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CURRENT AFFAIRS
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1. POLITY AND GOVERNANCE

1.1. UNEQUAL REPRESENTATION IN INDIAN DEMOCRACY

Why in news?

In the wake of General Elections 2019, a debate has again surfaced on unequal representation in Indian democracy. As per studies, India has the **lowest number of MPs relative to its population** across democracies.

Background

- **Article 81** of the Constitution of India prescribes that every state and Union territory (UT) would be allotted seats in the Lok Sabha in such a manner that the **ratio of population to seats should be as equal as possible** across states.
- **Article 82,** stipulates that a delimitation of parliamentary constituencies be carried out **after every census.** This task is carried out by the **Delimitation Commission** established by the Government of India under the provisions of **Delimitation Commission Act**. It was done after every census until 1976.
- However, government froze delimitation in **1976** until after 2001 Census by the **42nd constitutional amendment** (1976). This freeze was extended to **2026** by the **84th constitutional amendment** (2002)**.**
- The aim of this move was to promote **family planning and population stabilization** in the country. Thus an incentive was given to states towards working for family planning programs, without worrying about changing their **political representation** in the Lok Sabha.
- As a result the Delimitation Commission could not increase the total seats in the Lok Sabha or Assemblies. It may be done only after 2026.
- This had led to wide discrepancies in the size of constituencies, with the largest having over three million electors, and the smallest less than 50,000.

Issues arising out of Unequal Representation
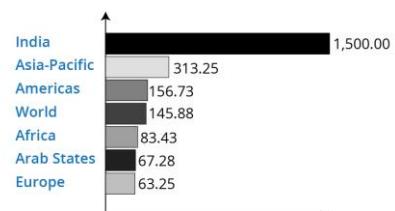
- **Malapportionment in Democracy-** The present delimitation, based on 2001 census, has been undertaken after 30 years. The population has increased by almost 87% and the nature of constituencies in the country, by and large, had become malapportioned.
- **Dilution of the principle of "One Citizen One Vote"-** e.g. the average MP from Rajasthan represents over 30 lakh people while the one in Tamil Nadu or Kerala represents less than 18 lakh. This means the voter in Tamil Nadu and Kerala has more say than the one in Rajasthan
- **Skewed Representation across constituencies-** In 2014, the five smallest constituencies together had just under 8 lakh voters while the five largest had 1.2 crore voters, 15 times more than the smallest five.

Delimitation Commission
- Delimitation is the **redrawing of the boundaries of parliamentary or assembly constituencies** to make sure that there are, as near as practicable, the same number of people in each constituency.
- Equally populous constituencies allow voters to have an equally weighted vote in the Legislature.
- It is a high power body whose orders has the force of law and **cannot be called in question before any court**. These orders come into force on a date to be specified by the **President** of India in this behalf.
- The orders are laid before the Lok Sabha and the respective State Legislative Assemblies. However, modifications **are not permitted.**
- Delimitation commissions have been set up **four times** in the past — **1952, 1963, 1973 and 2002** — under Delimitation Commission Acts of 1952, 1962, 1972 and 2002
- The Delimitation Commission in 2002, undertook **readjustment and rationalization** of territorial constituencies in states based on Census 2001, **without altering the number of seats** allotted to each state.

INDIA HAS HIGHEST POPULATION PER MP
Inhabitants per MP (thousands)

Region	Value
India	1,500.00
Asia-Pacific	313.25
Americas	156.73
World	145.88
Africa	83.43
Arab States	67.28
Europe	63.25

IF POPULATION DECIDED LS SEATS THIS IS HOW STATES WOULD BE REPRESENTED...

State	Current Seats	2019 Estimate	2071 Estimate	Gain/ Loss 2071
Uttar Pradesh	80	93	109	29
Bihar	40	44	58	18
Rajasthan	25	31	38	13
Madhya Pradesh	29	33	35	6
Haryana	10	12	12	2
Odisha	21	18	15	-6
West Bengal	42	40	34	-8
Kerala	20	15	12	-8
Andhra+ Telangana	42	37	31	-11
Tamil Nadu	39	29	23	-16

■ Gain ● Loss

- **Increasing burden on the Representatives-** An MP today represents more than four times the number of voters than what an MP did in 1951-52, when the first general elections were held
- **Representation Crisis-** If candidates cannot reach out to enough voters, then elections may become less about hearing the voices of the voters and addressing the issues they care most about. It has also resulted in lower voter turnouts of people during elections.
- **Don't include changing dynamics-**In 1988, the voting age was lowered **from 21 to 18 via** 61st Amendment Act. This led to a substantial increase in the size of each constituency. Further, Migration to urban or industrialized areas has made such increase skewed in direction and intensity. For example, in the national capital itself, the Outer Delhi Parliamentary Constituency had grown to a staggering 3.1 million people, whereas the neighbouring Chandni Chowk Parliamentary Constituency had only 0.35 million population.
- **Lead to divide among the people-** The perception of one region controlling the others or ignoring cultural and social aspirations may invoke popular agitations. Also it creates a divide of **politically important vs. unimportant** states for the political parties. It also creates demand for **smaller states.**

Implications if the limitation freeze is lifted

- **Concerns of family planning remains-** where the states will be apprehensive towards such measures as it may reduce their seats in Parliament.
- **Control of Presiding Officers of House-** who find it extremely difficult to conduct the proceedings of the House. Their directions and rulings are not shown proper respect, and disruptions of proceedings aggravate the problem. The sudden increase in numbers will further aggravate this matter.
- **Working of the house-** It will be subjected to severe strain because the hourly window for the Zero Hour, Question Hour etc. will be too small for increased members.

Way Forward

- The Chairman of Delimitation Commission 2002 recommended that delimitation should be carried out after every census so that changes are not too extensive and the value of every elector's vote remains more or less steady.
- There needs to be a debate and consensus on how to deal with the problems that are likely to arise.

1.2. SELF-REGULATION OF SOCIAL MEDIA IN ELECTIONS

Why in news?

Social media platforms and the Internet and Mobile Association of India (IAMAI) have presented a '**Voluntary Code of Ethics for the General Election 2019'** to the Election Commission.

Details

- The 'Code of Ethics" has been developed to ensure free, fair & ethical usage of Social Media Platforms to maintain the integrity of the electoral process for the General Elections 2019.
- The purpose of this voluntary Code is to identify the measures that Participants can put in place to increase confidence in the electoral process.
- It will enter into force on 20 March 2019, until the duration of the 2019 Indian General Elections.

> **Internet and Mobile Association of India (IAMAI)**
> - It is a **not-for-profit industry body** registered under the Societies Act, 1986.
> - Its mandate is to expand and enhance the online and mobile value-added services sectors
> - IAMAI is the only specialized industry body in India representing the interests of online and mobile value added services industry.

Issues arising from unregulated social media in elections

- **Menace of Fake News-** As per a report of IAMAI, just 2.7% of Indians believe the information they receive on social media platforms like Facebook, Twitter, and WhatsApp.
- **Disparity of information available-** Owing to the limited knowledge about the source of news and fact check mechanisms.
- **Data Mining-** Recently, a company named Cambridge Analytica was involved in an alleged breach of Facebook user data seeking information about its clients and harvesting their profiles.
- **Can fan violence-** especially against religious and ethnic groups. E.g. Muzaffarnagar riots

Commitments made under the Voluntary Code of Ethics

- **Facilitate access to information regarding electoral matters-** by voluntarily undertaking information, education and communication campaigns to build awareness on electoral laws. They will also train nodal officers at the Election Commission of India on their products/ services.

- **Reporting Mechanism-** by appointing dedicated persons/ teams during the period of General Elections to interface with regarding any violation of rules.

- **Act on the complaints within specified time-** A notification mechanism has been developed by which the ECI can notify any violation of the Section 126 of the Representation of the People Act, 1951. The valid legal orders will be acknowledged within 3 hours by the platforms (in accordance with the Sinha Committee recommendations). All other valid legal requests will be acted upon expeditiously by the participants, based on the nature of reported violation.

> **Recommendations of Umesh Sinha Committee Report on Revisiting the Section 126 of the RPA**
> - **Section 126** of the Representation of People's Act prohibits advertising and campaigning on TV and other electronic media during the silent period, which is 48 hours before the end of polling.
> - **Extend this provision-** to print and social media, Internet and online version of print media.
> - **Provision to flag content violating electoral law-** where the social media sites can take it down as soon as possible.

- **Regulation of Political Advertisements-** by necessitating the political participants to first submit pre-certificates issues by the ECI and/ or Media Certification & Monitoring Committee of the ECI. Further, the platforms commit to facilitate transparency in paid political advertisements.

- **Update on the action taken-** to provide an update on the measures taken by them to prevent abuse of their respective platforms.

Significance of Social Media in Indian Elections

- **Help the ECI in Voter Participation-** through online voter registration and transparency campaigns
- **Increase voter outreach of political parties-** Political parties use social media to promote their candidates, create a buzz about their social work, reveal their agendas, promote their rallies etc.
- **Create level playing field-** Owing to its low cost and extensive reach it helps new political parties to match the organizational might of established political parties. E.g. rise of the new Aam Aadmi Party in Delhi.
- **Can help raise awareness about issues neglected by parties-** such as environment conservation, electoral reforms etc.

Conclusion

- As per various surveys and reports, after 2014 elections, 2-5% of budget is set for every elections political campaign on social media. Thus, role of social media and its regulation is crucial.
- Here, the role of every stakeholder in a democracy should be to spread information as well as curb misinformation. The users should also have responsibility towards proper usage of social media platforms.
- Also, it is important that the reach, awareness and education of social media reaches to the bottom and marginalized section also, as to improve the efficacy of social media in influencing the elections in an appropriate manner.

1.3 VOTE-BANK POLITICS

Why in news?

Recently, various political parties have been criticized for using vote bank politics during their election campaigns.

Background

- The term 'vote-bank politics' was first used in a research paper in **1955** by noted sociologist **MN Srinivas**. He used it in the context of **political influence exerted by a patron over a client.**
- But in contemporary times, the domains of this term have broadened. Now, it denotes voting on the basis of caste, class, sect, language, religion, region etc. So, it refers to a **group of voters** in the society that usually votes **'en masse'** in favour of a party/ candidate in democratic elections.
- It denotes the **voting behavior** of the people on the basis of their **identity** and how political parties try to influence voters on such basis.

Negative Side of Vote Bank Politics

- **Reduces the identity of a citizen-** No self-respecting citizen wants to be seen only as a voter with a community stereotype.
- **Used as a market tool-** where, a political party or leader sees the masses merely as voters, who are a tool to elect, re-elect or defeat the contestants during elections once in five years.
- **Ignores voting based on performance-** such as on promises, infrastructure, poverty alleviation, access to basic facilities among others for people of the constituency.
- **Allures parties towards win-ability of candidates-** as locally powerful individuals are approached by the political parties to mobilise voters of their caste/community. It has also led to criminalization of politics.
- **Voter Appeasement-** through the use of freebies, pampering of segments using unjust means and creating a spiral of counter-appeasements by other political parties.
- **Could lead to bad economics-** due to promises like loan waivers, freebies, income support schemes which have a huge burden on the financial discipline of the state exchequer.
- **Halts the long-term vision for the nation-** as the parties make tall promises to win the immediate elections. This does not allow the election discussion to focus on long term goals for the nation such as defence procurement, national security strategy, electoral reforms, environmental conservation.
- **Creates fractures in the society-** based on class, caste, creed, race, religion, region, language etc which leads to factionalism in the society.

Positive Side of Vote Bank Politics

- **Increases both the individual and collective bargaining power-** when a particular group aligned on the basis of caste, sect, religion, or language is recognised by one or more political party, the chances of their demands and aspirations getting fulfilled are much higher than that of a group or community that is not recognised as a vote bank. E.g. Persons with disabilities, Women.
- **Helps address diverse needs-** especially in a country like India, where uniform policies may ignore critical issues. E.g. Gender Budgeting has ensured that women are given a particular portion of resources, which they might not reap due to social subjugation and economic dependency.
- **Leads to effective representation in legislature-** as people from all segments of society like minorities, transgender, farmers, traders make it to the law making process, which reflects in the holistic nature of the acts made in a country.
- **Helps safeguard constitutional provisions-** such as abolition of untouchability, elimination of manual scavenging. If ruling party and legislature is dominated by upper caste/ class/ elites, which disregard lower strata of society, then the constitutional safeguards may be ignored by the administration. This pressure ensures that there is no dilution in peoples' rights.
- **Help better distribution of resources-** through welfare economics such as subsidies, interest subvention which help poorer segments of society to raise above the poverty line.
- **Makes parties more and more inclusive-** as parties try to field candidates so as to include all available vote banks in a state. The parties try to portray an inclusive image.

Way Forward

- Vote-bank politics becomes ugly only when it is misused to manipulate the demands of one group or groups in order to polarise society, thereby creating unrest. Given its potential for cynical misuse, vote-bank politics should be seen as an instrument to be deployed by citizens, and not by the political class.
- Vote-bank must develop on issues and people should decide what should be the discourse of an election.
- New issues such as environment conservation, electoral reforms, movement against criminalization of politics etc. could be asked by citizens. It can lead to a healthy democracy practice.

1.4. PARTY SYMBOL ALLOCATION

Why in news?

Recently the Delhi High Court upheld the Election Commission of India's allotment of the 'Two Leaves' symbol to the AIADMK party following a dispute between the two rival factions of the party.

Rules Governing allocation of Party Symbol

- **The Section 29A of the Representation of the People Act, 1951 governs** the election symbols reservation, allocation order and registration of Political parties in India.
- **The Election Symbols (Reservation and Allotment) Order**, 1968 empowers the EC to recognise political parties and allot symbols. It aims to-
  - Provide for specification, reservation, choice and allotment of symbols at elections in Parliamentary and Assembly Constituencies
  - For the recognition of political parties.

How the symbols are allotted?

- A party seeking registration has to submit an application with their choice of a symbol to the Commission **within a period of 30 days** following the date of its formation as per guidelines prescribed by the Election Commission of India.
- **The allotment of symbols is made on first-come-first- served basis**. If two or more political parties apply at the same time and opt for the same symbol, then the allotment is decided based on draw of lots.
- **Two or more recognised political parties** can have the **same symbol** provided they are not contenders in the same States/UT. **For example:** Federal Party of Manipur and Dravida Munnetra Kazhagam (DMK) use **'Rising Sun'** as their symbol.
- The registered but **unrecognised political parties** do not have the privilege of contesting elections on a fixed symbol of their own choice. They have to choose from **a list of 'free symbols'** issued by the ECI.
- Initially, the commission allotted symbols unilaterally. However, from 1968 onwards, **parties obtained a say in the choice of their symbol**, which gave them an opportunity to choose meaningful visual representations of their identity.

Significance of Party Symbol in India:

- Symbols are critical for political parties since a large section of **voters in the country are illiterate** and depend on symbols to identify the party they want to vote for.
- Having a pan-India symbol helps **parties reach out to prospective voters.** The symbols remain **evocative tool** of the major political groups.
- It also reflects a party's **identity**, **values** and, sometimes, **social base**.

1.5. OFFICIAL SECRETS ACT

Why in news?

The Government of India threatened to **invoke the Official Secrets Act** and initiate "criminal action" against the two publications that had run reports on the Rafale deal.

About Official Secrets Act

- It is India's **anti-espionage act**, brought in **1923** during the colonial period to prevent all such actions that could help in any way the enemy states.
- The act was retained after independence. The law, applicable to **government servants and citizens**, provides the framework for dealing with espionage, sedition, and other potential threats to the **integrity of the nation.**
- It broadly deals with two aspects-
  - **Section 3-** Spying or espionage
  - **Section 5-** Disclosure of other secret information of the government. This information can be any official code, password, sketch, plan, model, article, note, document or information. Here both the person communicating the information, and the person receiving the information, can be punished.

Major Instance when the act was invoked

- **Coomar Narain Spy Case (1985)-** Twelve former staff members in the Prime Minister's Office and Rashtrapati Bhavan Secretariat were sentenced to 10 years' imprisonment.
- **ISRO Spy Case-** against the scientist S Nambi Narayan for passing on rocket and cryogenic technology to Pakistan for illegal gratification.
- **Iftikhar Gilani Case-** The Kashmir Times journalist charged with spying for Pakistan was arrested in 2002.
- **Madhuri Gupta Case-** the formal diplomat was sentenced to three years in jail for passing on sensitive information to the ISI.

- Apart from these, it also includes withholding information, interference with the armed forces in prohibited/restricted areas, among others, punishable offences.
- If guilty, a person may get up to 14 years' imprisonment, a fine, or both.

Concerns with the Official Secrets Act

- **Lack of Clarity-** The Official Secrets Act does not define the terms **"secret" or "official secrets"** or any parameters have been identified**.** Public servants could deny any information terming it a "secret".
- **Conflict with the Right to Information Act- Section 22** of the RTI Act provides for its primacy vis-a-vis provisions of other laws, including OSA. This gives the RTI Act an overriding effect, notwithstanding anything inconsistent with the provisions of OSA. However, under Sections 8 and 9 of the RTI Act, the government can also refuse information. So effectively, if government classifies a document as "secret" under OSA Clause 6, that document can be kept outside the ambit of the RTI Act.
  - The act has invited criticisms for being used as a shield by the governments for refusing to divulge information and misusing it against whistleblowers.
- **Shoots the messenger-** The attempt to target the messenger and to criminalise the whistleblower, all under cover of "national security" or "stability" of government or "official secrecy", is an attack on the freedom of expression and the people's right to know.
- **Against the ethics of journalism-** where journalists are harassed by the state and forced to reveal their sources.

Efforts taken to review the act

- **Law Commission -** In its report on '**Offences Against National Security'**, it observed that "merely because a circular is marked secret or confidential, it should not attract the provisions of the Act, if the publication thereof is in the interest of the public and no question of national emergency and interest of the State as such arises". The Law Commission, however, **did not recommend** any changes to the Act.
- **Second Administrative Reforms Commission, 2006-** recommended that OSA be **repealed, and replaced** with a chapter in the National Security Act containing provisions relating to official secrets.
- **High Level Panel under Union Home Ministry, 2015-** It submitted its report to the Cabinet Secretariat on June 16, 2017, recommending that OSA be made **more transparent and in line with the RTI Act**. No action has been taken on the panel's report.
- **Judiciary's view-** Delhi High Court in 2009 ruled that publishing a document merely labelled as "secret" shall not render the journalist liable under the OSA.

Way Forward

- The act can be repealed or merged with other acts such as RTI Act.
- Further, objective parameters should be drawn on various actions and what constitutes "secret" as per the law.
- The threats to security and integrity of the state needs to be balanced with the fundamental rights given to the people under the Constitution of India.

1.6. LOKPAL

Why in news?

PM-led selection panel recently cleared the former Supreme Court Judge Pinaki Chandra Ghose as **first Lokpal** of India.

Background

- The Lokpal and Lokayukta Act, 2013 was enacted after the Indian anti-corruption movement of 2011 with series of protests for the Jan Lokpal Bill.
- However, the appointment of the Lokpal was **delayed because of absence of leader of opposition,** who is a member of selection panel to recommend Lokpal. After this the Supreme Court intervened and set deadlines for appointing the Lokpal at the earliest.

Salient features of The Lokpal and Lokayukta Act, 2013

- **Institutional mechanism**: Establishment of **Lokpal for the Union and Lokayukta for States** to inquire into allegations of corruption against certain public functionaries.
- **Composition**: Lokpal will consist of **a chairperson and a maximum of eight members**, of which 50% shall be judicial members and 50% shall be from SC/ST/OBCs, minorities and women.
- **Appointment process**: It is a two-stage process.
  - A **search committee** which recommends a panel of names to the high-power selection committee.
  - The **selection committee** comprises the Prime Minister, the Speaker of the Lok Sabha, the Leader of the Opposition, the Chief Justice of India (or his nominee) and an eminent jurist (nominated by President based on the recommendation of other members of the panel).
  - President will appoint the recommended names.
- **Jurisdiction**: The jurisdiction of Lokpal extends to
  - Anyone who is or has **been Prime Minister, or a Minister in the Union government, or a Member of Parliament, as well as officials of the Union government under Groups A, B, C and D.**
  - The chairpersons, members, officers and directors of any board, corporation, society, trust or autonomous body either **established by an Act of Parliament or wholly or partly funded by the Centre.**
  - Any society or trust or body that receives **foreign contribution above ₹10 lakh.**
- **Exception for Prime Minister**
  - It does not allow a Lokpal inquiry if the allegation against the PM relates to international relations, external and internal security, public order, atomic energy and space.
  - Complaints against the PM are not to be probed unless the full Lokpal bench considers the initiation of inquiry and at least 2/3rds of the members approve it.
  - Such an inquiry against the PM (if conducted) is to be held in camera and if the Lokpal comes to the conclusion that the complaint deserves to be dismissed, the records of the inquiry are not to be published or made available to anyone.
- **Salaries, allowances and service conditions** of the Lokpal chairperson will be the same as those for the Chief Justice of India; those for other members will be the same as those for a judge of the Supreme Court.
- **Inquiry wing and prosecution wing:** Inquiry Wing for conducting **preliminary inquiry** and Prosecution Wing for the purpose of prosecution of public servants in relation to any complaint by the Lokpal under this Act.
- **Power with respect to CBI**: Power of superintendence and direction over any investigation agency including CBI for cases referred to them by Lokpal. Transfer of officers of CBI investigating cases referred by Lokpal would need approval of Lokpal.
- **Timelines for enquiry, investigation:** Act specifies a time limit of **60 days for completion of inquiry and 6 months for completion of investigation** by the CBI. This period of 6 months can be extended by the Lokpal on a written request from CBI.
- **Confiscation of property:** The act also incorporates provisions for attachment and confiscation of property acquired by corrupt means, even while prosecution is pending.
- The administrative expenses of the Lokpal, including all **salaries, allowances and pensions of the Chairperson, Members or Secretary or other officers or staff of the Lokpal**, will be charged upon the **Consolidated Fund of India** and any fees or other money taken by the Lokpal shall form part of that Fund.
- **Suspension, removal of Chairperson and member of Lokpal:** The Chairperson or any Member shall be removed from his office by order of the President on **grounds of misbehaviour after the Supreme Court report.** For that a petition has to be signed by at least one hundred Members of Parliament.
- **Special Court** shall be setup to hear and decide the cases referred by the Lokpal.

Positive features of the Act

- **It has a wide jurisdiction including Prime Minister of the country.**
- **It empowers citizens to complain** to the Lokpal against corruption by public officials, thus Lokpal is a powerful tool for citizens to hold authorities accountable.
- It is applicable to public servants in and outside India. This indicates that Act has **extraterritorial operation.**
- **Special courts and clear timelines** at each stage can ensure that investigation is completed in time bound manner.

- Provisions for **prosecution and punishment for filing false and frivolous or vexatious complaint** will ensure that Lokpal is not misused for political gains or to settle other scores.
- Lokpal can **issue directions to agencies in India like CBI, CVC** while investigating, and prosecuting cases under the direction of Lokpal. This ensures **independent** functioning free from government interference.

Issues with the Act

- **Requirement of Government Approval:** The Act does not vest power of prior sanction with Lokpal for enquiry and investigation of government officials.
- **Timeframe limitation:** The Act envisages that the Lokpal **shall not inquire into any complaint, made after seven years from the date** on which the offence has been committed. This restricts the scope, especially in relation to some of the large and complex scams that are exposed from time to time.
- **No Suo Moto power with Lokpal:** The Lokpal has been deprived of the authority of taking suo moto cognizance of the cases of corruption and maladministration.
- **Constitution of Lokayukta**: The Act mandates establishment of the Lokayukta in every state within a period of one year from the date of commencement of this Act. However, there are many states who have not taken action in this regard.
- **Power and Jurisdiction of the Lokayuktas in States:** State legislatures are free to determine the powers and jurisdictions of the Lokayukta which may establish weak Lokayuktas.

Way forward

- Lokpal can be given **constitutional status** to make it truly independent of political intervention.
- To prevent **Leader of Opposition** issue in future, an amendment to treat the leader of the largest Opposition party as the Leader of the Opposition for this purpose can be brought as done in respect of appointments of CBI Director and Central Vigilance Commissioner.
- Strict **guidelines and norms need to be setup to ensure** that the institution of Lokpal does not get buried into day to day complaints regarding administrative inefficiency, corruption etc.
- Provisions for the **protection to whistleblowers** shall be included in the Act, which was demanded in Jan Lokpal Bill.

1.7. REDUCING NUMBER OF TRIBUNALS

Why in news?

Recently Chief Justice of India while heading a Constitution Bench suggested having as few tribunals as possible.

More in news

- The Bench is hearing a batch of petitions, which challenges the amendments in the **Finance Act, 2017**.
- The amendments to the Finance Act, 2017:
  - provides that the **central government may make rules** to provide for the qualifications, appointments, term of office, salaries and allowances, resignation, removal, and other conditions of service for the Chairpersons and other members of the Tribunals that will continue to operate.
  - state that the **central government will have the power to amend the list of Tribunals**, through a notification.
  - replaces certain existing Tribunals and transfer their functions to other Tribunals. For example, the Airports Economic Regulatory Authority Appellate Tribunal has been replaced by the Telecom Disputes Settlement and Appellate Tribunal (TDSAT).

Tribunals in India

- A tribunal is a **quasi-judicial body** established in India by an Act of Parliament or State Legislature under **Article 323A or 323B** to resolve disputes that are brought before it.

> **Advantages of Tribunals**
> - **Flexibility:** Administrative adjudication has brought about flexibility and adaptability in the judicial as they are not restrained by rigid rules of procedure and can remain in tune with the varying phases of social and economic life.
> - **Less Expensive:** They are set up to be less formal, less expensive, and a faster way to resolve disputes than by using the traditional court system.
> - **Relief to Courts:** The system also gives the much-needed relief to ordinary courts of law, which are already overburdened with numerous suits.

- Articles 323-A and 323-B were inserted through the **42nd Amendment Act of 1976 on recommendation of Swaran Singh Committee.**
  - **Article 323A** deals with administrative tribunals.
  - **Article 323B** deals with tribunals for other matters.
- **Technical Expertise:** They play an important role and part in the sphere of the adjudication of disputes especially when the subject demand technical expertise.
- They do not have to follow any uniform procedure as laid down under the Civil Procedure Code and the Indian Evidence Act but they have to **follow the principles of Natural Justice.**

> **Issues with the amendments**
> - **Reducing parliamentary scrutiny:** by allowing the government to determine the appointment, reappointment and removal of members through rules**.** Earlier these were done through amendments to the respective acts of the tribunals in which Parliament was involved.
> - **Dilution of judicial independence:** as the amendments give more powers to the executive. The Supreme Court in 2014 held that appellate tribunals have similar powers and functions as that of High Courts, and hence matters related to their members' appointment and reappointment must be free from executive involvement.
> - **Unclear rationale:** behind replacing certain tribunals. For example, it is questionable whether the National Company Law Appellate Tribunal, which will replace the Competition Appellate Tribunal, will have the expertise to deal with matters relating to anti-competitive practices.

- They enjoy some of the powers of a civil court, viz., issuing summons and allowing witnesses to give evidence. Its **decisions are legally binding** on the parties, subject to appeal.

