists at CoP 27 have called for a **code of conduct for ethical research on ocean removals.**
- ➢ It is needed to ensure that the **carbon market be organised in the right way** where **benefit-sharing with the indigenous population should be the bare minimum.**
- ➢ Inclusivity in carbon markets is crucial; some indigenous people want to **participate in the market mechanism to gain financial incentives** to do their sustainable development projects.

Muli Bamboo

Why in News?

Recently, a research study observed and **listed a large variety of animal visitors/predators** attracted by the fruit and flowers of **Muli Bamboo (Melocanna baccifera).**

- ➢ The study found that **predation is mainly due to the high content of sugars.**
- ➢ The **highest-ever fruit production** in a bamboo clump of this species was also reported.

Note:

What is Muli Bamboo?

➤ **About:**
  ○ Muli is the **tropical evergreen species** of **bamboo**.
  ○ It is the **largest fruit-producing bamboo** and is native to the northeast India-Myanmar region.
  ○ It accounts for **90% of the bamboo forests found in the north-eastern state.**
  ○ It can be recognised easily by **diffused clump habit.**
  ○ The plant is also grown as an **ornamental.**
  ○ **'Mautam'** is a strange ecological phenomenon associated with Muli Bamboo that **occurs once every 48 years.**

➤ **Mautam:**
  ○ 'Mautam' means **'Bamboo death'** in Mizo (mau means bamboo and tam means death).
  ○ During 'Mautam', **the cyclical, mass bamboo flowering and large fruit production occurs.**
  ○ This **attracts animal visitors/predators** including pollen predators (honey bees), fruit predators (millipedes, slugs and snails, fruit borers, monkeys, rats, porcupines, wild boars and palm civets), seedling predators (rabbits, deer), and insect/pest predators (ants, mantis).
  ○ **Black rats greatly relish the fleshy, berry-like fruit** of the Muli Bamboo and during this period, the black rats also **multiply rapidly,** a phenomenon dubbed as **'Rat Flood.'**
    ● **Once the fruits are gone**, they start quickly **eating-up standing crops.**
    ● **This leads to famines** claiming thousands of human lives.
  ○ Due to the occurrence of 'Mautam', Muli bamboo is **locally known as 'Mautak'.**

What are the Initiatives Related to Bamboo?
➤ **Global Initiatives:**
  ○ **World Bamboo Day:**
    ● It is celebrated every year on **18th September.**
  ○ **The International Bamboo and Rattan Organisation (INBAR):**
    ● It is a multilateral development organisation which **promotes environmentally sustainable development using bamboo and rattan.**
    ● In addition to its **Secretariat headquarters in China**, INBAR has **regional offices in India, Ghana, Ethiopia, and Ecuador.**

➤ **Indian Initiatives:**
  ○ **Bamboo Clusters**
  ○ **National Bamboo Mission (NBM)**
  ○ **Removal of Bamboo from 'Tree' Category:**
    ● **The Indian Forest Act 1927 was amended in 2017 t**o remove bamboo for the category of trees.
    ● As a result, **anyone can undertake cultivation and business in bamboo and its products** without the need of a felling and transit permission.

Great Knot

Why in News?

A Great knot has flown over 9,000 kilometers from Russia for a winter sojourn on Kerala's coast.

➤ The migratory bird that traversed the **Central Asian Flyway (CAF)** is only one of the two — the other has been sighted at Jamnagar in Gujarat.

What are the Key Points about the Great knot?

➤ **Physical Appearance:**
  ○ A medium-sized bulky wader with a straight, dark-brown bill and yellowish-brown legs.
  ○ It has a striped crown with an indistinct white eyebrow. Its upperparts are grey, with dark feather tips; its underparts are white.
  ○ The rump is pure white, the tail is tipped with grey.
  ○ Breeding plumage consists of darker upperparts with black and chestnut markings.

➤ **Scientific Name:**
  ○ *Calidris tenuirostris*

➤ **Protection Status:**
  ○ **IUCN Status: Endangered**

➤ **Distribution:**
  ○ This species breeds in **north-east Siberia, Russia, wintering mainly in Australia**, but also **throughout the coastline of South-East Asia** and on the coasts of India, Bangladesh, Pakistan, and the eastern coast of the Arabian Peninsula.
    ● In India, it is found along the coastal regions of Gujarat and Andhra Pradesh.

○ The **Yellow Sea of North Korea**, **South Korea and China is a particularly important stop-over site** on migration in both spring and autumn.

➤ **Habitat and Ecology:**

○ Occurs within **sheltered, coastal habitats** containing large, intertidal mudflats or sandflats, including **inlets, bays, harbours, estuaries and lagoons.**

○ Often recorded on sandy beaches with mudflats nearby, sandy spits and islets and sometimes on exposed reefs or rock platforms.

What is the Central Asian Flyway (CAF)?

➤ It is a migration route, **covering over 30 countries**, for different waterbirds linking their northernmost breeding grounds in **Russia** (Siberia) to the southernmost non-breeding (wintering) grounds in **West and South Asia**, the **Maldives** and **British Indian Ocean Territory.**

➤ CAF is among the **nine flyways in the world** and three of the nine flyways that pass through the Indian Subcontinent. The other two are:

○ **East Asian Australasian Flyway (EAAF)** and **Asian East African Flyway (AEAF).**

➤ **India has a strategic role in the flyway,** as it **provides critical stopover sites** to over **90% of the bird species** known to use this migratory route.

○ Flyways are the area used by a group of birds during their annual cycle which includes their breeding areas, stop over areas and wintering areas.

Olive Ridley Turtles

Why in News?

Pairs of **Olive Ridley Sea turtles** have begun emerging on the sea waters off **Gahirmatha Marine Sanctuary** along the Odisha coast, marking the **commencement of the annual mass nesting of these endangered marine species.**

What are Olive Ridley Turtles?

➤ **About:**

○ The Olive ridley turtles are among the **smallest and most abundant of all sea turtles** found in the world.

○ These turtles are **carnivores** and get their name from their **olive-coloured carapace.**

○ They are best known for their **unique mass nesting called Arribada,** where thousands of females **come together on the same beach to lay eggs.**

➤ **Habitat:**

○ They are found in **warm waters of the Pacific, Atlantic** and **Indian oceans.**

○ The **Odisha's Gahirmatha Marine Sanctuary** is known as the **world's largest rookery (colony of breeding animals) of sea turtles.**
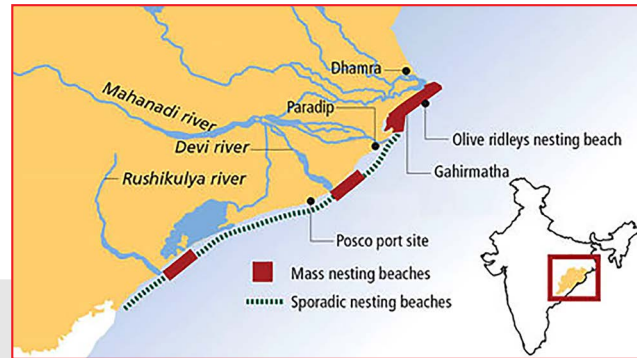
➤ **Protection Status:**

○ **Wildlife Protection Act, 1972:** Schedule 1

○ **IUCN Red List:** Vulnerable

○ **CITES:** Appendix I

➤ **Threats:**

○ **Human Consumption:** They are extensively poached for their meat, shell and leather, and eggs.

○ **Marine Pollution and Waste:** An ever-increasing debris of plastics, fishing nets, discarded nets, polythene and other garbage dumped by tourists and fishing workers threaten all sea turtles and degrades their habitats.

○ **Fishing Trawlers:** Overexploitation of marine resources by use of trawlers often violates the rule to not fish 20 kilometers within a marine sanctuary.

• There were injury marks on many dead turtles indicating they could have been trapped under trawls or gill nets.

➤ **Initiatives to Protect Olive Ridley Turtles:**

○ **Operation Olivia:**

• Every year, the **Indian Coast Guard's "Operation Olivia",** initiated in the early 1980s, helps **protect Olive Ridley turtles as they congregate along the Odisha coast** for breeding and nesting from November to December.

➤ It also **intercepts unlawful trawling activities.**

Note:

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- ○ **Mandatory use of Turtle Excluder Devices (TEDs):**
  - To reduce **accidental killing in India**, the Odisha government has made it mandatory for trawls to us**e Turtle Excluders (TEDs), a net specially designed with an exit cover** which allows the turtles to escape while retaining the catch.
- ○ **Tagging:**
  - The **tagging of the endangered Olive Ridley turtles** using non-corrosive metal tags is done to enable scientists to chart their movements and also know the areas they visit in order to protect the species and their habitats.

Climate Change Performance Index 2023

Why in News?

India has ranked 8th in the **Climate Change Performance Index (CCPI)** 2023.

- ➢ India ranked **10th in CCPI, 2022.**

What is CCPI?

- ➢ **About:**
  - ○ **Published by:**
    - **Germanwatch,** the **New Climate Institute** and the **Climate Action Network** annually since **2005.**
  - ○ **Scope:**
    - It is an independent monitoring tool for tracking the climate protection performance of **57 countries and the European Union.**
      - These countries collectively account for **more than 92% of global Greenhouse Gas (GHG) Emissions.**
  - ○ **Aim:**
    - It aims to **enhance transparency in international climate politics** and enables comparison of climate protection efforts and progress made by individual countries.
  - ○ **Criteria:**
    - The CCPI looks at four categories, with 14 indicators: **GHG Emissions (40% of the overall score), Renewable Energy (20%), Energy Use (20%), and Climate Policy (20%).**

- ➢ **CCPI 2023:**
  - ○ **Overall Performance (Country-wise):**
    - **No country** performs well enough in all index categories to achieve an **overall very high rating.**
- ➢ The **first three overall positions** therefore remain **empty.**
    - **Denmark, Sweden, Chile and Morocco** were the only four small countries that were ranked above India as **4th, 5th, 6th and 7th respectively.**
    - The ranking given by CCPI places **India as the only G-20 country in the top 10 rankers.**
    - The **United Kingdom ranked 11th** in CCPI 2023.
    - **China falls ranked 51st** in CCPI 2023 and received an **overall very low rating.**
    - The **United States (US)** rises three ranks to **52nd that's still overall very low rating.**
    - The **Islamic Republic of Iran ranked 63rd,** hence, placing it **last in the CCPI 2023.**
  - ○ **India's Status:**
    - **Performance:**
      - India-+ has been **ranked amongst top 5 countries in the world,** and the **best among the G20 countries.**
      - India's rank is the **best amongst all large economies.**
      - India earns a **high rating in the GHG Emissions** and **Energy Use categories,** with a **medium for Climate Policy** and **Renewable Energy.**
      - The country is **on track to meet its 2030 emissions targets** (compatible with a well-below 2°C scenario).
        - ◆ However, the **renewable energy pathway is not on track for the 2030 target.**
    - **Concerns:**
      - Since the last CCPI, **India has updated its Nationally Determined Contribution (NDC) and announced a net zero target for 2070.** However, **roadmaps and concrete action plans for achieving the targets are missing.**
      - India is among the **nine countries responsible for 90% of global coal production.** It also **plans to increase its oil, gas, and oil production** by over 5% by 2030.

Note:

◆ This is **incompatible with the 1.5°C target.**

● **Suggestions:**

■ The experts suggested to lay stress on a **just and inclusive energy transition,** as well as the need for **decentralised renewable energy** and capacities for **rooftop photovoltaics.**

■ A **carbon pricing mechanism,** the need for **more capacities at the subnational level,** and **concrete action plans** for achieving the targets are **key demands.**

India's Net Zero Strategy

Why in News?

Recently, India **submitted its Long-Term Low Emission Development Strategy** to the **United Nations Framework Convention on Climate Change (UNFCCC)** at ongoing **27ᵗʰ Conference of Parties (COP27)** in Sharm el-Sheikh, Egypt.

India's road to 'net zero'

At COP-27, India announced its long-term strategy to transition to a 'low emissions' pathway to become carbon neutral by 2070

KEY MILESTONES

■ The National Hydrogen Mission, launched in 2021, aims to make India a green hydrogen hub

■ At least a three-fold increase in nuclear capacity by 2032

■ Achieving an ethanol blending target of 20% by 2025

■ Maximising the use of electric vehicles, increase public transport

■ Increased climate finance to be provided by developed nations

■ The long-term strategy aims at keeping global temperatures well below 2 degrees Celsius and, ambitiously, 1.5 degrees Celsius by the century-end

Environment Minister Bhupender Yadav at the COP-27 summit in Egypt on Monday. REUTERS
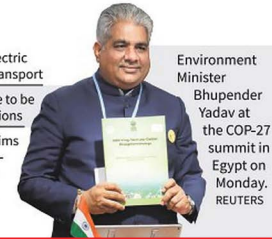
What is a Long-Term Low Emissions Development Strategy?

➢ The LT-LEDS are **qualitative in nature and are a requirement emanating from the 2015 Paris Agreement.**

○ Under the Paris agreement, **countries must explain how they will transition their economies beyond achieving near-term Nationally Determined Contributions (NDCs) targets** and work towards the larger climate objective of cutting emissions by 45% by 2030 and achieve net zero around 2050.

➢ The Strategy is **based on four key considerations** that underpin India's long-term low-carbon development strategy.

○ **India has contributed little to global warming,** its historical contribution to cumulative global **GreenHouse Gases emissions** being minuscule despite having a share of ~17% of the world's population

○ India has significant energy needs for development

○ India is **committed to pursuing low-carbon strategies for development** and is actively pursuing them, as per national circumstances

○ India needs to build climate resilience

➢ The LT-LEDS is also informed by the vision of **LiFE, Lifestyle for the Environment.**

○ LiFE calls for a world-wide paradigm shift from mindless and destructive consumption to mindful and deliberate utilization.

What are the Features of the LT-LEDS?

➢ The strategy will **focus on rational utilization of national resources** with due regard to energy security.

○ The transitions from fossil fuels will be undertaken in a just, smooth, sustainable and all-inclusive manner.

Note:

➢ The **strategy will promote increased use of biofuels**, especially **ethanol blending** in petrol, the drive to increase electric vehicle penetration, and the increased use of **green hydrogen fuel** are expected to drive the low carbon development of the transport sector.

  ❍ **India aspires to maximize the use of electric vehicles, ethanol blending to reach 20% by 2025**, and a strong modal shift to public transport for passenger and freight.

➢ Low-base, future sustainable, and climate-resilient urban development will be driven by smart city initiatives, integrated planning of cities for mainstreaming adaptation and enhancing energy and resource efficiency, effective green building codes and rapid developments in innovative solid and liquid waste management.

➢ The **industrial sector will continue in the perspective of 'Aatmanirbhar Bharat' and 'Make in India'**.

➢ India will also **focus on improving energy efficiency by the Perform, Achieve and Trade (PAT) scheme, the National Hydrogen Mission,** increasing electrification, enhancing material efficiency, and recycling and ways to reduce emissions.

What is Net Zero Target?

➢ It is **referred to as carbon neutrality**, which does not mean that a country would bring down its emissions to zero.

➢ Rather, it is a **state in which a country's emissions are compensated by the absorption and removal of greenhouse gases** from the atmosphere.

  ❍ Further, absorption of the emissions can be increased by creating more carbon sinks such as forests.

    ● While the removal of gases from the atmosphere requires futuristic technologies such as carbon capture and storage.

➢ More than 70 countries have promised to become Net Zero by the middle of the century i.e., by 2050.

➢ India has promised to cut its emissions to net zero by 2070 at the **conference of parties-26(COP)** summit.

Amazon Rainforest

Why in News?

According to a new report **'Living Amazon Report' 2022** by the **World Wildlife Fund (WWF)**, **some 35% of the rainforest is either totally lost or highly degraded.**

➢ The report was released at the **27th Conference of Parties (COP27)** to the United Nations Framework Convention on Climate Change in Sharm El-Sheikh, Egypt.

➢ The report **outlined the current status of the Amazon biome and basin**, summarised key pressures and drivers of change and outlined a conservation strategy.

What are the Highlights of the Report?

➢ Vast tracts of the Amazon rainforest, which serve **as carbon sinks and the planet's lungs, are in crisis.**

  ❍ Some **35% of the rainforest is either totally lost or highly degraded**, while another 18% have been converted for other purposes.