Problems with Tribunals

- **Violation of Doctrine of Separation of Powers:** Tribunal is not a court of law and is controlled and manned partly by the Executive which is against the principle of separation of powers and allows the Executive to perform adjudication functions.
- **Undermining the Authority of Judiciary:** Tribunals have largely replaced high courts for disputes under the various Acts. An aggrieved, by an order of an appellate tribunal, can directly appeal to the SC, side-stepping the HC.
- **Conflict of Interest:** The Constitution protects the independence of the judiciary in terms of qualifications, mode of appointment, tenure and mode of removal, which is not available to members of tribunals. They come under the control of the Executive which is the largest litigant in the country and creates a conflict of interest situation.
- **Increasing Pendency:** Average pendency across tribunals is 3.8 years with 25% increase in the size of unresolved cases while pendency in high courts is 4.3 years.
- **Mere court of Appeal:** Number of constitutional matter dealt by Supreme court has been gradually declining. Of the 884 judgements delivered in 2014, only 64 judgements were pertaining to Constitutional question.

> **Problems arising out of sidestepping the HC-**
> - The tribunals do not enjoy the same constitutional protection as high courts as the **appointment process and service conditions** of high court judges are not under the control of the executive.
> - Due to **scant geographic availability** across the country, tribunals are also not as accessible as high courts. This makes justice expensive and difficult to access.
> - When retired high court judges invariably preside over every tribunal, the justification of **expert adjudication by tribunals disappears.**
> - Conferring a direct right of appeal to the SC from tribunals has changed the Supreme Court from a constitutional court to a mere appellate court and has also resulted in a **backlog of thousands of cases in SC** which affects the quality of the court's jurisprudence.
> - SC judges hearing appeals from tribunals would have to deal with the finer nuances of disputes under specialised areas of law for the very first time. This is not ideal for a court of last resort.

- Tribunals many a times have proved **inefficient in delivering quick justice** which was one of the reasons for their establishment.
- Various tribunals are functioning under **various ministries and departments** creating a sort of confusion with respect to the management of the tribunals.
- **Huge vacancies** in dozens of tribunals have defeated the very purpose for which these specialized quasi-judicial forums were created.

Way forward

Law Commission of India (LCI) in its report has laid out a detailed procedure for improving the working of the tribunal system in the country:

- **Qualification of judges** - In case of transfer of jurisdiction of HC (or District Court) to a Tribunal, the members of the newly constituted Tribunal should possess the qualifications akin to the judges of the HC (or District Court).
- **Appointment of Chairman & members of Tribunals**
  o A common nodal agency, should be set up possibly under law ministry to monitor the working of tribunals as well as ensure uniformity in the appointment, tenure and service conditions of all members appointed in the tribunals.
  o **Vacancy arising in the Tribunal** should be filled up quickly by initiating the procedure well in time, preferably within six months prior to the occurrence of vacancy.
- **Selection of the members of Tribunals**
  o **Selection should be impartial** with minimal involvement of government agencies as the government is a party in litigation.
  o **Separate Selection Committee**, for both judicial and administrative members, must be formed.
- **Tenure:** The Chairman should hold office for 3 years or till he attains the age of 70years, whichever is earlier. Whereas Vice-Chairman and Members should hold the office for 3 years or till they attain the age of 67 years whichever is earlier.
- Any order from a tribunal may be **challenged before the Division Bench of the HC** having territorial jurisdiction over the Tribunal or its Appellate Forum since judicial review is the basic feature of Indian constitution.
- The Tribunals must have **benches in different parts of the country** so that people may have easy Access to Justice, ideally where the High Courts are situated.

2. INTERNATIONAL RELATIONS

2.1. INDIA-RUSSIA DEFENCE RELATIONS

Why in news?

India has recently signed a $3-billion deal with Russia for leasing a nuclear-powered submarine for the Indian Navy.

More about the news

- Under the pact, Russia will have to deliver the **Akula class submarine**, Christened **as Chakra III**, to the Indian Navy by **2025** for a period of **10 years**.
- It is the **third Russian nuclear powered submarine** to be leased to Indian Navy. Earlier, Chakra I was leased in 1988 and Chakra II was leased in 2012. The lease of Chakra II is likely to be extended to 2027 till the new vessel gets build and tested.
- The deal includes refurbishment of the submarine with the **Indian communication and sensor systems,** spares support and training technical infrastructure for its operations.

Defence Relations between India and Russia

- For long time, Russia has been a reliable defence supplier and security partner for India.
- The defence cooperation between the two countries includes purchase and production of advanced military hardware, joint military exercises etc.
- The uniqueness of defence ties lies with the fact that Russia also **transfers associated technology** and makes provision for the **joint production** of such hardware in future. Some of the major defence collaboration programs are: BrahMos Cruise Missile program, Sukhoi Su-30 and Tactical Transport Aircraft.
- However, off late Russia's arms export to India have fallen by a whopping 42 per cent between 2014-18 and 2009-2013.

Strain in the relationship

- **India started diversifying its defence relations with US, Israel, France** etc.
- **India withdrew from Russia's fifth generation fighter aircraft project** because of delays and differences over cost, technologies and flexibility for future upgrades.
- **Russia's decision to supply Pakistan with Mi-35 helicopters and Russia-Pakistan joint exercises** alarmed Indian defence establishment.
- Russia-China relationship has become stronger with both being challenged by the United States, politically, economically, and strategically**.** With weak economy, **Russia is increasingly becoming dependent on China for economic cooperation.**

Reinforced defence partnership

- **Materializing of Su-400 air defence systems and nuclear-powered submarine (Chakra III) deal** despite threats of sanctions by US under CAATSA.
- **Russia agreed for the construction of Ka-226 helicopters in India under Make in India initiative.**
- For facilitating cooperation in defence, an Inter-Governmental Commission on Military-Technical Cooperation was also established. Recently, it was revised to **Indian-Russian Intergovernmental Commission on Military and Military Technical Cooperation (IGC-MMTC).** It emphasises that military-to-military ties are as important as military technical cooperation related to weapons and systems.
- **The first ever Tri Services Joint Exercise between Indian and Russian Armed Forces Exercise** INDRA-2017 was successfully conducted. Russia is the only country with which India holds a joint tri-service exercise.

Conclusion

The India-Russia relationship is a time tested one that both parties have substantial reasons to preserve. With economic cooperation not picking up steam as per expectations, military transactions will define the relationship even more than in the past. Therefore, India and Russia need to learn the art of balancing in order to further strengthen its military strategic partnership.

2.2. JAPAN-INDIA SPACE DIALOGUE

Why in News?

India and Japan conducted their **first Annual Bilateral Space Dialogue** at New Delhi.

Background

- The **Japan-India Space Dialogue** for enhancing bilateral cooperation in outer-space, was established in October 2018. It includes sharing satellite data and surveillance technologies.
- It aims in part to **keep pace with** the U.S., China and Russia in this area.

Highlights of the Dialogue

Major issues discussed during the dialogue include-

- Space-based **maritime domain awareness** and **satellite reconnaissance** through the harmonization of positioning, navigation, and timing (PNT) systems and Space exploration.
- Sharing of **satellite and radar information** as well as ground infrastructure.
- Talks on Global navigation satellite system, Space situational awareness (SSA), Space security and space-related norms.

Significance of India-Japan Space Collaboration

- **Strengthening space diplomacy:** Space has emerged as new arena for competition and cooperation for global powers to compete and establish supremacy. Until now, India has held a space security dialogue only with the US, which began only in March 2015.
- **Enhancing Soft-Power of India:** Space technology being highly complex gives any nation international recognition, status and projects its soft-power. The dialogue will enhance and project India's soft-power and goodwill among our partners as we share the fruits of advancements in space technology with them.
- **Countering Chinese might:** India hopes that the **Japan Aerospace Exploration Agency (JAXA)** can help it keep tabs on Chinese troop movements along its northern border. Japan believes that India's ocean surveillance capabilities can help it track Chinese naval vessels in the South China and East China seas and detect signs of North Korean missile activity.
- **Diversification of Sources:** India is dependent on the US **reconnaissance** satellite imagery for the movement of Chinese troops along its borders and with this new Space dialogue, India is looking at other sources to gather information.
- **Maritime Security: Surveillance and Maritime Domain Awareness (MDA)** of the waters of the entire stretch of Indo-Pacific (East China Sea, the South China Sea and the Indian Ocean) will be a key focus area in the bilateral space collaboration.
- **Space explorations:** Both ISRO and JAXA had inked the Implementation Arrangement (IA) concerning of Joint Lunar Polar Exploration Mission and conducted the feasibility study.

2.3. OIC MEET

Why in News?

Recently for the first time India's External Affairs Minister, attended the inaugural plenary of the 46th session of the Council of Foreign Ministers (CFM) of Organisation of Islamic Countries (OIC).

Background

- India was invited to attend the first summit of the OIC 50 years ago in 1969 in Morocco. But the Indian delegation had to return midway due to a withdrawal of the invitation after Pakistan's objection. It was a setback for Indian diplomacy.
- **In 2002,** it was Qatar that first proposed observer status for India at the OIC foreign ministers' meet but Pakistan had consistently blocked the move.
- **In 2018,** Bangladesh along with Turkey proposed restructuring of the charter of the Organisation of Islamic Cooperation to pave way for the inclusion of non-Muslim countries like India as an 'observer state'.
- The invitation is seen as a major triumph for Indian diplomacy and a major setback for Pakistan. It reflects recent boost in economic and security ties with West Asian nations.

Challenges faced by India in OIC

- **Presence of Pakistan:** Pakistan has always objected India's entry into the group, stating that any country wishing to get observer status should not be involved in any dispute with an OIC member state.
- **OIC's stance on Jammu and Kashmir:** It has been generally supportive of Pakistan's concerns over Jammu and Kashmir. With regards to this, the OIC has been issuing statements criticizing alleged atrocities and human rights violations in the state.
- **Position on Israel:** OIC condemns any arbitrary steps by Israel which undermine the international efforts to reach the two-states solution and achieve peace. Though traditionally, India has been a supporter of the two-State solution, its deepening relation with Israel can be a challenge.

Arguments in favour of India's membership at the OIC

- **Second largest Muslim Community:** Though India is neither a part of the Muslim world nor a Muslim majority state in statistical terms, yet it host the second largest community of Muslims in the world. Countries like Thailand and Russia are observer members, despite having a significant minority Muslim population.
- **West Asian Diaspora:** There are also some eight million Indians in West Asia, who contribute to these economies as well as cultural richness.
- **Co-operation in Strategic and economic matters:** Apart from a large diaspora, India is the third largest economy in the world and one of the biggest importers of hydrocarbons like gas and oil. West Asia and India's growing economic and energy interdependence makes it difficult for the former to ignore the latter.
- **Countering Pakistan:** India's deepening ties with Islamic world could act as a bulwark to prevent Pakistan from using the secretariat and OIC forum for its own propaganda.

> **About the Organisation of Islamic Cooperation (OIC)**
> - It is the **second largest inter-governmental organization** after the United Nations, established in 1969 with a membership of 57 states spread over **four continents**.
> - The Organization is the collective voice of the Muslim world. Its administrative **headquarter** is in **Jeddah,** Saudi Arabia.
> - It has permanent delegations to the United Nations and the European Union.
> - It endeavors to safeguard and protect the interests of the Muslim world in the spirit of promoting international Peace and harmony among various people of the world.
>
> **46th Session of CFM of OIC**
> - **Theme of the meet:** "50 years of Islamic cooperation: The road map for prosperity and development,"
> - It adopted the **"Abu Dhabi declaration".**
>
> **"Abu Dhabi declaration":**
> - It was named "**Document on Human Fraternity for World Peace and Living Together"** and it seeks to encourage stronger relationships between people to promote coexistence among peoples and to confront extremism and its negative impacts.
> - The OIC refrained from giving in to Pakistan's demands to include Kashmir issue in the final declaration.

2.4. MALAYSIA ACCEDES TO ROME STATUTE

Why in news?

Recently, Malaysia signed the Instrument of Accession to the Rome Statute, becoming 123rd member state of International Criminal Court.

Relevance of ICC

- **Serve as catalyst for strengthening domestic legal action i**n pursuit of justice and accountability for atrocities and international crimes.
- **Act as a court of last resort** with the capacity to prosecute individuals for genocide, crimes against humanity and war crimes, **when national jurisdictions for any reason are unable or unwilling to do so.**

> **International Criminal Court**
> - It is the first permanent, treaty-based, International criminal court, with jurisdiction to prosecute individuals for international crimes of genocide, crimes against Humanity, war crimes and crimes of aggression.
> - Established in 2002 and governed by the Rome Statute, which was adopted in 1998.
> - It has territorial jurisdiction over nations that are party to the Rome Statute or have accepted the court's jurisdiction.
> - It is an **independent judicial body** distinct from the UN.
> - It works in cooperation with UN, Reports annually to the UNGA and also hear cases referred to by UNSC.
> - It is located in **The Hague, The Netherlands**.
> - **India is not a member of ICC** (neither signed nor ratified).

- **Have made particular advances** in combating impunity in **relation to crimes against children and women**. Gender crimes were featured in the vast majority of ICC cases to date.
- **Creating nexus between justice and development** by setting up **Trust Fund for Victims**, which provides assistance to victims and their families to rebuild sustainable livelihoods.

Criticism against ICC

- The ICC has **no police force of its own to track down and arrest suspects.** Instead it relies on national police services to make arrests and seek their transfer to The Hague. **With member-countries refusing to cooperate in arrests, its efficiency is undermined.**
- **Flawed structure –** ICC can open cases on referral by UNSC. Given that **three of the five permanent members of UNSC (USA, China and Russia) are not members of ICC, yet they have the power to refer cases from other countries to the very same** organisation, shows the existence of double standard. Also**, the three powers can veto an indictment contradictory to the agenda of their nation** allowing the crime and perpetrator to go unpunished.
- **Financial constraints -** Although the Court's budget has grown in the last years, **it has not grown to the same extent as its workload impacting its efficiency.** The absence of the US in particular makes funding of the court more expensive for others.
- **Limited membership –** A number of important Counties like US, Russia, China, India and others has not joined ICC citing concerns **regarding interference in internal affairs, threat to sovereignty and politically motivated or frivolous prosecutions**.
- **ICC has been criticised by African Union for its racist agenda and bias against African continent.** Since it began its operations in 2002, the Office of the Prosecutor has brought charges against 31 individuals and all of them are African.

Conclusion

In order for the court to fully realize its potential, it must **enhance its credibility with clear standards and goals, as well as successful indictments, prosecutions and convictions of heinous war criminals** in different parts of the world. Some steps that can be taken in this regard are:

- Rules must be laid by the ICC and the parties of the Rome Statute to ensure the full support of the states such as economic sanctions as consequence of disobedience of the treaty.
- A permanent policing force directly under the umbrella of the ICC.
- Courting the permanent members of UNSC to sign and ratify the treaty in order to receive more support and power, enabling the court to function properly.
- The indictment of war criminals in other parts of the world, the court must make it a priority to shed the claim of bias against African continent.
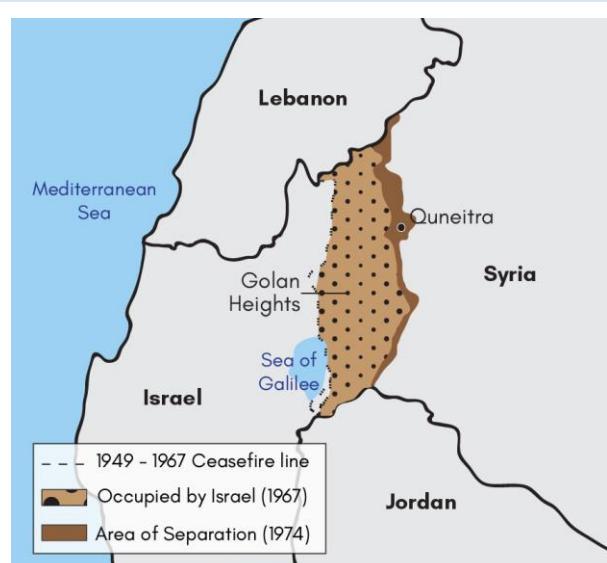
2.5. GOLAN HEIGHTS

Why in news?

US President has **officially recognised** Israeli sovereignty over the occupied Golan Heights, seized from Syria in 1967.

Background

- The Golan Heights are a 1,200 square kilometre **plateau on the Israel-Syria border**, which were part of Syria until 1967, when **Israel captured it in Six Day War of 1967**.

- In 1981 Israel passed a law extending its jurisdiction to Golan Heights, effectively annexing it. However, **UNSC resolution 497**, adopted in December 1981, declared that the Israeli Golan Heights Law **"null and void and without international legal effect"** and further called on Israel to rescind its action.

Map legend:
- – – 1949 - 1967 Ceasefire line
- Occupied by Israel (1967)
- Area of Separation (1974)

Labels on map: Lebanon, Mediterranean Sea, Quneitra, Golan Heights, Syria, Sea of Galilee, Israel, Jordan

Why Golan Heights are important?

- **Strategic Importance:** The Golan Heights give Israel an excellent vantage point for **monitoring Syrian movements**. The plateau provides a **natural buffer** between Israeli towns and the instability in Civil war torn Syria. Also, it acts as buffer against Iran, which is an ally of Syria, adversary of Israel.
- **Water Resources and Fertile Land:** The area houses the **Jordan River**'s drainage basin, **Lake Tiberias**, the Yarmuk River and underground aquifers. Also, the fertile soil is used to cultivate vineyards and orchards and raise cattle.
  - Israel's main source of fresh water (**Sea of Galilee**) is located a few hundred metres to the east of the shore.

Syrian Response

The Syrian government condemned US's decision and said Syria was determined to recover the area "**through all available means**". Also, EU, Russia, Arab countries condemned US decision.

Implications of US decision

- Trump's decision marked a **shift in US policy**, which till now has refused to accept the Israeli occupation of Golan, and urged that the dispute must be resolved diplomatically. Last year US recognised the disputed city of **Jerusalem as Israel's capital**, moved the American Embassy to Jerusalem from Tel Aviv, and stopped aid to Palestinian refugees.
- Though on the ground, USA's announcement changes little as there is slack progress on the status of the Golan Heights. Yet, **symbolically** this decision **flouts international norms** and consensus, and sets a **dangerous precedent** for nations involved in conflicts.
- By this decision US is **normalising and justifying occupation**, even against the people inhabiting the area. US decision would make **possibility of any future settlement difficult** between Israel and Syria.
- This decision can **escalate** an already tense situation between Israel on one side and Syria and Iran on the other.
- Decision may undermine USA's **traditional role as a mediator in the Israel Palestine conflict** as Arab countries may not be willing to accept US as honest mediator.

2.6. WHO REFORMS

Why in news?

Recently, the World Health Organization announced sweeping reforms to **modernize and strengthen** itself. It has put out a **seven point agenda** to achieve its **triple billion targets**.

About WHO

- The World Health Organization (WHO) is a **specialized agency** of the United Nations that is concerned with international public health. It was established on 7 April 1948, and is headquartered in **Geneva, Switzerland**.
- The WHO is a member of the **United Nations Development Group**.
- WHO has **194 member states**: all of them Member States of the United Nations except for the Cook Islands and Niue
- The **World Health Assembly (WHA)** is the legislative and supreme body of WHO. It meets annually and reviews various works of WHO. It also appoints the Director-General every five years.
- The WHO operates "**Goodwill Ambassadors**"; members of the arts, sports, or other fields of public life aimed at drawing attention to WHO's initiatives and projects.
- The WHO is **financed by contributions** from member states and outside donors.
- **Publications of WHO-** World Health Report, Bulletin of the World Health Organization, Eastern Mediterranean Health Journal, the Human Resources for Health, Pan American Journal of Public Health.
- The WHO supports the development and distribution of safe and effective vaccines, pharmaceutical diagnostics, and drugs, such as through the **Expanded Programme on Immunization.**

> **Relevance of WHO**
> - Providing leadership on Global Health
> - Shaping the research agenda
> - Setting the standards for Global Health
> - Advocating for Evidence-Based and Ethical Policy
> - Monitoring and Assessing Health Trends and Concerns
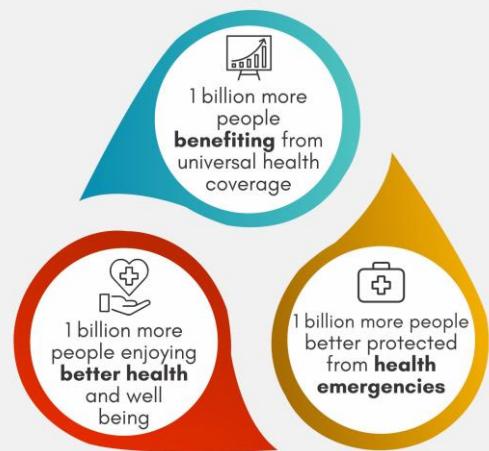
Need for Reforms

- **Unable to respond effectively to existing and anticipated global health challenges-** e.g. faulted response to the 2014 Ebola outbreak.
- **Widening gap between the agency's mandate and capabilities-** A report by independent experts concluded that WHO lacks the capacity to deliver a full emergency public health response. WHO requires a systematic overhaul of its structure and practices to build this capacity.
- **Donor dependency-** with only 30 percent of its budget under WHO control, the organization's agenda is guided by donor priorities. This goes against the principle of equity, which requires all countries' requirements to be included in its agenda.
- **Lack balance of staff skills-** nearly half of WHO staff includes medical specialists with only 1.6 % social scientists, and 1.4 % lawyers. Although medical specialists are crucial for technical expertise, other staff composition is needed to understand the local traditions and culture, manage international relations and perform some of its core functions such as creating rules and principles for global health.
- **Emergence of new global institutions-** which have challenged the WHO's leadership in global health such as Global Fund to Fight AIDS, Tuberculosis and Malaria, GAVI Alliance, and Unitaid etc.

WHO Reforms underlying the Seven Point Agenda

- **Aligning WHO's processes and structures with the "triple billion" targets and the Sustainable Development Goals-** by adopting a new structure and operating model to align the work of headquarters, regional offices and country offices, and eliminate duplication and fragmentation.

TRIPLE BILLION TARGETS OF WHO

1 billion more people **benefiting** from universal health coverage

1 billion more people better protected from **health emergencies**

1 billion more people enjoying **better health** and well being

- **WHO's new corporate structure is based on four pillars** which will be mirrored throughout the organization, which are **the Programmes pillar, the Emergencies pillar, the External Relations & Governance pillar and the Business Operations pillar.**
- **Reinforcing WHO's normative, standard-setting work-** supported by a **new Division of the Chief Scientist** and improved career opportunities for scientists.
- **Harnessing the power of digital health and innovation-** by supporting countries to assess, integrate, regulate and maximize the opportunities of digital technologies and artificial intelligence, supported by a **new Department of Digital Health**.
- **Making WHO relevant in all countries-**by overhauling the Organization's capabilities to engage in strategic policy dialogue.
  - This work will be supported by a **new Division of Data, Analytics and Delivery** to significantly enhance the collection, storage, analysis and usage of data to drive policy change in countries.
  - This division will also track and strengthen the delivery of WHO's work by monitoring progress towards the "triple billion targets" and identifying roadblocks and solutions.

> **Soumya Swaminathan Becomes Chief Scientist**
> - As part of the reforms at the World Health Organisation (WHO), Soumya Swaminathan has been moved from the position of Deputy Director-General to Chief Scientist.
> - She is the **first Indian** to hold the post.

- **Investing in a dynamic and diverse workforce through new initiatives-** including the WHO Academy, streamlined recruitment process to cut hiring time in half, management trainings, etc.
- **Strengthening WHO's work to support countries in preventing and mitigating the impact of outbreaks and other health crises** by creating a **new Division of Emergency Preparedness**, as a complement to WHO's existing work on emergency response.
- **Reinforcing a corporate approach to resource mobilization aligned with strategic objectives** and driving new fundraising initiatives to diversify WHO's funding base, reduce its reliance on a small number of large donors and strengthen its long-term financial stability.

Significance of these reforms

- **WHO staff could become more attuned to local issues**- avoiding a repeat of the situation from the West Africa Ebola outbreak, when poor communication and relations between Geneva and the regional office for Africa and country offices led to a "botched" response.
- **Increase the WHO's technical capacities and capabilities-** Creating new departments focused on science, antimicrobial resistance and digital health will also broaden the WHO's range of expertise and keep up with the latest public health challenges and opportunities.
- **Help focus on the mission of WHO-**which does not have the capacity to do everything and has frequently found itself responding to situations rather than setting its own agenda. It may also encourage member states to provide additional resources if they have a better idea of where that money is going

Way Forward

- **Need to coordinate with other global players-** as these reforms do not address how the organization should interact with major global health players like the Bill and Melinda Gates Foundation and Doctors Without Borders
- **Need to mobilize more resources-** WHO's current biennial budget is 4.42 billion, with overwhelming majority dictated by donors and their priorities, which leaves the organization limited control over the funding.

3. ECONOMY

3.1. INDEPENDENT FISCAL COUNCIL

Why in news?

15th Finance Commission's Chairman NK Singh has pitched for an institutional mechanism like a 'Fiscal Council' to enforce fiscal rules and keep a check on the Centre's fiscal consolidation.

Issues in fiscal management

- **Poor Budgetary Forecasting:** Budgets often overstate revenue projections (15 out of 20 years since fiscal 1998) and understate expenditures (12 out of 20 years since fiscal 1998). According to CAG Report in 2017, the over-ambitious revenue targets combined with the lack of transparency in tax administration lead overzealous taxmen resorting to 'irregular' and 'unwarranted' methods to meet targets.
- **Limited Tax Buoyancy:** Faster growth in nominal gross domestic product (GDP) usually leads to faster growth in tax collections. However, in India, tax buoyancy shows no stable pattern and hence, forecasting tax revenues is difficult.
- **Creative Accounting:** Moreover**, fiscal deficits are also understated by** the use of 'creative accounting' such as 'rolling over' a part of the overall subsidy bill & dues to the states to the next financial year; using PSEs like LIC to purchase divested stakes in the disinvestment process.
  - o Such "creative" accounting has led to a decline in the headline fiscal deficit number but failed to reduce India's public debt to GDP ratio, adversely impacting India's macroeconomic stability.
- **Use of Extra Budgetary Resources (EBR):** Over the years, the Govt's **reliance on EBRs**- such as funds of state-owned enterprises like LIC, SBI etc - to fund Govt. programmes has increased, but it doesn't appear in real time fiscal deficit numbers. E.g. 61.4% of all capital expenditure outlined in the 2018-19 Budget is to be financed through EBR, up from 54% in 2016-17.
- **Absence of uniform fiscal consolidation rules for centre & states:**
  - o Various cesses and surcharges, in which States' have no share, are becoming a disproportionate portion of overall divisible revenue. This is against the spirit of fiscal federalism and financial devolution process.
  - o For State Govt., Art 293(3) provides a constitutional check over market borrowings while no such restriction is there for the centre.
  - o States have constraints in managing their finances as the RBI controls their deficit and cannot float a bond on a state's behalf without the Centre's approval.
- **Non-adherence to Fiscal Responsibility and Budget Management (FRBM) Act targets:** Since 2003 FRBM law came into effect, there have been four pauses in the deficit targets enshrined in it and many occasions where the targets have been flouted.
- **Fiscal Populism:** Political class has the tendency to make fiscal policy over-expansive, which increases burden on future government and thus, has detrimental long-run impacts e.g. loan waivers to farmers, tax waiver to MSMEs etc.
- **Poor institutional infrastructure for monitoring:** CAG has presented its audit report on Compliance of the Fiscal Responsibility and Budget Management (FRBM) Act, 2003 but the assessment is only post-facto.

Why fiscal discipline is important?

- **To improve investment:** Pile-up of past domestic debt that severely restricts the ability to finance new investment. If debt becomes unsustainable, there is an increased risk of default & hence, downgrading of sovereign credit ratings by the agencies like CRISIL, Standard & Poor, Moody's etc.
- **Increasing credit availability to private sector:** As more money is lent to government rather than invested in the market, corporate sector is crowded out leading to slower industrial and capital asset growth and potential loss of employment.
- **Control inflation:** Too much of government debt can lead to inflation and reduction in real interest rates. It might prompt people to invest more in gold and real estate, thereby accentuating the problem of poor economic liquidity and black money.
- **Intergenerational parity** will be hurt as future generations will have to pay increased taxes to settle the government debt.

- **Constitutional Requirement:** Article 292 of the Constitution envisages fiscal responsibility in the form of legislation that obliges the government to have a ceiling on debt.

Functions of Independent Fiscal Council

- Prepare **multi-year fiscal forecasts** for the central and state governments.
- Define a **sustainable level of public debt.**
- Provide an independent assessment of the central government's borrowing & fiscal performance.
- Government must also **consult the council** before **flouting fiscal deficit targets.**

Advantages of an Independent Fiscal Council (IFC)

- IFC's evaluation of budget announcements & forecasts would indicate how realistic government projections are. This would be a **check on competitive populism** in Indian polity and would **increase financial accountability of the government** to the Parliament.
- An institutional mechanism for sound fiscal practices will bring in **transparency**, **instill confidence among domestic & foreign investors** and improve policy outcomes.
- It will **promote the culture of proper disclosures** and good accounting practices within the Govt.
- Most fiscal councils across the world are able to **discipline lawmakers through 'comply or explain' obligations**— requiring governments to at least explain the divergence from the fiscal council's views.
- International experience suggests that a fiscal council improves the quality of debate on public finance, and that, in turn, helps build **public opinion favourable to fiscal discipline.**
- An institutionalized fiscal council would **enhance cooperation** with Finance Commission and GST Council.

Conclusion

According to International Monetary Fund (IMF), IFCs are now an indispensable part in the design of fiscal frameworks aimed at guiding fiscal policymakers' discretion. An independent fiscal council can bring about much needed transparency and accountability in fiscal processes across the federal polity.

3.2. SWAP FACILITY

Why in news?

The Reserve Bank of India (RBI) has introduced a **$5-billion dollar-rupee swap facility** for the banks to facilitate **permanent liquidity support**.

Background

- The Reserve Bank of India has various monetary tools to manage liquidity in the financial market.
- Adjusting repo rates and purchasing bonds by conducting open market operations (OMO) are a couple of tools which the RBI uses regularly either to increase or decrease the currency supply in the market.
- However, despite these efforts, there is a liquidity crunch in the market and as a result, this swap facility has been announced to increase the supply of rupees in the market.

Need for this Swap Facility

- **Widened Liquidity Deficit**
  o Indian financial markets have been undergoing liquidity problems since the IL&FS crisis emerged last year. The system liquidity is dry to the tune of little **more than Rs 1 trillion.**
  o This crunch will become more acute in the coming days due to **advanced tax outflows** (estimated at Rs 1.5 trillion) **and the goods and services tax** (estimated at Rs 1 trillion), which will suck out liquidity from the system.
  o This liquidity will return only in the next financial year as the government starts spending. Till then, rates may shoot up if adequate liquidity support is not given to banks.
  o In addition to this, the demand for rupees is expected to spike in the coming weeks as a result of a huge spending towards the upcoming general elections.
- **Limitation of Open Market Operations-** Banks may not have adequate collateral to pledge to borrow from the RBI because of high SLR (statutory liquidity ratio) and LCR (liquidity coverage ratio) requirement.
- Thus, this liquidity support through dollar purchase would be needed to partially meet the durable liquidity needs of the system

Salient Features of Swap Facility

- **Process of Operation-** Under the swap, a bank would sell US dollars to the RBI and simultaneously agree to buy the same amount of US dollars at the end of the swap period (**March 26,2019 to March 28, 2022**).
- In the auction, the RBI will accept the **spot dollars for a small fee** (forwards premium), and will commit to provide the dollars three years down the line.
- **Maximum limit-** The RBI will buy US dollars from banks totaling to **$5 billion.** Hence, at an average spot rate of 70 per dollar, the RBI will able to infuse about Rs. 35,000 crore into the system through this auction process.
- **Forward Premium-**
  o The participating banks have to bid in the auction by quoting a forward premium **in terms of paisa** that they will pay to buy back the dollars.
  o A cut-off premium will be decided by the central bank, based on the bids.
  o For example, if the spot exchange rate is 70 to a dollar and Bank A quotes a premium of 150 paisa and bids for $25 million. So, the bank will get **Rs.175 crore** ($25 million multiplied by the exchange rate of 70). After three years, the bank has to pay back approximately **Rs.179 crore** ($25 million multiplied by the exchange rate of 71.5) to the RBI to buy back $25 million.

Benefits of the Swap Facility

- **Reduce interest by banks-** with improved liquidity condition with the banks, especially after constrained balance sheets due to double financial repression. This will help customers with cheap loans for homes, cars etc.
- **Increase RBI's Foreign Exchange Reserves-** the auction will help boost it by another $5 billion to the current $400bn corpus. This further improves India's capacity in dealing with hot money outflow and balance of payment crisis.
- **Control appreciation of Rupee-** as there will be increased supply of Rupee. This will help Indian exporters.
- **Reduce financial stress on NBFCs-** Lending from the Non-Banking Financial Companies may also increase.
- **Lower hedge costs for importers-** as increased rupee liquidity is likely to bring down the forward rates.
- **Rise in bond yields-** as there may be fewer Open Market Operations.

Concerns with the Swap Facility

- **Limited Impact as only small portion addressed-** 5bn $ is only about 0.3% of bank net demand and time liabilities
- **May be helpful more for foreign banks-** as the public sector banks that need liquidity support the most, may not be in a comfortable position to take benefit of the scheme.

Significance

- **Overwhelming response received-** Banks offered $16.31 billion for the proposed swaps of up to $5 billion. The RBI accepted $5.02 billion at a cut-off premium of Rs 7.76 for three-year dollars. This has established the instrument as a credible liquidity tool and paving the way for more such auctions in the coming months.
- **Development of new instruments-** Even if the impact may be limited, this announcement has signaled the intent of the RBI to use and development other instruments to manage liquidity.
- **Overcome the challenges of monetary policy transmission-** with the limitations of current instruments such as open market operations.

3.3. MONETARY POLICY TRANSMISSION

Why in news?

The State Bank of India Ltd announced the linking of savings bank account deposits and short-term loans to the RBI's repo rate which may ensure faster monetary transmission.

Background

- **Monetary transmission** refers to the process by which a central bank's monetary policy signals (like repo rate) are passed on, through financial system to influence the businesses and households.

- In India, policy rate changes by RBI are not reflected in the base rates of banks regularly. While rate hikes are passed on immediately, but same is not witnessed in rate cuts by the RBI. This shows there is a lag in monetary transmission.
- The available empirical evidence for India suggests that monetary policy actions are felt with a lag of 2-3 quarters on output and with a lag of 3-4 quarters on inflation, and the impact persists for 8-12 quarters.

Concerns associated with ineffective monetary policy transmission

- **RBI is unable to achieve its mandate effectively-** towards regulating various parameters like inflation, growth.
- **Economic situation remains out of control-** whereby country faces job losses, growth in unemployment rates due to stagnating growth.
- **Inflation hurts the marginalized-** as price rise hits at the pocket of poor sections the most. It becomes a failure on the part of a welfare state.
- **Negative signals to the investors-** which are otherwise tempted to invest in India due to its favorable interest eco-system.
- **Uncertainties in business cycle-** where major companies are not able to take decisions with predictable policy cycle.
- **Ineffectiveness of Fiscal Policy-** whereby government incentives like subsidies, interest subventions do not remain attractive as banks do not respond to policy signals.

Reasons for a lag in monetary transmission in India

- **Overdependence on banks-** The Indian financial system remains bank-dominated, and the share of non-bank finance companies (NBFCs) and markets (corporate bonds, commercial paper, equity, etc.) is less. Hence, most public savings are in Bank deposits, reducing the banks' dependency on repo rate.
- **Locking of bank funds-**
  o **Double Financial Repression-** Pressure on banks due to locking of funds in government securities (SLR) and cash reserves (CRR).
  o **Priority Sector Lending-** creates additional burden on banks to lend on a priority basis.
- **Increasing Non Performing Assets-** in bank balance sheets, which impedes the bank's ability to offer lower interest rates.
- **Sub-optimal performance of MCLR system-** As per a report by Janak Raj Committee, the transmission-
  o was uneven across borrowing categories.
  o was asymmetric over monetary policy cycles – higher during the tightening phase and lower during the easing phase – irrespective of the interest rate system.

> **Marginal Cost of Funds Based Lending Rate (MCLR) System**
> - The marginal cost of funds based lending rate (MCLR) refers to the minimum interest rate of a bank below which it cannot lend, except in some cases allowed by the RBI. Thus, it is an internal benchmark or reference rate for the bank.
> - **Base rate calculation** is based on cost of funds, minimum rate of return, i.e. margin or profit, operating expenses and cost of maintaining cash reserve ratio while the MCLR is based on marginal cost of funds, tenor premium, operating expenses and cost of maintaining cash reserve ratio.
> - **Calculation of marginal cost under MCLR**: Marginal cost is charged on the basis of following factors interest rate for various types of deposits, borrowings and return on net worth. Therefore, MCLR is largely determined by marginal cost of funds and especially by deposit rates and repo rates.

Steps taken

- Soon after deregulation, banks were asked to disclose their **prime-lending rate (PLR),** the rate charged to the prime borrowers.
- In 2003, the RBI instructed banks to announce formula-**based benchmark PLR (BPLR)** with the option to lend below BPLR in deserving cases of short-term loans like export credit.
- However, banks misused this option and the credit market was dominated by the sub-BPLR lending. To plug this loophole, the RBI issued **guidelines on base rate system** in 2010 prohibiting lending below base rate, barring a few exceptions.
- As base rate was not flexible enough to transmit monetary policy signals at the desired speed and magnitude, the RBI introduced **marginal cost-based lending rate (MCLR)** in April 2016.

Way Forward

- **Need for shifting to external benchmark based lending rate system-** The internal benchmark-based pricing regimes are not in sync with global practices on pricing of bank loans such as London Inter-Bank Offered Rate (LIBOR).
- Reduce constraints on bank lending through Priority Sector Lending norms.
- Discouraging 'administered interest rate' savings schemes by the government.
- Insolvency process needs to be further strengthened using the IBC, to resolve the NPA problem of banks.

3.4. SWIFT NORMS

Why in news?

Recently the Reserve Bank of India, imposed ₹2 crore penalty on Punjab National Bank for non-compliance of regulatory directions with regard to SWIFT operations.

About SWIFT

- **SWIFT** stands for the Society for Worldwide Interbank Financial Telecommunications.
- It is a messaging network that financial institutions use to securely transmit information and instructions through a standardized system of codes.
- **SWIFT** assigns each financial organization a unique code that has either eight characters or 11 characters. The code is called **SWIFT code.**
- The ₹14,000-crore PNB fraud perpetrated by Nirav Modi was a **case of misuse of this SWIFT software.**

Other Measures to Control and Prevent fraud in banking system

- The Central Government has issued **"Framework for timely detection, reporting, investigation etc. relating to large value bank frauds"** to Public Sector Banks (PSBs), which provides, that
  - All accounts exceeding Rs. 50 crore, if classified as Non-Performing Assets be examined by banks from the angle of possible fraud, and a report is placed before the bank's Committee for Review of NPAs on the findings of this investigation.
  - Examination be initiated for wilful default immediately upon reporting fraud to RBI;
  - Report on the borrower be sought from the **Central Economic Intelligence Bureau** in case an account turns NPA.
- **Fugitive Economic Offenders Act, 2018** has been enacted to deter economic offenders from evading the process of Indian law by remaining outside the jurisdiction of Indian courts. It provides for attachment of property of a fugitive economic offender, confiscation of such offender's property and disentitlement of the offender from defending any civil claim.
- **Central Fraud Registry (CFR),** based on Fraud Monitoring Returns filed by banks and select financial institutions, has been set up by RBI as a searchable **online central database** for use by banks.
- Establishment of **National Financial Reporting Authority** as an independent regulator for enforcement of auditing standards and ensuring the quality of audits.
- **In addition, Instructions to Public Sector Banks to:**
  - Decide on publishing photographs of wilful defaulters, in terms of RBI's instructions.
  - Follow RBI's framework for dealing with loan frauds and Red Flagged Accounts,
  - Implement RBI guidelines to prevent skimming of ATM/debit/credit cards.
  - Ensure legal audit of title documents in respect of large value loan accounts,
  - Strictly ensure rotational transfer of officials/employees.
- **Constitution of an expert panel by the RBI** to examine what is ailing banking operations resulting in increasing cases of big frauds. The panel has been tasked to recommend measures to fix the systemic loopholes.

3.5. OFFSHORE RUPEE MARKETS

Why in news?

The Reserve Bank of India has constituted a task force on **offshore rupee markets**, headed by **Usha Thorat**, to look into issues related to the markets and recommend appropriate policy measures to ensure the stability of the external value of the rupee.

About Offshore Rupee Markets

- "**Offshore**" refers to a location outside of one's national boundaries, whether or not that location is land- or water-based.
- Hence, Offshore Rupee market is a rupee denominated market in international market. E.g. **Masala bonds** are bonds issued outside India but denominated in Indian Rupees, rather than the local currency.
- The focus of RBI's policy efforts has been to align incentives for non-residents to gradually move to the domestic market while at the same time improving market liquidity to promote hedging activity on-shore while announcing setting up of the task force.

Why RBI is focusing on Offshore Rupee Markets?

- **Falling Rupee remains a concern-** especially on the back of speculation
- **To help offshore hedgers hedge their currency risks** in India.

Terms of References of the task force

- Assess the causes behind the development of the offshore rupee market.
- Study the effects of the offshore markets on the rupee exchange rate and market liquidity in the domestic market.
- Recommend measures to address concerns, if any, arising out of offshore rupee trading.
- Propose measures to generate incentives for non-residents to access the domestic market.
- Examine the role, if any, International Financial Services Centres (IFSCs) can play in addressing these concerns.
- Any other relevant issues the task force considers relevant to the context.

3.6. WHITE LABEL ATMS

Why in News?

Recently, RBI has eased business guidelines for White Label ATMs (WLAs) to enhance their viability.

About White Label ATMs

- ATMs **set up, owned and operated by non-bank entities** are called white label ATMs.
- They are authorized under the **Payment and Settlement Systems Act, 2007**, by the RBI.
- Cash in ATMs is **provided by the sponsored bank** while ATM machine **does not have any branding of Bank**.
- Their role is confined to **enabling the transactions** of all banks customers by establishing technical connectivity with the existing authorized, shared ATM Network Operators or Card Payment Network Operators.

Related Information
Brown label ATMs

- These are ATMs which are owned by banks but operations and maintenance are outsourced to a third party.
- Such ATMs operate as the ones belonging to the bank itself, including having the bank's branding.

About NPCI

- It is an initiative of RBI & Indian Banks Association (IBA) under provisions of the Payment & Settlement Systems Act, 2007.
- It is the umbrella organization for all retail payments and settlement systems in the country.
- It also manages the UPI platform & links all the ATMs in India.
- Other initiatives under NPCI are: BHIM, Unified Payments Interface (UPI), RuPay, BharatQR, Aadhaar Enabled Payment System (AePS), National Automated Clearing House (NACH) for financial institutions etc.

- The operators are entitled to receive a **fee from the banks** for the use of ATM resources by the bank's customers and are **not permitted to charge bank customer directly**.
- **Tata Communications Payment Solutions Limited (Indicash)** is the **first company** authorized by RBI to open WLAs in the country.

About eased business guidelines

- White label ATM Operators (WLAO) can now source **cash directly from RBI offices and currency chests** against full payment, and will no longer be dependent on sponsor banks for procurement of cash.
- These operators can also source cash from any scheduled bank that includes the **regional rural banks and cooperative banks.**
- WLAOs can now offer **bill payment and Inter-operable cash deposit services** subject to technical feasibility and certification by National Payments Corporation of India (NPCI).
- They are allowed to **display advertisements of non-finance products/services** anywhere within the WLA premises, including the WLA screen, except the main signboard.

- Further, banks may issue co-branded ATM cards in partnership with the authorised WLA Operators and may extend the benefit of **'on-us' transactions** (transaction carried out at an ATM of the card issuing bank) to their WLAs as well.

3.7. CAPITAL GAINS TAX

Why in News?

Capital gains on investments made in India through companies in Mauritius and Singapore became fully taxable from April 1 after the concession period of 2 years ceased to exist.

More on News

- India amended the **double tax avoidance agreements (DTAA)** with the two countries in 2016, to prevent aggressive corporate tax avoidance.
- The loophole in these tax treaties had led to a situation where gains from investments into India from the two countries were taxed neither in India nor in the country where the investing entity was located.

> **What is DTAA?**
> - The DTAA treaty is signed in order to avoid double taxation on the same declared asset in two different countries.
> - These DTAAs are made to make a country attractive for investment purpose by providing relief on dual taxation. The relief is provided by exempting income earned overseas from tax in the resident country or by providing credit to the extent wherein taxes have already been paid abroad.
> - India has **Double Taxation Avoidance Agreement (DTAA)** with **88 countries**, but presently **85** have been in force.

- Now, entity from Mauritius and Singapore will have to pay capital gains tax here while selling shares in a company in India.

Capital Gains Tax

- Any Income derived from a Capital asset movable or immovable is taxable under the head Capital Gains under **Income Tax Act 1961**.
- Any profit or gain that arises from the sale of a 'capital asset' is a capital gain. This gain or profit is considered as income and hence charged to tax in the year in which the transfer of the capital asset takes place. This is called **capital gains tax**, which can be short-term or long-term.
- Capital gains are not applicable when an asset is inherited because there is no sale, only a transfer. However, if the asset is sold by the person who inherits it, capital gains tax will be applicable.
- **Short-term capital asset:** An asset which is held for a period of 36 months or less. Assets like equity or preference shares in a company listed on a recognised stock exchange in India, securities (debentures, bonds, government securities), equity oriented mutual funds, zero coupon bonds are considered short term if held for less than 12 months.
- **Long-term capital asset:** An asset that is held for more than 36 months (24 months for immovable property like land, building). The Long-term capital gain is taxable at 20%.

3.8. NATIONAL INVESTMENT AND INFRASTRUCTURE FUND

Why in news?

Off late, the National Investment and Infrastructure Fund (NIIF) has been adopting various approaches to mobilize resources for funding infrastructure projects.

About NIIF

- NIIF is India's **first sovereign wealth fund** that seeks to create l**ong-term value for domestic and international investors** seeking investment in **Greenfield, Brownfield and Stalled** infrastructure projects.
- This fund will invest only in **commercially viable projects**, which can pay back returns.
- NIIF is registered with SEBI as a **Category II Alternative Investment Fund** with a planned corpus of Rs. 40,000 crore.
- It is a **quasi-sovereign wealth fund**, where **49 percent** stake is with the Government and the rest held by marquee foreign and domestic investors such as Abu Dhabi Investment Authority, Temasek and HDFC Group.

- It is run as a professional body with a full time CEO. But, Governing Council headed by **Finance Minister** oversees the activities.

Different Approaches adopted by NIIF

- **Investment through different types of funds-**
  - o **Master Fund-** for primarily investing in operating assets in core infrastructure sectors such as roads, ports, airports, power etc.
  - o **Fund of Funds-** for investing with experienced fund managers who have a strong track record and enable them to attract further institutional investors to invest in their funds.
  - o **Strategic Fund-** aimed at growth and development stage investments in projects/companies in a broad range of sectors that are of economic and commercial importance and are likely to benefit from India's growth trajectory over the medium to long-term
- **Monetization of assets-** by converting non-revenue generating assets into sources of revenue.

Alternative Investment Fund
• It refers to any privately pooled investment fund in form of a trust or a company or a body corporate or limited liability partnership which do not come jurisdiction of any regulatory agency in India.
• AIFs have been defined in Regulation 2(1)(b) of SEBI (Alternate Investment Fund) Regulations 2012. And its definition includes venture capital fund, hedge fund, private equity fund etc.
Sovereign wealth fund
• It consists of pools of money derived from a country's reserves, set aside for investment purposes to benefit the country's economy and citizens.
• The funding for a sovereign wealth fund comes from central bank reserves that accumulate as a result of budget and trade surpluses, and from revenue generated from the exports of natural resources.

- **Tapping Sovereign Funds-** by channelizing money of other countries into India. E.g.-
  - o Partnering with Abu Dhabi Investment Authority (ADIA) focused on ports, terminals, transportation and logistics businesses in India.
  - o India and the UK announced joint UK-India Fund, namely a Green Growth Equity Fund that aims to leverage private sector investment to invest in green infrastructure projects in India.
- **Directly Investing in Infrastructure-** by using the revenue generating through its various sources. Some examples are-
  - o Partnered with HDFC in an investment platform for mid-income and affordable housing in India.
  - o Acquired IDFC Infrastructure Finance Limited from IDFC.

Significance of NIIF

- Given its implementation is being done by experts, the working and management of its resources is being done with professionalism and strategic long-term vision.
- It will help move forward various stalled projects as well as greenfield projects. This in turn, help companies to reduce their outstanding loans, thus help reducing bank bad loans. It helps in overall stimulation of the economy.
- It has adopted a different approach to go about its business and is advancing more aggressively than many such institutions created earlier like IFCI (1948), IDFC (1997) and even the currently troubled IL&FS set up in 1987.

3.9. DATASMART CITIES STRATEGY

Why in news?

The Ministry of Housing and Urban affair (MoHUA) released the new **DataSmart Cities Strategy**, which aims to better harness the use of data in addressing complex urban challenges in Smart Cities.

Key Objectives of DataSmart Cities

- **Institutionalize a "Culture of data":** by creating a formal mechanism for data collection, management and its use by different stakeholders as a potential economic resource.
- **Drive Data Governance**: towards building capacity in all stakeholders on data informed decision-making so as to foster public accountability and transparency.
- **Enable the framing of a City Data Policy**: that balance privacy, legal and public benefit considerations. Also define the contours of collaboration between various Governmental/non-Governmental entities on data sharing and access.

- **Facilitate City Data Alliance**: between the communities, industry, academia and the government so as to ensure better planning and evolving data-driven solutions.
- **Adopt appropriate Data platforms**: with common programming interfaces, data representation formats and data models that are interoperable. It will lead to the effective sharing and management of city data.

Foundational Pillars to accrue benefits of this strategy

- **People-** i.e. institutionalization of **Data Governance structure** based on principles such as integrity, transparency, accountability and by identifying the actors who are responsible for delivering and enforcing the rules of this structure. It would entail-
  o Vertically and horizontally integrated structures at the city level within the States
  o Supporting Institutional structures at National level such as Mission Data Officer.
  o Capacity Building of Data Officers such as in Open Online Learning Platform, Local Customized Content Delivery etc.
- **Process-** i.e. institutionalization of **Data Governance processes** so that data is reliable, trusted and be in a form that aids exercise of decision making and authority for data-related matters. It requires-
  o **Bringing Coherence to Data through Standards** like name, definition and quality of data units.
  o **Building Spatial Intelligence into our cities** such as a City base map having settlement and household information.
  o **Maintaining trust between ecosystem participants** by ensuring Data Security and Privacy. Further, cities should develop **ethical frameworks for data regulation** to overcome any gaps in current legislation.
  o **Eliminating Data Silos through Standardized Access** to all stakeholders. It includes promotion of **open data** as envisaged under the **National Data Sharing and Accessibility Policy**.
- **Platforms-** i.e. a set of Digital Infrastructure components needed for the management, analysis and use of data for a data-led governance, such as-
  o **Open Data Platform-** To provide free and open static and dynamic datasets covering historical data in a consumable format. E.g. Government Open Data License has been recently approved.
  o **Data Exchange Platform-** to act as Data Broker to create partnerships between data producers and consumers. E.g. India Urban Data Exchange will be an open source software platform.
  o **Data Marketplace-** to sell and buy data via a secure platform

> **Recent Initiatives taken by Ministry of Housing and Urban Affairs**
> - **India Urban Observatory-** This geospatial platform will help in getting reliable, up-to-date information on a meaningful set of indicators over various domains such as transport, health, environment, water, finance and so on, which will further assist in developing best practices, future strategies and policy interventions as and when required.
> - **Video Wall-** it will showcase the insights gained from the Observatory and the various Missions/offices with the idea to proactively engage with citizens/visitors in spreading awareness about the various initiatives of the Ministry.

Significance of this initiative in Smart Cities

- **Empowerment of citizens-** as they will become true proponents of 'Open Government'.
- **Data-driven governance and policy formulation-** This will lead to greater efficiency in service delivery and resource allocation.
- **Promotion of Data Sharing and Exchange-** which will facilitate G2G, G2C and G2B data sharing and exchange of data for effective decision making in real time
- **Promotion of Multi-disciplinary research on Civic Issues-** like transport, traffic and solid waste etc.
- **Co-Creation and Open Innovation and Civic Engagement:** among city government, entrepreneurs, industry and academia
- **Emergence of Innovative Technologies:** like IoT, Artificial Intelligence (AI), Machine Learning (ML), Blockchain, etc.
- **Enhancement of Transparency and accountability**

Way Forward

- The states should move towards formulation of **City Data Policies** to provide conceptual clarity over accessing and sharing protocols over city data.

- Further, the **Institutionalizing of Data Culture** is key to success of this strategy. It is being done through initiatives like Onboarding Smart Cities on Open Data Portal, India Urban Data Observatory and Data Lab etc. Such initiatives should be taken forward.
- Data Maturity Assessment Framework (DMAF) will go a long way in ensuring effective implementation of the strategy. In order to build a sustainable 'Data Culture' through the DataSmart Cities initiative, it is important to understand the DataSmart readiness for each city. Data Smart Readiness Index (DRI) has been designed by the Mission to help smart cities assess their readiness regarding the use of data for evidence based decision making.

3.10. HYDRO POWER SECTOR

Why in news?

The Union government has approved various measures to promote hydropower sector.

Measures approved

- **Declaration of Large hydropower projects** (LHPs, i.e. >25
- MW) **as renewable energy projects.**
- **Hydro Purchase Obligation as a separate entity within Non-Solar Renewable Purchase Obligation for DISCOMS-** The HPO shall cover all LHPs commissioned after this order.
- **Tariff rationalization measures for bringing down hydropower tariff** such as providing flexibility to the developers to determine tariff by back loading of tariff after increasing project life to 40 years, increasing debt repayment period to 18 years and introducing escalating tariff of 2%.
- **Budgetary support for funding flood moderation component of hydropower projects**
- **Budgetary support to Cost of enabling infrastructure** i.e. roads and bridges.

Efficacy of these measures

- Increase the share of renewable energy in the total energy mix of the country and will help India achieve target of 175 GW of renewable energy by 2022.
- As **renewable energy** is eligible for

Changes in India's Energy Mix after these measures		
Installed Capacity		
Renewable Sources	Before including LHCs in RNE	After including LHCs in RNE
in MW	75,055.92	1,20,455.14
In % share in energy mix	21.43	34.40
Share within Renewables (in %)		
Source	Before including LHCs in RNE	After including LHCs in RNE
Hydro	6.03	41.45
Wind	47.02	29.30
Bio-power	12.28	7.65
Solar	34.68	21.61

Issues faced by hydropower sector
- **Lack of enabling infrastructure-** such as roads, bridges to access remote areas where such potential sites are available.
- **Delay due to land acquisition-** for dam, power house etc.
- **Delay due to environment and forest clearances.**
- **Rehabilitation and Resettlement-**which invite opposition from locals for employment, extra compension etc. It also creates **law and order problems** like blasting, muck disposal.
- **Cultural/ Religious Issues-** sentiments attached with rivers
- **Political will-** lacks political traction due to long gestation period, Inter-state issues, especially over Riparian rights. E.g. Mullaperiyar Dam (between Kerala and Tamil Nadu)
- **High Tariff of Hydro Projects-** as compared to other sources of power (conventional as well as renewable sources) mainly due to construction of complex structures which have long gestation period, unavailability of loans of lower interest rate & longer tenures, high R&R cost, infrastructure etc.
- **Financing Issues-** High cost of Finance and lack of long tenure funding for hydropower projects.
- **Levying of water cess by the States-** e.g. J&K

priority sector lending it would ensure easier availability of loans for large hydro power projects
- Hydro project**s** generate **employment** for local people in remote hilly and backward areas and **creates infrastructure** which lead to overall development of the area
- Storage based hydro power projects **improve the ground water recharge** and thereby improve the ground water level. It is understood that groundwater levels have significantly improved after the Indira Sagar Storage Project in Madhya Pradesh.