➢ Amazon forests are **threatened due to deforestation, fires and degradation.**

➢ Surface water has been lost and rivers are increasingly disconnected and polluted.

  ❍ This immense pressure will irreversibly damage the Amazon and the planet in general very shortly.

➢ Economic activities, most notably extensive cattle ranching and agriculture, illegal activities and poorly planned infrastructure, threaten the region and cause deforestation and degradation throughout the biome, with many areas severely affected.

  ❍ **Nearly 600 infrastructure projects are in operation along rivers** in the Amazon.

  ❍ Some 20 planned road projects, 400 operating or planned dams and numerous mining projects continue to dump chemicals such as mercury into the rivers.

What are the Suggestions?

➢ The protection of the Amazon **requires a combination of strategies and approaches** that combine conservation requirements with the developmental needs of the countries that comprise it.

➢ Strategies for effective, integrated landscape management include:

  ❍ Conversion-free landscapes
  ❍ Sustainably managed forests
  ❍ Legal trade

➢ Ensuring the rights of indigenous peoples, local communities, women and young people.

  ❍ These strategies are **intended to complement well-managed conservation areas** and indigenous territories to form a network of well-conserved landscapes.

Note:

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➢ **Cross-cutting strategies in three key areas** — policies, knowledge generation and communications — are also needed for the conservation and sustainable management of the Amazon biome, its forests and rivers.

➢ The biome urgently requires effective policies, research and greater awareness of its current status.

What are the Amazon Rainforests?

➢ These are **large tropical rainforests occupying the drainage basin of the Amazon River** and its tributaries in northern South America and covering an area of 6,000,000 square km.

  ❍ Tropical forests are closed-canopy forests growing within 28 degrees north or south of the equator.

  ❍ They are very wet places, receiving more than 200 cm rainfall per year, either seasonally or throughout the year.

  ❍ Temperatures are uniformly high - between 20°C and 35°C.

  ❍ Such forests are found in Asia, Australia, Africa, South America, Central America, Mexico and on many of the Pacific Islands.

➢ Comprising about **40% of Brazil's total area**, it is bounded by the Guiana Highlands to the north, the Andes Mountains to the west, the Brazilian central plateau to the south, and the Atlantic Ocean to the east.

Waste Water Management

Why in News?

Almost half, or **43% of the world's rivers are contaminated with active pharmaceutical ingredients** in concentrations that can have disastrous effect on health.

➢ The pharmaceutical industry must prioritise **waste water management** and process controls to limit **antibiotic pollution** and **Antimicrobial Resistance (AMR).**

  ❍ Widescale pharmaceutical pollution has been reported across the different states of India, particularly in pharmaceutical hubs like **Himachal Pradesh, Andhra Pradesh, and Telangana.**

What is Waste Water?

➢ **About:**

  ❍ Wastewater is the **polluted form of water generated from rainwater runoff and human activities** and is also called sewage.

  ❍ It is typically categorized by the manner in which it is generated—**specifically, as domestic sewage, industrial sewage,** or **storm sewage (stormwater).**

  ❍ Normally, raw sewage dumped into a water body can clean itself through a natural process of **stream cleaning and self-purification.**

  ❍ But the rise in population, as well as **large-scale urbanization, has led to an increase in sewage discharge** that far **exceeds the rate of natural purification.**

  ❍ The excess nutrients thus generated **cause eutrophication in the water body** and **gradual deterioration of the water quality.**

    ● **Eutrophication** is the process of a **water body becoming overly enriched** with minerals and nutrients which induces **excessive growth of algae or algal bloom,** thereby, leading to **oxygen depletion of the water body.**

➢ **Waste Water Treatment:**

  ❍ Wastewater treatment, **also called sewage treatment**, is the **removal of impurities from wastewater, or sewage,** before it reaches aquifers or natural bodies of water such as rivers, lakes, estuaries, and oceans.

  ❍ On-site **Sewage Treatment Plants (STPs)** treat and purify wastewater and render it suitable for reuse.

Note:

- STPs remove contaminants from waste water primarily from household sewage.

What is the Status of Waste Water Management in India?

➢ **About:**
  ○ According to a report published by **Central Pollution Control Board (CPCB)** in 2021, India's **current water treatment capacity is 27.3% and the sewage treatment capacity is 18.6 %** (with another 5.2 % capacity being added).
    - Although India's waste and sewage treatment capacity is **higher than the global average of around 20%,** it is **far from adequate, and without swift measures** and not scaling up the sewage treatment capacity may have serious consequences.
  ○ As per government statistics, **62.5% of wastewater in urban India remained untreated or partially treated.**
  ○ According to a 2019 research report, **most of the sewage treatment plants** established under the **Ganga Action Plan** and **Yamuna Action Plan are not working**, and out of the **33000 million litres per day (MLD) of waste generated, only 7000 MLD is collected and treated.**

➢ **Regulation:**
  ○ **The Water (Prevention and Control of Pollution) Act, 1974, (Amended in 1988)**
    - This legislation was introduced to provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water.
  ○ **The Water (Prevention and Control of Pollution) Cess Act, 1977, (Amended in 2003)**
    - It aims to provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities.
  ○ **The Environment (Protection) Act, 1986**
    - It empowers the Central government to prescribe sewage and effluent discharge standards, investigate and ensure compliance, and conduct research.
    - This Act applies to all kinds of environmental pollution, including water, land, air, and noise.

➢ **Government Initiatives:**
  ○ The Indian government shifted its focus to **solid waste, sludge and greywater management** under the **Swachh Bharat Mission 2.0 (SBM 2.0)**.
    - Following a sustained focus on achieving **Open Defecation-Free (ODF) status**, the **Ministry of Housing and Urban Affairs (MoHUA)** developed detailed criteria for cities to achieve **ODF+, ODF++ and Water+ statuses**.
  ○ Under **Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Mission,** sewerage & septage management projects were launched by MoHUA.

What are the Challenges in the Waste Water Management?

➢ **Schedule 7** of the Indian constitution identifies **water as a State matter,** but it is **explicitly subjected to the provisions mentioned in the Union List.**
  ○ It enables the **Parliament to legislate on regulating and developing inter-state waters in the larger public interest** while the **State retains the autonomy to frame laws regarding the use of water within the State** on matters like water supply, irrigation, drainage and embankments, water storage, etc.
  ○ This disintegrated approach to wastewater and its fallouts can also be seen within the States. The governance of water resources is **further fragmented at local levels, rural and urban, as per the 73rd and 74th constitutional amendment acts.**
  ○ These constitutional mechanisms have resulted in power imbalances between the Centre and the States, creating **federal jurisdictional ambiguity.**

- Particularly, in the case of wastewater management, **one State's inaction affects the interests of one or more other States and causes disputes.**
➤ While **centralised wastewater treatment solutions** require a well-developed network of interconnected sewers and drainage for the wastewater to be collected in a central location. This makes them **expensive, labour-intensive, and time-consuming.**

Severe Climate Disasters of 2022 and COP27

Why in News?

While the developing and vulnerable nations continue to demand climate finance at COP27, **it is important to realise that the lives have also been severely affected by global catastrophes, especially in the year 2022.**

How have Past Global Catastrophes Devastated the Planet?

➤ **Pakistan Floods:**
  ○ Pakistan **recorded 62% less than normal rainfall in the month of March**, 2022 and the warmest April preceding the monsoon season.
    - Glaciers melted as a result of these heat waves, which led rivers to swell. Access to basic necessities became difficult for 33 million people of Pakistan's 220 million population.
  ○ Extreme rainfall further triggered the most devastating floods from June to September.
    - The flood was the worst in the country's recent history.
    - Over 1,500 people were killed, with millions being displaced and developing serious health issues such as skin infections, **malaria** and **diarrhoea**.
➤ **Hurricane Ian in the US:**
  ○ NASA data revealed that **warm ocean waters in the Gulf of Mexico powered Hurricane Ian in the US towards the end of September, 2022** making it one of the strongest hurricanes to hit the country in recent memory.

- It **resulted in the loss of 101 lives** and monetary losses of more than USD 100 billion.
- The disaster was the costliest climate-induced disaster of the year.
  ○ The **escalation brought severe floods,** relentless rains and strong winds to southwestern Florida.
➤ **European Droughts**
  ○ In June and July, 2022, **Europe was hit by two extreme heat waves,** which claimed approximately 16,000 lives.
    - This year's drought is likely to be the worst in 500 years.
  ○ Water levels in Europe's biggest rivers – Rhine, Po, Loire, and Danube – shrunk, and dry conditions continue to prevail in different parts of the continent.
➤ **Spain and Portugal:**
  ○ An atmospheric high-pressure system, which causes dry air to descend over subtropical regions in the Northern Hemisphere during winter and spring seasons, called **Azores high,** has the ability to block wet weather outlets.
  ○ This caused dry conditions in Iberian Peninsula in southwestern Europe, and the Mediterranean region.
    - Spain and Portugal hence faced the driest weather in 1,200 years, along with wildfires.
➤ **Natural Disasters in India:**
  ○ India recorded **natural disasters almost every day in 2022.**
  ○ India recorded **"extreme weather events on 241 of 273 days"** in the first nine months of the year.
    - Thunderstorms, persistent rains, **cyclones**, **droughts**, **heat waves**, **lightning**, **floods** and **landslides** occurred all throughout these months.
    - **Himachal Pradesh recorded the highest number of deaths** followed by Assam and Madhya Pradesh.
  ○ Overall, these **disasters claimed about "2,755 lives, affected 1.8 million hectares (ha) of crop area**, destroyed over 416,667 houses and killed close to 70,000 livestock."
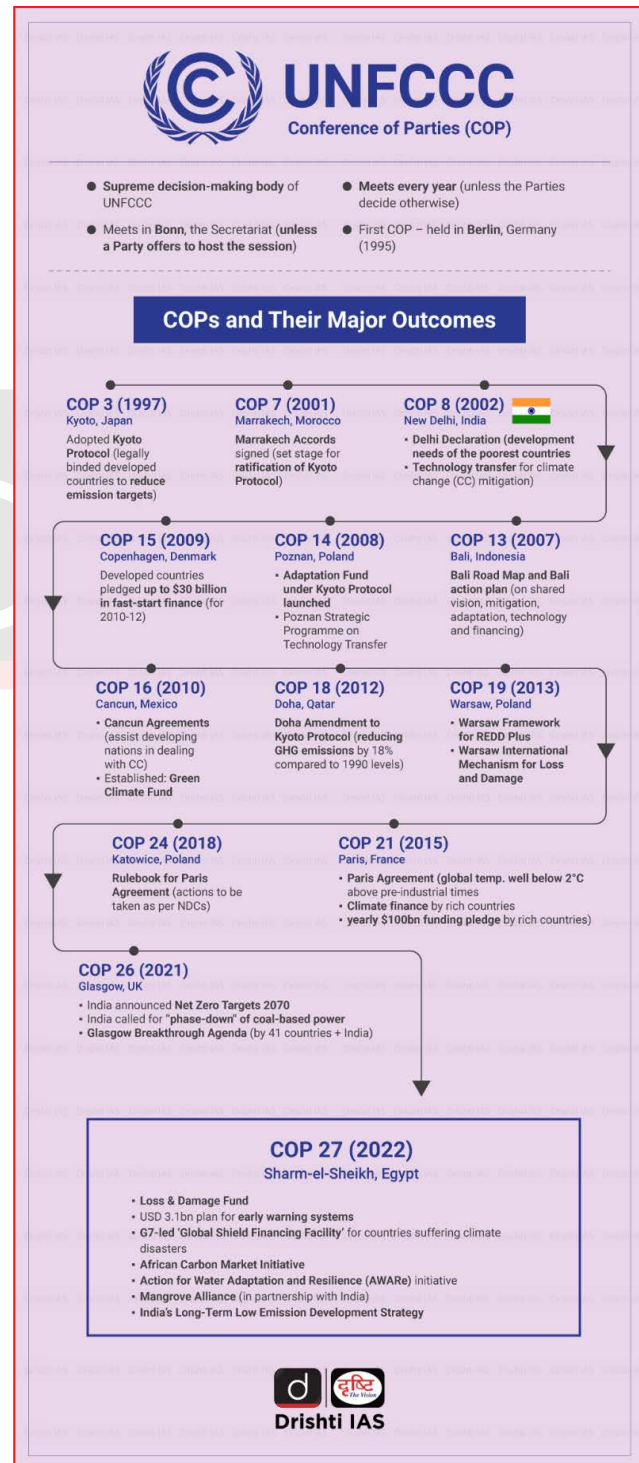
Note:

What are the Major Outcomes of the COP27?

➢ **"Loss and Damage" Fund for Vulnerable Countries:**
  ○ The United Nations Climate Change Conference COP27 **signed an agreement to provide "loss and damage" funding to vulnerable countries.**

➢ **Technology:**
  ○ At COP27, a **new five-year work program was launched to promote climate technology solutions** in developing countries.

➢ **Mitigation:**
  ○ A mitigation work programme was **launched aimed at urgently scaling up mitigation ambition and implementation.**
  ○ The **work programme will start immediately following COP27** and continue until 2030, with at least two global dialogues held each year.
  ○ Governments were also **requested to revisit and strengthen the 2030 targets** in their national climate plans by the end of 2023, as well as accelerate efforts to phase down unabated coal power and phase-out inefficient fossil fuel subsidies.

➢ **Global Stocktake:**
  ○ Delegates at the UN Climate Change Conference COP27 wrapped up the second technical dialogue of the first global stocktake, a mechanism to raise ambition under the **Paris Agreement**.
  ○ Prior to the conclusion of the stocktake at COP28 next year, the UN Secretary-General will convene a 'climate ambition summit' in 2023.

➢ **Sharm-El-Sheikh Adaptation Agenda:**
  ○ It outlines **30 Adaptation Outcomes to enhance resilience** for 4 billion people living in the most climate vulnerable communities by 2030.

➢ **Action on Water Adaptation and Resilience Initiative (AWARe):**
  ○ It has been launched to reflect the importance of water as both a key climate change problem and a potential solution.

➢ **African Carbon Market Initiative (ACMI):**
  ○ It was launched to support the growth of carbon credit production and create jobs in Africa.

➢ **The Global Renewables Alliance:**

○ It brings together, for the first time, **all the technologies required for the energy transition in order to ensure an accelerated energy transition.**
○ As well as ensuring targets are met, the Alliance also aims to position renewable energy as a pillar of sustainable development and economic growth.

UNFCCC
Conference of Parties (COP)

- Supreme decision-making body of UNFCCC
- Meets in **Bonn**, the Secretariat (unless a Party offers to host the session)
- Meets every year (unless the Parties decide otherwise)
- First COP – held in **Berlin**, Germany (1995)

COPs and Their Major Outcomes

COP 3 (1997)
Kyoto, Japan
Adopted **Kyoto Protocol** (legally binded developed countries to **reduce emission targets**)

COP 7 (2001)
Marrakech, Morocco
Marrakech Accords signed (set stage for **ratification of Kyoto Protocol**)

COP 8 (2002)
New Delhi, India
- Delhi Declaration (development needs of the poorest countries)
- Technology transfer for climate change (CC) mitigation)

COP 15 (2009)
Copenhagen, Denmark
Developed countries pledged up to $30 billion in fast-start finance (for 2010-12)

COP 14 (2008)
Poznan, Poland
- Adaptation Fund under Kyoto Protocol launched
- Poznan Strategic Programme on Technology Transfer

COP 13 (2007)
Bali, Indonesia
Bali Road Map and Bali action plan (on shared vision, mitigation, adaptation, technology and financing)

COP 16 (2010)
Cancun, Mexico
- Cancun Agreements (assist developing nations in dealing with CC)
- Established: Green Climate Fund

COP 18 (2012)
Doha, Qatar
Doha Amendment to Kyoto Protocol (reducing GHG emissions by 18% compared to 1990 levels)

COP 19 (2013)
Warsaw, Poland
- Warsaw Framework for REDD Plus
- Warsaw International Mechanism for Loss and Damage

COP 24 (2018)
Katowice, Poland
Rulebook for Paris Agreement (actions to be taken as per NDCs)

COP 21 (2015)
Paris, France
- Paris Agreement (global temp. well below 2°C above pre-industrial times)
- Climate finance by rich countries
- yearly $100bn funding pledge by rich countries)

COP 26 (2021)
Glasgow, UK
- India announced **Net Zero Targets 2070**
- India called for **"phase-down"** of coal-based power
- Glasgow Breakthrough Agenda (by 41 countries + India)

COP 27 (2022)
Sharm-el-Sheikh, Egypt
- Loss & Damage Fund
- USD 3.1bn plan for **early warning systems**
- G7-led 'Global Shield Financing Facility' for countries suffering climate disasters
- African Carbon Market Initiative
- Action for Water Adaptation and Resilience (AWARe) initiative
- Mangrove Alliance (in partnership with India)
- India's Long-Term Low Emission Development Strategy

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Note:

Russia's Nuclear-Powered Icebreaker

Why in News?

Recently, Russia touted its Arctic power at a flag-raising ceremony and dock launch for two nuclear-powered icebreakers that will ensure year-round navigation in the Western Arctic.

What is the Significance of the Russian Icebreakers?

➢ **To Strengthen Russia's Status as a Great Arctic power:**
  ○ Both icebreakers were laid down as part of Russia's large-scale, systematic work to re-equip and replenish the domestic icebreaker fleet, to **strengthen Russia's status as a "great Arctic power."**
    ● In the last two decades, Russia has reactivated several Soviet era Arctic military bases and upgraded its capabilities.

➢ **For Studying Arctic Region:**
  ○ For Russia, it is essential to study and develop the Arctic, **to ensure safe, sustainable navigation in this region, and to increase traffic along the northern sea route.**

➢ **Cut Down Time to Reach Asia:**
  ○ The development of this most important transport corridor will **allow Russia to more fully unlock its export potential** and establish efficient logistics routes, including to South East Asia.
  ○ For Russia, the opening of the Northern Sea Route will cut down time to reach Asia by up to two weeks compared to the current route via the Suez Canal

What is the Significance of the Arctic Region?

➢ **Economic Significance:**
  ○ The Arctic region has **rich deposits of coal, gypsum and diamonds** and also substantial reserves of zinc, lead, placer gold and quartz. **Greenland** alone possesses about a quarter of the world's rare earth reserves.
  ○ The Arctic already supplies the world with **roughly 10% of its oil and 25% of its natural gas,** mostly from onshore sources. It is also estimated to hold 22% of the Earth's undiscovered oil and natural gas reserves.

➢ **Geographical Significance:** The Arctic **helps circulate the world's ocean currents,** moving cold and warm water around the globe.
  ○ Also, Arctic Sea ice acts as a **huge white reflector at the top of the planet**, bouncing some of the sun's rays back into space, helping keep the Earth at an even temperature.

➢ **Strategic Importance:**
  ○ The **Arctic is taking on greater strategic significance** due to **climate change,** as a shrinking ice cap opens up new sea lanes.
  ○ There has been a **race among Arctic states and near-arctic states to augment their capabilities** in a bid to be ready to capitalize on the melting Arctic.
    ● **Eg: North Atlantic Treaty Organization (NATO)** has been conducting regular exercises in the region.
    ● **China, which calls itself a near-Arctic state**, has also announced an ambitious plan for a polar silk route to connect to Europe.

➢ **Environmental Significance:**
  ○ The Arctic and the **Himalayas**, though geographically distant, **are interconnected and share similar concerns.**
  ○ The Arctic meltdown is **helping the scientific community to better understand the glacial melt in the Himalayas**, which has often been referred to as the 'third pole' and has the largest freshwater reserves after the North and South poles.

Where does India stand with respect to the Arctic?

➢ Since 2007, **India has an Arctic research programme** with as many as 13 expeditions undertaken till date.

➢ In March 2022, **India unveiled its first Arctic policy** titled: 'India and the Arctic: building a partnership for sustainable development'.
  ○ **The policy lays down six pillars:** strengthening India's scientific research and cooperation, climate and environmental protection, economic and human development, transportation and connectivity, governance and international cooperation, and national capacity building in the Arctic region.

➢ India is also one of the **13 Observers in the Arctic Council**, the leading intergovernmental forum promoting cooperation in the Arctic.

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○ The Arctic Council is an intergovernmental body that promotes research and facilitates cooperation among Arctic countries on issues related to the environmental protection and sustainable development of the **Arctic region.**

What is the Arctic?
- The Arctic is a polar region located at the northernmost part of Earth.
- Land within the Arctic region has seasonally varying snow and ice cover.
- It consists of the Arctic Ocean, adjacent seas, and parts of Alaska (United States), Canada, Finland, Greenland (Denmark), Iceland, Norway, Russia, and Sweden.

Development of Great Nicobar

Why in News?

Recently, the Ministry of Environment, Forest and Climate Change has given environmental clearance for the ambitious **Rs 72,000 crore development project** on the strategically important **Great Nicobar Island.**

- The project is to be implemented in **three phases over the next 30 years.**

What is the Proposal?

- A greenfield city has been proposed, including an **International Container Trans-shipment Terminal (ICTT)**, a greenfield international airport, and a power plant.
- The port will be controlled by the **Indian Navy,** while the airport will have dual **military-civilian functions** and will cater to tourism as well.
- A total 166.1 sq km along the southeastern and southern coasts of the island have been **identified for project along a coastal strip** of width between 2 km and 4 km.
- Some 130 sq km of forests have been **sanctioned for diversion,** and 9.64 lakh trees are likely to be felled.

What is the Purpose of Developing this Island?

- **Economic Reasons:**

○ Great Nicobar is **equidistant from Colombo to the southwest and Port Klang** and Singapore to the southeast, and positioned close to the East-West international shipping corridor, through which a very large part of the world's shipping trade passes.

○ The proposed ICTT can potentially become **a hub for cargo ships traveling on this route.**

○ As per the NITI Aayog report, the proposed port will allow **Great Nicobar to participate in the regional and global maritime economy** by becoming a major player in cargo transshipment.

- **Strategic Reasons:**

○ The proposal to develop Great Nicobar was first floated in the 1970s, and its importance for **national security and consolidation of the Indian Ocean Region** has been **repeatedly underlined.**

○ Increasing Chinese assertion in the **Bay of Bengal** and the **Indo-Pacific** has added great urgency to this imperative in recent years.

What are the Related Concerns?

- The proposed massive infrastructure development in an ecologically important and fragile region **has alarmed many environmentalists.**
- The loss of tree cover will not only affect the flora and fauna on the island, it will **also lead to increased runoff and sediment deposits in** the ocean, impacting the coral reefs in the area.
- Environmentalists have also flagged the **loss of mangroves on the island as a result of the development project.**

What are the Government's steps to address the concerns?

- The **Zoological Survey of India** is currently in the process of assessing how much of the reef will have to be relocated for the project.

○ India has successfully translocated a **coral reef** from the **Gulf of Mannar** to the **Gulf of Kutch** earlier.

- A conservation plan for the leatherback turtle is also being put in place.
- As per the government, the project site is outside the **eco-sensitive zones of Campbell Bay and Galathea National Park**.

What are the Key Points of the Great Nicobar Islands?

➢ **About:**
- ❍ Great Nicobar, the southernmost of the **Andaman and Nicobar Islands**, has an area of 910 sq km.
  - ● The Andaman and Nicobar Islands are **a cluster of about 836 islands in the eastern Bay of Bengal,** the two groups of which are separated by the 150-km wide **Ten Degree Channel.**
  - ● The Andaman Islands lie to the **north of the channel, and the Nicobar Islands to the south.**
- ❍ Indira Point on the southern **tip of Great Nicobar Island is India's southernmost point,** less than 150 km from the northernmost island of the Indonesian archipelago.
- ❍ It covers 1,03,870 hectares of unique and threatened tropical evergreen forest ecosystems.
- ❍ It is home to a very rich ecosystem, including 650 species of angiosperms, ferns, gymnosperms, bryophytes, among others.
- ❍ In terms of fauna, there are over 1800 species, some of which are endemic to this area.

➢ **Ecological Characteristics:**
- ❍ The Great Nicobar Biosphere Reserve harbours a wide spectrum of ecosystems comprising tropical wet evergreen forests, mountain ranges reaching a height of 642 m (Mt. Thullier) above sea level, and coastal plains.
- ❍ Great Nicobar is home to **two national parks, a biosphere reserve**
  - ● **National Parks:** Campbell Bay National Park and Galathea National Park
  - ● **Biosphere Reserve:** Great Nicobar Biosphere Reserve.

➢ **Tribe:**
- ❍ The **Mongoloid Shompen Tribe**, about 200 in number, live in the forests of the biosphere reserve particularly along the rivers and streams.
- ❍ Another Mongoloid Tribe, **Nicobarese**, about 300 in number, used to live in settlements along the west coast.
  - ● After the tsunami in 2004, which devastated their settlement on the western coast, they were relocated to Afra Bay in the North Coast and Campbell Bay.

India Abstains to Vote Against Reopening Ivory Trade

Why in News?

Recently, India has decided not to vote against a proposal to re-open the international trade in ivory at the ongoing conference of the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).**

What is the Tussle over Ivory?

➢ The **ivory trade** was globally **banned in 1989 when all African elephant populations were put** in CITES **Appendix I.**

➢ The African elephant of Namibia, Botswana and Zimbabwe were **transferred to Appendix II** in 1997 and South Africa's in 2000.

➢ CITES allowed Namibia, along with Zimbabwe, Botswana and South Africa, to **perform one-time sales of ivory** accumulated from natural elephant deaths and poacher seizures in 1999 and 2008.

➢ Following that, Namibia's proposal to enable a regular form of restricted ivory trade by delisting the elephant populations of the 4 nations from CITES Appendix II was rejected at the CoP17 (2016) and CoP18 (2019).

➢ Zimbabwe moved the **idea at CoP19,** but it was defeated once more.

➢ Namibia and other southern African governments say that their elephant populations have recovered and that their stored ivory can produce much-needed revenue for elephant conservation, if sold worldwide.

➢ Opponents of the trade argue **that every sort of supply increases demand**, and that substantial increases in elephant poaching were observed around the world when the CITES permitted one-time sales in 1999 and 2008.

Note:

What is India's Stance?

➢ India has been **a vocal opponent of the international ivory trade** for over three decades.

➢ It is the first time **India has not voted against a request to reopen** the ivory trade since joining the CITES in 1976.

   ○ At the same CoP19, Namibia voted against India's proposal to allow sustainable commercial use of North Indian rosewood - **Dalbergia sissoo,** which was also defeated.

➢ While the word **"ivory" was not mentioned,** Namibia sought India's backing, for its longstanding proposal to allow trade in ivory.

What are the Indian efforts to Ban Ivory Trade?

➢ The endangered **Asian elephant** was **included in CITES Appendix I in 1975**, which banned the export of ivory from the Asian range countries.

➢ In 1986, **India amended the Wild Life (Protection) Act,1972** to ban even domestic sales of ivory. After the ivory trade was globally banned, India again amended the law to ban the import of African ivory in 1991.

➢ In 1981 when **New Delhi hosted CoP3**, India designed the iconic CITES logo in the form of an elephant. Over the years, India's stand has been unequivocal on the ivory issue.

➢ **1994 CoP9:** At Lauderdale, US, India opposed the down-listing of the elephant population of South Africa from Appendix I to II.

➢ **1997 CoP10:** At Harare, Zimbabwe, India opposed the proposal to down-list the southern African elephant and expresses concerns over the repercussions for the Asian elephant, particularly with regard to poaching.

➢ **2000 CoP11:** At Gigiri, Kenya, India moved a proposal along with the host country to up-list all elephant populations in **Appendix II to I.**

CCUS Policy Framework and its Deployment

Why in News?

Recently, **NITI Aayog** has released a study report, titled '**Carbon Capture, Utilisation, and Storage (CCUS) Policy Framework and its Deployment Mechanism in India'**.

➢ The report explores the importance of Carbon Capture, Utilisation, and Storage as an emission reduction strategy to achieve deep decarbonization from the hard-to-abate sectors.

What are the Key Highlights of the Report?

➢ **About:**

   ○ CCUS can provide **a wide variety of opportunities to convert the captured CO_2 to different value-added products** like green urea, food and beverage form application, building materials, chemicals (methanol and ethanol), polymers (including bio-plastics) and enhanced oil recovery (EOR) with wide market opportunities in India, thus contributing substantially to a circular economy.

   ○ CCUS projects will also lead to a **significant employment generation.** It estimates that about 750 mtpa of carbon capture by 2050 can create employment opportunities of **about 8-10 million on full time equivalent (FTE) basis in a phased manne**r.

➢ **Suggestions:**

   ○ Broad **level policy interventions needed** across various sectors for its application.

   ○ As, India has updated its NDC targets for achieving 50% of its total installed capacity from non-fossil-based energy sources, 45% reduction in emission intensity by 2030 and taking steps towards achieving Net Zero by 2070, the role **of CCUS becomes important as reduction strategy to achieve decarbonization** from the hard-to abate sectors.

   ○ India's dependency on fossil-based Energy Resources is likely to continue in future, hence **CCUS policy in Indian Context is needed.**

What is Carbon Capture, Utilization, and Storage?

➢ CCUS encompasses **methods and technologies to remove CO_2 from the flue gas and from the atmosphere**, followed by recycling the CO_2 for utilization and determining safe and permanent storage options.

➢ CO_2 **captured using CCUS technologies is converted into fuel** (methane and methanol), refrigerants and building materials.

➢ CCUS is considered an important tool to help countries halve their emissions by 2030 and reach net-zero by 2050.

❍ These goals are crucial to meet the **Paris Agreement targets** for restricting global warming to 2 degrees Celsius (°C), and preferable to 1.5°C, over pre-industrial levels.

What are Applications of CCUS?

➢ **Mitigating Climate Change:** Despite the adoption of alternative energy sources and energy efficient systems to reduce the rate of CO_2 emissions, the cumulative amount of CO2 in the atmosphere needs to be reduced to limit the detrimental impacts of climate change.

➢ **Agriculture:** Capturing CO_2 from biogenic sources such as plants and soil to boost crop growth in a greenhouse could work.

➢ **Industrial Use:** Combining CO_2 with steel slag - an industrial byproduct of the steel manufacturing process — to make construction materials compatible with the Paris Agreement goals.

➢ **Enhanced Oil Recovery:** CCU is already making inroads into India. For instance, Oil and Natural Gas Corporation signed a MoU with Indian Oil Corporation Limited (IOCL) for Enhanced Oil Recovery (EOR) by injecting CO_2.
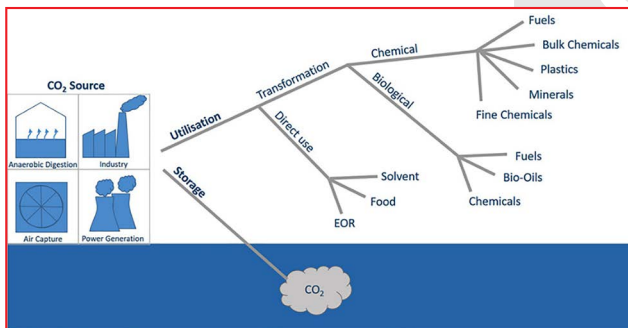
What are the Challenges associated with CCUS?

➢ **Expensive:** Carbon capture involves the development **of sorbents that can effectively bind to the CO_2 present in flue gas or the atmosphere,** which is expensive.

➢ **Lesser Demand for Recycled CO_2:** Converting CO_2 into useful chemicals of commercial importance, or utilizing CO_2 for oil extraction or remediation of alkaline **industrial wastes, would add economic value to this greenhouse gas.**

❍ However, the demand for CO_2 is limited compared to the vast amount of CO_2 that needs to be removed from the atmosphere, to reduce the detrimental environmental impacts of climate change.

Life of Plastic

Why in News?

Recently, the document titled "**The Plastic Life-Cycle**" has stated that **India is not collecting and recycling its polymer waste properly**.

➢ The document highlighted that **unless the entire life cycle of plastic**, from source to disposal, is not together considered as the root cause of the pollution it causes, **the problem is not going away.**

What is Plastic Waste?

➢ **About:**

❍ Unlike **other forms of waste** like paper, food peels, leaves etc., **which are biodegradable** (capable of being decomposed by bacteria or other living organisms) in nature, plastic waste **because of its non-biodegradable nature** persists into the environment, for hundreds (or even thousands) of years.