Recommendations of Standing Committee on Energy for promotion of Hydro Power-

- **Expedite land acquisition** and **R&R (Resettlement and Rehabilitation)** process related to hydro power projects to **provide fair deal for the affected people as well as to fast track** the hydro power projects.
- **To integrate and fast track** the process of various clearances granted by the Ministry of Environment and Forest **to avoid time and cost overrun** in hydro power projects. Establishment of special cell to monitor and expedite the matters pending in the Supreme Court and National Green Tribunal (NGT).
- **Availability of long term loan at cheaper interest rate-** to ensure hydro power viability, since out of 16 stalled hydro power projects, 10 are stalled due to financial constraints**.**
- **Review the water cess imposed by the states-** as it further burden the already stressed sector. The Committee found that imposition of water cess is not fair considering the provision of 12% of free power to the respective States from the hydropower projects.
- **Role of Central Public Sector Undertakings-** The present share of Private Sector in hydropower is only 7.5%. The State governments should **involve Central PSUs to enter** into **joint venture** with private sector to harness hydropower.
- **Creation of enabling infrastructure-** State Governments with the help of Central Government should take this responsibility needed for construction of hydropower projects. **Pradhan Mantri Gram Sadak Yojana** could be utilized by the states in this regard.

Hydro Energy Sector: Initiatives So Far
- **National Electricity Policy, 2005**: The policy lay emphasis on full development of the feasible hydro potential in the country.
- **Hydro Power Policy, 2008**: Under this transparent selection criteria to be followed by the States for awarding sites to private developers.
- **National Rehabilitation & Resettlement Policy, 2007:** It aims to minimize displacement and addressing special needs of Tribal and vulnerable sections who get displaced due to Developmental Projects.
- **Tariff Policy, 2016**: Policy aims to promote Hydro power generation including Private sector participation to provide adequate peaking reserves, reliable grid operation and integration of variable Renewable Energy sources.

Way Forward

- For optimum utilization of India's hydro potential, there is a need for formulation of an enabling policy and taking this task on a mission mode with a timeline as it has already been done in case of development of solar and other renewable sources
- The cooperation and coordination between the Central and the State Governments is a pre-requisite.

3.11. MINIMUM SUPPORT PRICE FOR MINOR FOREST PRODUCE

Why in news?

The Union Ministry of Tribal Affairs has launched the revised scheme ""**Mechanism for Marketing of Minor Forest Produce (MFP) through Minimum Support Price (MSP) & Development of Value Chain for MFP**"

Background

- The **MSP for MFP scheme** was first launched in **2013** but largely remained a non-starter in most tribal dominant states due to severe gaps in its implementation process.
- It is **centrally sponsored scheme** aimed to ensure fair and remunerative prices to MFP gatherers.
- It provides direct benefits to the tribal by institutionalizing various avenues in the value chain of MFP such as training, sustainable collection, procurement, value addition, infrastructure, marketing etc.
- The ministry has now issued revised guidelines to cover the gaps in its implementation process.

Related News
- The Ministry of Tribal Affairs has also launched following schemes/ initiatives-
  o **TRIFOOD project** of TRIFED and Ministry of Food Processing Industries- Under this, Tertiary value addition center will be set up in some districts. The traditional **Mahua tribal drink** will be mainstreamed and marketed all over the Country.
  o **Friends of TRIBES Initiative-** for CSR initiatives led by TRIFED
  o **DBT Scholarship portal of Ministry of Tribal Affairs**
  o **Van Dhan Vikas Karyakram-** The Van Dhan Vikas Kendra would act as common facility centres for procurement cum value addition to locally available Minor forest produce. Also, various skill up gradation trainings have been conducted for the MFP gatherers.

Revised Guidelines

- **Implementation Framework-** would include the ministries of tribal affairs at centre and state level along with agencies such as TRIFED, District Implementation Unit and Primary Level Procurement at Haat Bazaars etc. Now, the system would be decentralised with collectors made responsible for the scheme implementation.
- **Federation of SHGs-** Self Help Groups for procurement and other activities would be developed through a hierarchy within a federation of SHGs at the National, State and District levels.
- **Value Addition Centres**- would be established to improve the rates tribals get for the produce collected by them
- **Risk Management Matrix-** to identify, pre-empt under-performance and support SHGs which may not function as per expectations which will be put in place
- **Monitoring and Oversight-** through audit and IT-enabled Management information system (MIS)
- **Convergence-** The Scheme will leverage convergences with various Central and State Ministries, Departments, Agencies and PSUs such as 39 aspirational districts with majority tribal population under Niti Aayog.

Significance of this scheme

- **Social Security - Minor Forest Produce (MFP)** collection and marketing holds critical importance for tribals as they spend a major portion of their time on it and derive a major portion of their income from it. By providing the guaranteed minimum support price, this scheme protects them from distress sale of their produce.
- **Skill upgradation-** through trainings would be given to the MFP gatherers.
- **Sustainable Development-** Tribals traditionally have had an interest in forest conservation and development. Hence, by promoting their interest and well-being, the upkeep of forests is also taken care off.

3.12. IND AS

Why in news?

Recently the **Reserve Bank of India (RBI)** has deferred the implementation of the **Ind AS**-the new accounting norms, indefinitely as necessary amendments to the relevant law are yet to be made.

Background

- The **Ministry of Corporate Affairs (MCA),** in 2015, had notified the **Companies (Indian Accounting Standards (IND AS)) Rules 2015**, which stipulated the **adoption and applicability of IND AS** in a phased manner beginning from the Accounting period 2016-17.
- The MCA has since issued three Amendment Rules, one each in year **2016, 2017 and 2018** to amend the 2015 rules.
- Earlier the plan was to implement these accounting norms by April 1, 2019, but it was deferred due to
  - pending legislative amendments to the **Banking Regulation Act, 1949.**
  - Inadequate levels of preparedness of many banks in terms of the backend system and the other ecosystem.

About Ind AS
- These are standards that have been harmonised with the globally accepted **International Financial Reporting Standards (IFRS)** to make reporting by Indian companies more globally accessible.
- National Advisory Committee on Accounting Standards (NACAS) recommends these to the Ministry of corporate affairs, which then notifies it.
- It advocates the '**fair value'** method of accounting.
- It also promises **clearer disclosures** to investors in certain cases.
- It will govern the **accounting and recording of financial transactions** as well as the presentation of statements such as profit and **loss account and balance sheet** of a company.
- It will not just change the way companies present their numbers, but may also bump up or knock down the **profits/losses of firms**.
- **Ind AS for non-banking financial companies came into effect in 2018.**

Why Ind AS is important?
- Ind AS, the new pricing scheme based on an external benchmark, will be applicable for **floating rate loans** extended to individuals and small businesses.
- Since Indian companies have a far wider global reach now as compared to earlier, the **need to converge reporting standards with international standards** was felt, which has led to the introduction of IND AS.

Impact of the RBI's move

- Ratings agencies had pegged **capital requirement** by public sector banks **at ₹1.1 lakh crore** in the first quarter of the next financial year, if the new accounting norms were implemented.
- The move will bring **huge relief to the banks** which are yet to recognise stressed assets and make necessary provisions as that would require higher capital.
- Banks will be getting more time to migrate to the **new loan pricing regime** which was scheduled to be implemented from April 1.

3.13. INDIA'S 3RD IT CORRIDOR IN CHINA

Why in News?

Recently India's **National Association of Software and Services Companies** (NASSCOM) entered into a partnership with China's Xuzhou city (Jiangsu Province) to help develop **India's 3rd IT corridor in China.**

Details

> **NASSCOM**
> Established in 1988, it is a non-profit trade association of Indian Information Technology (IT) and Business Process Outsourcing (BPO) industry.

- NASSCOM has already launched two such IT corridors at **Dalian,** India's first IT hub in China **(in Liaoning Province)** and **Guiyang (in Guizhou province)** to tap the burgeoning Chinese IT industry market.
- The first two corridors have paved the way for cooperation in co-create mode in the emerging technologies such as **Artificial Intelligence, Internet of Things and Analytics** in the Chinese market.
- It will also help to:
  - o **provide market access to Indian IT firms in the huge Chinese market.** India has been demanding China to provide market access to **Indian IT and pharmaceutical firms** for several years to reduce bilateral trade deficit.
  - o create **more jobs in Xuzhou and India** and facilitate **talent transfer** between the two countries.
  - o provide a gateway for **the Indian IT-small and medium-sized enterprises** which are often discouraged in Chinese markets preferences for Chinese state-owned companies along with conditions of size and experience.

4. SECURITY

4.1. MISSION SHAKTI

Why in news?

On March 27, 2019, India tested its **first anti-satellite (ASAT) missile** as part of '**Mission Shakti'** against a "**live"** **satellite** launched by it a few months earlier.

Background

- An anti-satellite weapon is anything that destroys or physically damages or incapacitates a satellite for strategic military purposes. Only the **United States, Russia, China, and now India** have demonstrated this capability successfully.

> **Indian Ballistic Missile Defence Programme**
> - It is an initiative to develop and deploy a **multi-layered** ballistic missile defence system to **protect India from ballistic missile attacks**.
> - It has two broadly defined target tiers, called **endo-atmospheric and exo-atmospheric**.
> - Mission Shakti falls in the exo-atmospheric category.

- India's **Defence Research and Development Organisation** acknowledged publicly in **April 2012** that India possessed the critical technologies for an ASAT weapon from radars and interceptors developed for Indian Ballistic Missile Defence Programme
- **Mission Shakti** is India's response to the potent case of future **weaponization of space**, where enemy nation can indulge in **space war to disrupt critical infrastructure** of the nation.
- The DRDO's **Ballistic Missile Defence interceptor** was used, which is part of the ongoing ballistic missile defence programme.
- The test was fully successful and achieved all parameters as per plans. The test required an extremely high degree of **precision and technical capability**

Need for such a mission

- India's space programme is a **critical backbone** of India's **security, economic and social infrastructure**. The test was done to **verify** that India has the **capability to safeguard our space asset**s.
- The capability achieved through the Anti-Satellite missile test provides **credible deterrence against threats** to our growing space-based assets from long-range missiles, and proliferation in the types and numbers of missiles.

Low earth orbit (LEO) is located at altitudes between 200 and 2,000 km.

Satellites in LEO must travel very fast so gravity won't pull them back into the atmosphere. They can circle Earth in about 90 minutes.

An interceptor needs to have a velocity of 8 km per second or more to hit an LEO Satellite.

The three-stage anti-satellite missile was launched from wheeler island, off the coast of Odisha.

The test is carried out at a lower LEO to ensure that the debris falls back to Earth within weeks.

- In a 2015 Monograph, "**Space, War & Security - A Strategy for India**", discussed how A-SAT is a sub-set of a **space military strategy**. It would require Space Situational Awareness (SSA), involving ground-based radars, optical telescopes and satellite constellations. The strategy architecture would also require space-based C4ISR (Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance), Anti-Satellite (ASAT) and Ballistic Missile Defence (BMD) capabilities

Significance of Mission Shakti

- **India's entry in the elite group-** India is only the 4th country to acquire such a specialised and modern capability. The use of ASAT is seen as crossing new frontier just like India's 1998 nuclear tests.
- **Entire effort is indigenous-** by the Indian scientists in the DRDO. It adds to India's credentials, given that for many decades India was kept away from acquiring key technologies, forcing the country to develop its own space and nuclear capabilities.

> **ASAT and Space Debris**
> - **Mission Shakti** was done in a low orbit of less than 300 kilometres and at a particular angle to ensure that minimal debris were disbursed above into space to avoid damage to other satellites or the International Space Station (ISS).
> - In contrast, when China tested its ASAT missile in 2007 destroying one of its own weather satellites, it created close to 2500 pieces of space debris.

- **Addressed the concerns of Space Debris-** DRDO has said that all the debris of India's ASAT will **decay** in 45 days.
- **Develops credible deterrence-** The anti-satellite space technology shows India's focus on security challenges, emanating beyond Pakistan. ASATs can be used to intercept and jam communication or military satellites of enemy countries and stop them from communicating with their soldiers.

- **Test done before any kind of international sanctions come in place-** as UN General Assembly is trying to bring about an international legally binding document on the prevention of an arms race in outer space that would include the prevention of placement of weapons in outer space among other thing (PAROS).
- **Did not invite international criticism-** as major countries expressed symbolic concern, without severe criticism. In contrast, the Chinese test in 2007 provoked international ire because it destroyed a satellite. The act violated the principles of the Outer Space Treaty. This is not the case with India.
- **Won't impact other strategic interests-** e.g. it will not have any effect on India's status in the MTCR (Missile Technology Control Regime) or other such treaties.

Is India entering into an arms race in the outer space?

- India has **no intention of entering** into an arms race in outer space. India has always maintained that space must be used only for **peaceful purposes**. India is against the **weaponization of Outer Space** and support international efforts to reinforce the safety and security of space based assets.
- India is a party to all the **major international treaties** relating to Outer Space.
- India already implements a number of **Transparency and Confidence Building Measures (TCBMs)** – including
  - Registering space objects with the UN register,
  - Prelaunch notifications,
  - Measures in harmony with the UN Space Mitigation Guidelines,
  - Participation in **Inter Agency Space Debris Coordination** (IADC) activities with regard to space debris management,
  - Undertaking SOPA (**Space Object Proximity Awareness** and COLA (**Collision Avoidance Analysis)** etc
- India also supported **UNGA resolution 69/32** on **No First Placement of Weapons** on Outer Space.
- India supports the substantive consideration of the **issue of Prevention of an Arms Race in Outer Space** (PAROS) in the Conference on Disarmament where it has been on the agenda since 1982.
- India expects to play a role in the future in the **drafting of international law** on prevention of an arms race in outer space including inter alia on the prevention of the placement of weapons in outer space in its capacity as a major space faring nation with proven space technology

> **Outer Space Treaty**
> - The Outer Space Treaty, formally the Treaty on **Principles Governing the Activities of States in the Exploration and Use of Outer Space**, including the Moon and Other Celestial Bodies, is a treaty that forms the basis of international space law.
> - It was adopted by the UN General Assembly in 1963 and entered into force in 1967.
> - **India** is a signatory to this treaty, and ratified it in 1982. The Outer Space Treaty prohibits only weapons of mass destruction in outer space, not ordinary weapons.
> - It mandates that use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind.
>
> **Prevention of an Arms Race in Outer Space** (PAROS)
> - It is a UN resolution that reaffirms the fundamental principles of the 1967 Outer Space Treaty and advocates for a **ban on the weaponization of space**.
> - It is currently being discussed in the **Conference on Disarmament** (CD).
> - Till now, the parties have discussed various issues and possible solutions. Some parties like the Russian federation and Venezuela, have even pledged to **not be the first to deploy** any type of weapon in outer space.
> - It would prevent any nation from gaining a military advantage in outer space.

Way Forward

- India's space capabilities do not threaten any country and nor are they directed against anyone. At the same time, the government is committed to ensuring the country's national security interests and is alert to threats from emerging technologies.
- At the same time, world should evolve framework to prevent any space weaponization through the following-
  - A stringent "no space weaponization" policy needs to formulated and adhered to by all countries in order to protect the interest of all.
  - A monitoring system must be established so as to catch violators.
  - Rules must be formulated for satellite based military assistance.
  - The UN Outer Space Treaty only talks about using the space about peaceful. purposes. Issues like militarization and weaponization must be worded out.

4.2. SMART FENCING ON INDO-BANGLADESH BORDER

Why in news?

The Union Home Ministry has setup the project BOLD-QIT (**Border Electronically Dominated QRT Interception Techniqu**e) under CIBMS (**Comprehensive Integrated Border Management system**) on India-Bangladesh border.

About the Project

- India and Bangladesh share 4096km long international border. But, at various places it is not possible to erect Border Fence due to geographical barriers.
- For instance, the 61 Kms of Border area in District Dhubri, Assam where River Brahmaputra enters into Bangladesh is consisting of vast char lands and innumerable river channels thus making border guarding in this area, a daunting task especially during rainy season.
- To overcome this problem, in January 2018, the Information and Technology Wing of Border Security Force undertook the project BOLD-QIT.
- BOLD-QIT is the project to **install technical systems** under the CIBMS, which enables BSF to equip Indo-Bangla borders with **different kind of sensors** in unfenced riverine area of Brahmaputra and its tributaries.

> **Comprehensive Integrated Border Management System (CIBMS)**
> - It is a robust and integrated system that is capable of addressing the gaps in the present system of border security by seamlessly integrating human resources, weapons, and high-tech surveillance equipment.
> - It has three main components:
>   - **New high-tech surveillance devices** such as sensors, detectors, cameras, etc. as well as existing equipment for round-the-clock surveillance of the international border.
>   - **An efficient and dedicated communication network** including fiber optic cables and satellite communication for transmitting data gathered;
>   - **A command and control centre** to which the data will be transmitted providing a composite picture of the international border.
> - The total rollout plan for CIBMS is as under-
>   - **Stage-I** Pilot projects in Jammu and Assam has been completed.
>   - **Stage-II** Rollout of 153 Kms in 4 patches along Indo-Pakistan & Indo-Bangladesh Border.
>   - **Stage-III** Rollout of 1802 Kms in 67 patches along Indo-Pakistan & Indo-Bangladesh border.

4.3. MULTI-DISCIPLINARY TERROR MONITORING GROUP ON TERROR FINANCING IN J&K

Why in news?

The union government has set up a multi-disciplinary terror monitoring group (MDTMG) to ensure synergised and concerted action against **terror financing and terror-related activities** in Jammu and Kashmir.

More on news

- It will be an **eight member body** headed by ADGP, CID, Jammu and Kashmir Police.
- The other members would be IGP, J and K Police, Additional Director IB, Jammu and Kashmir and representatives of CBI, NIA, CBDT, CBIC, any other member co-opted by the Chairman.

Why multidisciplinary monitoring group?

- **Enforcement Directorate** has identified illegal money sources from countries like Pakistan, through hawala transactions, money laundering, wealth created through crimes. These were aimed at creating **unrest in Kashmir**. The multiple sources of terror finance necessitated multi disciplinary approach.
- **Multidisciplinary group can take multipronged** actions including **coordinated action in all registered cases** that relating to terror and terror financing, identifying key persons including **leaders of the organisation (s), those involved in supporting terrorism,** investigating **networks of channels** being used to fund terror and terror-related activities and **stop flow** of such funds.
- The group will also take action against **hardcore sympathiser amongst government employees** who provide direct or indirect support to terror related activities.

4.4. INDIAN ARMY TO UNDERGO MAJOR REFORMS

Why in news?

The Union Ministry of Defence has approved the first batch of reforms in the army intended to make it leaner and meaner.

Background

- The Army headquarters had instituted four studies with an overall aim to enhance the operational and functional efficiency of the force.
- These were-
  - **Re-organization and Right-sizing of the Indian Army**
  - **Re-organization of the Army headquarters**
  - **Cadre review of officers**
  - **Review of terms of engagement of rank and file**
- Now, finalized after such 12 independent studies, the transformative reforms in the Army are being implemented.

Issues with the Indian Army

- **Need effective defence planning-** where the forces do not work in silo-driven approach to defence planning.
- **Need force restructuring-** to achieve a better teeth-to-tail ratio. For this over 12.5 lakh-strong army needs to shed around 1.5 lakh personnel over the next six to seven years.
- **Need to improve combat capabilities-** including capacity to undertake conventional and hybrid warfare such as mandated under the cold start doctrine, hot pursuit activities, anti-terror operations etc.
- **Constrained Capital Budget-** Due to changed nature of warfare where technology, not manpower, is slated to play a bigger role in battles of the future. For the army alone, the ratio of **revenue to capital expenditure is 81: 19 percent**; of which 73 percent of revenue expenditure is for pay and allowance. The implementation of One Rank One Pension has further left little for hardware modernization or capital acquisitions.
- **Need to remove redundant logistic units-** such as the signal regiments have undergone change due to change in electronic warfare. Similarly, the army does not need elements such as military farms, a British era concept that supplied fresh milk to Army units, due to the availability of packaged milk now.
- **Cumbersome Defence Procurement Process-** India's status as the world's largest arms importer hardly does justice to its ambitions to emerge as a defence manufacturing hub

Major Committees on Defence Reforms
- The Arun Singh Committee on Defence Expenditure (CDE), 1983.
- The K C Pant Committee on the NSC, 1989-90.
- The Abdul Kalam Committee on Self-reliance in Weapons Acquisition, 1992.
- The Kargil Review Committee, 2000
- The Vinod Misra Defence Expenditure Review Committee, 2008- 09.
- The Naresh Chandra Committee, 2011-12.
- The Ravindra Gupta Committee on Defence Modernisation and Self-reliance, 2011-12.
- The Dhirendra Singh Committee on Defence Procurement, 2015.
- The Shekatker Committee, 2016.

Chinese Military Reforms
- China has already undertaken military reforms to cut its size by 50%.
- Following deep manpower reductions and a commensurate expansion in firepower, the People's Liberation Army today stands better poised to wage a decisive war against India at low cost.

DB Shekatkar Committee
- Constituted in 2016 to recommend measures for **enhancing combat capabilities** and **rebalancing defence expenditure** so as to improve the "**teeth to tail ratio**" (**combat units to administrative + logistics ratio**) of the armed forces.
- The MoD has accepted 65 of its 99 recommendations pertaining to the Indian Army.
- **Important Recommendations-**
  - Creation of integrated Theatre Commands
  - Optimization of Signals Establishments
  - Restructuring of repair echelons in the Army
  - Redeployment of Ordnance echelons
  - Improving the efficiency of the National Cadet Corps.
  - Enhancement in standards for recruitment of clerical staff and drivers in the Army

Reforms cleared recently

- **Restructuring the Army's officer cadre-** including bringing down the age of key commands, harnessing the higher life expectancy and motivation of the personnel
- **Creation of a new post of Deputy Chief for Military Operations and Strategic Planning-** to deal with military operations, military intelligence, strategic planning and operational logistics.
- **Merger of separate verticals-** of the DCOAS (planning and strategy) and the Master General Ordnance (MGO) into one office of the DCOAS (Capability Development and Sustenance)

- **Setting up new wings for vigilance and human rights issues-** under the command of Major General rank officers. This is in accordance with the Army's commitment to probity and transparency.
- **Setting up new information warfare wing-** to deal with the needs of the future battlefield, hybrid warfare and social media reality. Hybrid warfare is a military strategy that employs political warfare and blends conventional warfare, irregular warfare and cyber warfare with other influencing methods, such as fake news, diplomacy, lawfare and foreign electoral intervention.

Significance of the reforms

- **Better expenditure planning-** A planned Army restructuring, aimed at reducing its strength by 1.5 lakh men, is expected to save up to Rs 7,000 crore a year in revenue expenditure
- **Better synchronization-** By merging separate verticals, all revenue and capital spending would come under one organization and effectively prioritize competing requirements with an operational focus to get better value for funds.
- **Better preparedness to deal with various issues-** of human rights abuse, corruption, intelligence and building future capability of the army.

Way Forward

- **Work on the defence acquisition front-** Inordinate delays are seriously jeopardising our defence preparedness as evidenced by the acute shortage of fighter squadrons in the air force. There is need for-
  o Procedures need to be streamlined to dramatically reduce the timeframe between request for proposal and induction
  o Bipartisan parliamentary committee oversight over defence acquisitions to speed up the process
  o Build a robust indigenous military-industrial complex involving the private sector to churn out state-of-the-art weapons platform
- **Need to propagate a National Security Strategy-** to avoid situations like Pathankot, Mumbai Attack or Disaster Management.
- **Overhaul of the defence R&D and industrial systems-** by reconstituting the current structure.

5. ENVIRONMENT

5.1. DRAFT INDIAN FOREST ACT AMENDMENT

Why in news?

The Ministry of Environment, Forest and Climate Change has finalised the first draft of the comprehensive amendments to the **Indian Forest Act, 1927**.

Background

- The primary reason behind the enactment of the **Indian Forest Act, 1927** by the colonial government was to **extract maximum timber** from the forests in India. There were different regimes under which forests were regulated at that time, which made the exploitation difficult and complex.
- This act was enacted to '**consolidate the law** related to forest, the **transit of forest produce**, and the duty liable on timber and other forest produce'. As per it, all the **forest property** in the country will be **under the state** and the rights all such forest dwellers like tribals could be extinguished at the behest of British administration.
- It led to mass displacement of people even in post independence India. The **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006** was enacted to correct this exploitation.
- Further, during this time various other national development aspirations and international commitments have come into existence. Many committees including **Justice Shah Panel** have recommended changes to the 1927 Act.

Key Amendments proposed to the Act

- **Shift in focus-** Earlier, the focus was on laws related to **transport of forest p**roduce and the **tax** on it. Now, the amendment has increased the focus to "**conservation, enrichment and sustainable managemen**t of forest resources and matters connected therewith to safeguard ecological stability to ensure **provision of ecosystem services** in perpetuity and to address the concerns related to **climate change and international commitments**".
- **Provides definition of Forests, village forests as well as community.**

> **Need to amend the IFA, 1927**
> - To facilitate the increase in forest cover from about 24% now to 33% [a stated directive of government policy].
> - To bring clarity on definition of forests and its stakeholders.
> - To generate resources to fund forest ecosystem and promote forest based industries.
> - Involve more people and stakeholders in conservation and progress of forests.
> - Enhance punishment for violators of the forest law to create a deterrent for offenders like timber smugglers.

- **Introduces new category of Production Forests-** These will be forests with specific objectives for production of timber, pulp, pulpwood, firewood, non-timber forest produce, medicinal plants or any forest species to increase production in the country for a specified period.
- **Forest Development Cess-** of up to 10% of the assessed value of mining products removed from forests, and water used for irrigation or in industries. This amount would be deposited in a special fund and used "exclusively for reforestation; forest protection and other ancillary purposes connected with tree planting, forest development and conservation".
- **Powers to forest bureaucracy-** including the power issue search warrants, enter and investigate lands within their jurisdictions, and to **provide indemnity to forest officers using arms** to prevent forest-related offences. The bureaucracy would also have a **veto power** in some cases.

Concerns with the proposed act

- **Disguises privatization of forestland in the name of 'Production Forests'-** which can be located within reserved, unclassed or protected forests, which have a diversity of uses and governance structures. Opening these areas for commercial exploitation, runs the **risk of monetising large tracts of forest land** at the cost of other values.
- **Monetises the destruction of forests-** by just imposing a cess on such destruction and promotion of plantation.

- **Exploitation of tribal and forest dwellers-** As per the human rights activists, the enhanced powers makes the denial of rights to tribals and traditional forest dwellers convenient for forest officials, even if they are recognised under the Forest Rights Act.
- **Diminish the role of Gram Sabhas-** by running a parallel system of "village forests" in which forest officials would have the last say.

Way Forward

- The concerns raised by the human rights activists, who view this act as a **backdoor tool** to subvert the **Forest Rights Act, 2006** are serious and should be addressed. Already, there is a case of massive rejection of claims under the Forest Rights Act pending in the court.
- The production forests should be developed with participation of local people and only an appropriate mix of native plant species should be used for reforestation/afforestation.
- Hence, it is necessary that the new Indian Forest Act is a balanced law as to promote conservation forest rights, climate mitigation and managing national aspirations all at the same time. It should not convert forest areas into a police state.

5.2. UNNATEE (UNLOCKING NATIONAL ENERGY EFFICIENCY POTENTIAL)

Why in news?

Bureau of Energy Efficiency (BEE) has developed a national strategy document titled **UNNATEE (Unlocking NATional Energy Efficiency Potential)** towards developing an energy efficient nation (2017-2031).

Background

- India is expected to grow at around 8% and almost every economic activity requires energy. If energy consumption (primary energy and electricity) in India were to continue along current lines, it could lead to a growing imbalance between supply and demand.
- The gap between supply and demand can be fulfilled by either increasing generation or by enhancing the efficiency of energy usage.
- This report aims to establish a clear linkage between energy supply-demand scenarios and energy efficiency opportunities.
- Some key numbers can be seen as-

Existing schemes for Energy Efficiency		
Year of launch	Scheme	Implementing Agency
2006	On Farm Water Management	Ministry of Agriculture
2008	National Mission for Enhanced Energy Efficiency	Bureau of Energy Efficiency
2010	National Solar Mission	Ministry of New and Renewable Energy (MNRE)
2013	National Electric Mobility Mission Plan	Ministry of Heavy Industries
2014	Unnat Chulha Abhiyan	MNRE
2015	Smart Cities Mission	Ministry of Housing and Urban Affairs
2015	AMRUT Mission	Ministry of Housing and Urban Affairs
2015	Green Highways Policy	Ministry of Road Transport
2015	Street Lighting National Program	Energy Efficiency Services Limited
2016	Pradhan Mantri Ujjwala Yojana (PMUY)	Ministry of Petroleum and Natural gas
2016	Agricultural and Municipal Demand Side Management	Bureau of Energy Efficiency
2016	Municipal Energy Efficiency Program (MEEP)	Energy Efficiency Services Limited
2017	24x7 Power for All	Ministry of Power
2017	SAUBHAGYA	Rural Electrification Corporation
2017	Sustainable and Accelerated Adoption of efficient Textile technologies to Help small Industries (SAATHI)	Energy Efficiency Services Limited
2017	Metro Rail Policy	Ministry of Housing and Urban Affairs
2017	Green Urban Mobility Scheme	Ministry of Housing and Urban Affairs
2018	National Policy on Biofuels	MNRE
2018	National Wind-Solar Hybrid Policy	MNRE
2018	National Auto Policy	Department of Heavy Industry

- o India's energy demand in 2016-17= 790 Mtoe(million tonnes of oil equivalent)
- o Energy saving potential by 2031= 87 Mtoe
- o Total emission reduction= 858 MtCO2 in 2030
- o Total energy efficiency investment potential= Rs. 8.40 lakh crore by 2031

UNNATEE Implementation Strategy

- **Favourable Regulations -** through an overarching energy efficiency policy, which includes targets, incentives and penalties.
  - o **Agriculture-** Inclusion of agro projects under the National Clean Energy Fund
  - o **Buildings-** Introduction of incentives for purchasing energy efficient houses.
  - o **Industry-** Increasing the scope of the PAT programme.
  - o **Transport-** Roll out of the proposed FAME-II scheme.
- **Institutional Framework -** through strong enforcement mechanism at state levels, which would lend further strength to the national and local level program.
  - o **Agriculture-** A single window system for export of products and services will improve the competitiveness of sector R&D.
  - o **Buildings-** A reporting framework for where the states are required to update their progress in implementation of Energy Conservation Building Code in their state.
  - o **Industry-** Creation of an energy management cell.
- **Availability of Finance -** in the form of a revolving fund, risk guarantee, On-bill financing, Energy Savings Insurance, Energy Conservation Bonds.
  - o **Agriculture-** Reduce interests in priority sector lending.
  - o **Buildings-** Targeting low LCOC rather than low initial building cost by building for affordable maintenance.
  - o **Industry-** Creation of fund for R&D in industry with 1% of turnover.
  - o **Transport-** Introduction of ToD tariff rates for EVs. E.g. Telangana State Electricity Regulatory Commission has fixed the tariff for charging stations at Rs. 6 per unit.
- **Use of technology -** including **Internet of Things** and **Block chain** have the ability to bring an energy revolution across sectors. Example in agriculture (smart control panels), municipal (CCMS), commercial (building management systems), domestic (electric cook stoves).
- **Stakeholder Engagement -** would result in faster adoption and smoother implementation. E.g. for adoption of electric vehicles it is important to first have policies for promotion and adoption of EVs, institutional framework to train new breed of engineers to make the transition to EVs, ecosystem players to provide services like EV charging and consumers to buy the vehicles.
- **Data Collection-** Setting up of a Nodal Agency that advocates data collection and dissemination, covering the entire energy value chain of the country.
- **Setting State wise targets-** Mandatory reporting of sector wise energy consumption, status of all EE programmes and the target of the same and energy efficiency roadmap.
- **Center of Excellence for industries-** to increase R&D in specific sectors.

5.3. STAR RATING

Why in news?

Microwave ovens and Washing machines will now be assigned **Star ratings** based on their energy efficiency metrics.

More on News

- There will be a **revised program for Washing Machines,** which will revise the criteria for inclusion of water efficiency in addition to energy performance for grant of Star Rating.
- Initially it will be implemented on a voluntary basis and will be valid up to **31st December 2020**.

About Bureau of Energy Efficiency (BEE)

- It is a **statutory body** under the Ministry of Power, created under the provisions of the **Energy Conservation Act 2001.**
- It **assists** in developing policies and strategies with the primary objective of reducing the energy intensity of the Indian economy.
- It **co-ordinates** with designated consumers and designated agencies to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act.

Standards & Labelling (Star Rating) program

- It has been formulated by the **Bureau of Energy Efficiency (BEE)** with a key objective is to provide the consumer an informed choice about the energy saving and thereby the cost saving potential of the relevant marketed product.
- It **targets** display of energy performance labels on high energy end use equipment & appliances and lays down minimum energy performance standards.
- It has been developed in a **collaborative and consensus driven approach** with active participation from all the stakeholders.
- It has two categories of appliances for the ratings:
  - o **Mandatory Appliances** for the Star rating are- Air Conditioners, Frost free Refrigerators, Colour T.V, Florescent Lamps etc.,
  - o **Voluntary appliances** are Induction motors, Pump sets, Ceiling Fans, Computers etc.
- Any electrical appliances can avail star rating on a scale of 1 to 5 based on test report from NABL or equivalent labs subsequent to scrutiny by the BEE.

> **National Accreditation Board for Testing and Calibration Laboratories (NABL)**
> - It is a **Constituent Board** of Quality Council of India.
> - It has been established with the objective of providing Government, Industry Associations and Industries with a **scheme of Conformity Assessment Body's accreditation** which involves third-party assessment of the technical competence of testing.
> - It is a full member to **International Laboratory Accreditation Co-operation (ILAC)** as well as Asia Pacific Laboratory Accreditation Co-operation (APLAC).

Significance of Star Rating Programme

- **Electricity Conservation:** Due to increasing Indian Consumer electronic, it is important to optimize energy performance of the electronic appliances. There will be an **estimated savings of over three billion units of electricity** at consumer-end by the star rating initiative by 2030.
- **Environment friendly:** It will result in saving of billions of units of electricity which would be equivalent **to Green House Gases (GHG) reduction of 2.4 Million-ton of CO2** by the year 2030. **Thus helping India achieve its INDC's targets.**
- **Awareness generation:** It will create awareness among domestic consumers to encourage transition towards energy efficient electronic appliances.
- **Advancement of technology and Energy efficiency:** It will promote investment in innovative cleaner and advanced technologies.

5.4. NATIONAL MISSION ON TRANSFORMATIVE MOBILITY AND BATTERY STORAGE

Why in News?

The Union Cabinet has recently approved The National Mission on Transformative Mobility and Battery Storage.

Background

- During the **Global Mobility Summit** organized by NITI Aayog held in September 2018, Prime Minister had outlined the vision for the future of mobility in India based on **7C's** which are Common, Connected, Convenient, Congestion-free, Charged, Clean and Cutting-edge mobility.
- Hence, there was a need felt to establish a dedicated multi-disciplinary Mission that will facilitate cooperative federalism, extensive stakeholder and inter-ministerial consultations and implement end-to-end policy framework for transforming the mobility landscape.

About the Mission

- Aim is to promote "**clean, connected, shared and sustainable" mobility initiative** in the country.
- It will have an **inter-ministerial steering committee, chaired by CEO, NITI Aayog** that will coordinate among key stakeholders to integrate various initiatives to transform mobility in India.
- It will support and implement **Phased Manufacturing Programme** (valid for 5 years till 2024) for large scale, **export competitive integrated batteries** and **cell-manufacturing Giga plants in India**.
- The Mission will launch another programme to localize production across **entire Electric vehicle value chain** and finalise its details.
- The Mission will have '**Make in India' strategy** for Electric Vehicle components and battery technologies.

Probable Impact

- The Mission will drive mobility solutions that will bring in significant benefits to the industry, economy and country.
- These solutions will help improve air quality in cities along with reducing India's oil import dependence and enhance the uptake of renewable energy and storage solutions.
- The Mission will lay down the strategy and roadmap which will enable India to leverage upon its size and scale to develop a competitive domestic manufacturing ecosystem for electric mobility.
- The actions in this regard will benefit all citizens as the aim is to promote 'Ease of Living' and enhance the quality of life of our citizens and also provide employment opportunities through 'Make-in-India' across a range of skillsets.

5.5. KUSUM

Why in news?

The Ministry of New and Renewable Energy (MNRE) has issued a notice inviting suggestions and comments from stakeholders on the draft guidelines for implementation of the scheme for farmers for installation of solar pumps and grid-connected solar power plants.

Background

- As a part of **Intended Nationally Determined Contributions** (INDCs), India has committed to increase the share of installed capacity of electric power from **non-fossil fuel sources to 40% by 2030**. Further, the Cabinet had approved scaling-up of solar power target from **20,000 MW** of Grid Connected Solar power Projects to **1,00,000 MW (100GW) by 2022**.
- The government is setting up large-scale solar power plants, but this alone would not suffice to reach the 100 GW target.
- In this context, the government launched the **Kisan Urja Suraksha evam Utthaan Mahabhiyan** (KUSUM) Scheme, with following components-
  o **Component-A**: Setting up of 10,000 MW of Decentralized Ground/ Stilt Mounted Grid Connected Solar or other Renewable Energy based Power Plants;
  o **Component-B**: Installation of 17.50 Lakh Stand-alone Solar Agriculture Pumps to fulfill irrigation needs of farmers not connected to grid;
  o **Component-C**: Solarisation of 10 Lakh Grid Connected Agriculture Pumps to make farmers independent of grid supply and also enable them to sell surplus solar power generated to DISCOM and get extra income
- With all three components combined, the scheme aims to add a solar capacity of **25,750 MW by 2022.**
- The guidelines have been formulated to provide broad implementation framework of the Scheme

Draft Guidelines for each component

- **Component A-**
  o **Mandate-** Under this component, solar or other **renewable energy based power plants** (**REPP**) of capacity 500 kW to 2 MW will be setup by individual farmers/ group of farmers/ cooperatives/ panchayats/ Farmer Producer Organisations (FPO) referred as **Renewable Power Generator (RPG).**
  o **Transmission of Power-** The RPG will be responsible for laying of transmission line and comply with grid connectivity and other regulations.
  o **Power Purchase Agreement-** shall be executed between the DISCOM and RPG with all the necessary conditions. The RPG shall also provide the **bank guarantees** to the DISCOMs. If the RPG is not able to generate minimum energy then it will be liable to pay compensation.
- **Component B-**
  o **Mandate-** Under this Component, individual farmers will be supported to install standalone solar Agriculture pumps of capacity up to 7.5 HP for replacement of existing diesel Agriculture pumps in off-grid areas.
  o **Requirements of Solar Pumps-** It will be mandatory to use indigenously manufactured solar panels with indigenous solar cells and modules.

- **Component C-**
  - **Mandate-** Under this Component, individual farmers having grid connected agriculture pump will be supported to solarise pumps. The farmer will be able to use the generated solar power to meet the irrigation needs and the excess solar power will be sold to DISCOMs.
- **Quality Assurance and Evaluation Mechanism-** Systems installed under this Programme should meet technical specification and construction standards as specified by BIS and MNRE from time to time.

5.6. INDIA COOLING ACTION PLAN

Why in news?

Recently the Ministry for Environment, Forest and Climate Change released the **India Cooling Action Plan—a 20 year road map** (From 2018 to 2038).

Background

> **Key targets of ICAP**
> - Reduce cooling demand across sectors by 20% to 25% by 2037-38.
> - Reduce refrigerant demand by 25% to 30% by 2037-38,
> - Reduce cooling energy requirements by 25% to 40% by 2037-38,
> - Recognize "cooling and related areas" as a thrust area of research under national S&T Programme,
> - Training and certification of 100,000 servicing sector technicians by 2022-23, synergizing with Skill India Mission

- Cooling is an important developmental necessity as it is needed in different sectors of the economy. **For example:** Space cooling for buildings consumes 60% of the total energy supply for cooling in India.
- India's **per capita space cooling consumption** is nearly 1/4th of global average consumption. (Global average-272kWh whereas India's 69 kWh).
- However, according to recent report, the current technology used in conventional cooling systems in air conditioners and refrigerators, coupled with an increasing demand for such appliances and rising global temperatures, could spur a 64 % increase in household energy use and produce over 23 million tonnes of carbon emissions by 2040.
- This presents an urgent need (for India and other tropical countries) to develop a sustainable plan addressing both concerns.

About Cooling Action Plan

> **Key Benefits of ICAP**
> - **Thermal comfort for all** – Provision for cooling for Economically Weaker Sections and Low Income Group's housing.
> - **Sustainable cooling** – Reducing both direct and indirect Green House Gases **emissions** related to cooling.
> - **Doubling Farmers Income** – Through better cold chain infrastructure–less wastage of produce leading to better value of produce to farmers.
> - **Skilled workforce** by creating jobs in service sector. For example- Skilling of AC and refrigerator service technicians.
> - **Make in India** – domestic manufacturing of air-conditioning and related cooling equipment's,
> - **Robust R&D** on alternative cooling technologies to provide push to innovation in cooling sector.

- **India** is one of the first countries in the world to develop a **comprehensive** 'Cooling Action Plan', to fight ozone layer depletion adhering to the Montreal Protocol.
- It provides an **integrated vision**:
  - To address the cooling requirement across different sectors of the economy such as residential and commercial buildings, cold-chain, refrigeration, transport and industries.
  - To lists out actions which can help reduce the cooling demand, enhancing energy efficiency and better technology options.

Key actions included under ICAP

- **Cooling buildings naturally through better design:** Passively cooled building designs with natural and mechanical ventilation.
- Adopting **comfortable range of thermostat** set-points in commercial buildings as well as for affordable housing projects under the Pradhan Mantri Aawas Yojana for economically weaker sections.
- **Improving efficiency of cooling appliances**: The plan makes ACs a focus area as the majority of energy consumption in space cooling is by room air-conditioners. A drive for **widespread adoption** of **5-star labelled** fans and room air conditioners in new and existing public buildings.
- **Reducing cost** of efficient air-conditioning through public procurement schemes.
- **Skilling and certifying** AC and refrigerator service technicians.

- Promoting **renewable energy-based** energy efficient cold chains
- Investing in **research and development (R&D)** of refrigerant gases that do not harm or warm the planet.

5.7. GLOBAL ENVIRONMENT OUTLOOK

Why in news?

The sixth edition of the **UN Environment Programme**'s (UNEP) flagship Global Environmental Outlook (GEO-6) report was released at the **UN Environment Assembly**.

Significance of the Global Environment Outlook (GEO)

- The GEO is UNEP's flagship environmental assessment because it fulfils the core functions of the organization. It has been published since 1997.
- The GEO is a **consultative and participatory process** to
  o Prepare an independent assessment of the state of the environment;
  o Assess the effectiveness of the policy response to address these environmental challenges; and
  o The possible pathways to achieve various internationally agreed environmental goals.

GEO-6

- The sixth Global Environment Outlook (GEO-6), focusses on the theme **"healthy planet, healthy people"**.
- GEO-6 builds on previous GEO reports. It, however, differs from previous GEO reports in i**ts emphasis on Sustainable Development Goals** and in providing possible means of accelerating achievement of these goals.

Major Findings

People and livelihoods

- Poor environmental conditions cause approximately 25% of global disease and mortality with disproportionate impact on vulnerable or disadvantaged groups.
- The scale and magnitude of global consumption, especially in urban areas, is

UN Environment Assembly (UNEA)
- It is the **world's highest-level decision-making body on the environment**.
- The Environment Assembly **meets biennially** to set priorities for global environmental policies and develop international environmental law.
- The UNEA was **created in June 2012** during the United Nations Conference on Sustainable Development, also referred to as RIO+20.
- The **Assembly is the governing body of the UN Environment Programme (UN Environment)** and the successor of its Governing Council. The UNEA, with a universal membership, is now composed of 193 Member States.
- The **Fourth Environment Assembly** was held in Nairobi (11-15 March 2019), focusing on the theme "**Innovative solutions for environmental challenges and sustainable consumption and production**".

UN Environment Programme (UN Environment/UNEP) is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment.

- UNEP was established in June 1972 as **an outcome from the United Nations Conference on the Human Environment (Stockholm Conference, 1972)**.
- Its headquarters is in Nairobi, Kenya.
- It mainly depends on voluntary contributions with 95 per cent of UNEP's income coming from voluntary donations.
- **UN Environment hosts the secretariats for many critical multilateral environmental agreements and research bodies**. This include
  o The Convention on Biological Diversity (CBD)
  o The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
  o The Minamata Convention on Mercury
  o The Basel, Rotterdam and Stockholm Conventions
  o The Vienna Convention for the Protection of Ozone Layer and the Montreal Protocol
  o The Convention on Migratory Species (CMS)
  o The Carpathian Convention
  o The Bamako Convention
  o The Tehran Convention

affecting global resource flows and planetary cycles. **Urban clusters** – urban centres and their suburbs – have grown by a factor of about 2.5 since 1975, and in 2015 accounted for 7.6% of global land, affecting, among other things, the hydrological cycle and soil functions, causing **urban heat islands.**

Changing environments

- **Climate change alters weather patterns**, thus impacting deeply the environment, economics and society, threatening the livelihoods, health, water, food and energy security of populations.

- **Increases in polar surface temperature are more than two times greater than the mean global temperature rise**. This has global repercussions, such as accelerated global sea level rises and the disturbance of climate and weather patterns.
- The **number of people affected by both slow and sudden-onset environmental disasters is increasing** due to drivers such as climate change and environmental degradation, poverty and social inequality, demographic change and settlement patterns, unplanned urbanization, unsustainable use of natural resources, weak policies and institutional arrangements.

Resources and materials

- **Consumption rates and linear activities (extract-make-use-dispose)** have increased resource exploitation beyond the recovery ability of ecological systems.
- **Global energy consumption is expected to rise** by as much as 63 per cent during 2014 to 2040, much of which is attributed to expected consumption in countries that currently depend on fossil energy sources.
- **Present is the most chemical-intensive era in history** causing global chemical pollution because toxic substances can spread to the most remote environments, including to receiving water systems worldwide. This adversely impacts human health and the environment.
- **The food system**, in response to growing and changing consumer demand, is increasing pressure on local ecosystems and the global climate. Adequately feeding 10 billion people by 2050 will require an increase of 50 per cent in food production.

> **Asia and the Pacific Regional Assessment of GEO-6**
> - The worst impacts of climate change are projected to occur in the Pacific and South and South-East Asia. Focussing on the population at risk from sea-level rise by 2050, seven of the 10 most vulnerable countries worldwide are in the Asia Pacific region.
>   - **India tops the chart with nearly 40 million people in the country projected to be at risk from rising sea levels**, followed by more than 25 million in Bangladesh, over 20 million in China and nearly 15 million in the Philippines.
> - **Mumbai and Kolkata** in India, Guangzhou and Shanghai in China, Dhaka in Bangladesh are among the projected to have the largest population exposure to coastal flooding in 2070.
> - East and South Asia have the highest number of deaths due to air pollution; by one estimate, it killed about 1.24 million in India in 2017.
> - Also, **India is the leading extractor of groundwater**.
> - **India could save at least $3 trillion in healthcare costs** if it implements its Nationally Determined Contribution (NDC).

   - **Agriculture is the largest consumer of water** and **unsustainable food production** is a major driver of biodiversity loss and polluter of air, fresh water and oceans, as well as a leading source of soil degradation and greenhouse gas emissions.
   - **Changing environmental conditions and consumption patterns are both increasing such pressures** and presenting new food security challenges, reflecting malnourishment, including in the form of overnourishment, as well as undernourishment.

Policy Suggestions

- Overall, **the world is not on track** to achieve the environmental dimension of the 2030 Agenda for Sustainable Development. **Urgent and transformative action is now needed to reverse those trends and restore both environmental and human health to the planet.**
- A **mix of social and technological improvements and innovations** is required, facilitated by effective policy measures and cooperation on a scale from the local to the international.
- There are also **potential trade-offs between achieving different sustainability targets**. Land-based climate change mitigation, namely bioenergy crop production, and agricultural intensification are key measures for achieving climate and food targets respectively but could have significant detrimental effects on other environmental targets if not managed carefully.
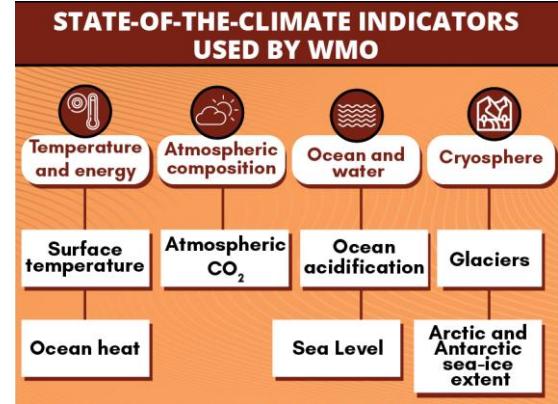
5.8. STATE OF THE GLOBAL CLIMATE REPORT

Why in News?

Recently, the World Meteorological Organization (WMO), released its annual report, State of the Global Climate in 2018.

Highlights of the report

- **Warmest years:** The past four years—2015, 2016, 2017 and 2018—taken together are the four warmest years on record. In contrast to the other top warmest years, 2018 began with La Niña conditions, which are typically associated with lower global temperatures.
  - Average global temperature reached approximately 1 °C above pre-industrial levels.
- **CO₂ concentration and mean sea level rise:** continued to increase in 2018. A new record high of fossil CO2 emission – 36.9 (+/-1.8) billion tons of CO2 was reached in 2018.

STATE-OF-THE-CLIMATE INDICATORS USED BY WMO

- **Ocean acidification:** In the past decade, the oceans absorbed around 25% of anthropogenic carbon dioxide emissions and the decrease in gobal ocean oxygen has continued. More than 90% of the energy trapped by greenhouse gases, goes into the oceans.
- **Glaciers and sea ice:** Arctic sea-ice extent was well below average throughout 2018. The Greenland ice sheet has been losing ice mass nearly every year over the past two decades.
- **Ozone:** 2018 Ozone hole was 24.8 million km² as against 28.2 million km² in 2015.

The World Meteorological Organization (WMO)
- It is an intergovernmental organization which originated from the International Meteorological Organization (founded in 1873).
- Established by the ratification of the WMO Convention on 23 March 1950, WMO became the **specialised agency of the United Nations** for meteorology (weather and climate), operational hydrology and related geophysical sciences a year later.
- **India is a member.**
- The Secretariat, headquartered in Geneva, is headed by the Secretary-General.
- Its supreme body is the World Meteorological Congress.
- WMO provides world leadership and expertise in international cooperation in the delivery and use of high-quality, authoritative weather, climate, hydrological and related environmental services by its Members, for the improvement of the well-being of societies of all nations.

- **Natural Hazards:** In 2018, weather and climate events accounted for most of nearly 62 million people affected by natural hazards. The report identified the floods in Kerala as one of the main indicators of extreme weather events due to climate change.
- **Population Displacement and Human Mobility:** Out of the 17.7 million IDPs (Internally Displaced People), over 2 million people were displaced due to disasters linked to weather and climate events as at September 2018.

5.9. FRONTIERS REPORT 2018/19

Why in news?

The **UN Environment Programme** has launched its latest **Frontiers report 2018/19**, which explores five of the most significant emerging issues on the environment.

Background

- **In 2016** UNEP launched this new yearly publication series, **Frontiers - Emerging Issues of Environmental Concern.**
- The report identifies and provides an insight into a broad range of emerging environmental issues that require attention and action from governments, stakeholders, decision makers as well as the public at large.
- It **links new science to outcome-oriented policies** in relation to the health of the environment and its sustainability. It also provides **encouraging examples** on how certain issues may be addressed by innovating and rethinking policy interventions, new solutions or adapting existing practices.
- The **Frontiers 2018/19** was launched prior to the fourth UN Environment Assembly in **Nairobi, Kenya.**
- **The report covers five key emerging issues:**
  - The latest developments in synthetic biology
  - The critical advantages of landscape connectivity
  - The complex interactions and vulnerability of permafrost peatlands

- o The challenges of widespread nitrogen pollution
- o The hazards of maladaptation in a world of climate change

5.10. GLOBAL ENERGY & CO2 STATUS REPORT

Why in news?

The International Energy Association's (IEA) recently released the Global Energy & CO2 status in 2018 report.

Highlights of the report

- **Global trend:** India's energy demand outpaced global demand growth in 2018. China, US, and India together accounted for nearly 70 per cent of the rise in energy demand.
- **CO$_2$ emissions:** India saw emissions rise by 4.8%, or 105 Mt, with the growth split evenly between power and other sectors such as transport and industry. Despite this growth, per capita emissions in India remain low at only 40% of the global average.
  - o It found that CO2 emitted from coal combustion was responsible for over 0.3°C of the 1°C increase in global average annual surface temperatures above pre-industrial levels. This makes coal the single largest source of global temperature increase.
- **Oil:** Global oil demand rose by 1.3% in 2018, led by strong growth in the United States. Indian oil demand grew 5% in 2018 compared to 2017.
- **Natural gas:** consumption grew by an estimated 4.6% in 2018, its largest increase since 2010.
  - o **China the world's largest natural gas importer** in 2018, ahead of Japan, and was the second-largest contributor in volume to global demand growth after the United States.

International Energy Agency (IEA)
- It was founded in 1974 to help countries collectively respond to oil supply disruptions.
- It is an autonomous body within the OECD framework.
- Only the OECD member states can become members of the IEA.
- India is **not a member** but has joined IEA as an association country.
- To become a member of the IEA, a country must have petroleum product reserves equivalent to 90 days of the previous year's net imports.
- It focuses on four main areas: **energy security, economic development, environmental awareness and engagement worldwide.**
- Its other publications include:
  - o World Energy Outlook
  - o Global trends in energy and emissions across sectors
  - o Oil Market Report
  - o World Energy Investment
  - o The Future of Petrochemicals
  - o The Future of Cooling
  - o Global EV Outlook
  - o Offshore Energy Outlook

5.11. HAZARDOUS AND OTHER WASTES (MANAGEMENT & TRANS BOUNDARY MOVEMENT) AMENDMENT RULES, 2019

Why in news?

Recently Ministry of Environment, Forest and Climate Change has amended the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016.