➢ **Major Polluting Plastic Waste:**

❍ **Microplastics** are small plastic pieces of **less than five millimeters** in size.

● Microplastic includes **microbeads** (solid plastic particles of less than one millimeter in their largest dimension) that are used in **cosmetics and personal care products, industrial scrubbers**, microfibers used in textiles and virgin resin pellets used in plastic manufacturing processes.

● Due to sun exposure and physical wear, large pieces of plastic that were not recycled break up to produce microplastics.

❍ **Single-use plastic** is a disposable material that can be **used only once before it is either thrown away or recycled**, like plastic bags, water bottles, soda bottles, straws, plastic plates, cups, most food packaging and coffee stirrers are sources of single use plastic.

➢ **Issues Associated:**

❍ **More Plastic Per Person:**

● A little over 10,000 tonnes a day of plastic waste remains uncollected.

❍ **Unsustainable Packaging:**

● India's **packaging industry** is the biggest consumer of plastics.

Note:

- A 2020 study on packaging in India projects a loss of almost 133 billion dollars worth of plastic material value over the next decade due to unsustainable packaging.
- Unsustainable packaging involves **general packaging through single use plastic.**
  - ○ **Online Delivery:**
    - The popularity of **online retail and food delivery apps**, though restricted to big cities, is **contributing to the rise in plastic waste.**
    - India's biggest online delivery startups Swiggy and Zomato are each reportedly delivering about 28 million orders a month.
  - ○ **Upsets the Food Chain:**
    - Polluting plastics can affect the **world's tiniest organisms**, such as **plankton**.
    - When these organisms become poisoned due to plastic ingestion, this causes problems for the larger animals that depend on them for food.

What are the Challenges Faced by India in Plastic Waste Management?

- ➢ **Management of plastic waste** involves **two distinct steps:**
  - ○ Collection and recycling
  - ○ End-of-life disposal.
  - ○ **Both are not executed properly in India.**
- ➢ **Improper Implementation and Monitoring:**
  - ○ The collection of plastic waste is the **responsibility of local government bodies**, producers, importers and brand owners.
    - However, plastic waste in India is collected mostly by ragpickers, rather than the authorities.
  - ○ As high as 42% - 86% of the plastic waste in India flows through the informal sector to material recovery facilities operated by multinational corporations in partnership with local governments or otherwise.
  - ○ The Indian government claims that the country is recycling 60% of its plastic waste. However, this is limited to specific types of polymers (plastics) like PET bottles.
  - ○ As per a statistical analysis done by Centre for Science and Environment using Central Pollution Control Board (CPCB) 's data, **India is merely recycling (through mechanical recycling) 12% of its plastic waste.**

- ➢ **Burning of Waste:**
  - ○ Close to 20% of plastic waste is channelised for end-of-life solutions like co-incineration, plastic-to-fuel and road making, which means India is burning 20% of plastic waste.

What is India Doing for Plastic Waste Management?

- ➢ **National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management:**
  - ○ India launched a nationwide awareness campaign on **Single Use Plastics on World Environment Day in June 2022**.
  - ○ A mobile app for **Single Use Plastics Grievance Redressal** was also launched to empower citizens to check sale/usage/manufacturing of SUP in their area and tackle the plastic menace.
- ➢ **Plastic Waste Management Amendment Rules, 2022:**
  - ○ It prohibits the manufacture, import, stocking, distribution, sale and use of several **single-use plastic items as of July 1, 2022.**
  - ○ It has also mandated **Extended Producer Responsibility (EPR)** that incorporates circularity by making manufacturers of products responsible for collecting and processing their products upon the end of the products' lifetime.
- ➢ **India Plastics Pact:**
  - ○ It is the first of its kind in Asia. The Plastics Pact is an **ambitious and collaborative initiative to bring stakeholders together** to reduce, reuse and recycle plastics within the material's value chain.
- ➢ **Mascot 'Prakriti':**
  - ○ To spread awareness among masses about small changes that can be sustainably adopted in lifestyle for a better environment.
- ➢ **Project REPLAN:**
  - ○ **Project REPLAN (stands for REducing PLastic in Nature)** launched by **Khadi and Village Industries Commission (KVIC)** aims to reduce consumption of plastic bags by providing a more sustainable alternative.

What should be Our Approach Moving Forward?

- ➢ **Identifying Hotspots:**
  - ○ Identifying **key hotspots of Plastic leakage** associated with production, consumption, and

Note:

disposal of Plastic can assist governments in developing effective policies that address the plastic problem directly.

➤ **Designing Alternatives:**
- ❍ Identifying **plastic items that can be replaced with non-plastic, recyclable, or biodegradable materials** is the first step.
- ❍ Promoting the use of **Oxo-biodegradable plastics**, that are manufactured to be broken down by ultra-violet radiation and heat, more quickly than regular plastics.

➤ **Recycling through Technologies and Innovation:**
- ❍ Waste is valuable and Waste is a resource, especially plastic. Recycling, especially plastic recycling, sets a system in place which creates a value chain for waste.

➤ **Circular Economy for Plastic Management:**
- ❍ **Circular economy** can reduce material use, redesigns materials to be less resource intensive, and recaptures "waste" as a resource to manufacture new materials and products.
- ❍ Circular economy can also contribute significantly to the achievement of sustainable development goals.

Himalayan Yak

Why in News?

The **Food Safety and Standard Authority of India (FSSAI)** has approved the **Himalayan Yak as a 'food animal'.**

➤ The move is expected to **help check decline in the population of the high-altitude bovine animal** by making it a part of the conventional milk and meat industry.

➤ Food Animals are those that are raised and used for food production or consumption by humans.

What are the Key Facts of Himalayan Yak?

➤ **About:**
- ❍ The Yak belongs to the **Bovini tribe, which also includes bison, buffaloes, and cattle.** It can tolerate temperatures as low as-40 degrees Celsius.
  - ● Adapted for living at high altitudes, they have long hair that hangs off their sides like a curtain, sometimes touching the ground.

- ❍ Yaks are highly valued by Himalayan peoples. According to Tibetan legend, the first yaks were domesticated by Tibetan **Buddhism** founder Guru Rinpoche.
  - ● They are also known as the lifeline of pastoral nomads in high altitudes of the Indian **Himalayan region.**
- ❍ Yaks are **traditionally reared under a transhumance system** which is primitive, unorganised and full of hardship.

➤ **Habitat:**
- ❍ They are endemic to the **Tibetan Plateau and the adjacent high-altitude regions.**
  - ● Yaks are most comfortable above 14,000 feet. They climb to an elevation of 20,000 feet when foraging and usually don't descend any lower than 12,000 feet.
- ❍ The yak-rearing states of India are **Arunachal Pradesh, Sikkim, Uttarakhand, Himachal Pradesh and Jammu & Kashmir.**

➤ **Population in India:**
- ❍ The countrywide population trend shows that the yak population has been decreasing at an alarming rate. According to a census in 2019, India has some 58,000 yaks – a drop of about 25% from the last livestock census conducted in 2012.
  - ● This drastic decline **could be attributed to less remuneration from the bovid**, discouraging the younger generations from continuing with nomadic yak rearing.
  - ● It is **mainly because yak milk and meat are not a part of the conventional dairy and meat industry**, their sale is limited to local consumers.

➤ **Significance:**
- ❍ The yak plays a **multidimensional socio-cultural-economic role for the pastoral nomads** who rear it mainly for earning their nutritional and livelihood security due to the lack of other agricultural activity in the higher reaches of the Himalayan region where it is difficult for animals except the yak to survive.

➤ **Threats:**
- ❍ **Climate Change:**
  - ● The increasing trend of environmental temperature at high altitudes is resulting in heat stress in yak during warmer months of the year. This, in turn, is affecting the rhythms of physiological responses of the animal.

Note:

- ○ **Inbreeding:**
  - As wars and conflicts have led to the closing of borders, the yaks outside borders are thought to be suffering from inbreeding due to the lack of availability of new yak germplasm from the original yak area.
- ➢ **Protection Status of Wild Yak (Bos mutus):**
  - ○ **IUCN Red list status:** Vulnerable
    - IUCN considers the wild species of yak under Bos mutus, while the domestic form is considered under Bos grunniens.
  - ○ **CITES:** Appendix I
  - ○ **Indian WildLife (Protection) Act of 1972:** Schedule I

Black Corals

Why in News?

Recently, some researchers have discovered **five new species of Black Corals** living as deep as 2,500 feet (762 metres) below the surface in the **Great Barrier Reef** and Coral Sea off the coast of Australia.

What are Black Corals?

- ➢ Black corals **(Anthozoa: Antipatharia)** can be found growing **both in shallow waters and down to depths of over 26,000 feet (8,000 metres), and some individual corals can live for over 4,000 years**.
- ➢ However, the taxonomy of **black corals is poorly known** compared to many other anthozoan groups
- ➢ Many of these corals are branched and look like feathers, fans or bushes, while others are straight like a whip.
- ➢ Unlike their colourful, shallow-water cousins that rely on the sun and photosynthesis for energy, black corals are filter feeders and eat tiny **zooplankton that are abundant in deep waters.**
- ➢ Similarly, to shallow-water corals that build colourful reefs full of fish, black corals act as important habitats where fish and invertebrates feed and hide from predators in what is otherwise a mostly barren sea floor. For example, **a single black coral colony** researchers collected in 2005 **off the coast of California**, United States, was **home to 2,554 individual invertebrates.**

What are Coral Reefs?

- ➢ **About:**
  - ○ **Corals** are marine invertebrates or animals which do not possess a spine. In scientific classification, **corals fall under the phylum Cnidaria and the class Anthozoa.**
  - ○ Coral is made up of **genetically identical organisms called polyps**. These polyps have **microscopic algae called zooxanthellae** living within their tissues.
    - The corals and algae have a **mutualistic relationship.**
    - The coral provides the zooxanthellae with the compounds **necessary for photosynthesis.**
    - In return, the zooxanthellae supply the coral with organic products of photosynthesis, like carbohydrates, which are utilized by the coral polyps for **synthesis of their calcium carbonate skeletons.**
    - In addition to providing corals with essential nutrients, zooxanthellae are **responsible for the unique and beautiful colors of corals.**
  - ○ They are also called the **"rainforests of the seas".**
  - ○ Further, they **are of two types**:
    - **Hard corals:**
- ➢ They extract calcium carbonate from seawater to build hard, white coral exoskeletons.
- ➢ Hard corals produce a **rigid skeleton made of calcium carbonate ($CaCO_3$) in a crystal form** called aragonite.
- ➢ They are the **primary reef-building corals**. Hard corals that form reefs are **called hermatypic corals.**
  - ○ **Soft Corals**:
- ➢ Soft coral does **not produce a rigid calcium carbonate skeleton** and do not form reefs, though they are present in a reef ecosystem.
- ➢ Soft corals are **also mostly colonial**; what appears to be a single large organism is actually a colony of individual polyps combined to form a larger structure. Visually, soft coral colonies tend to resemble trees, bushes, fans, whips, and grasses.
- ➢ **Significance:**
  - ○ They support over 25% of marine biodiversity even though they take up only 1% of the seafloor.
  - ○ The marine life supported by reefs further fuels global fishing industries.
    - Besides, coral reef systems generate USD 2.7 trillion in annual economic value through goods and service trade and tourism.

Note:

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History

Pandit Jawaharlal Nehru

PT. JAWAHARLAL NEHRU
FIRST PRIME MINISTER OF INDIA

Famous Speech
Tryst with Destiny

Pre-Independence Contribution
- General Secy of All India Congress Committee (AICC) 1923
- In 1929-31, drafted 'Fundamental Rights and Economic Policy' resolution
- Led protests against Simon Commission in 1928
- Presided over of INC Lahore Session (1929) & Lucknow session (1936)
- Second Satyagrahi (1940) of Individual Satyagraha (first - Vinoba Bhave)
- Moved the 'Quit India' movement resolution at the AICC session Bombay (1942)
- Elected as President of INC for seven times (till 1954)

(14th November 1889 -27th May, 1964)

Post-Independence Contribution
- Introduced - Objectives Resolution (guiding principles for drafting the Constitution
- Promoted industrialization by carrying out the first five-year plans
- Non-Alignment Movement (NAM) - his greatest geopolitical accomplishment
- Promoted democratic socialism
- Established parliamentary supremacy over the military (prevented India from becoming another junta-ruled Third World autocracy)
- Laid Foundation of:
  - Scientific base for India's space triumphs
  - Dual-track nuclear programme

Books Written
- The Discovery of India
- Glimpses of World History
- An Autobiography
- Letters from a Father to His Daughter

Janjatiya Gaurav Divas

Why in News?

Recently, the **President of India** on the occasion of the **Janjatiya Gaurav Divas** (15th November 2022) paid tribute to the **freedom fighter Bhagwan Birsa Munda on his birth anniversary.**

Why do we Celebrate Janjatiya Gaurav Divas?

➢ The Janjatiya Gaurav Divas is **celebrated every year to recognize the efforts of the tribals in the preservation of cultural heritage** and promotion of Indian values of national pride, valour, and hospitality.

➢ **Tribals held several tribal movements** across different regions of India against the British colonial rule. These tribal communities include Tamars, Santhals, **Khasis, Bhils, Mizos**, and Kols to name a few.

Who were the Tribal Freedom Fighters?

➢ **Birsa Munda:**
  ○ Birsa Munda born on 15th November 1875 was a **member of the Munda Tribe of the Chhota Nagpur Plateau**.
  ○ He was an **Indian freedom fighter, religious leader**, and folk hero.
  ○ He **spearheaded an Indian tribal religious Millenarian movement during British rule in the**

Note:

late 19th century across the tribal belt of modern-day Jharkhand and Bihar.

- Birsa was a **close observer of the Sardari Larai movement** in the region in the 1880s, which sought to restore tribal rights through nonviolent means such as petitioning the British government. These demands, however, were ignored by the harsh colonial authority.

○ The tribals were **quickly demoted from landowners to labourers** under the zamindari system, which resulted in Birsa taking up the cause of the Adivasis.

○ **Birsa Munda went on to form Birsait**, a new religion.

- The **religion preached the belief in a single God** and urged people to return to their old religious convictions. People began to refer to him as a cost-effective religious healer, a miracle worker, and a preacher.

○ People from Oraon and Munda became convinced Birsaites, and many began calling him **'Dharti Abba, meaning Father of the Earth.'** He brought a fresh perspective to the religious realm.

○ Birsa Munda **led the rebellion that came to be known as Ulgulan (revolt) or the Munda rebellion** against the British government-imposed feudal state system.

○ He awakened the masses and sowed the seeds of revolt in them against the landlords as well as the Britishers.

○ His **struggle against the exploitation and discrimination against tribals led to the passing of the Chotanagpur Tenancy Act in 1908** which restricted the passing of land from the tribal people to non-tribals.
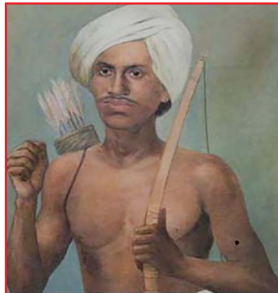
➢ **Shaheed Veer Narayan Singh:**

○ He is **considered the Pride of Sonakhan in Chhattisgarh**, he looted trader's grain stock and distributed them amongst the poor after the 1856 famine.

○ The sacrifice of Veer Narayan Singh made him a tribal leader and he became the first martyr from Chhattisgarh in the independence struggle of 1857.

➢ **Shri Alluri Seetha Ram Raju:**

○ He was born on **4th July, 1897** in a village called Mogallu near Bhimavaram in Andhra Pradesh.

○ Alluri is **best remembered for leading the Rampa Rebellion** against the British in which he organised the tribal people of Visakhapatnam and East Godavari districts to revolt against the foreigners.

○ He was **inspired by the revolutionaries of Bengal** to fight against the British government.

➢ **Rani Gaidinliu:**

○ She was a Naga spiritual and political leader who led a revolt against British rule in India. At the age of 13, she joined the Heraka religious movement of her cousin Haipou Jadonang.

○ For her, the Naga people's journey to freedom was part of India's wider movement for freedom. She also spread the message of Gandhi ji in Manipur region.

➢ **Sidhu and Kanhu Murmu:**

○ On 30th June 1855, two years before the Great Revolt of 1857, two Santhal brothers Sidhu and Kanhu Murmu organised 10,000 Santhals and proclaimed a rebellion against the British.

○ The tribals took an oath to drive away from the British from their homeland. The Murmu brothers' sisters Phulo and Jhano also played an active part in the rebellion.

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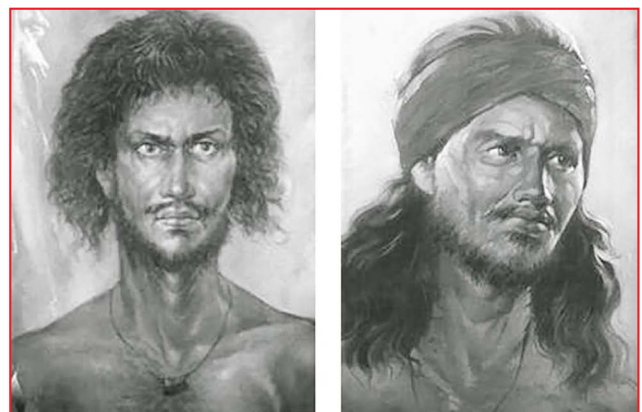
Rani Lakshmibai

Why in News?

Recently, the Prime Minister of India visited Jhansi on the eve of **Rani Lakshmibai's birth anniversary.**

Who was Rani Lakshmibai?

➤ **About:**
- ❍ Rani Lakshmibai is also known as **Jhansi Ki Rani.**
- ❍ She was the **queen of the Maratha-ruled princely state of Jhansi.**
- ❍ She was one of the **leading figures of the Indian Revolt of 1857.**
- ❍ She's seen as a **symbol of resistance to British rule in India.**

➤ **Early Life:**
- ❍ She was born on **19th November 1828 in Varanasi, Uttar Pradesh.**
- ❍ She was originally named **Manikarnika.**
- ❍ While pursuing studies, she also took formal **training in martial arts,** which included **horse riding, shooting and fencing.**
- ❍ **Manu's companions** included **Nana Sahib** (the adopted son of the Peshwa) and **Tatya Tope.**

➤ **Manu as Jhansi Ki Rani:**
- ❍ At the age of 14, Manu **got married to the Maharaja of Jhansi, Gangadhar Rao Newalkar,** whose first wife had passed away before having a child and who was trying to have an heir to succeed him at the throne.
  - ● Hence, **Manikarnika became Laxmibai, Rani of Jhansi.**

- ❍ Rani Lakshmibai gave **birth to a son in who died** after just three months of birth. The couple later **adopted a son, Damodar Rao,** from Gangadhar Rao's extended family.

➤ **Role in Struggle for Independence:**
- ❍ Rani Lakshmibai was **one of the brave warriors of India's struggle for Independence**.
- ❍ In 1853, when the Maharaja of Jhansi died, **Lord Dalhousie refused to acknowledge the (adopted) child** and applied the **Doctrine of Lapse, and annexed the state.**
- ❍ Rani Lakshmibai **fought bravely against the British** so as to save her empire from annexation.
- ❍ She **died fighting on the battlefield on 17th June 1858.**
- ❍ When the **Indian National Army** started its first **female unit (in 1943),** it was **named after the valiant queen of Jhansi.**

What was the Doctrine of Lapse?

➤ It was an **annexation policy** followed widely by **Lord Dalhousie** when he was **India's Governor-General** from **1848 to 1856.**

➤ According to this, any princely state that was under the direct or indirect control of the East India Company where the ruler did not have a **legal male heir** would be annexed by the company.
- ❍ As per this, **any adopted son of the Indian ruler could not be proclaimed** as heir to the kingdom.

➤ By applying the doctrine of lapse, Dalhousie annexed the States of:
- ❍ Satara (1848 A.D.),
- ❍ Jaitpur, and Sambalpur (1849 A.D.),
- ❍ Baghat (1850 A.D.),
- ❍ Udaipur (1852 A.D.),
- ❍ **Jhansi (1853 A.D.),** and
- ❍ Nagpur (1854 A.D.)

General Lachit Borphukan of Ahom Kingdom

Why in News?

The 400th birth anniversary of Assam's legendary war hero Lachit Borphukan will be celebrated in the New Delhi from 23rd to 25th November, 2022

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Who was Lachit Borphukan?

➢ Born on 24th November, 1622, **Borphukan was known for his leadership in the Battle of Saraighat,** 1671 in which an attempt by Mughal forces to capture Assam was thwarted.
  ○ The battle of Saraighat was fought on the banks of the Brahmaputra in Guwahati in 1671.
  ○ It is considered as one of the greatest naval battles on a river which resulted in the victory of Ahoms over the Mughals.

➢ He was the **inspiration behind strengthening India's naval force** and revitalising inland water transport and creating infrastructure associated with it due to his great naval strategies.

➢ The **Lachit Borphukan gold medal is awarded to the best cadet from the National Defence Academy.**
  ○ The medal was instituted in 1999 to inspire defence personnel to emulate Borphukan's heroism and sacrifices.

➢ He died on 25th April, 1672.

What do we Know about Ahom Kingdom?

➢ **About:**
  ○ Established in 1228 in the Brahmaputra valley of Assam, the Ahom kingdom retained its sovereignty for 600 years.
  ○ **The kingdom was founded by Chaolung Sukapha,** a 13th century ruler.
  ○ The Ahoms ruled the land till the province was annexed to British India in 1826 with **the signing of the Treaty of Yandaboo**.
  ○ Renowned for their bravery, the Ahoms didn't even fall to the might of the powerful Mughal Empire.

➢ **Political Setup:**
  ○ Ahoms created a new state by suppressing the older political system of the bhuiyans (landlords).
  ○ The Ahom state depended upon forced labour. Those forced to work for the state were called **paiks**.

➢ **Society:**
  ○ Ahom society was divided into clans or khels. A khel often controlled several villages.
  ○ Ahoms worshipped their own tribal gods, yet they accepted the Hindu religion and the Assamese language.

● However, the Ahom kings did not completely give up their traditional beliefs after adopting Hinduism.
○ Intermarriage with local also increased assimilation processes of Ahoms in Assamese culture.

➢ **Art and Culture:**
○ Poets and scholars were given land grants and theatre was encouraged.
○ Important works of Sanskrit were translated into the local language.
○ Historical works, known as buranjis, were also written, first in the Ahom language and then in Assamese.

➢ **Military Strategy:**
○ The Ahom king was the supreme commander of the state as well as the Military.
○ The **Ahom king himself led the state forces** in the time of wars. The Paiks were the main army of the state.
  ● There were two types of Paiks i.e., serving and nonserving. The non-serving Paiks constituted a standing militia which could be mobilized at a short notice by the kheldar (an expert military organizer).
○ The **full contingent of the Ahom Army consisted of infantry, navy, artillery, elephantry, cavalry and spies.** The main war weapons consisted of bows and arrows, swords, Javelins discus, guns, match-locks and cannons.
○ The **Ahoms sent spies to the enemy's camp to study the strength** and the war strategies of the enemies before leading an expedition.
○ The **Ahom soldiers were experts in guerilla fighting.** Sometimes they allowed the enemies to enter the country, then cut off their communications and attack them in front and rear
○ **Few important forts:** Chamdhara, Saraighat, Simlagarh, Kaliabar, Kajali and Pandu.
○ They also **learnt the technique of constructing boat bridges in the Brahmaputra.**
○ Above all, the **mutual understanding among the civil and military wings**, and unity among the nobles always worked as strong weapons of the Ahoms.

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Shaheedi Divas

Why in News?

Every Year, **24th November,** is commemorated as th**e Shaheedi Divas of Guru Tegh Bahadur**, the ninth guru of the Sikhs, who stood up against **forcible conversions by the Mughals**.

Who was Guru Teg Bahadur?

➢ Guru Tegh Bahadur was born in **Amritsar on 21st April 1621 to Mata Nanki and Guru Hargobind,** the sixth Sikh guru, who raised an army against the Mughals and introduced the concept of warrior saints.

➢ As a boy, Tegh Bahadur was **called Tyag Mal because of his ascetic nature.**

➢ Guru Tegh Bahadur was the **9th Sikh Guru,** often venerated as the 'Protector of Humanity' (Srisht-di-Chadar) by the Sikhs.

➢ He is known as a **great teacher,** Guru Tegh Bahadur was also **an excellent warrior**, **thinker, and poet,** who wrote detailed descriptions of the nature of God, mind, body, and physical attachments among other things spiritual.

➢ He was only 13 when he distinguished himself in a battle against a Mughal chieftain.

➢ His writings are housed in the **sacred text, 'Guru Granth Sahib,'** in the form of 116 poetic hymns.

➢ He was also an avid **traveler and played a key role in setting up preaching centers throughout the Indian subcontinent.**

➢ During one such mission, he founded the town of **Chak-Nanki in Punjab**, which later became a part of Punjab's Anandpur Sahib.

➢ **In the year 1675**, Guru Tegh Bahadur was executed in Delhi under the orders of the Mughal Emperor Aurangzeb.

Who were the Ten Gurus of Sikh Religion?

Ten Gurus of Sikh Religion	
Guru Nanak Dev (1469-1539)	➢ He was the first guru of Sikh and the founder of Sikh religion. ➢ He started the GURU KA LANGAR. ➢ He was the contemporary of Babur. ➢ Kartarpur corridor was commemorated on the 550th birth anniversary of Guru Nanak Dev.
Guru Angad (1504-1552)	➢ He invented the new script called Guru-Mukhi and popularized and expanded the system of Guru ka Langar.
Guru Amar Das (1479-1574)	➢ He introduced the ceremony of the Anand Karaj Marriage. ➢ He abolished the custom of Sati and Purdah system among the Sikhs. ➢ He was a contemporary of Akbar.
Guru Ram Das (1534-1581)	➢ He founded Amritsar in 1577 on the land granted by Akbar. ➢ He started the construction of Golden Temple/Swarna mandir at Amritsar.
Guru Arjun Dev (1563-1606)	➢ He composed the Adi Granth in 1604. ➢ He led to the completion of construction of the Golden temple. ➢ He was acclaimed as Shaheeden-de-Sartaj. ➢ He was executed by Jahangir on charges of helping prince Khusrau.
Guru Hargobind (1594-1644)	➢ He led to the transformation of the Sikh Community into a Military community. He is known as "Soldier Saint". ➢ He led to the establishment of Akal Takht and fortified the Amritsar City. ➢ He waged wars against Jahangir and Shah Jahan.
Guru HarRai (1630-1661)	➢ He was a man of peace thus devoted most of his life in maintaining peace with Aurangzeb and doing missionary work.
Guru Har Krishan (1656-1664)	➢ He was the youngest guru of all and was given the title of Guru at a very early age of 5. ➢ He was summoned by Aurangzeb against anti-islamic blasphemy.
Guru Teg Bahadur (1621-1675)	➢ He founded Anandpur Sahib.
Guru Gobind Singh (1666-1708)	➢ He founded a warrior community known as Khalsa in 1699. ➢ He introduced a new rite "Pahul". ➢ He joined Bahadur Shah's as a noble. ➢ He was the last Sikh Guru in human form and he passed the Guruship of Sikhs to the Guru Granth Sahib.

Note:

Geography

Highlights

- El Nino Southern Oscillation
- El Nino and La Nina
- Rare Earth Metals
- Trends in Demography
- Fujiwhara Effect

El Nino and La Nina

El Niño and La Niña

El Niño

- **Warming** of the ocean surface/ Above average **sea surface temp.** (SST)
- **Easterly winds either weaken** or start blowing in the **opposite direction**
- First noticed by **Peruvian fishermen in the 1600s**
- **More frequent than La Niña**

Impacts

- **Drastically higher rainfall in S. America** (coastal flooding and erosion)
- **Droughts in Indonesia and Australia**; wildfires
- **Weaker monsoons** and even **droughts** in **India and SE Asia**
- **Reduces the upwelling** of cooler, nutrient-rich waters from the deep - along the west coast of South and Central America.

La Niña

- Also called **El Viejo, anti-El Niño, or simply "a cold event"**
- **Normal easterly winds** along the equator **become even stronger**
- **May last 1-3 years,** unlike El Nino (which usually lasts no more than a year)

Impacts

- **Heavier rains in SE Africa**, catastrophic **floods in Australia**
- **Drier-than-normal conditions** in S. America
- **Summer Monsoon rainfall** - greater than normal rainfall in **India**; beneficial for agriculture dependent Indian economy
- Off the west coast of the Americas, **upwelling increases**, bringing cold, nutrient-rich water to the surface.

Fig. 1 - Depiction of El Niño Phenomenon
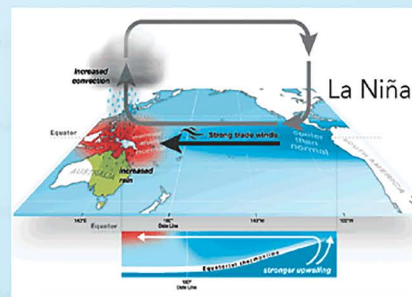
Fig. 2 - Depiction of La Niña Phenomenon

Oceanic Nino Index (ONI)

- It is a measure of the departure from normal sea surface temperature in the east-central Pacific Ocean.
- It is the **standard means by which each El Nino episode is determined,** gauged, and forecast.

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Note:

El Nino Southern Oscillation

Rare Earth Metals

Why in News?

Amid India's reliance on China for rare earth minerals imports, the **Confederation of Indian Industry (CII) has urged the government to encourage private mining in the sector and diversify supply sources.**

➢ Though India has **6% of the world's rare earth reserves**, it only produces 1% of global output, and meets most of its requirements of such minerals from China.

➢ In 2018-19, **for instance, 92% of rare earth metal imports by value and 97% by quantity were sourced from China.**

What are the Suggestions of CII?

➢ CII suggested that an **'India Rare Earths Mission'** be set up manned by professionals, similar to the **India Semiconductor Mission,** as a critical component of the **Deep Ocean Mission.**

➢ The industry group has also mooted **making rare earth minerals a part of the 'Make In India' campaign**, citing China's 'Made in China 2025' initiative that focuses on new materials, including permanent magnets that are made using rare earth minerals.

What are Rare Earth Metals?

➢ They are a **set of seventeen metallic elements.** These include the fifteen lanthanides on the **periodic table** in addition to scandium and yttrium that show similar physical and chemical properties to the lanthanides.

○ The 17 Rare Earths are cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), promethium (Pm), samarium (Sm), scandium (Sc), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).

➢ These minerals have **unique magnetic, luminescent, and electrochemical properties** and thus are used in many modern technologies, including consumer electronics, computers and networks, communications, health care, national defense, clean energy technologies etc.

➢ Even futuristic technologies need these REEs.

○ For example, high-temperature superconductivity, safe storage and transport of hydrogen for a post-hydrocarbon economy etc.

➢ They are called **'rare earth' because earlier it was difficult to extract them from their oxides forms technologically.**

➢ They occur in **many minerals** but typically in low concentrations to be refined in an economical manner.

How China Monopolised Rare Earths?

➢ China has over time acquired global domination of rare earths, even at one point, it produced 90% of the rare earths the world needs.

➢ Today, however, it has come down to 60% and the remaining is produced by other countries, including the **Quad (Australia, India, Japan and United States).**

➢ Since 2010, when China curbed shipments of Rare Earths to Japan, the US, and Europe, production units have come up in Australia, and the US along with smaller units in Asia, Africa, and Latin America.

➢ Even so, the dominant share of processed Rare Earths lies with China.

Note:

What is India's Current Policy on Rare Earths?

➤ Exploration in India has been **conducted by the Bureau of Mines and the Department of Atomic Energy.** Mining and processing has been performed by **some minor private players in the past, but is today concentrated in the hands of IREL (India) Limited** (formerly Indian Rare Earths Limited), a Public Sector Undertaking under the Department of Atomic Energy.

➤ India has **granted government corporations such as IREL a monopoly** over the primary mineral that contains REEs: monazite beach sand, found in many coastal states.

➤ IREL produces rare earth oxides (low-cost, low-reward "upstream processes"), selling these to foreign firms that extract the metals and manufacture end products (high-cost, high-reward "downstream processes") elsewhere.

➤ IREL's focus is to provide thorium — extracted from monazite — to the Department of Atomic Energy.

What are the Related Steps taken?