Amendments introduced

- **Prohibition on import of solid plastic waste** even in special economic zones (SEZ) and by export-oriented units (EOUs).
- **Electrical and electronic assemblies and components manufactured in and exported from India**, if found defective can be imported back into the country, within a year of export, without obtaining permission.
- The **industries that do not require consent under Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981**, will now be exempted from requiring authorisation also

under the Hazardous and Other Wastes Rules, 2016, provided that hazardous and other wastes generated by such industries are handed over to the authorized actual users, waste collectors or disposal facilities.

- **Exporters of silk waste** have now been **given exemption** from requiring permission from the Ministry of Environment, Forest and Climate Change.

Salient features of Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016

- For the first time, the ambit of the Rules has been expanded by making a **distinction between Hazardous Waste and other wastes**. Other wastes include: Waste tyre, paper waste, metal scrap, used electronic items, etc.
- The **import of metal scrap, paper waste and various categories of electrical and electronic equipments for re-use** purpose has been exempted from the need of obtaining Ministry's permission.
- **Ban on import** of waste edible fats and oil of animals, or vegetable origin, household waste, Critical Care Medical equipment, Tyres for direct re-use purpose, Solid Plastic wastes including Pet bottles, Waste electrical and electronic assemblies scrap, other chemical wastes especially in solvent form among others.
- The rules allow the **municipalities to levy user free for waste management** and make individuals responsible for disposal of the garbage.
- The **source segregation of waste** as wet (Biodegradable), dry (Plastic, Paper, metal, wood, etc.) and domestic hazardous wastes has been made mandatory for waste generators.
- **Integration of waste / rag pickers into formal system**, the responsibility of which is on the state governments.
- **Procedure has been simplified** to merge all the approvals as a single window clearance for setting up of hazardous waste disposal facility and import of other wastes.
- **State Pollution Control Board** is mandated to prepare an annual inventory of the waste generated; waste recycled, recovered, utilised including co-processed; waste re-exported and waste disposed and submit to the Central Pollution Control Board every year.

5.12. COMPENSATORY AFFORESTATION

Why in news?

Recently Forest Advisory Committee (FAC) clarified that forest land **with crown density below 40 per cent (open forest) will be treated as degraded forest land** for compensatory afforestation (CA).

Background

- The **Forest (Conservation) Act of 1980** requires that afforestation is carried out in compensation for forest land diverted for non-forestry uses.
- Compensatory afforestation can be done over an **equivalent area of non-forest land or over degraded forest twice in extent of the area being diverted, if non-forestland is not available**.

Forest Advisory Committee

It is the apex body under the Union Ministry of Environment and Forest and Climate Change (MoEFCC) for approving diversion of forest land in India.

Crown density or **canopy density**

It is the ratio between the cover formed by top branches of trees in a forest and the land area. **The Forest Survey of India (FSI),** which assesses India's forests, classifies forests on the basis of canopy/crown density.

- **Very Dense Forest:** (Canopy Density>70%)- **13.8 percent** of the total forest cover.
- **Moderately Dense Forest**: (canopy density is 40% to 70%)-**44.2 percent** of the total forest cover.
- **Open Forest:** (Canopy density 10% to 40%)- **42 percent** of the total forest cover.

More about Compensatory afforestation

- The government enacted **Compensatory Afforestation Fund Act 2016** to provide a proper institutional mechanism for compensatory afforestation matters
- The salient features of the Act include:
  - The Act **established National Compensatory Afforestation Fund (NCAF)** under the Public account of India **and State Compensatory Afforestation Funds** under public accounts of states.
  - The National Fund will receive 10% of these funds, and the State Funds will receive the remaining 90%.
  - The fund will be used for **compensatory afforestation**, additional compensatory afforestation, penal compensatory afforestation, **net present value**, catchment area treatment plan or any money for compliance of conditions stipulated by the Central Government while according approval under the provisions of **the Forest (Conservation) Act, 1980**.
  - Act provides **statutory status for two ad-hoc institutions**, namely

- **National Compensatory Afforestation Fund Management and Planning Authority (NCAFMPA)** for management and utilisation of NCAF.
- **State Compensatory Afforestation Fund Management and Planning Authority** for utilisation of State Compensatory Afforestation Fund.
   - The act also seeks to provide for constitution of a **multidisciplinary monitoring group** to monitor activities undertaken from these funds.
   - The act also provides for **annual audit of the accounts by the Comptroller and Auditor General**.

Issues with the Act

- **Compromising community forest rights:** The land identified for compensatory afforestation would be under forest department's jurisdiction thus, having adverse consequences for the hard-won rights of tribals and forest dwellers.
- **Lack of monitoring mechanism for expenditure from funds** despite findings of Comptroller and Auditor General in 2013 about massive misutilization of funds by the forest department.
- **Scarcity of land** as land is a limited resource, and is required for multiple purposes, such as agriculture, industry, etc. The problem is compounded by unclear land titles.
- **Inadequate Capacity of state forest departments** for planning and implementation. Still utilisation of 90% of funds depend on it.
- **Low quality forest cover**: Compensatory afforestation cannot make up for the ecological value lost by cutting the existing forests. Also, computing the appropriate Net Present Value of a forest is a challenge.
- **Poor survival rate** of plantations raised under compensatory afforestation also raises serious questions about their effectiveness.
- **Diversion as land banks:** The creation of **land banks for CA** from revenue forests and degraded forests (on which communities have got traditional rights) further allows for takeover of community land.

Way forward

- **Primacy of Gram sabha**: The **CAF Act needs to be integrated with the FRA and PESA** by centring the role of gram sabhas and incorporating land and forest rights guarantees.
- **Management of CA**: Emphasis should not only be on plantation but also on the maintenance of CA.

5.13. CLIMATE VULNERABILITY MAPS FOR HIMALAYAN STATES

Why in News?

Recently Indian Scientists have developed a **common framework for Climate Change Vulnerability Assessment for the Indian Himalayan Region.**

About the Index

- The Index developed is based on 4 broad indicators:
   - **Socio-economic factors, demographic and health status**
   - **Sensitivity of agricultural production**
   - **Forest-dependent livelihoods**
   - **Access to information, services and infrastructure.**
- The assessment has been done jointly by experts from **Indian Institutes of Technology (IIT) at Guwahati and Mandi**, in collaboration with **Indian Institute of Science, Bangalore** with support from the **Department of Science and Technology (DST)** and the **Swiss Development Corporation** (SDC) which is **implementing the Indian Himalayas Climate Adaptation Program (IHCAP).**

Indian Himalayas Climate Adaptation Programme
- It is a project under Global Programme Climate Change and Environment (GPCCE) of **Swiss Development Corporation** (SDC) and is implemented in partnership with **Department of Science and Technology, GOI.**
- It **supports the implementation of National Mission for Sustaining the Himalayan Ecosystem (NMSHE)** as knowledge and technical partner.

Key Takeaways

- **Assam** has the highest vulnerability index (0.72) followed by **Mizoram** (0.71) and **Sikkim** is the least vulnerable state (0.42).

- Assam is highly vulnerable to climate change because of factors like **low per capita income, deforestation, large number of marginal farmers, least area under irrigation, lack of alternative sources of income and high rates of poverty.** Less capacity to adapt make people vulnerable to climate change.
- **Districts within a state also face different degrees of vulnerability** based on difference in geographic, climatic, socio-economic and demographic conditions.
- Also, the **climate vulnerability index is a relative measure** and **does not show vulnerability in absolute sense.** Therefore, even least vulnerable states also have several inherent drivers of vulnerability that needs to be addressed.
- The vulnerability assessments will be useful for officials, decision makers, funding agencies and experts to have a **common understanding on vulnerability and enable them to plan for climate adaptation.**

5.14. WORLD WATER CRISIS

Why in news?

Recently, the WaterAid released its report, '**Beneath the Surface: The State of the World's Water 2019'** on March 22, the World Water Day.

Background

- In 2015 the global community committed to the **UN Sustainable Development Goal 6**, which promises that by 2030 everyone will have a **safe supply of water available whenever they need it**. However the progress on it has not been up to the mark.
- This report reveals that some 4 billion people in the world live in physically water-scarce areas and 844 million don't have access to clean water close to home.
- This report has highlighted the role of virtual water in exacerbating water scarcity.
- The world's water crisis is getting worse, yet globally we use six times as much water today as we did 100 years ago, driven by **population growth and changes in diets and consumer habits**

> **WaterAid**
> - It is an **international non-profit organization** that was set up in **1981** as a response to the **UN International Drinking Water & Sanitation decade** (1981–1990).
> - It has been working in **India since 1986** and has played a significant role in the WASH (**Water, Sanitation, and Hygiene**) sector nationally and in the states
> - WaterAid India is registered as **Jal Seva Charitable Foundatio**n (JSCF) in the country as a not for profit company under Section 25 of the Companies Act, 1956.

Key findings for India in the report

- India's rate of **groundwater depletion** increased by 23% between 2000 and 2010.
- India is the third largest **exporter of groundwater** – 12% of the global total.
- India also **uses the largest amount of groundwater** – 24% of the global total.
- As many as one billion live in areas of **physical water scarcity**, of which 600 million are in areas of high to extreme water stress.
- 88% of households have clean water close to home.
- 75% of households **do not have drinking water** on the premises.
- 70% of drinking water is **contaminated**.

Role of Virtual Water in Water Scarcity

- **Virtual Water** is that water, which is used to produce other products and services such as crops, garments etc. The amount of water needed to create a product is known as its **water footprint.** It includes three types- **Green water** (soil moisture), **Blue water** (irrigation), **Grey water** (diluting pollutants).
- **Virtual water trade** refers to the **hidden flow of water** if food or other commodities are traded from one place to another. This concept highlights the point that countries **save domestic water by importing** food. An estimated **22% of global water** use goes towards producing goods for export. **Some of the most water intensive crops-** Wheat, Rice, Asparagus, Avocados, Cut flower.
- In an ideal marketplace, the **virtual water trade would balance resources** between countries blessed with abundant water and those countries where water is in shorter supply. However, this is not the case. This global water trade means that many countries make "savings" on the amount of water they would have to use otherwise in their own countries.

- According to the **Water Footprint Network (WFN) database**, India had the lowest virtual imports of water in the world. However, India is a large virtual net export of water because of agricultural products. (USA is top gross virtual water importer in the world followed by Japan and Germany.)
- As a result, the amount of water taken out of Indian rivers is way more than that goes back in through natural rainfall and melting snow.

5.15. OTTER

Why in news?

Recently Uttar Pradesh has started census of otters in its protected areas for the first time.

About Otter

- They are **carnivorous mammals** and adapt to a variety of habitats ranging from marine to freshwater environments.
- The threats for otter population include: habitat destruction, poaching and illegal trade for fur and meat.
- In India, the nomadic hunting tribes such as **Gilhara, Badiya and Jogis** are known to regularly kill otters for their skin and flesh.
- India is home to 3 of the 13 species of otters found worldwide. These are:
  o **Eurasian Otter** (Lutra lutra): **IUCN**: Near Threatened; **CITES** Appendix I; **Wildlife (Protection) Act** Schedule II.
  o **Smooth-coated Otter** (Lutra perspicillata): **IUCN**: Vulnerable; **CITES** Appendix II; **Wildlife (Protection) Act** Schedule II.
  o **Small-clawed otter** (Aonyx cinereus): **IUCN**: Vulnerable; **CITES** Appendix II; **Wildlife (Protection) Act** Schedule II.
- First ever otter reserve has been opened in Karnataka- The **Tungabhadra Otter Reserve Sanctuary**.

6. SCIENCE AND TECHNOLOGY

6.1. WOMEN IN SCIENCE

Why in news?

Ministry of Science and Technology recently invited applications for **Women Scientists Scheme**.

More about news

- The scheme is meant to encourage women in S&T domain, preferably those having a **break in career** (between the age group of 27-57 years) and not having regular employment, to explore possibility of re-entry into the profession.
- Through this endeavor of the **Department of Science and Technology**, concerted efforts have been made to give women a strong foothold into the scientific profession. The candidates selected for the scheme will get job training in the area of Intellectual Property Rights (IPR), along with monthly stipend and potential research grant.

Present Scenario

- As per the National Task Force on women in science report, only 15% of the Indian research and development workforce are women, while the global average is 30%.

> **Constraints faced by women**
> - **Social conditioning**:
>   - The gender bias against women.
>   - When it comes to peer recognition, women are at loss as they muster less support.
>   - Women in high positions rarely groom other women.
> - **Role of caregivers**:
>   - Traditionally, women have donned the role of caregivers for centuries and this often gets reinforced through laws and institutions in our society. This leads to dual responsibilities.
>   - This sets women back at the early stages of their careers.
>   - Even in later stages, circumstances force women to seek early retirement.
> - **Marginalization**:
>   - Systemic gender discrimination and biased career review processes.
>   - Women are marginalized even at faculty positions and in field of science and technology
> - **Work environment**:
>   - Lack of support for gender diversity in work environment.
>   - For the same position and recognition, women have to work harder. It deters women from pursuing this field, causing a major leak at the post doctoral level.

- According to a report "Women in Science & Technology" by an inter-academy panel, only 12.6% of women opt for studying science and 16.34% opt for engineering & technology at undergraduate level.
- The percentage of women faculty at high profile institutes like TIFR, IITs, IISc is only 10-12%.
- The Shanti Swarup Bhatnagar Awards, instituted in 1958 by CSIR, include less than 20 women awardees in 61 years.

Relevant Government Initiatives

- **KIRAN (Knowledge Involvement in Research Advancement through Nurturing) Scheme**: An umbrella of women specific programmes such as-
  - **CURIE (Consolidation of University Research for Innovation and Excellence in Women Universities)** to develop state-of-the-art infrastructure in women universities in order to attract, train and retain promising girls students in S&T domain. KIRAN is providing budgetary support for creating **Women Technology Park (WTP)** where appropriate S&T packages for women are developed to improve livelihood and health & nutrition besides reducing drudgery in order to enhance their quality-of-life.
  - **Mobility Scheme**: It will address relocation issue (marriage, transfer of husband to any other location within the country, attending ailing parents, and accompanying children studying in different city) of women scientists working in regular position in Government Organizations.
- **Indo-U.S. Fellowship for Women in STEMM (Science, Technology, Engineering, Mathematics and Medicine)**: It will provide opportunities to Indian Women Scientists, Engineers & Technologists to undertake international collaborative research in premier institutions in U.S.A, to enhance their research capacities and capabilities. It is a joint endeavor of Department of Science and Technology and Indo-U.S. Science and Technology Forum (IUSSTF).
- **UDAAN**: launched by **Ministry of Human Resource Development** to address the lower enrolment ratio of girl students in science and engineering colleges. The aim of UDAAN is to enrich and enhance teaching and

learning of Science and Mathematics at Senior Secondary level by providing free and online resources to every girl, with a focus on special incentives and support to 1000 selected disadvantaged girls per year.

- **Biotechnology Career Advancement and Re-orientation Programme (BioCARe)**: An initiative of **Department of Biotechnology**, it mainly focuses on Career Development of employed/ unemployed women Scientists upto 55 years of age. The purpose is to build capacities for women Scientists employed fulltime in Universities and small research laboratories or unemployed women Scientists' after a career break so as to help them undertake independent R&D projects.

6.2. PSLV C-45

Why in news?

Indian Space Research Organisation (ISRO) successfully launched the PSLV-C45 rocket from Satish Dhawan Space Centre SHAR, Sriharikota (Andhra Pradesh), which injected EMISAT and 28 international customer satellites into their designated orbits.

Unique Features of PSLV-C45

- It was the first time ISRO launched a rocket that **injected satellites in three different orbits**.
  - Till now, these satellites have been ejected in two different orbits at the most, with only a marginal difference in the vertical distances between the satellites' orbits.
- For placing the satellites in 3 different orbits, the rocket needed to undertake 2 revolutions around the Earth. This was achieved by **reigniting the 4th stage engines** (employed for the first time). Earlier missions used to be "single-shot" operations in which the engines used to fire just once.
- The **4th and last stage of the rocket will function as a satellite itself** for some time, instead of being rendered junk after ejecting its payloads.
  - Though it has a lifespan much smaller than a satellite, it carries many instruments for measurements and short-duration experiments like:
    - ✓ **AMSAT** (Radio Amateur Satellite Corporation) for amateur radio operators use to track and monitor position data
    - ✓ **Automatic Identification System** for capturing messages transmitted from ships
    - ✓ **Advanced Retarding Potential Analyzer for Ionospheric Studies (ARIS)** to study composition and structure of ionosphere
- Also, the rocket carried **four strap-on motors for first time.**
  - Strap-ons are booster rockets attached externally to the main rocket, and provide additional thrust, or energy, by firing themselves midway during the flight.
  - In earlier flights, ISRO has used two or six strap-on motors. The four extra-large strap-ons used this time reduced the overall weight while still delivering the power equivalent to six motors.

> **Polar Satellite Launch Vehicle (PSLV)**
> - It is designed mainly to deliver the "earth-observation" or "remote sensing" satellites with lift-off mass of up to about 1750 Kg to **Sun-Synchronous circular polar orbits** of 600-900 Km altitude.
> - It is also used to launch the satellites of lower lift-off mass of up to about 1400 Kg to the elliptical **Geosynchronous Transfer Orbit (GTO)**.
> - PSLV is a **four-staged launch vehicle** with alternating solid and liquid stages.
> - It is the **first Indian launch vehicle** to be equipped with **liquid stages**. It is also equipped with **strap-on external motors.**
> - It has successfully launched Indian Remote Sensing (IRS) satellites, Chandrayaan (2008), Mangalyaan (2013), Astrosat, INRSS etc.
>
> **About EMISAT**
> - Developed by DRDO under Project Kautilya, it is the primary satellite placed in **sun-synchronous polar orbit of 748 km** height by PSLV-C45, intended for **electromagnetic spectrum measurement**.
> - It is **India's 1st Electronic Intelligence Satellite**. It will increase the situational awareness of the **armed forces** by providing the location and information of hostile radars placed at the borders.

6.3. ASTROSAT

Why in news?

Indian multi-wavelength space observatory **AstroSat** discovered new population of **ultraviolet stars** in the **globular cluster NGC 2808**.

Significance of the finding

- **Globular clusters** are collections of thousands to millions of stars, **moving as one unit.** These stars are tightly **held together by gravity of the cluster itself,** and are believed to have formed together at roughly the same time.
- Since a globular cluster contains stars with a variety of masses but with similar chemical composition, a snapshot of it could reveal stars of different masses at different stages of their evolution.
- Stars which are more massive than the Sun will undergo different evolutionary paths, and will be much brighter in the ultraviolet range since they are hotter. Hence globular clusters are good laboratories to test theories of stellar evolution.

More about ASTROSAT

- Launched in 2015, it is **India's first** dedicated multi wavelength space observatory. It enables the **simultaneous multi-wavelength observations** of various astronomical objects with a single satellite.
- It has 5 payloads which includes:
  - **Ultraviolet Imaging Telescope (UVIT**): capable of observing the sky in the Visible, Near Ultraviolet and Far Ultraviolet regions of the electromagnetic spectrum.
  - **Large Area X-ray Proportional Counter (LAXPC**): It is designed for study the variations in the emission of X-rays from sources like X-ray binaries, Active Galactic Nuclei and other cosmic sources.
  - **Soft X-ray Telescope (SXT**): It is designed for studying how the X-ray spectrum of 0.3-8 keV range coming from distant celestial bodies varies with time.
  - **Cadmium Zinc Telluride Imager (CZTI):** It is functioning in the X-ray region, extends the capability of the satellite to sense X-rays of high energy in 10-100 keV range.
  - **Scanning Sky Monitor (SSM):** It is intended to scan the sky for long term monitoring of bright X-ray sources in binary stars, and for the detection and location of sources that become bright in X-rays for a short duration of time.

6.4. FORWARD SEARCH EXPERIMENT (FASER)

Why in news?

CERN have approved a new experiment named FASER designed to identify light and weakly interacting particles.

Forward Search Experiment (FASER)

- FASER is a proposed experiment dedicated to searching for **light, extremely weakly-interacting particles** at the **Large Hadron Collider (LHC).**
- Such particles may be **produced in the LHC's high-energy collisions** in large numbers in the far-forward region and then travel long distances through concrete and rock without interacting.
- A small and inexpensive detector placed in the far-forward region may therefore be capable of extremely sensitive searches. The **FASER program is specifically designed to take advantage of this opportunity**.
- These particles may decay to visible particles in FASER, which is placed 480 m downstream of the **ATLAS interaction point**.

Significance of FASER Programme

- FASER has the **potential to discover dark photons, dark Higgs bosons, heavy neutral leptons, axion-like particles, neutralinos and many other long-lived particles**, as well as provide new information about neutrinos, with potentially far ranging implications for particle physics and cosmology and **understanding of dark matter**.
- FASER has been designed to be **sensitive to the many possible forms of light**, weakly-interacting particles, and to **differentiate signal from background**.
- In addition, the FASER program has strong prospects for providing new insights into neutrinos. It may also provide **interesting information about Standard Model (SM) particles** by detecting the first neutrinos at the LHC.

Related Information

- **ATLAS** is an enormous multi-purpose detector situated at one of the crossing points of the two oppositely directed proton beams of the Large Hadron Collider's (LHC).

Large Hadron Collider

- The LHC accelerator, located at CERN on the French-Swiss border near Geneva, is housed in an enormous tunnel roughly 27 km in circumference and 100 m underground.
- The LHC and its detectors were designed t**o study the smallest fundamental building blocks** that make up our universe – to find out what these building blocks are and how they interact (and don't interact) with one another.

Physics Beyond Colliders (PBC)

- PBC is an exploratory study aimed at **exploiting the full scientific potential of CERN's accelerator complex** and its scientific infrastructure in the next two decades through projects complementary to the LHC, High Luminosity LHC (HL-LHC) and other possible future colliders.
- FASER Programme is one such component of PBC.

Dark Matter

- **Composition of the universe:** 68% dark energy, 27% dark matter, 5% normal matter.
- The chief property of dark matter is that it is "dark", i.e. that it **emits no light.**
- In addition, **dark matter must interact with visible matter gravitationally.** So, the dark matter must be massive enough to cause the gravitational effects that we see in galaxies and clusters of galaxies.
- The two main categories of objects that scientists consider as possibilities for dark matter include MACHOs and WIMPs.
    - o **MACHOs (Massive Compact Halo Objects):** MACHOs are objects ranging in size from small stars to super massive black holes. MACHOS are made of ordinary matter (like protons, neutrons and electrons). They may be black holes, neutron stars, or brown dwarfs.
    - o **WIMPs (Weakly Interacting Massive Particles):** WIMPs are the subatomic particles which are not made up of ordinary matter. They are "weakly interacting" because they can pass through ordinary matter without any effects. They are "massive" in the sense of having mass (whether they are light or heavy depends on the particle). The prime candidates include neutrinos, axions, and neutralinos.

6.5. ATMOSPHERIC WAVES EXPERIMENT

Why in news?

The **NASA** has selected a new mission **Atmospheric Waves Experiment (AWE)** and is expected to be launched in **August 2022**, attached to the exterior of the Earth-orbiting International Space Station.

About Atmospheric Waves Experiment (AWE)

- It will investigate how waves in the lower atmosphere, caused by variations in the densities of different packets of air, impact the upper atmosphere.

Heliophysics

- It is the study of the effects of the Sun on the Solar System; it addresses problems that span a number of existing disciplines – solar and heliospheric physics, and magnetospheric and ionospheric physics for the Earth and other planets.
- The discipline is closely related to the study of Space Weather, which can affect the technology on which we all depend, however heliophysics is more generalised covering all parts of the Solar System rather than just the Sun-Earth connection.

- The experiment will focus on colourful bands of light in Earth's atmosphere, called **airglow**, to determine **what combination of forces drive space weather in the upper atmosphere**.
- Earlier it was thought that only Sun's constant outflow of ultraviolet (UV) light and particles, solar wind, could affect airglow region. However, now researchers have learned that Earth's weather also have effect on it.
- AWE was one of two finalists selected by NASA in 2017 as a heliophysics mission of opportunity for **NASA's Explorers program** of small missions. The other finalist was the **Sun Radio Interferometer Space Experiment (SunRISE)**, a constellation of cubesats that would act as a synthetic aperture radio telescope to study the formation of solar storms.

6.6. GRAPES-3

Why in news?

For the first time in the world, researchers at the **GRAPES-3** muon telescope facility in **Ooty** recently measured the **electrical potential**, size and height of a **thundercloud** simultaneously.

More on news

- Learning about the properties of thunderclouds can be useful in following ways:
  - **Navigation** of aircraft and preventing short circuits.
  - If its **energy** could be harnessed, it would change the landscape of the energy sector. This thunderstorm cloud carried about 2 gigawatts (GW) of power, making this single cloud more **powerful** than most powerful nuclear power plants in the world.

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GRAPES-3 Muon Telescope
- Gamma Ray Astronomy PeV EnergieS phase-3 (GRAPES-3) is designed to study cosmic rays with an array of air shower detectors and a large area muon detector.
- It is a collaboration of the Tata Institute of Fundamental Research, Mumbai, India and the Osaka City University, Osaka, Japan.

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How was it detected?

- Clouds have negative charges along their lower side and positive charges on top and can be several kilometres thick.
- **Muons** and other particles are produced when cosmic rays bombard air particles surrounding the earth. The muons produced can have positive or negative charge. These particles have about half the spin of electrons but 200 times the weight, and are very good at penetrating matter.
  - When a positively charged muon falls through a cloud, it loses energy; while a negatively charged muon gains energy when falling through the cloud and gets detected. Since there are more positive than negative muons produced in nature, the two effects don't cancel out, and a net change in intensity is detected.
- Using an array of muon-detecting sensors and four electric field monitors spread over several miles, the researchers measured the average drop in energy between muons that passed through the thundercloud and those that didn't pass through it. From this energy loss, it was calculated how much electric potential the particles had passed through in the thunder cloud.

6.7. CHINA'S ARTIFICIAL SUN

Why in news?

China has recently reported that it is close to completing its "**artificial sun**"- **Experimental Advanced Superconducting Tokamak (EAST) reactor**, after it achieved an ion temperature of 100 million degrees Celsius.

Background

- Nuclear fusion has been the focus of the researchers as the **solution for clean energy**, which can replace the conventional sources of energy like coal, oil, gas etc.
- But the application and control of fusion process is not easy to harness. A very high pressure and temperature is required to initiate the fusion process. Even if those conditions are created, then the energy generated during the process is prone to bursts, which can be deadly.

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International Thermonuclear Experimental Reactor
- It is an international nuclear fusion research and engineering megaproject, which will be the world's largest magnetic confinement plasma physics experiment.
- The project is funded and run by seven member entities—the **European Union, India, Japan, China, Russia, South Korea, and the United States.**
- The goal of ITER is to demonstrate the scientific and technological feasibility of fusion energy for peaceful use.
- **The tokamak** is an experimental machine designed to harness the energy of fusion. Inside a tokamak, the energy produced through the fusion of atoms is absorbed as heat in the walls of the vessel.

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- The scientists have been working on harnessing this process from a long time, the most prominent among them being the **International Thermonuclear Experimental Reactor** (ITER).
- China is working on an **Experimental Advanced Superconducting Tokamak (EAST) reactor** — an "**artificial sun**" designed to mimic the nuclear fusion process the real Sun uses to generate energy.
- The machine, called **HL-2M Tokamak**, is being constructed at the Southwestern Institute of Physics in China.

Nuclear Fusion Process

- It involves light elements, such as hydrogen, smashing together to form heavier elements, such as helium. For fusion to occur, hydrogen atoms are placed under high heat and pressure until they fuse together. When this happens, a tremendous amount of energy is released in the process.