➤ **Globally:**

○ The **Multilateral Minerals Security Partnership (MSP)** was announced in June 2022, with the goal of bringing together countries to build robust critical minerals supply chains needed for climate objectives.

○ Involved in this partnership are the United States (US), Canada, Australia, Republic of Korea, Japan, and various European countries.

● India is not included in the partnership.

➤ **By India:**

○ Ministry of Mines has amended Mines and Minerals (Development and Regulation) (MMDR) Act, 1957 through the **Mines and Minerals (Development and Regulation) Amendment Act, 2021** for giving boost to mineral production, improving ease of doing business in the country and increasing contribution of mineral production to Gross Domestic Product (GDP).

○ The amendment act provides that no mine will be reserved for particular end-use.

Trends in Demography

Why in News?

According to the projection by the **United Nations**, in 2022, **China will for the first time register an absolute decline in its population** and in 2023, India's population to reach 1,428.63 million, will surpass China's 1,425.67 million.

What are the Drivers of Population Change?

➤ **Total Fertility Rate (TFR):**

○ TFR has **fallen for India in the last three decades.**

● Between 1992-93 and 2019-21, **it came down from 3.4 to 2;** the fall was especially significant in the rural areas.

● In 1992-93, the average rural Indian woman produced one extra child compared to her urban counterpart (3.7 versus 2.7). By 2019-21, that gap had halved (2.1 versus 1.6).

● A TFR of 2.1 is considered as "replacement-level fertility".

● The TFR is the average number of births by women aged 15-49 based on surveys for a particular period/year.

➤ **Fall in Mortality:**

○ **Crude Death Rate (CDR) fell to single digits for China first in 1974 (to 9.5) and for India in 1994 (9.8)**, and further to 7.3-7.4 for both in 2020.

● The CDR was 23.2 for China and 22.2 for India in 1950.

● CDR is the **number of persons dying per year per 1,000 population**.

○ Mortality falls with increased education levels, public health and vaccination programmes, access to food and medical care, and provision of safe drinking water and sanitation facilities.

➤ **Life Expectancy at Birth:**

○ Between 1950 and 2020, **life expectancy at birth went up from 43.7 to 78.1 years for China and from 41.7 to 70.1 years for India.**

● Reduction in mortality normally leads to a rising population. A drop in fertility, on the other hand, slows down population growth, ultimately resulting in absolute declines.

Note:

CHART-1
TOTAL FERTILITY RATE

All-India ■ Rural ■ Urban

	1992-93	1998-99	2005-06	2015-16	2019-21
Urban	2.7	2.3	2.1	1.8	1.6
Rural	3.7	3.1	3	2.4	2.1
All-India	3.4	2.9	2.7	2.2	2

Source: National Family Health Surveys
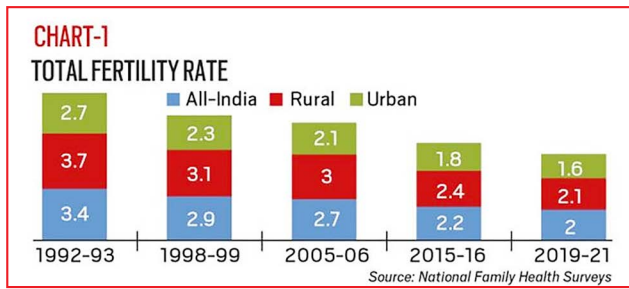
What are the Implications of the Trends for China?

➢ China's **TFR was 1.3 births per woman, marginally up from the 1.2 in the 2010 and 2000 censuses**, but way below the replacement rate of 2.1.

➢ From 2016, **China officially ended its one-child policy** which was introduced in 1980.

➢ The UN, nevertheless, projects its total population at 1.31 billion in 2050, a 113 million-plus drop from the 2021 peak.

➢ The decline in China's population of prime working age is concerning as it **creates a vicious cycle wherein the number of working people to support dependent decreases but the number of dependents starts increasing.**

➢ The proportion of the **population aged between 20 and 59 years crossed 50% in 1987** and peaked at 61.5% in 2011.

➢ As the cycle reverses, China's working-age population will fall below 50% by 2045.

➢ Moreover, the average (median) age of the population, which was 28.9 years in 2000 and 37.4 years in 2020, is expected to soar to 50.7 years by 2050.

CHART-2
PERCENT SHARE OF POPULATION AGED 20-59

■ China ■ India

47.5984
46.5938
54.7161
45.98794

Source: Derived from UN Population Data Portal
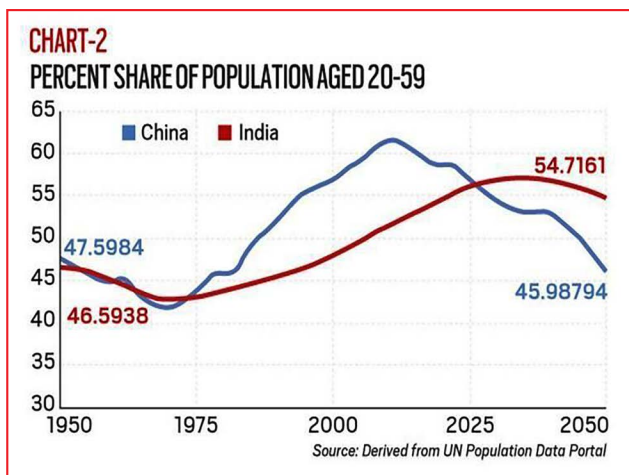
What are the Steps taken by India to Control Population?

➢ India **became one of the first developing countries** to come up with a state-sponsored family planning programme in the 1950s.

 ○ A population policy committee was established in 1952.

 ○ In 1956, a Central Family Planning Board was set up and its focus was on sterilisation.

 ○ In 1976, GOI announced the **first National Population Policy.**

➢ **National Population Policy, 2000** envisaged achieving a stable population for India.

 ○ The Policy aims to achieve stable population by 2045.

 ○ One of its immediate objectives is to address the unmet needs for contraception, health care infrastructure, and personnel and provide integrated service delivery for basic reproductive and child health care.

➢ **National Family Health Survey (NFHS)** is a large-scale, multi-round survey conducted in a representative sample of households throughout India.

 ○ NFHS has had two specific goals:

 ● To provide essential data on health and family welfare needed for policy and programme purposes.

 ● To provide information on important emerging health and family welfare issues.

➢ Realising the potential of education in tackling the problems of growing rate of population, the Ministry of Education launched a **Population Education Programme** with effect from 1980.

 ○ The Population Education programme is a central sector scheme designed to introduce Population Education in the formal education system.

 ○ It has been developed in collaboration with the **United Nations Funds for Population Activities (UNFPA)** and with the active involvement of the Ministry of Health and Family Welfare.

Fujiwhara Effect

Why in News?

With typhoon Hinnamnor and another tropical storm called Gardo, meteorologists observed a phenomenon called the Fujiwhara Effect.

Note:

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➢ Typhoon Hinnamnor, known in the Philippines as Super Typhoon Henry, was a very large and powerful **tropical cyclone** in Pacific Ocean that impacted Japan and South Korea.

What is the Fujiwhara Effect?

➢ **About:**
  ○ The Fujiwhara Effect is any **interaction between tropical storms formed around the same time** in the same ocean region with their centres or eyes at a distance of less than 1,400 km, with intensity that could vary between a depression (wind speed under 63 km per hour) and a super typhoon (wind speed over 209 km per hour).
  ○ The **interaction could lead to changes in the track** and intensity of either or both storm systems.
  ○ In rare cases, the **two systems could merge**, especially when they are of similar size and intensity, to form a bigger storm.

➢ **Different ways in which Fujiwhara Effect can take place:**
  ○ **Elastic Interaction:**
    ● In this interaction, **only the direction of motion of the storms changes** and is the most common case. These are also the cases that are difficult to assess and need closer examination.
  ○ **Partial straining out:**
    ● In this interaction, a part of the smaller storm is lost to the atmosphere.
  ○ **Complete Straining Out:**
    ● In this interaction, the smaller storm is completely lost to the atmosphere and the straining out does not happen for storms of equal strength.
  ○ **Partial Merger:**

    ● In this interaction, the **smaller storm merges into the bigger one.**
  ○ **Complete Merger:**
    ● In this interaction, **complete merger takes place between two storms of similar strength.**
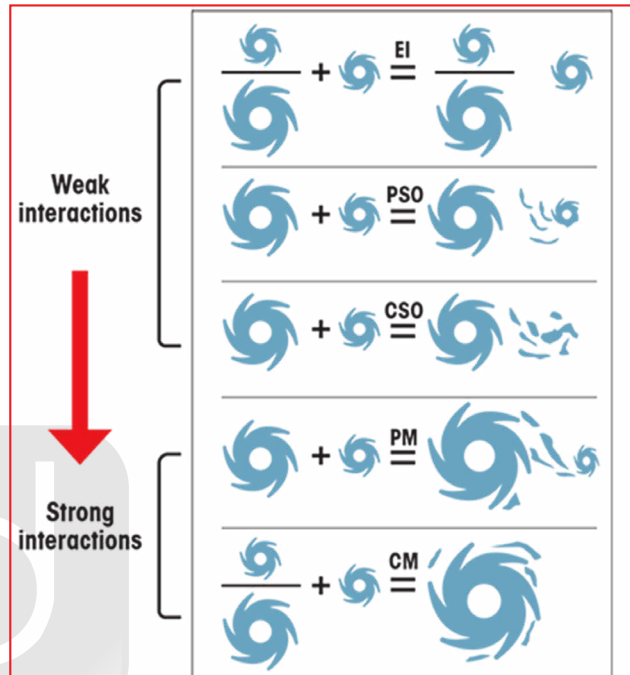
Elastic Interaction (EI): Interaction of vortices (storms) of same or different sizes, resulting in changes only in the direction of motion. This is the most commonly seen interaction

Partial Straining-Out (PSO): Interaction of vortices of unequal sizes. Part of the smaller vortex lost to the atmosphere.

Complete Straining-Out (CSO): Interaction of vortices of unequal sizes. The smaller vortex completely lost to the atmosphere

Partial Merger (PM): Interaction of vortices of unequal sizes Part of the smaller vortex merged to the bigger vortex

Complete Merger (CM): Interaction of vortices of same or different sizes, resulting in complete merger of both the storms

■■■

Note:

Art and Culture

Highlights

- *Patan Patola*
- *Baliyatra*
- *Dhamma Dipa International Buddhist University*
- *Sufism*

Patan Patola

Why in News?

Recently, Prime Minister of India gifted a **'Patan Patola'** scarf to the Prime Minister of Italy at the **G20 summit.**

What is Patan Patola?

➢ Patola is a **double ikat woven fabric,** usually made from silk in **Patan (North Gujarat).**
  ❍ Ikat is a method of **tie-dyeing the warp or weft before the cloth is woven.**
➢ It received a **Geographical Indication (GI) tag** in 2013.
➢ The ancient art of double ikat or Patola woven in pure silk **dates back to the 11th century.**
➢ This peculiar quality has its origins in an intricate and difficult technique of **dyeing or knot dyeing, known as 'bandhani', on the warp and weft separately** b**efore weaving.**
  ❍ The Patola fabrics bear an **equal intensity of colours and design on both sides.**
➢ Patola is **woven on primitive hand-operated harness looms made out of rosewood and bamboo strips.** The loom lies on a slant.
  ❍ The process is **labour-intensive, time-consuming,** and requires a high order of skill and expertise
  ❍ It takes **three to four months to prepare a tie-died design on warp and weft threads for one saree of six yards.**
  ❍ While possessing and wearing a Patola is considered a **matter of pride,** the fabric has largely remained **inaccessible to common people because of its high price.**
➢ One of the **major practitioners** of this art form is the **Salvi family from Patan.**

➢ The other commonly worn Patola is the **Rajkot Patola, woven on a flat loom.**
➢ Before World War II, **Indonesia was the major buyer of Patolas.**

Baliyatra

Why in News?

Recently, the Prime Minister in his address to the Indian diaspora in Bali on the sidelines of the **G20 summit** mentioned the **annual Baliyatra on the banks of the Mahanadi** in Cuttack that **commemorates age-old links between ancient Kalinga and Southeast Asia.**

➢ Baliyatra of year 2022 also found a place in the Guinness World Records for achieving an impressive feat of origami, the creation of beautiful paper sculptures.

What is Baliyatra?

➢ **About:**
  ❍ Baliyatra, literally **'voyage to Bali'** is one of the country's largest open-air fares.
  ❍ **Baliyatra** is a week-long event which **begins on Kartik Purnima (full moon night in the month of Kartik)**
➢ **Historical/Cultural Significance:**
  ❍ It is **organised every year to commemorate the 2,000-year-old maritime** and cultural links between ancient Kalinga (today's Odisha) and Bali and other South and Southeast Asian regions like Java, Sumatra, Borneo, Burma (Myanmar) and Ceylon (Sri Lanka).
  ❍ According to historians, **popular items of trade between Kalinga and Southeast Asia included** pepper, cinnamon, cardamom, silk, camphor, gold, and jewellery.
  ❍ The Bali Yatra **celebrates the ingenuity and skill of those expert sailors** who **made Kalinga one of the most prosperous empires** of its time.

Note:

➢ **Commercial Significance:**
- ○ Baliyatra has a **significant commercial dimension** in addition to its cultural and historical elements.
  - It is a time when people purchase everything from automobiles and electronic devices to local artisanal products at prices that are comparatively low.
  - The district administration allots more than 1,500 stalls to traders through an auction, and the fair is estimated to see business worth more than Rs 100 crore over the period it lasts.

How is Kalinga linked with Southeast Asia?

➢ **Origin – Growth of Ports:** The Kalinga Empire (present-day Odisha) is known for its glorious maritime history. Due to the **geographical location of Kalinga**, this area saw th**e growth of ports as early as the 4th and the 5th century BC.**
- ○ Some of the famous ports, **Tamralipti, Manikpatna, Chelitalo, Palur and Pithunda** allowed India to connect with other countries via the sea. Soon, the Kalingas had trade links with Srilanka, Java, Borneo, Sumatra, Bali and Burma.
  - **Bali formed a part of the four islands** that were collectively called the **Suvarnadvipa**, today known as Indonesia.

➢ **Kalinga's Ships:** The Kalingas constructed large boats called the **'Boitas'** and with the help of these, they traded with the Indonesian islands.
- ○ The **Bay of Bengal was once known as the Kalinga Sea** as it was thronged by these ships.
- ○ The dominance of the Kalingas over the sea routes can be understood from the fact that **Kalidasa in his Raghuvamsa** referred to the **King of Kalinga as 'The Lord of the Sea'.**

➢ **Cultural Exchange with Indonesia:** The Kalingas frequently traded with the island of Bali. The trade-in commodities also led to the **interchange of ideas and beliefs.**
- ○ **Odia merchants formed settlements in Bali** and influenced its culture and ethics which led to the growth of Hinduism in the region.
  - Hinduism blended well with the Balinese concepts and even today,
  - **'Balinese Hinduism'** is practised by a majority of their population.

- They worship various Hindu Gods such as Shiva, Vishnu, Ganesha and Brahma.
- **Shiva was considered to be the presiding deity** and believed to be the **elder brother of Buddha.**
- ○ The **Balinese also celebrate Hindu Festivals** such as Shivaratri, Durga Pooja and Saraswati Pooja.
  - The 'Masakapan ke Tukad' festival celebrated in Bali is similar to the Bali Yatra festival in Odisha. Both are celebrated in the memory of their maritime ancestors.

Map of the sea routes of the Kalinga Empire.
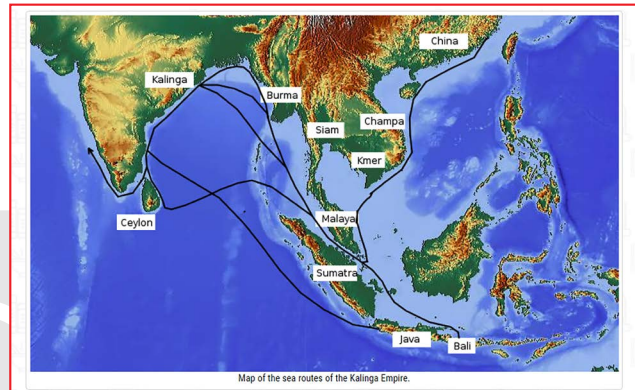
Dhamma Dipa International Buddhist University

Why in News?

The foundation stone for the **Dhamma Dipa International Buddhist University (DDIBU) at Manu Bankul in Sabroom of South Tripura district** will be laid on 29th November 2022.

➢ DDIBU is expected to become the **first Buddhist-run university in India to offer Buddhist education along with courses in other disciplines** of modern education as well.

What is Buddhism?

➢ **About:**
- ○ **Buddhism** started in India over 2,600 years ago.
- ○ The religion is based upon the teachings, life experiences of its **founder Siddhartha Gautam**.
- ○ The main teachings of Buddhism are encapsulated in the basic concept of **four noble truths or ariya-sachchani and eight-fold path or ashtangika marg**.
  - **Four noble truths:**

Note:

- ■ Suffering (dukkha) is the essence of the world.
- ■ Every suffering has a cause – **Samudya**.
- ■ Suffering could be extinguished – **Nirodha**.
- ■ It can be achieved by following the Atthanga Magga (Eight-Fold Path).
- ● **Eight-Fold Paths:** It consists of various interconnected activities related to knowledge, conduct, and meditative practices.

■ Right **view**	■ Right **speech**
■ Right **intention**	■ Right **action**
■ Right **livelihood**	
■ Right **mindfulness**	
■ Right **effort**	
■ Right **concentration**	

- ❍ The essence of Buddhism is the attainment of **enlightenment or nirvana** which was not a place but an experience that could be attained in this life.
- ❍ There is **no supreme god or deity in Buddhism.**
- ➢ **Buddhist Councils:**

Buddhist Council	Patron	Venue	Chairman	Year
First	Ajatshatur	Rajgriha	Mahakashyapa	433BC
Second	Kalashoka	Vaishali	Sabbakami	383BC
Third	Ashoka	Patilputra	Magaliputra	250BC
Fourth	Kanishka	Kundalban (Kashmir)	Vasumitra	72AD

- ➢ **Schools of Buddhism:**
- ❍ Mahayana (Idol Worship), Hinayana, Theravada, Vajrayana (Tantric Buddhism), Zen.
- ➢ **Buddhist Texts (Tipitaka):**
- ❍ **Vinaya Pitaka** (rules applicable to monastic life), **Sutta Pitaka** (main teaching or Dhamma of Buddha), **Abhidhamma Pitaka** (a philosophical analysis and systematization of the teaching).
- ➢ **Contribution of Buddhism to Indian Culture:**
- ❍ The concept of **ahimsa** was its chief contribution. Later, it became one of the cherished values of our nation.
- ❍ Its contribution to the art and architecture of India was notable. The stupas at Sanchi, Bharhut, and Gaya are wonderful pieces of architecture.
- ❍ It **promoted education through residential universities** like those at Taxila, Nalanda, and Vikramasila.
- ❍ The language of **Pali** and other local languages developed through the teachings of Buddhism.

- ❍ It had also promoted the spread of Indian culture to other parts of Asia.
- ➢ **UNESCO's Heritage Sites Related to Buddhism:**
- ❍ Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar
- ❍ Buddhist Monuments at **Sanchi**, MP
- ❍ Mahabodhi Temple Complex at Bodh Gaya, Bihar
- ❍ **Ajanta Caves** Aurangabad, Maharashtra.
- ❍ **The Buddhist chanting of Ladakh** was included in the **UNESCO's Representative List of Humanity's Intangible Cultural Heritage in 2012.**

Sufism

Why in News?

Recently, a book 'In Search of the Divine: Living Histories of Sufism in India' has been published.

What is Sufism?

- ➢ **About:**
- ❍ Sufism is a **mystical form of Islam,** a school of practice that focuses on the spiritual search for God and shuns materialism.
- ❍ It is a form of **Islamic mysticism which stresses on asceticism.** There is a lot of emphasis on devotion towards God.
- ❍ In Sufism, self-discipline is considered an essential condition to gain knowledge of God by sense of perception.
- ❍ In the beginning of 12 AD, some religious people in **Persia turned to asceticism due to the increasing materialism of the Caliphate.** They came to be called the 'Sufis'.
- ❍ In India, Sufi movement **began in 1300 A.D** & came to South India in the 15th century.
- ❍ In Sufism, self-discipline was considered an essential condition to gain knowledge of God. While orthodox Muslims emphasize external conduct, the Sufis lay stress on inner purity.
- ❍ Multan and Punjab were the early centers and later on, it spread to Kashmir, **Bihar, Bengal and the Deccan.**
- ➢ **Etymology:**
- ❍ The term 'Sufi' is probably derived from the Arabic 'suf' word which means 'one who wears wool'.

Note:

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This is because woolen clothes were generally associated with ascetics. Another possible origin of the word is 'safa' which means purity in Arabic.

➤ **Stages of Sufism:**
  ○ **1st Stage (Khanqah):** Started in 10th century, also called the age of Golden Mysticism
  ○ **2nd Stage (Tariqa):** 11-14th century, when Sufism was being institutionalized and traditions and symbols started being attached to it.
  ○ **3rd Stage (Tarifa):** Started in the 15th century, at this the stage when Sufism became a popular movement.
➤ **Major Sufi Orders:**
  ○ **Chisti:**
    ● Chishtiya Order was founded in India by Khwaja Moin-Uddin Chishti.
    ● It emphasised the doctrine of the unity of being with God (waḥdat al-wujūd) and members of the order were also pacifists.
    ● They rejected all material goods as distractions from the contemplation of God.
    ● They abstained from connection with the secular state.
    ● Recitation of the names of God, both aloud and silently (dhikr jahrī, dhikr khafī), formed the cornerstone of Chishtī practice.

● The Chishty teachings were carried forward and popularized by disciples of Khwaja Moin-Uddin Chishti like Khwaja Qutbuddin Bakhtiyar Kaki, Fareeduddin Ganj-e-Shakar, Nizam uddin Auliya and Naseeruddin Charagh.
  ○ **Suhrawardi Order:**
    ● It was founded by Sheikh Shahabuddin Suharwardi Maqtul.
    ● The Suhrawardis, unlike the Chishtis, accepted maintenance grants from the Sultans.
  ○ **Naqshbandi Order:**
    ● It was founded by the Khwaja Baha-ul-din Naqsh band.
    ● In India, this order was established by Khwaja Bahauddin Naqshbandi.
    ● From the beginning, the mystics of this Order stressed on the observance of the Shariat.
  ○ **Qadiriyya Order:**
    ● It was popular in Punjab.
    ● Sheikh Abdul Qadir of Badaun founded it in the 14th century.
    ● They were supporters of the Mughals under Akbar.

■■■

Note:

Security

Highlights

- *4th India-France Annual Defence Dialogue*
- *Garuda Shakti*
- *Naseem Al Bahr 2022*

4ᵗʰ India-France Annual Defence Dialogue

Why in News?

Recently, **the 4ᵗʰ India-France Defence Dialogue** was held in India.

What are the Key Highlights?

➢ **Defence Industrial Cooperation:**
  ○ Both countries discussed Defence Industrial Cooperation with a focus on **'Make in India'.**
  ○ A wide range of bilateral, regional and defence industrial cooperation issues were discussed during the dialogue.

➢ **Military-to-Military Cooperation:**
  ○ Both sides reviewed the **ongoing military-to-military cooperation**, which has increased substantially in recent years.
  ○ They recognised their convergences **on a number of "strategic and defence issues** and shared the commitment to work together on enhancing cooperation in bilateral, regional and multilateral fora, with a focus on the **Indo-Pacific region.**

➢ **Indian Ocean Region:**

○ The discussions ranged from enhancing cooperation in areas of mutual interest to the **maritime challenges in the IOR (Indian Ocean Region).**

○ France reaffirmed its engagement in the **Indo-Pacific and India's centrality in the French strategy for the region.**

  • France is the current chair of **Indian Ocean Commission (IOC) and Indian Ocean Naval Symposium (IONS)** and both countries cooperate closely in these fora.

How has been the India-France Strategic Relations?

➢ **Background**:
  ○ France was one of the **first countries with which India signed a "strategic partnership"** after the end of the Cold War, in January 1998.
  ○ France was one of the very **few countries to support India's decision to test nuclear weapons in 1998**.

➢ **Defence Cooperation:**
  ○ The three services have regular defence exercises; viz.
    • **Exercise Shakti (Army)**
    • **Exercise Varuna (Navy)**
    • **Exercise Garuda (Air Force)**

➢ **Garuda VII** was recently held in Jodhpur, Rajasthan.
  ○ India and France had signed a Euro 7.87 billion inter-governmental agreement (IGA) in 2016 for 36 Rafale multi-role fighter jets in fly-away condition.F
    • France has delivered 35 **Rafale jets** to India till July 2022.
  ○ India entered into a **contract with a French firm to build six Scorpene submarines in India's Malegaon dockyards** through a technology-transfer arrangement in 2005.

Note:

○ The two countries also signed the Agreement regarding the Provision of Reciprocal Logistics Support.

● This agreement will help to facilitate the replenishment of fuel, rations, spares, and berthing and maintenance for the other nations' warships, military aircraft and troops during routine port calls, as well as during **Humanitarian Assistance and Disaster Relief (HADR).**

➢ **Indian Ocean, the Common Shared Interest:**
○ France needs to protect its colonial territorial possessions like reunion island and Indian ocean being the zone of influence for India.
○ In 2020, France became the 23rd member of the **Indian Ocean Rim Association (IORA).**
● It is the first time that a country whose mainland is not on the Indian Ocean has been brought into the fold of the IORA.

➢ **Counter Terrorism:**
○ France backed the India's proposal for a global conference on terrorism. Both the countries also support organising a new "No Money for Terror" - an International Conference on Fighting Terrorist Financing.

➢ **France Backing India:**
○ France also continues to **steadfastly back India on Kashmir** while its relations with Pakistan have plummeted in the recent past and China has become an object of suspicion.

➢ **Bilateral trade and Economic relations:**
○ The **India-France Administrative Economic and Trade Committee (AETC)** provides an appropriate framework to assess and find ways to further promote bilateral trade and investment as well as to speed up the resolution of market access issues to the benefit of economic operators
○ France is the **11th largest foreign investor in India with a cumulative investment of USD 10.31 billion** from April 2000 to June 2022 which represents 1.70% of the total FDI inflows into India according to statistics provided by the **Department for Promotion of Industry and Internal Trade (DPIIT).**
○ Aeronautics account for 50% of France's total exports to India. French imports from India have also increased by **39% year-on-year (7% compared to 2019).**

➢ **Global agendas:**
○ Climate change, biodiversity, renewable energy, terrorism, cybersecurity and digital technology, etc:
○ There have been joint efforts to limit climate change and develop the **International Solar Alliance.**
○ Both countries have agreed on a road map on cybersecurity and digital technology.

➢ **Space:**
○ France has agreed t**o be part of India's Venus mission**, scheduled for 2025.
○ ISRO's Venus instrument, **VIRAL (Venus Infrared Atmospheric Gases Linker)** has been co-developed by Russian and French agencies.

Garuda Shakti

Why in News?

Indian Army Special Forces and Indonesian Special Forces are participating in the **eighth edition of the bilateral military exercise 'Garuda Shakti'** at Karawang, Indonesia that commenced on 21 November 2022.

What is Garuda Shakti?

➢ **Aim:**
○ It aims at enhancing **understanding, cooperation and interoperability between the Special Forces of both armies.**

➢ **Significance:**
○ The joint exercise will **facilitate both armies to know each other better, and share their wide experiences and combat experience** on countering terrorist operations, Regional Security Operations & Peace Keeping Operations in an international environment.

Note:

○ The exercise is yet another **significant milestone in ensuring cordial relations between the two countries** and another step forward towards **ensuring regional security.**

What are the
Other Bilateral Military Exercises?

➢ **MAITREE** (India and **Thailand**)

➢ **Ekuverin** (India and **Maldives**)

➢ **Hand-in-Hand** (India and **China**)

➢ **Mitra Shakti** (India and **Sri Lanka)**

➢ **Harimau Shakti** (India and **Malaysia**)

➢ **Kurukshetra** (India and **Singapore**)

➢ **Nomadic Elephant** (India and **Mongolia**)

➢ **Shakti** (India and **France**)

➢ **Surya Kiran** (India and **Nepal**)

➢ **Yudh Abhyas** (India and **US**)

Naseem Al Bahr 2022

Why in News?

The **Indian Naval Ship (INS) Trikand**, **INS Sumitra,** and **Maritime Patrol Aircraft (MPA) Dornier**, participated in the **13th Edition of 'Naseem Al Bahr' (Sea Breeze).**

➢ **INS Trikand is a frontline frigate** equipped with a versatile range of weapons and sensors. It is a part of the Indian Navy's **Western Fleet,** based at Mumbai.

➢ **INS Sumitra, a multirole offshore patrol vessel** is part of the **Eastern Fleet of the Indian Navy,** based at **Visakhapatnam.**

What is Naseem Al Bahr?

➢ **About:**

○ It is a **bilateral maritime exercise between Indian Navy (IN)** and **Royal Navy of Oman (RNO).**

○ The exercise was conducted from **19th to 24th November 2022** off the coast of Oman and had **three phases: harbour phase, sea phase and debrief.**

○ The **first IN-RNO exercise** was conducted in **1993.**

○ **Year 2022 marks 30 years** of IN-RNO bilateral exercises.

➢ **Significance:**

○ India and Oman have traditionally enjoyed warm and friendly relations, sharing common cultural values. Naval exercises have **added strength and substance to these bilateral ties.**

What are India's other Bilateral Maritime Exercises?

➢ **Thailand: India-Thailand Coordinated Patrol (Indo-Thai CORPAT)**

➢ **Indonesia: Samudra Shakti**

➢ **Singapore: Singapore-India Maritime Bilateral Exercise (SIMBEX)**

➢ **Qatar: Zair-Al-Bahr**

➢ **Bangladesh: Bongosagar Exercise**

➢ **Sri Lanka: Sri Lanka-India Naval Exercise (SLINEX)**

➢ **Japan: Japan Maritime bilateral exercise (JIMEX), Maritime Partnership Exercise (MPX)**

➢ **France: VARUNA**

■■■

Note:

Miscellaneous

Highlights

- *Global Partnership on AI*
- *UNESCO Asia-Pacific Awards*
- *Nicobari Hodi Craft*
- *Network Readiness Index 2022*
- *Rozgar Mela and Karamyogi Prarambh Module*
- *Sangeet Natak Akademi Awards*
- *Bluebugging*
- *Kashi Tamil Sangamam*

Global Partnership on AI

Why in News?

Recently, India has been handed over the presidency **Global Partnership on Artificial Intelligence (GPAI)** for 2022-23 by the outgoing Council Chair, France in its 3rd Annual Summit in Japan.

➤ This development comes on the heels of assuming the **Presidency of the G20**, a league of the world's largest economies.

What are the Highlights of the Annual GPAI summit?

➤ Tokyo is the first Asian city to host this summit.

➤ The meeting discussed these **four themes:**
  ○ Responsible AI,
  ○ Data governance,
  ○ Future of work,
  ○ Innovation and commercialisation.

➤ With National Programme on AI in place and a **National Data Governance Framework Policy (NDGFP)**, India highlighted its commitment to efficient use of AI for catalyzing innovation ecosystem around AI.
  ○ The NDGFP aims to **ensure equitable access to non-personal data** and focus on improving the institutional framework for government data sharing, promoting principles around privacy and security by design, and encouraging the use of anonymization tool.

What is GPAI?

➤ **About:**
  ○ It was launched in June, 2020, with fifteen members.

○ The Global Partnership in Artificial Intelligence is described as the **'fruition of an idea developed within the G7.'**

○ It is a **multi-stakeholder initiative on artificial intelligence (AI)**, which aims to fill what it describes as **'the gap between theory and practice on AI,'** by supporting cutting-edge research, as well as applied activities, on AI-related priorities.

○ The initiative facilitates **international cooperation on artificial technology** by bringing together on a single platform, experts from fields such as science, industry, civil society, governments, international bodies, and academia.