- Reaction between **two hydrogen isotopes, deuterium (D) and tritium (T) has been identified as the most efficient fusion reaction in the laboratory setting**. The **DT fusion reaction** produces the highest energy gain at the "lowest" temperatures.
- At extreme temperatures, **electrons are separated from nuclei** and a gas becomes a **plasma**—an ionized state of matter similar to a gas.

Nuclear Fission	Nuclear Fusion
A heavy nucleus breaks up to form two lighter nuclei.	Two light nuclei combine to form a heavy nucleus.
It involves a chain reaction.	Chain reaction is not involved.
The heavy nucleus is bombarded with neutrons.	Light nuclei are heated to an extremely high temperature.
Disposal of nuclear waste is a great environmental problem.	Disposal of nuclear waste is not involved.
Raw material is not easily available and is costly.	Raw material is comparatively cheap and easily available.

- Composed of electrons and ions, plasmas are very tenuous environments, nearly one million times less dense than the air we breathe. Fusion plasmas provide the environment in which light elements can fuse and yield energy.
- The tokamak device uses **magnetic fields** to contain and control the hot plasma, to keep the plasma away from the reactor's walls, so that it doesn't cool down and lose its energy potential.
- **Three conditions must be fulfilled** to achieve fusion in a laboratory:
  o **Very high temperature** (on the order of 15million Celsius);
  o **Sufficient plasma particle density** (to increase the likelihood that collisions do occur);
  o **Sufficient confinement time** for fusion to occur

Significance of Nuclear Fusion

- **Large amount of energy-** Fusing atoms together in a controlled way releases nearly four million times more energy than a chemical reaction such as the burning of coal, oil or gas and four times as much as nuclear fission reactions.
- **Sustainability-** Fusion fuels are widely available and nearly inexhaustible. Deuterium can be distilled from all forms of water, while tritium will be produced during the fusion reaction as fusion neutrons interact with lithium**.**
- **Environment friendly-** Fusion doesn't emit harmful toxins like carbon dioxide or other greenhouse gases into the atmosphere
- **Limited risk of proliferation:** Fusion doesn't employ fissile materials like uranium and plutonium
- **No risk of meltdown**: A Fukushima-type nuclear accident is not possible in a tokamak fusion device. It is difficult enough to reach and maintain the precise conditions necessary for fusion—if any disturbance occurs, the plasma cools within seconds and the reaction stops.

6.8. NEW RULES FOR DRUGS & CLINICAL TRIALS

Why in news?

The Ministry of Health & Family Welfare has notified the Drugs and Clinical Trials Rules, 2019 with the aim of promoting clinical research in the country.

About the new rules

- The new rules **reduce the time for approving applications** to 30 days for drugs manufactured in India and 90 days for those developed outside the country.
- Patients would be enlisted for trials with an **informed consent** and an **ethics committee will monitor the trials** and **decide on the amount of compensation** in cases of adverse events
- In case of injury to clinical trial subject, **medical management** will be provided by the sponsor as long as required as per the opinion of the investigator or till such time it is established that the injury is not related to the clinical trial.
- **Compensation** in cases of death and permanent disability to a trial subject will be decided by the Drug Controller General.
- **Local clinical trial** may be waived for approval of a new drug if it is approved and marketed in any of the countries (EU, UK, Australia, Japan and US) specified by the Drugs Controller General with the approval of the government.

Existing regulatory requirements for Clinical Trials in India

- Clinical trials in India are primarily regulated through the provisions of the **Drugs and Cosmetics Act, 1940**. Further, the **Medical Council of India Act, 1956** and **the Central Council for Indian Medicine Act, 1970** also regulate the conduct of clinical trials in India.
- **The Indian Council of Medical Research (ICMR)**, the apex regulatory body for clinical trials, was set up to promote research culture in India and develop infrastructure for clinical trials.
- A clinical study in India has to be **registered** with **Clinical Trial Registry of India (CTRI)** before recruiting any volunteer. It is an open repository of all clinical studies for public use. It has been established by ICMR.
- **Drug Controller General of India (DCGI)** is responsible for giving regulatory permissions for the conduct of clinical trials and is responsible for approval of marketing licenses for drugs in India.
- **Ethics Committees (EC)** are designated to approve, monitor & review biomedical and behavioral research involving humans. They follow **International Conference on Harmonization-Good Clinical Practice (ICH-GCP)** guidelines. They can be affiliated with the study sites (e.g. hospitals/clinics) or can be independent.
  - National Accreditation board for hospitals and Healthcare Providers (NABH) a part of Quality council of India has developed a system of accreditation for Ethics Committee (EC).

Issues with Clinical Trial (CT) regulations in India

India has had favorable prerequisites for conducting clinical research and drug development – a large and diverse patient pool (trial participants), a highly skilled workforce of qualified scientists (investigators), medical colleges (sites) etc. Yet, an unfavorable ecosystem has undermined its potential. India has 17% of the world's population & 20% of the world disease burden, but conducts less than 1.4% of global clinical trials. Following are the issues associated with the process of clinical trials in India:

- **Issues in deciding culpability** in case of deaths due to clinical trials.
- **Over-representation of vulnerable sections** among trial subjects.
- **Selective recruitment** by Contract Research Organizations (CROs) exploiting financial needs and medical ignorance.
- **Public opinion in India is not in favor** of CTs as several CROs have been blamed for conducting trials without due concern for procedural and ethical issues.
- Issue of **over-volunteering in bioequivalence studies** where volunteers deceive the investigators by faking medical history and simultaneously enrolling in multiple trials. It poses a risk to volunteer health and may lead to unsafe drugs in market.
- Regulatory inadequacies lead to **severe delays in the approval process.**
- Absence of adequate **regulatory guidance** on specific issues, lack of **clarity on legal terminologies** and **dearth of a proper standardization** by CDSCO.
- Lack of **expertise** and **capacity to undertake accreditation** and absence of periodic revaluation mechanism.

Significance of the new rules

The new rules take a step forward in making Clinical Trial (CT) process in India compliant with Supreme Court directives and **Ranjit Roy Chaudhury Expert Committee** recommendations.

- The new rules will **speed up the availability** of drugs in India.
- Adherence to certain quality standards will **instill confidence in patients** who will be trial subjects.

> **Supreme Court's directives on Clinical Trials**
> In the case of Swasthya Adhikar Manch, Indore vs. Ministry of Health and Family Welfare & Ors regarding clinical trials, SC laid down the following directives for the process of clinical trials:
> - Provide for **examination** of serious adverse events and ensure **compensation** in case of clinical trial-related injury or death.
> - Undertake **informed consent** based on correct & complete information about the trial and its possible implications. **Audio-visual recording** of informed consent process and preservation of documentation mandatory.
> - CDSCO should lay down **pre-defined standards** for medical institutions to be chosen as clinical trial sites.
> - Lay down **Standard Operating Procedure** (SOP) for investigators and norms for **inspection** and **monitoring** of clinical trials by Ethics Committee
> - Mandatory **registration** of Ethics Committee & **removing conflict of interest** while formulating it
> - Provisions to ensure **confidentiality** of the patient's medical record & treatment history
> - **Reimbursement** and **free medical services to participants**. Incentive should not be so large that it acts as an inducement against better judgement.

- It will **boost clinical trials industry** in India by giving certainty to undertake trials to research groups/ companies.
- It will **promote innovation in indigenous drug development** to meet growing need for medicines in the country.
- It can **generate employment** in the clinical trials industry.

Way Forward

- **Empowering Ethics Committees:**
    - NABH and Forum for Ethics Review Committees in India (FERCI) should develop an IT enabled platform that enables ECs to manage a research project throughout its life cycle
    - Training of every EC member in GCPs
    - NABH should draft model Standard Operating Procedures (SOPs) for ECs
    - NABH should sign MOUs with other agencies of standing to aid faster accreditation of ECs in India
- **Making consent more informed:**
    - Meaningful translation of Informed Consent Forms (ICF) into vernacular languages
    - Development of **audio-visual aids** for clinical research participants
- **Compensating for injury or death related to a clinical trial:**
    - CDSCO should adopt a more focused approach towards passing timely orders for compensation for injury or death related to a trial.
    - Mandatory provision for ancillary care to cater to patients suffering from any other illness during the trial.
- **Addressing uncertainty:** CDSCO should devise a comprehensive strategy to communicate its policies, decisions and regulatory thinking to the market.
- **Incentivizing research:** The Government of India, state governments and institutions should create a fund in order to encourage academic and clinical research.

6.9. NANO-PHARMACEUTICALS

Why in News?

Department of Biotechnology under Ministry of Science and Technology has prepared draft guidelines for evaluation of nano-pharmaceuticals in India.

Background

- **Nanoscience** is the study of materials which are in nanoscale range.
    - Conversion of any material in nanoscale results in alteration of its physicochemical, biological, mechanical, optical, electronic, etc. properties which can be utilized for different useful activities.
- **Nano-pharmaceutical** is an emerging field that combines nanotechnology with pharmaceutical and biomedical science with the goal of **targeted drug delivery** which may improve efficacy and safety profile.
- There are **no uniform internationally acceptable guidelines** for nano-pharmaceuticals.
- The main challenges faced by regulatory institutions in India include: regulatory capacity,

Benefits of nano-pharmaceuticals include:
- It overcomes the limitations of the conventional drug delivery systems and **precision targeting** via nano-pharmaceuticals reduces toxic systemic side effects, resulting in **better patient compliance**.
- They offer the **ability to detect diseases** at much earlier stages and the diagnostic applications could build upon conventional procedures using nanoparticles.
- Nano pharmaceutical **reduces the cost of drug discovery**, design & development and enhances the drug delivery process.

Related information

Mission on Nano Science and Technology (Nano Mission)
- Ministry of Science and Technology launched the Nano Mission in 2007 as an "umbrella capacity-building programme".
- The Mission's programmes will target all scientists, institutions and industry in the country.
- It will also strengthen activities in nano science and technology by promoting basic research, human resource development, research infrastructure development, international collaborations, orchestration of national dialogues and nano applications and technology development.
- It is steered by a Nano Mission Council chaired by an eminent scientist.

information asymmetry, Inter-agency coordination, overlapping roles and mandates etc.

Need for regulation of nano- pharmaceuticals

- **Possible adverse effects of nanotechnology on the environment and humans:** For example nanoparticles of sizes comparable to that of human cells can be deposited in lungs and may cause damage by acting directly at the site of deposition or by translocating to other organs or by being absorbed through the blood **.**
- Their use as undetectable weapon in warfare.
- Incorporation of nano-devices as performance enhancers in human beings.
- Ethical and social issues associated with nano pharmaceuticals.
- Need for orderly growth of the sector and commercialization of nano technology innovations.

Salient features of the Draft guidelines

- They aim to **ensure the quality, safety and efficacy** as well as encourage the **commercialization of nanotechnology** based innovation with high benefit and low risk ratio.
- **Defines nano-pharmaceuticals:** as a **pharmaceutical preparation containing nanomaterials (size scale range of 1 to 100nm)** intended for **internal or external application** on the body for the purpose of therapeutics, diagnostics and any health benefit.
  - o It also includes preparations with the particle size is >100nm and <1000 nm as nano pharmaceuticals under certain circumstances.
- **Categorises nano pharmaceuticals:**
  - o **According to degradability of nanomaterial:**
    - ✓ **Biodegradable nanoparticles** have been used frequently as drug delivery vehicles due to its improved bioavailability, better encapsulation, control release and reduction of toxic potential. Examples: albumin, chitosan, gelatin, polycaprolactone etc.
    - ✓ **Nonbiodegradable nanoparticles** are relatively less used in pharmaceutical products (though these systems are more commonly used in cosmeceuticals). Almost all non-biodegradable nanoparticles have potential to toxic effects. Examples: titanium oxide, iron oxide, and metals such as gold, silver, platinum, etc.
  - o **According to nature of nanomaterial:** Nanomaterial may be organic or inorganic in nature. It may also be multicomponent nanoparticle.
    - ✓ **Organic Nanoparticles:** are the nanomaterials or nanoparticles composed of organic compounds like lipids, proteins, carbohydrates. They have been primarily developed for drug delivery to reduce or overcome the risk of toxicity.
    - ✓ **Inorganic Nanoparticles:** are **more stable** than organic nanostructures. They are **easier to prepare** with a defined size and a very narrow size distribution. However, most of the inorganic nanoparticles may **not be biodegradable.**
    - ✓ **Multicomponent nanoparticles** are the nanoparticles composed of two or more different materials.
  - o **According to nanoform of the ingredient:**
    - ✓ A nanocarrier is a nanomaterial being used as a transport module for another substance like a drug.
    - ✓ Some of the conventional/traditional drugs may be converted into nanocrystals, thereby increasing their potential for improved dissolution and bioavailability.
  - o **According to the approval status of drug and nanomaterial.**
- It mandates that the stability testing of nanopharmaceuticals should be done according to the general requirements specified in Drugs and Cosmetics Rules, 1945.

6.10. GLOBAL INFLUENZA STRATEGY

Why in news?

Recently, WHO has released a Global Influenza Strategy for 2019-2030 aimed at protecting people in all countries from the threat of Influenza.

Why it is needed?

Influenza remains one of the world's greatest public health challenges. **Every year across the globe, there are an estimated 1 billion case sresulting in 2,90,000 to 6,50,000 influenza-related respiratory deaths**. The most effective way to prevent the disease is through annual Influenza vaccination.

More about the move

- Developed through a consultative process, it is in line with the mandate of WHO to build core capacities for public health and enhance global preparedness.
- The **Goal** of the strategy-
  - to prevent seasonal influenza,
  - control the spread of influenza from animals to humans,
  - Prepare for the next influenza pandemic.
- **Focus** of the strategy
  - Work closely with countries to improve their capacities for disease surveillance, response, prevention and control.
  - Calls every country to have a tailored influenza programme that contributes to national and global preparedness and health security.
  - Expand partnerships to increase research, innovation and availability of new and improved Global Influenza tools (vaccines, antivirals, and treatments) to benefit all countries.

6.11. NATIONAL AIDS CONTROL PROGRAMME-IV (NACP-IV)

Why in news?

Recently Cabinet approved continuation of National AIDS Control Programme-IV (NACP-IV) beyond 12th Five Year Plan for a period of three years from 2017 to 2020.

Background

- The **National AIDS Control Programme (NACP)**, launched in 1992, as a comprehensive programme for prevention and control of HIV/AIDS in India.
- Its **objective** was to slow down the spread of HIV to reduce morbidity and mortality.
- It focused on **awareness generation**, setting up **surveillance system** for monitoring, measures to ensure **access to safe blood** and **preventive services** for high risk group populations.
- **National AIDS Control Board** (NACB) and an autonomous **National AIDS Control Organization** (NACO) was set up to implement the project.

About NACP IV (2012-17)

- It aims to accelerate the process of reversal and further **strengthen the epidemic response** in India through a cautious and well-defined integration process over the next five years.
- Its **Objectives** were:
  - **Reduce new infections** by 50% (2007 Baseline of NACP III)
  - Provide comprehensive **care and support** to all persons living with HIV/AIDS and treatment services for all those who require it.
- It was aimed at **zero infection**, **zero stigma** and **zero death**.

Related Information

- **NACP II (1999)** was launched with World Bank's credit support. **National AIDS Prevention and Control Policy (2002) was adopted**. The policy and strategic shift was reflected in its two key objectives:
  - To **reduce the spread** of HIV infection in India, and
  - To **increase India's capacity** to respond to HIV/AIDS on a long-term basis.
  - Launch of **National Anti-Retroviral Treatment (ART) programme**
- **NACP III (2007)** was launched with the goal of **Halting and Reversing the Epidemic** by the end of project period. Through **Scaling up prevention efforts among High Risk Groups (HRG)** and General Population and integrating them with Support & Treatment services.

Influenza, also called as **"the flu"** in humans, is a respiratory illness in **animals, birds and humans** caused by Influenza viruses. Human Influenza is highly contagious and is usually spread by coughs and sneezes of an infected person.

Types of Influenza virus: A, B and C.

A: Responsible for regular outbreaks (human).
B: causes of sporadic outbreaks.
C: mild illness, not known to cause epidemics.

- **Seasonal influenza:** It has seasonal pattern of outbreaks and can cause annual epidemics that peaks during winter in temperate regions, and irregular outbreaks in tropical regions throughout the year.
- **Zoonotic Influenza:** It occurs when humans are infected with influenza viruses circulating in animals through direct contact with infected animal or contaminated environment. The transmission of this virus between humans is not efficient. Ex: **Swine Flu (pigs), Bird flu (birds), Equine Flu (horses).**
- **Pandemic Influenza**: It occurs when a novel influenza virus gains the ability for effective and sustained Human- to-Human transmission and spreads globally.

Other Steps taken

- **The Red Ribbon Express (RRE) programme:** It covered 8 million population and 81,000 grassroots functionaries were trained on HIV/AIDS issues in the villages to further take down the messages. **NACO has been conducting regular thematic Mass Media campaigns** on TV and Radio to cover HIV related issues.
- **The National Strategic Plan for HIV/AIDS and STIs 2017-2024:** It provides a solid framework to tailor the response to local needs based on context-specific evidence to realise an AIDS free India. It reaffirms our vision to realise the 'Three Zeros' - zero new infections, zero AIDS-related deaths and zero discrimination.
- **Mission Sampark:** The programme is launched with the aim to trace those who are Left to Follow Up and are to be brought under Anti-Retroviral Treatment (ART) services. Under this the "Community Based Testing" has helped in fast-tracking the identification of all who are HIV positive and subsequently linking to ART programme.
- **Prevention of Parent to Child Transmission of HIV/AIDS (PPTCT) program 2002:** It was aimed to prevent cases where HIV transmitted from a HIV positive mother to her child during pregnancy, delivery or breast feeding (mother-to-child transmission).

> **National Aids Control Organisation (NACO)**
> It is an organisation which was set up under **Ministry of Health and Family Welfare** for formulation of policies and implementation of programs for prevention and control of HIV/AIDS.

- '**Test and Treat' Policy (2017)**: The policy launched by GoI mandates that all people living with HIV are to be treated with ART regardless of CD4 count, clinical stage, age or population.
- **ECHO Clinics (Extension for Community Healthcare Outcomes)** India's first ECHO clinic began in 2008 as a collaboration between the National Aids Control Organization (NACO) and Maulana Azad Medical College (MAMC) on managing HIV AIDS patients.
- **'Ending of AIDS by 2030':** **UNAIDS** is leading the global effort to end AIDS as a public health threat by 2030 as part of the Sustainable Development Goals. **The SDG 3 Target 3.3 includes this goal.**
- **Programme 90-90-90 by 2020:** It is an **ambitious Treatment Target** to help end the AIDS epidemic. 90% of those who are HIV positive in the country know their status, 90% of those who know their status are on treatment and 90% of those who are on treatment experience effective viral load suppression.

> **Related News**
> **CCR5-delta 32**
> - Recently, a patient named the "**London patient**" —has been in remission from HIV for the past 18 months (after coming off antiretroviral therapy (ARV) making him the second such patient potentially cured of the infection by duplicating the **CCR5-delta 32 experiment**.
> - The case comes a decade after the **Berlin patient** was cleared of the virus by Dr Hütter. Both patients received **stem cell transplants** (a bone marrow transplant) **from donors who carried a rare genetic mutation known as 'CCR5 delta 32** resistant to these HIV patients.
> - The patient went through an **allogeneic stem cell transplant**, which involved replacing his immune system with donor hematopoietic stem cells (usually found in bone marrow) so that his **immune system could be regenerated, with no malignant cells.**
> - **About CCR5**
>   o CCR5 belongs to a large family of **chemokine receptors** that are expressed on surface of lymphocytes and other cell types, where they are involved in **signaling and coordination** of immune responses.
>   o CCR5 is the most commonly used receptor by HIV-1. HIV-1 virus cannot exist without normal CCR5 receptors. However, the specific mutation — **CCR5 delta 32** — prevents the virus from using CCR5 as a receptor to enter host cells.

6.12. BAN ON E-CIGARETTES

Why in news?

12 states banned e-cigarettes recently, and health ministry has urged all to follow.

What are Electronic Nicotine Delivery Systems (ENDS)?

- They are devices that heat a solution to create an aerosol by vaporizing the

> **International Scenario**
> - **Over 36 countries** around the world have banned the sale of e-cigarettes.
> - **WHO** released a report on the **Regulation of ENDS** in which it recommends:
>   o to ban the use of ENDS indoors and in public places,
>   o to bring regulations to stop ENDS promotion to non-smokers,
>   o to protect existing tobacco control efforts.

solution, which also frequently contains flavours, usually dissolved into propylene glycol and glycerin. They aim to provide a similar sensation to inhaling tobacco smoke, without the smoke and are sold as aids to reduce or quit smoking.

- E-cigarettes, the most common prototype of ENDS, claim to emit nicotine without other harmful chemicals that are present in normal cigarettes. However, there is no convincing evidence proving that e-cigarettes help quit smoking.

Present Scenario in India

- Its increasing popularity has **undermined the recent progress of tobacco control** in India.
- **12 states** in India including Punjab, Maharashtra, Karnataka, Kerala, Bihar, Uttar Pradesh, Jammu & Kashmir, Himachal Pradesh, Tamil Nadu, Puducherry and Jharkhand have taken steps to ban the use of ENDS.
- The **Central Drugs Standard Control Organization (CDSCO)** has directed all drug controllers in states and Union territories to not allow the manufacture, sale, import and advertisement of Electronic Nicotine Delivery Systems, in their jurisdictions.
- No ENDS have been approved under the **Drugs and Cosmetics Act 1940**. However, there is no specific legislation to regulate the sale of e-cigarettes in the country.
- The Ministry of Electronics and Information Technology proposed an amendment to the **Information Technology (Intermediary Guidelines) Rules 2018** to ban the advertisement of e-cigarettes.
- The **Central Board of Indirect Taxes and Customs** also issued a circular recently, directing that all import consignments of e-cigarettes must be cleared first by the drug controller.

6.13. CLOUD SEEDING

Why in news?

The Rural Development and Panchayati Raj Department of Karnataka has called tender for cloud seeding operations during the monsoons of 2019 and 2020. It seeks to replicate the success of **Project Varshadhare**, executed by the state in the year 2017.

About Cloud seeding

- It is a weather modification process that aims to cause additional rainfall by dispersing substance chemicals (like **silver iodide, potassium chloride, and sodium chloride or dry ice**) into the clouds that serves as ice nuclei or condensation nuclei for moisture to form rain droplets.
- There are certain **challenges associated with cloud seeding** as well:
  o Depends on environmental conditions like temperature and cloud composition and hence, **not reliable**.
  o Exposure of animals and humans to **silver iodide toxicity and soil contamination**.
  o **Expensive** as it requires Doppler radars for identifying rain bearing clouds and special aircrafts for seeding.
  o **No established mechanism to verify** and determine **the success of technique**.

> **Cloud Seeding in India**
> - In India, **Tamil Nadu** became the **first state** to attempt cloud seeding in 1970s. **Maharashtra and Karnataka** followed in 2003, 2008 and 2017 as and when drought conditions prevailed.
> - IITM's **Cloud Aerosol Interaction and Precipitation Enhancement Experiment (CAIPEEX)** has been involved in Cloud Seeding efforts in Maharashtra.

6.14. GRAPHENE

Why in news?

Researchers at Delhi's National Physical Laboratory (CSIR-NPL) have designed a low-pressure chemical vapour deposition (LPCVD) device that allows high quality, single-layer **graphene** to be grown.

About Graphene

- It is a single layer (monolayer) of carbon atoms, tightly bound in a hexagonal honeycomb lattice.
- It is an **allotrope** (property of some chemical elements to exist in two or more different forms, in the same physical state) of carbon.

- Graphene is the thinnest compound known to man at one atom thick, **the lightest material known**, the **best conductor of heat at room temperature** and also the **best conductor of electricity** known.
- It is also **100-300 times stronger than steel**.
- Other notable properties of graphene are its **uniform absorption of light across the visible and near-infrared** parts of the spectrum and its potential suitability for use in spin transport (where electron spin is manipulated instead of charge for information processing).

Chemical Vapour Deposition
- It is a chemical process for depositing thin films of various materials. In a typical CVD process the substrate is exposed to one or more volatile precursors, which react and/or decompose on the substrate surface to produce the desired deposit.
- The process is often used in the semiconductor industry to produce thin films.
- **Low-pressure CVD (LPCVD) involved CVD at sub-atmospheric pressures.** Reduced pressures tend to reduce unwanted gas-phase reactions and improve film uniformity across the wafer.

6.15. CABINET NOD FOR JOINING NICE, VIENNA, LOCARNO AGREEMENTS

Why in News?

Recently the Union Cabinet approved the proposal for Accession of India to the **Nice, Vienna and Locarno Agreements**, related to the **World Intellectual Property Organization's (WIPO) international classification systems**.

Background

- Applicants for national or international IP protection are required to determine **whether their creation is new or owned/claimed by someone else**. To determine this, huge amounts of information must be searched.
- **International classifications** facilitate such searches by organizing information **concerning inventions, trademarks and industrial designs** into indexed, manageable structures for easy retrieval.
- **WIPO** administers various Classification treaties/agreements for this purpose**.**

Significance of India's Accession

- **Harmonisation:** These agreements will help the Intellectual Property Office in India to **harmonise** the classification systems for examination of **trademark and design applications**, in line with the classification systems followed globally.
- **Facilitates ease of doing business:** The move will boost **foreign investor confidence** in relation to protection of **intellectual property (IP)** in India.
- **Increased rights with regard to IPR protection:** The accession would also facilitate in exercising rights in **decision-making processes** regarding review and revision of the classifications under the agreement. It will give an opportunity to include **Indian designs, figurative elements and goods in the international classification systems**.

About WIPO
- It is one of the 15 specialized agencies of the **United Nations (UN)**, and is headquartered in **Geneva, Switzerland**.
- It was created in 1967 "to **encourage creative activity, to promote the protection of intellectual property** throughout the world"
- It currently has **192 member states** and administers 26 international treaties.
WIPO-Administered Treaties for Classifications:
- **The Nice Agreement (1957)** establishes a classification of goods and services for the purposes of **registering trademarks and service marks** (the Nice Classification).
- **The Locarno Agreement** (1968) establishes a classification for **industrial designs** (the Locarno Classification).
- **The Vienna Agreement (1973)** establishes a classification (the Vienna Classification) for marks that consist of, or contain**, figurative elements**.
- **The International Patent Classification (1971)** is used to classify **patents and utility models** according to the different areas of technology to which they pertain. It was established by the **Strasbourg Agreement.**

7. SOCIAL ISSUES

7.1. SWACHH SURVEKSHAN 2019

Why in news?

The Ministry of Housing and Urban Affairs (MoHUA) has released the findings of **Swachh Survekshan 2019.**

Swachh Survekshan 2019

- This fourth edition Swachh Survekshan 2019 increased the coverage of the **ranking exercise to all cities under Swachh Bharat Mission-Urban.** (Swachh Survekshan 2018 ranked 4,203 Cities.)
- **The Quality Council of India (QCI)** is responsible for carrying out the assessment.
- The distinctive features of the survey include encouraging large-scale citizen participation, ensuring sustainability of initiatives taken towards garbage free and open defecation free cities, providing credible outcomes which would be validated by third party certification etc.
- This year's survey introduced **three types of ranking**, viz. national ranking for ULBs of population of 1 lakh and above, and zonal or regional rankings for the smaller ULBs.
- There has also been a **shift in focus of the survey parameters** - from process and outputs, to outcomes, and innovations.
- The scoring for each ULB for ranking was segregated into **4 main components**-
  o Collection on of data from online MIS portal of MoHUA as well as online submission of documents to the dedicated Swachh Survekshan 2019 portal assessment of Service Level Progress (1,250 Marks / 25%)
  o Collection of data from Direct Observation on (1,250 Marks / 25%)

Swachh Bharat Abhiyan (Urban)

- **It aims at**
  o elimination of open defecation o eradication of manual scavenging
  o modern and scientific municipal solid waste management
  o to effect behavioural change regarding healthy sanitation practices
  o generate awareness about sanitation and its linkage with public health
  o capacity augmentation of Urban Local Bodies and
  o to create an enabling environment for private sector participation in capital and operation and maintenance expenditure.
- At the core of this mission lie **six components**: Individual household toilets (IHHL); Community toilets; Public toilets; Municipal Solid Waste Management; Information and Educating Communication (IEC) and Public Awareness; Capacity Building.