➤ **Members:**
  ○ At present, GPAI has **twenty-five member states:**
    ● Australia, Belgium, Brazil, Canada, Czech Republic, Denmark, France, Germany, **India**, Ireland, Israel, Italy, Japan, Mexico, the Netherlands, New Zealand, Poland, the Republic of Korea (South Korea), Singapore, Slovenia, Spain, Sweden, the United Kingdom, the United States, and the European Union (EU).
  ○ The **founding members are:**
    ● Australia, Canada, France, Germany, India, Italy, Japan, Mexico, New Zealand, the Republic of Korea, Singapore, Slovenia, the UK, the US, and the EU.

What is Artificial Intelligence?

➤ **About:**
  ○ It describes the action of machines accomplishing tasks that have historically required human intelligence.
  ○ It includes technologies like machine learning, pattern recognition, big data, neural networks, self-algorithms etc.

Note:

○ Example: Facebook's list of suggested friends for its users, self-driving cars, etc.

○ AI automates processes and reduces human error but the principal limitation of AI is that it learns from the data. This means any inaccuracies in the data will be reflected in the results.

➢ **Expected Contribution to Indian Economy:**

○ AI is expected to add USD 967 Billion to Indian economy by 2035 and USD 450–500 billion to India's GDP by 2025, accounting for 10% of the country's USD 5 trillion GDP target.

What are the Initiatives Related to AI?

➢ **National AI Strategy**

➢ **MyGov Corona Helpdesk Chatbot**

➢ **RAISE 2020 – 'Responsible AI for Social Empowerment 2020**

➢ **Vaishwik Bhartiya Vaigyanik (VAIBHAV) Summit**

UNESCO Asia-Pacific Awards

Why in News?

Recently, the **United Nations Educational, Scientific and Cultural Organization (UNESCO)** Asia-Pacific Awards **for Cultural Heritage Conservation 2022** has been announced which included **four winners from India**.

Award-Winning Countries: What's the Scenario?

➢ **Global Performance:**

○ **Thirteen projects from six countries** that have been acknowledged for awards were:

● **Afghanistan, China, India, Iran, Nepal and Thailand.**

➢ **India's Performance:**

○ **Award of Excellence:** Chhatrapati Shivaji Maharaj Vastu Sangrahalaya, Mumbai

○ **Award of Distinction:** Stepwells of Golconda, Hyderabad

○ **Award of Merit:** Domakonda Fort, Telangana, and Byculla Station, Mumbai

➢ **Significance of Heritage Sites:**

○ There is a **nature and culture linkage that heritage sites demonstrate**. They can **address climate change with net-zero** water requirements.

○ The restoration of wells shows how **conservation of heritage sites can have multiple objectives**.

What is UNESCO Asia-Pacific Awards for Cultural Heritage Conservation?

➢ Since 2000, the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme has **recognised the efforts of private individuals and organisations** in restoring, conserving and transforming structures and buildings of heritage value in the region.

➢ It **encourages other property owners to undertake conservation projects** within their communities, either independently or by public-private partnerships.

○ The awards give **people a sense of pride and sense of ownership of their own heritage**.

Note:

➢ **Chhatrapati Shivaji Maharaj Vastu Sangrahalaya, Mumbai:**

○ The museum is a **part of the Victorian Gothic and Art Deco Ensembles** of Mumbai's world heritage property.

● It was **established as the Prince of Wales Museum of Western India in 1922**.

➢ **Byculla Station, Mumbai:**

○ The station was built in 1853. The **first train of the country passed through Byculla station** almost one-and-a-half centuries ago. It has been restored to its original Gothic, heritage, architectural glory.

➢ **Domakonda Fort, Telangana:**

○ The Domakonda Fort is **private property and was built in the 18th century** with an amalgam of styles including stucco work, arched pillars, flat ceiling, and a courtyard with a water garden pond.

Nicobari Hodi Craft

Why in News?

Recently, the Andaman & Nicobar Islands has filed an application, seeking the **Geographical Indication (GI) tag** for the Nicobari Hodi craft.

➢ This is the first application from the Union Territory seeking a tag for one of its products.

➢ Earlier, the government awarded the **GI tag to Mithila Makhana.**

Note:

What is Nicobari Hodi?

➢ The hodi is the **Nicobari tribe's traditional craft**. It is an **outrigger canoe,** very commonly operated in the Nicobar group of islands.

➢ The technical skills for building a hodi are based on **indigenous knowledge inherited by the Nicobarese** from their forefathers.

➢ The hodi is built using **either locally available trees or from nearby islands**, and its design **varies slightly** from island to island.

➢ Considerations to be taken into account **include the length of the finished canoe**, which has to be 12 times that of its width, while the length of the undressed tree trunk has to be 15 times this width.

➢ Hodis are used for transporting people and goods from one island to another, for sending coconuts, for fishing and racing purposes.

➢ The tuhet, a group of families under a headman, consider the **hodi an asset.** Hodi races are held between **islands and villages.**

What is a Geographical Indication (GI) Tag?

➢ **About:**

○ The GI is an indication **used to identify goods having special characteristics originating from a definite geographical territory.**

○ The **Geographical Indications of Goods (Registration and Protection) Act, 1999** seeks to provide for the registration and better protection of geographical indications relating to goods in India.

○ It is governed and directed by the **WTO** **Agreement on** **Trade-Related Aspects of Intellectual Property Rights (TRIPS).**

● It was decided and also stated under Articles 1 (2) and 10 of the **Paris Convention** that the protection of industrial Property and Geographical Indication are elements of **Intellectual Property.**

○ It is primarily an agricultural, natural or a manufactured product (handicrafts and industrial goods).

➢ **Validity:**

○ This tag is valid for a period of **10 years** following which it can be renewed.

➢ **Significance:**

○ Once a product **gets this tag, no person or company can sell a similar item under that name.**

○ GI registration of a product provides it **legal protection** and **prevention against unauthorised use by others.**

○ GI tag helps in **promoting the exports** of the product.

○ It also provides c**omfort to customers about the authenticity** of that product.

➢ **GI Registration:**

○ There is a proper process of registration of GI products which includes filing of application, preliminary scrutiny and examination, show cause notice, publication in the geographical indications journal, opposition to registration, and registration.

● Any association of persons, producers, organisation or authority established by or under the law can apply.

● The applicant must represent the interest of the producers.

○ The Geographical Indications Registry **responsible for administration of GI Goods is established at Chennai.**

➢ **GI Tag Products:**

○ Some famous goods which carry this tag include **Basmati rice, Darjeeling Tea, Chanderi Fabric,** Mysore Silk, Kullu Shawl, Kangra Tea, **Thanjavur Paintings,** Allahabad Surkha, Farrukhabad Prints, Lucknow Zardozi, **Kashmir Saffron** and Kashmir Walnut Wood Carving.

Note:

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Network Readiness Index 2022

Why in News?

India has improved its position by six slots and is now placed at **61st rank as per the Network Readiness Index 2022 (NRI 2022)** report released recently.

What is the Network Readiness Index 2022?

➢ **About:**
- ○ The Network Readiness Index (NRI) report maps the network readiness landscape of 131 economies based on their **performance in four areas:**
  - Technology, People, Governance, and Impact.
- ○ The report is prepared by the **Portulans Institute, an independent non-profit,** nonpartisan research and educational institute based in Washington DC.
- ○ This year's index includes **49 high-income economies, 32 upper-middle-income economies**, 36 lower-middle-income economies, and 14 low-income economies.

➢ **Global Rankings:**
- ○ **US has taken the 1st spot** from the **Netherlands (4th)** as the most network-ready society.
  - The biggest mover in the index is **Singapore (2nd),** pushing **Denmark (6th)** and **Finland (7th)** out of the top 5.
  - The other five countries that made it to the Top 10 are - **Sweden** (3rd), **Switzerland** (5th), **Germany** (8th), **South Korea** (9th), and **Norway** (10th).
- ○ Based on the top ten performers, NRI affirms that advanced economies in Europe, parts of Asia and the Pacific, and North America are **some of the world's most network-ready societies.**

➢ **India's Status:**
- ○ India has not only improved its ranking, but also improved its score **from 49.74 in 2021 to 51.19 in 2022.**
- ○ India **leads in several indicators:**
  - India secured **1st rank in "AI talent concentration".**
  - **2nd rank** in "Mobile broadband internet traffic within the country" and "International Internet bandwidth".
  - **3rd rank** in "Annual investment in telecommunication services" and "Domestic market size"
  - **4th rank** in "ICT Services exports".
  - **5th rank** in "FTTH/Building Internet subscriptions" and "AI scientific publications".
- ○ As per the report, **India has a greater network readiness** than would be expected given its income level.
  - **India is ranked 3rd out of 36 in the group of lower-middle-income countries** after Ukraine and Indonesia.

What are India's Related Initiatives?
➢ **National Broadband Mission**
➢ **National Digital Communications Policy, 2018.**
➢ **BharatNet**
➢ **Government's Digital India programme**
➢ **National AI Portal**

Rozgar Mela and Karamyogi Prarambh Module

Why in News?

As part of the government's **'Rozgar Mela' (employment fair),** the Prime Minister has distributed over 71,000 appointment letters to new **recruits via video conferencing.**

➢ The Prime Minister has also launched 'Karamyogi Prarambh', a special online orientation course designed for new appointees in government departments.

What are the Key Points of Rozgar Mela?

➢ The Rozgar Mela is an initiative of the central government to provide employment opportunities to the youth of the country.

➢ Under the Rozgar Mela Scheme, 10 lakh jobs will be available for candidates to apply in Group A and B Gazetted Posts, Group B Non-Gazetted and Group C Non-Gazetted posts.

➢ The Union Ministry of Home Affairs (MHA) would also fill a **significant number of posts in various Central Armed Police Forces.**

➢ These recruitments are being done in mission mode by ministries and departments either by themselves or through recruiting agencies such as UPSC, SSC and Railway Recruitment Board.

Note:

What is Karamyogi Prarambh Module?

➤ The Karmayogi Prarambh module is an initiative under Mission Karmayogi - a National Programme for Civil Services Capacity Building (NPCSCB).

➤ The module is an **online orientation course for all new appointees** in various government departments.

➤ It will include a **code of conduct for government servants,** workplace ethics and integrity, human resource policies and other benefits and allowances that will help them to get acclimatized to the policies and transition smoothly into the new roles.

➤ The motive of the program is to **keep the essence of civil service within the people of the country** which is the center of all change.

Sangeet Natak Akademi Awards

Why in News?

Recently, the Sangeet Natak Akademi **announced the list of 10 Akademi fellows and 128 artists** who will receive the prestigious Sangeet Natak Akademi Awards (Akademi Puraskar) for 2019, 2020, and 2021.

➤ Apart from this, the **Akademi announced the names of 102 young artistes for the Ustad Bismillah Khan Yuva Puraskar** for the years 2019, 2020 and 2021.

What is Sangeet Natak Akademi?

➤ The Sangeet Natak Akademi is **India's national academy for music, dance and drama.**

➤ It was created by a resolution of the (then) **Ministry of Education, Government of India**, in 1952 with Dr P.V. Rajamannar as its first Chairman.

➤ It is presently **an Autonomous Body of the Ministry of Culture, G**overnment of India and is fully funded by the Government for implementation of its schemes and programmes.

➤ The Akademi establishes and looks after institutions and projects of national importance in the field of the performing arts. Few important ones are:

○ National School of Drama, New Delhi was set up in 1959

○ Jawaharlal Nehru Manipur Dance Academy in Imphal- 1954

○ Kathak Kendra (National Institute of Kathak Dance) in New Delhi- 1964

○ National Projects of Support to **Kutiyattam (Sanskrit theatre of Kerala),** Chhau dances of eastern India, Sattriya traditions of Assam, etc.

What is Sangeet Natak Akademi Fellowship (Akademi Ratna) and Award?

➤ **Sangeet Natak Akademi Fellowship:**

○ The Sangeet Natak Akademi Fellowship is the **highest honour conferred by Sangeet Natak Akademi** without distinction of nationality, race, caste, religion, creed, or sex.

○ The Fellowship of the Akademi is the most prestigious and rare honour, which is restricted to 40 numbers at any given time.

○ The Akademi Fellowship carries purse money of Rs. 3.00 lakhs, a Tamrapatra and an Angavastram.

➤ **Sangeet Natak Akademi Awards:**

○ The awards are given to the artists from the field of Music, Dance, Theatre, Traditional/Folk/Tribal Music/Dance/Theatre, Puppetry and Overall contribution/scholarship in the Performing Arts etc.

○ The Akademi Awards carries purse money of Rs. 1.00 lakh, a Tamrapatra and an Angavastram.

What is "Ustad Bismillah Khan Yuva Puraskar"?

➤ Sangeet Natak Akademi has decided to institute "Ustad Bismillah Khan Yuva Puraskar" from the year 2006 to be awarded to artists who have shown / demonstrated conspicuous talent **in the fields of music, dance and drama**.

➤ Young outstanding practitioners upto the age of 40 years will be eligible to be considered for Yuva Puraskar every year. Age as on the date of nomination received will be reckoned from 1st April of that year.

Bluebugging

Why in News?

Several smartphones have their Bluetooth settings on discovery mode as it is a default setting, making it vulnerable to **bluebugging.**

Note:

What is Bluebugging?

➢ **About:**
  ○ It is a **form of hacking** that lets attackers access a device **through its discoverable Bluetooth connection.**
  ○ A hacker can gain unauthorized access to these apps and devices and control them as per their wish through bluebugging.
  ○ Any **Bluetooth-enabled device** including True Wireless Stereo (TWS) devices or earbuds are susceptible to bluebugging.
  ○ Once a device or phone is bluebugged, **a hacker can listen to the calls, read and send messages and steal and modify contacts**.
  ○ Even the most secure smartphones like iPhones are vulnerable to such attacks.

➢ **Preventive Measures:**
  ○ Turning off Bluetooth and disconnecting paired Bluetooth devices when not in use.
  ○ Making Bluetooth devices undiscoverable from Bluetooth settings.
  ○ Updating the device's system software to the latest version.
  ○ Limited use of public Wi-Fi.
  ○ Watch out for suspicious activities on your device.
  ○ Monitoring of sudden spikes in data usage.
  ○ Usage of modern anti-virus software.

What are the Related Government Initiatives?

➢ **Cyber Surakshit Bharat Initiative**
➢ **Cyber Swachhta Kendra**
➢ **Online Cybercrime Reporting Portal**
➢ **Indian Cyber Crime Coordination Centre (I4C)**
➢ **National Critical Information Infrastructure Protection Centre (NCIIPC)**
➢ **Information Technology Act, 2000**
➢ **National Cyber Security Strategy 2020**

Kashi Tamil Sangamam

Why in News?

Prime Minister of India inaugurated the month-long Kashi Tamil Sangamam in Varanasi, Uttar Pradesh.

➢ This programme is an initiative by Government of India as a part of "Azadi ka Amrit Mahotsav" and to uphold the Spirit of **Ek Bharat Sreshtha Bharat .**

What is Kashi Tamil Sangamam?

➢ **About:**
  ○ Kashi Tamil Sangamam celebrates many aspects of the **historical and civilisational connection between India's North and South.**
  ○ The broader objective is to **bring the two knowledge and cultural traditions (of the North and South) closer**, create an understanding of our shared heritage and deepen the people-to-people bond between the regions.
  ○ It is being organized by the **Ministry of Education in collaboration with other ministries** like Culture, Textiles, Railways, Tourism, Food Processing, Information & Broadcasting etc. and the **Government of Uttar Pradesh.**
  ○ The endeavour is in sync with **National Education Policy (NEP), 2020**'s emphasis on integrating the wealth of Indian Knowledge Systems with modern systems of knowledge.
  ○ **IIT Madras and Banaras Hindu University (BHU)** are the **two implementing agencies** for the programme.

➢ **Cultural Significance:**
  ○ **King Parakrama Pandya**, who ruled over the region around Madurai in the 15th century, **wanted to build a temple to Lord Shiva**, and he **travelled to Kashi (Uttar Pradesh) to bring back a lingam.**
  ○ While returning, he **stopped to rest under a tree** — but when he tried to continue his journey, **the cow carrying the lingam refused to move.**
  ○ Parakrama Pandya **understood this to be the Lord's wish, and installed the lingam there**, a place that came to be known as **Sivakasi, Tamil Nadu.**
  ○ For devotees **who could not visit Kashi, the Pandyas had built the Kasi Viswanathar Temple in** what is today **Tenkasi in southwestern Tamil Nadu**, close to the state's border with Kerala.

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Note:

Key Points   **Details**

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