Quality Council of India

- It was **set up jointly** by the **Government of India and the Indian Industry** represented by the three premier industry associations i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI).
- It aims to establish and operate **national accreditation structure** and promote quality through National Quality Campaign.
- It is governed by a Council of 38 members with equal representations of government, industry and consumers.
- **Chairman of QCI** is **appointed by the Prime Minister** on recommendation of the industry to the government.
- **The Department of Industrial Policy & Promotion**, Ministry of Commerce & Industry, is the nodal ministry for QCI.

SBM ODF+ and ODF++ Protocol

- The original **ODF protocol**, issued in March 2016, said, "A city/ward is notified as ODF city/ward if, at any point of the day, not a single person is found defecating in the open. With 18 states / UTs and 3,223 cities declared ODF. The ODF+ and ODF++ protocols are the next step for the SBM-U and aim to ensure sustainability in sanitation outcomes.
- **The ODF+ protocol** says that a city, ward or work circle could be declared ODF+ if, "at any point of the day, not a single person is found defecating and/or **urinating in the open**, and all community and public toilets are functional and well-maintained."
- **The ODF++ protocol** adds the condition that "**faecal sludge/septage and sewage is safely managed and treated,** with no discharging and/or dumping of untreated faecal sludge/septage and sewage in drains, water bodies or open areas."
- Thus, the **SBM ODF+ protocol focuses** on sustaining community/ public toilet usage by ensuring their functionality, cleanliness and maintenance while **SBM ODF++ will focus** on achieving sanitation sustainability by addressing complete sanitation value chain, including safe containment, processing and disposal of faecal sludge and septage.

- o Collection on of data from Citizen Feedback (1,250 Marks / 25%)
- o Certifications for Garbage Free Cities and Open Defecation on Free Cities (1,250 Marks / 25%)
- Certification was done on two different components
  - o **Star Rating of Garbage Free Cities** (20% weightage of marks)- It includes components such as cleanliness of drains & water bodies, plastic waste management, managing construction & demolition waste, etc. which are critical drivers for achieving garbage free cities.
  - o **Open Defecation Free Protocols** (5% weightage)

Results of Swachh Survekshan 2019

- **Indore** was adjudged **India's cleanest city** for the third straight year. The second and third positions in the category were grabbed by Ambikapur in Chhattisgarh and Mysore in Karnataka.
- While the New Delhi Municipal Council area was given the 'Cleanest Small City' award, Uttarakhand's Gauchar was adjudged the 'Best Ganga Town' in the central government survey.
- The 'Cleanest Big City' award has been bagged by Ahmedabad, while Raipur is the 'Fastest Moving Big City'.

7.2. NATIONAL ANNUAL RURAL SANITATION SURVEY

Why in news?

Recently, the second edition of **National Annual Rural Sanitation Survey** was released on the status of rural sanitation in India.

Key findings of the survey

- Sanitation refers to **public health conditions** related to clean drinking water and adequate treatment and disposal of human excreta and sewage.
- **Status of sanitation-**
  - o **Toilet coverage-** 93.1% of rural households had access to toilets (National Sanitation Coverage)
  - o **Toilet Usage-** 96.5% of the people who had access to toilets, used them.
  - o **ODF Status-** 90.7% of verified Open Defecation Free villages were confirmed as ODF.
  - o **Litter-** 95.4 % of the villages found to have minimal litter and stagnant water.

National Annual Rural Sanitation Survey
- It is a **third-party survey** that has been conducted by the Independent Verification Agency (IVA) under the World Bank support project. The NARSS 2018-19 was the second edition of the survey.
- It surveyed 92040 households in 6136 villages across States and UTs of India.
- It has used the PPS (**Probability Proportion to Size**) sampling methodology, which yields results within a confidence interval of 95 per cent.
- It measures the outcomes on the basis of World Bank's **Disbursement Linked Indicators** (DLI) –
  - o Reduction in prevalence of open defecation
  - o Sustain ODF status in villages
  - o Increase in population with solid and liquid waste management.

7.3. CITIES SUMMIT

Why in news?

Recently **first ever Cities Summit** was held as a part of **Fourth United Nations Environment Assembly held at Nairobi.**

More on news

Cities summit was co-organised by **UN Environment Programme, UN Habitat, United Cities and Force and Cities Alliance**. The summit called for local action and the need for an **integrated approach to urban infrastructure.**

Why Integrated urban infrastructure?

- **Integrated infrastructure** is multilayered infrastructure approach that links **systems like transport, energy, housing, water and waste**. **This includes** optimization of infrastructure, systems planning based on inclusive approaches and life-cycle thinking to identify and mitigate negative impacts across infrastructure's entire life cycle.
- For example **District energy systems** are one such solution enabling synergies and sharing of resources between heating or cooling with power, waste, buildings, and industry.
- Currently, Cities account for **60 per cent** of waste generation and **three quarters** of resource use and greenhouse gas emissions**.** This is coexisting **with large urban population any of whom still lack** access to

affordable and adequate housing and basic services. **Integrated approach to urban infrastructure** can solve both simultaneously.

- **International Resource Panel Report titled "Weight of Cities"**, says that **optimizing systems and creating cross-sector synergies** between buildings, mobility, energy and urban design can reduce greenhouse gas emissions and resource use by up **to 55 per cent.**
- Close to **70 per cent of the urban infrastructure that we will see in 2050 is yet to be built**, this offers opportunity to plan future cities sustainably.
- Indian cities are already **facing problems** of congested transportation, air pollution, water scarcity, higher temperature, slums, floods- thus **integrated planning** is critical for building future cities of India.

Strategies for Integrated approach

- **Data is critical for informed decision-making.** Thus developing analytical capabilities and integrated planning based on detailed **geo-spatial data, real time Big Data** are necessary for sustainable planned cities.
- **Governance and multi-level coordination: both national and regional levels, and cooperation at local levels.**
- **Public Procurement** is a powerful tool to develop better integrated sustainable infrastructures and more **circular products** shifting away from present linear economic models and sectoral silos.
- **Financing**: Improving cities **access to finance** by promoting **responsible borrowing, increasing investor and financial institution** familiarity with innovative solutions, involving them in the identification, bonds and guarantees for local bodies and, risk management arrangements to support renewed public-private partnerships etc.
- **Community engagement from** policy design to its implementation, monitoring and evaluation including strategies like reconnecting **people with resources** at the local level, changing how resources are allocated and accessed, creating **circular jobs,** increasing community-based ownership, making the impacts of unsustainable consumption more visible to the end-user, designing circular projects triggering tangible benefits for the local population, especially the most vulnerable groups. Empowerment of informal workers is key to the sustainability of local circular projects.

7.4. WORLD HAPPINESS REPORT 2019

Why in news?

The 2019 edition of World Happiness Report was released recently.

Finding of the report

- The report was released by the **Sustainable Development Solutions Network** for the United Nations on March 20 which was declared as **World Happiness Day** by the UN General Assembly in 2012.
- The report ranks countries on **six key variables** that support well-being: income, freedom, trust, healthy life expectancy, social support and generosity.

Sustainable Development Solutions Network
- It has been operating since 2012 under the auspices of the **UN Secretary-General**.   - SDSN mobilizes global scientific and technological expertise to promote practical solutions for sustainable development, including the implementation of the Sustainable Development Goals (SDGs) and the Paris Climate Agreement.   - SDSN's **National** and **Regional networks** support the localization of SDGs and their implementation.

- This year's Report focuses on **happiness and the community**: how happiness has evolved over the past dozen years, with a focus on the technologies, social norms, conflicts and government policies that have driven those changes.
- **India slipped 7 spots** as compared to last year and is ranked 140 among 156 nations. Most of India's neighbours including Pakistan, Bangladesh, Bhutan, Nepal, China and Sri Lanka have been placed ahead of India in the ranking.
- **Finland retained the top spot**; it is followed by Denmark and Norway. People in war-torn South Sudan are most unhappy with their lives, followed by Central African Republic (155) and Afghanistan (154).

8. CULTURE

8.1. SARDAR VALLABHBHAI PATEL

Why in news?

On occasion of the 89th anniversary of the iconic Dandi March, PM Modi published a blog paying tributes to the contributions made by Sardar Vallabhbhai Patel to the movement.

Sardar Vallabhbhai Patel and Dandi March

- He played a **very significant role in mobilizing people** for the Dandi march (Salt Satyagraha).
- Patel was **arrested** five days before the march was scheduled. He was sentenced to **three months imprisonment** and lodged at Sabarmati jail in Ahmedabad. The news of Patel's arrest shook the entire population of Gujarat who rose up in **protest against the government**.

About Sardar Vallabhbhai Patel

- He was a political and social leader of India who played a major role in the country's struggle for independence and subsequently guided its integration into a united, independent nation. He was called the "**Iron Man of India**".
- He already had a successful practice as a lawyer when he was first inspired by the work and philosophy of Mahatma Gandhi.
- Patel subsequently organised **the peasants of Kheda, Borsad, and Bardoli in Gujarat** in a **non-violent civil disobedience movement** against oppressive policies imposed by the British Raj; in this role, he became one of the most influential leaders in Gujarat.
- He is also remembered as the "**Patron Saint**" of **India's civil servants** for establishing modern all-India services.
- He was elected **President of the Indian National Congress in 1931 (Karachi Session).**
- He took charge of the task to **forge a united India from the 565 semi-autonomous princely states and British-era colonial provinces.**

> **Kheda Satyagraha (1918) – First Non Cooperation**
> - It was Satyagraha movement organized by Mohandas Gandhi in Kheda district of Gujarat.
> - It was the third Satyagraha movement after Champaran Satyagraha and Ahmedabad mill strike.
> - Gandhi organised this movement to support peasants of the Kheda district.
> - People of Kheda were unable to pay the high taxes levied by the British due to crop failure and a plague epidemic.
>
> **Bardoli Satyagraha (1928)**
> - The Bardoli Satyagraha movement was started in January 1928 after the land revenue in Bardoli taluka was increased by 30 per cent.
> - In February 1928, Sardar Vallabhbhai Patel was called to lead the movement.
> - It was Bardoli satyagraha where Vallabhbhai patel got title "Sardar" by women.

- He was the chairman of **Advisory Committee on Fundamental Rights, Minorities and Tribal and Excluded Areas of the Constituent Assembly.**
- He was the **first Home Minister** of the country.
- He was bestowed with the country's highest civilian award, **Bharat Ratna**, posthumously in 1991.

8.2. NAVROZ FESTIVAL

Why in news?

The Parsi community recently celebrated the annual festival of Navroz.

Background

- **Navroz** (meaning '**new day'**) is a 3,000-year-old Zoroastrian tradition which includes a ritual celebration that signals the start of Spring and the Persian new year.
- In more modern times, in A.D. 1079, a king of Iran named Jalaluddin Malekshah started observing it on March 21.

> **Other Festivals celebrating New Year**
> - Navreh (Kashmiri New year)
> - Losar (Tibetan New Year)
> - Rongali Bihu (Assamese New Year)
> - Baisakhi (Punjabi New Year)
> - Pohela Boishakh (Bengali New Year)
> - Gudi padwa (Marathi & Konkani New Year)
> - Puthandu (Tamil New Year)
> - Pana Sankranti (Odia New Year)
> - Ugadi (Telugu New Year)
> - Vishu (Malayali New Year)

- In the 18th century, a rich tradesman from Surat, Nusservanji Kohyaji, who often travelled to Iran, came to know about Navroz and began celebrating the day back home; that brought the festival to India. Over a period of time, the festival was introduced in India on a wide scale by members of the Parsi community.
- It has been recognized as an **Intangible Cultural Heritage** by the **UNESCO** in 2016.

9. ETHICS

9.1. CAMPAIGN ETHICS

Why in news?

With the beginning of the campaigning for the Lok Sabha elections 2019, several complaints have been received by Election Commission against violation of Model Code of Conduct (MCC) during the campaigning process.

What is campaign ethics?

Campaign Ethics can be defined as a set of moral principles that guide different stakeholders – citizens, political parties and election commission & its officials – in their righteous conduct during political campaigning.

Why ethical campaigns are important?

Political campaigns are most likely to bring out the worst in people. Many candidates seem to subscribe to the theory that almost anything is allowable in order to get elected.

- A campaign outlines the **positions** and **character** of the candidates so that **voters can make informed decisions** about who they wish to see elected. Any tactic that interferes with this clarity-deception, financial influence, etc. would be unethical. E.g. **Paid news or 'advertorials'** aimed at spreading propaganda in favour of a particular candidate is unethical
- An **"ends justify the means"** rationale for unethical campaigning ignores the fact that the means become part of the end. Unethical practices like financially influencing the voters are rarely confined to campaigns and later proliferate as political corruption. E.g. If an aspiring legislator 'invests' his fortune in bribing voters to seek their support, it is almost certain that he would recover more by indulging in corrupt activities.
- Unethical campaigns reinforce cynicism and negative feelings about government among the public that acts as a hindrance in effective governance.

Ethical Issues in Political Campaigns

- **Communications & Advertising:**
  - o There are no regulations on the conduct of a political campaign, or what is deemed appropriate or inappropriate. Lying during campaigns has become commonplace, often with little distinction between fact and opinion, leading to misjudgments and misinformation among voters.
  - o While highlighting one's points-of-view /positions to better than that of political opponents is acceptable, campaign would be unethical if it relied on name-calling, innuendo, or stereotyping.
  - o Another dilemma is whether opponent's private life / personal affairs come within the limits of ethical campaigning.
  - o "Pull polls" are telephone calls aimed to swing voters in favour of one particular candidate is an unethical form of political telemarketing. Disguised as research, such calls peddle propaganda in favour of one candidate through questions. It also violates an individual's right to secret ballot.
- **Electoral Finance:**
  - o **Access:** In a democracy, each person is supposed to be counted equally. The wealthy should not be able to purchase greater access to politicians/influence through big political funding. Laws governing electoral finance are meant to prevent such inequities and should be respected-not only in letter but also in spirit.
  - o **Integrity:** All the political funding must be accounted for and reported to Election Commission. Many times, candidates masquerade propaganda in their favour as news (paid news) to circumvent electoral expenditure limit. This is antithetical to free and fair elections, as it intends to create undue influence through content which the voter believes to be objective & neutral.
  - o **Freedom of choice:** Every voter has the right to choose his/her preferred candidate with an independent mind. Therefore, it is an unethical practice to coerce the voter to vote for a particular party using the lure of money/materials.

- **Use of official mass media:** Official mass media during the election period can be misused for partisan coverage of political news and publicity of achievements to further the prospects of the party in power. Similarly, public funds can be used to influence the voters through Govt. advertisements
  - This leads to wastage of public money in partisan interest and puts the opposition parties at a disadvantage.
  - Glamorizing the achievements of the Govt. intends to tap the short-term public memory and hide the failures of the Govt. This is against the spirit of free and fair elections.
- **Election Manifestoes:** An election manifesto highlights the potential of a party's stint in government to undecided voters, while spelling out the consensus agenda agreed to by the party's diversity of ideological and regional groups. While it is an important part of the political process, but it has been reduced into an intellectual exercise at best.
  - Manifesto promises are rarely fulfilled and political parties are not held accountable for them.
  - Guidelines in Model Code of Conduct (MCC) on election manifestoes are rarely followed since it is not enforceable by law.
- **Freebie Culture:** Growing culture of promising freebies in election manifesto to woo voters and overcome trust deficit by material offerings such as free power, waiving of loans, laptops, vehicles, TVs etc shakes the roots of free and fair polls (SC in S. Subramaniam Balaji Vs Govt. of Tamil Nadu and Others 2018)
  - It is equivalent to "bribery" in material form, which is considered as a corrupt practice under Section 123 of Representation of People Act 1951.
  - Competitive populism violates the principle of economic prudence and ends up hurting public exchequer in the long run.

Way Forward

- **Content of political campaigns:**
  - Criticism of political opponents shouldn't be based on actions in private life or unverified allegations
  - Candidates must refrain from any activity that may cause tensions between castes or communities, religious or linguistic
- **Meetings and processions:** Political parties should ensure that their processions have minimal effect on normal life of the citizens and maintain law & order (e.g. not causing traffic jams, not using loudspeakers, not taking processions in crowded neighborhoods, refrain from burning effigies etc).
- **Ruling Party:** Ruling party should not make use of official machinery for electioneering, monopolize public spaces, issue advertisement at the cost of public exchequer and shall not sanction any discretionary grants or make adhoc appointments after the elections are announced.
- **Election Manifestoes:** Under Section 8 in MCC, Election Commission (EC) refrains political parties from making promises inconsistent with ideals of the Constitution and MCC.
  - To promote transparency, level playing field and credibility of promises, financial sources for fulfillment of promises must be mentioned. E.g. EC censured AIADMK for not being able to give a rationale to meet financial requirements for the poll promises in its manifesto in the Tamil Nadu assembly elections in 2016
- **Model Code of Conduct**: In 2013, Standing Committee on Personnel, Public Grievances, Law and Justice recommended that MCC should be made legally binding and made a part of the Representation of the People Act, 1951. This would enable Election Commission to take more stringent steps against violations of the Code.
- **Constitutional post holders & Non-political executives:** Constitutional post holders (like Governor etc.) and members of non-political executive (like civil servants, chairpersons of Govt. agencies) must refrain from politically motivated statements. E.g. EC indicted Rajasthan Governor & NITI Aayog Vice-Chairperson for their remarks as violative of the Model Code of Conduct.
- **Ethical election administration:** Considering scale & magnitude of Indian election, even the best written laws & regulations will not be able to account for all situations during an election. Hence, the **personal ethics** of an election officials and **institutional culture** of Election Commission holds key to free & fair elections. The official conduct must be guided by the following principles:
  - **Independence:** Avoid conflicts of interest and treat all parties fairly.

- o **Transparency:** All election business should be transparent, right from procurement of EVMs, integrity checks & booth-wise allocation to counting of votes & display of results. In this light, it is imperative that EC takes adequate steps to remove any unjustified suspicion in the minds of public related to tampering of EVMs.
- o **Integrity:** An election administrator should not use his/her office or personal social media accounts to express partisan support or opposition.
- o **Competence:** Poll workers must be equipped with the technical knowledge (e.g. functioning of EVMs) to meet any unforeseen challenge.
- o **Fairness:** Election administrators should reach out to stakeholders in the community before making decisions that could be perceived as biased or insensitive.

The purpose of our campaigning is to create an informed electorate so that their vote strengthens democratic institutions in the country. Therefore, campaigns & political communications with the electorate must pass the test of honesty, fairness, transparency, substance, and independence.

प्रवेश प्रारम्भ

मासिक समसामयिकी रिवीजन 2019

सामान्य अध्ययन

(प्रारंभिक + मुख्य परीक्षा)

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- इन कक्षाओं का उद्देश्य जटिल समसामयिकी मुद्दों, जिन्हें कवर करने की अपेक्षा उम्मीदवारों से की जाती है, की एक विस्तृत विषय–वार समझ विकसित करना है।
- तमाम समसामयिक मुद्दों की सर्वाधिक अद्यतित प्रासंगिक समझ, जिसमें भारतीय राजव्यवस्था और संविधान, शासन (गवर्नेंस), अर्थव्यवस्था, समाज, अंतर्राष्ट्रीय संबंध, संस्कृति, पारिस्थितिकी और पर्यावरण, सुरक्षा, विज्ञान एवं प्रौद्योगिकी तथा विविध विषयों के अतिरिक्त और भी बहुत कुछ सम्मिलित हैं।
- इस कोर्स (35–40 कक्षाएं) में विभिन्न मानक स्रोतों, जैसे— द हिंदू, इंडियन एक्सप्रेस, बिजनेस स्टैंडर्ड, PIB, PRS, AIR, राज्य सभा/लोक सभा टीवी, योजना आदि से महत्वपूर्ण सामायिक मुद्दों को शामिल किया जाएगा।
- प्रत्येक टॉपिक के बाद MCQ तथा मुख्य परीक्षा के लिए संभावित प्रश्नों के माध्यम से आपकी समझ का आकलन।
- "टॉक टू एक्सपर्ट" के माध्यम से और कक्षा में ऑफ़लाइन व्याख्यान के दौरान चर्चा और विचार–विमर्श हेतु अवसर।
- प्रत्येक पखवाड़े में दो से तीन कक्षाएं आयोजित की जाएंगी। समय–समय पर मेल के माध्यम से शेड्यूल साझा किया जाएगा।

10. NEWS IN SHORT

10.1. NARI SHAKTI PURUSKAR

- The Nari Shakti Puraskars were awarded on the 8th of March, International Women's Day.
- They are conferred on **eminent women and institutions** rendering distinguished service to the cause of women especially belonging to the vulnerable and marginalized sections of the society.
- Instituted by Ministry of Women and Child Development, the awards are given away by the President of India.
- They are not presented posthumously.

10.2. SOCIAL INSTITUTIONS AND GENDER INDEX (SIGI) REPORT

- Recently, OECD released the **Social Institutions and Gender Index (SIGI) Report, 2019**.
- The OECD SIGI is a unique **cross-country measure of discriminatory social institutions**, that are formal and informal laws/practices which restrict women's rights and access to empowerment opportunities.
- The report suggests that global level of discrimination in social institutions is 29%, ranging from 8% in Switzerland to 64% in Yemen. India is placed in the **medium level of discrimination**.
- Building on these outcomes, the report provides a set of policy recommendations to enhance governments' efforts to deliver their gender-equality commitments.

Organisation for Economic Cooperation and Development (OECD)
- It is an intergovernmental economic organisation which aims to promote policies that will improve the economic and social well-being of people around the world.
- It has 36 member countries and was founded in 1960 by 18 European nations plus the United States and Canada.
- India is not a member of OECD.

10.3. ABEL PRIZE

- The Abel Prize in mathematics was awarded to Karen Uhlenbeck, the first woman to win the award for her pioneering achievements in geometric partial differential equations.
- The Abel Prize was established on 1 January 2002, it is named after Swedish mathematician Niels Henrik Abel (1802-29).
- The purpose is to award the Abel Prize for **outstanding scientific work in the field of mathematics**

- The International Mathematical Union and the European Mathematical Society nominate members of the Abel Committee, who in turn recommend recipients to The Norwegian Academy of Science and Letters, which awards the Abel Laureate.
- In 2007 Indian-born New York University professor **Srinivasa SR Varadhan** won the Abel Prize for mathematics for his fundamental contributions to probability theory.

10.4. LALIT KALA AKADEMI

- Lalit Kala Akademi recently announced the winners of the 60th Annual Academy Awards.
- It is an **autonomous organisation under the Ministry of Culture**, established in 1954, by the then Minister for Education, Maulana Abul Kalam Azad. It is fully funded by Ministry of Culture.
- It is the Government's **apex cultural body** in the field of **visual arts** in India.
- It has headquarters at New Delhi and regional centers at Bhubaneswar, Chennai, Garhi (Delhi), Kolkata, Lucknow and Shimla.
- It organizes international level exchanges and co-operation in the field of art, promotes co-operation among artists and various organizations, awards scholarships etc.
- The Fellow of the Lalit Kala Akademi is regarded as the highest honour conferred on an artist by the Lalit Kala Akademi.

10.5. TEA BOARD

- Recently, Commerce Ministry has **reappointed P K Bezbaruah** as chairman of the **Tea Board.**
  - Bezbaruah was **first non- IAS officer** Chairman.
- Tea Board is a **statutory body** under Ministry of Commerce and Industry established under Tea Act 1953.
  - Its members appointed by the Government represent **different sections of the Tea industry**.
  - Besides **Head Office in Kolkata**, Zonal offices and regional offices, it also has **overseas offices**.
  - It looks after the **overall development of the tea industry**.
  - Being the regulatory body, the Board exerts control over the producers, manufacturers, exporters, tea brokers, auction organizers and warehouse keepers through **various control orders notified under Tea Act.**

10.6. FESTIVAL OF INNOVATION AND ENTREPRENEURSHIP

- The President of India inaugurated the Festival of Innovation and Entrepreneurship(FINE) in Gandhinagar, Gujarat and also presented the 10th Biennial National Grassroots Innovation Awards.
- FINE is a unique **initiative of the Office of the President of India** to recognise, respect and reward grassroots innovations and foster a supportive ecosystem.
  - o It provides platform to the innovators for building the linkages with potential stakeholders whose support can improve their prospects in coming years for the larger social good.
- **National Biennial Grassroots Innovation Award** is an initiative of National Innovation Foundation (NIF)- India.
  - o **NIF-India** is an **autonomous body of Department of Science and Technology.**
  - o It is India's national initiative to strengthen the grassroots technological innovations and outstanding traditional knowledge.
  - o NIF helps grassroots innovators and outstanding traditional knowledge holders get due recognition, respect and reward for their innovations.

10.7. EASE REFORMS INDEX

- Recently, Ministry of Finance & Corporate Affairs released first report on **EASE Reforms Index,** prepared by **Indian Banks' Association** (IBA) and Boston Consulting Group.
- It measures the **performance of each Public Sector Banks** (PSB) on EASE (Enhanced Access and Service Excellence) Agenda
- It comprises 140 metrics across 6 key themes: **Customer Responsiveness, Responsible Banking, Credit Off-take, Udyami Mitra for MSMEs, Deepening Financial Inclusion & Digitalisation and Developing Personnel for Brand PSB.**
- In this year's index**,** PNB has been ranked first.

10.8. E-DHARTI APP AND E-DHARTI GEO PORTAL

- The Union Ministry of Housing and Urban Affairs has launched the **e-Dharti app and e-Dharti Geo Portal** to enable citizens to obtain information and transact on their properties.
- **e-Dharti App:** is a new online system where all the three main modules i.e. Conversion of property from leasehold to freehold, Substitution of names

of legal heirs and Mutation in the name of purchaser, have been made online.

- **e-Dharti GeoPortal:** Through this application each and every Government property under Land & Development Office (L&DO) is proposed to be GIS mapped. Through this portal the Lessee of the property will be able to see the basic details of his/her property along with map showing its location.

10.9. CENTRE FOR DISABILITY SPORTS

- A 'Centre for Disability Sports 'will be set up at Gwalior in Madhya Pradesh.
- It will be registered under the Societies Registration Act, 1860.
- The Improved sports infrastructure created by this Centre will ensure **effective participation** of Persons with Disabilities (PwDs) in sports activities.
- The centre would aid in achieving the **objective under the Section 30 of the Rights of Persons with Disabilities (RPwD) Act, 2016** which enjoins the Government to take measures to ensure effective participation of Persons with Disabilities in sports activities.

10.10. ISRAEL UNVEILS WORLD'S LONGEST SALT CAVES

- Cave explorers have discovered the world's longest salt cave (around 10 km) named Malham in the Mount Sodom, Israel.
- Earlier **3 N cave** in southern Iran's **Qeshm island** was the longest salt cave in the world with length of 6 km.

Related information
- The Mammoth Cave system in Kentucky, US, is the longest in the world stretching for about 651.8 kilometers.
- The longest natural cave in India is **Krem Liat Prah** in the Jaintia Hills, which is 30.9 km.

10.11. MARINE HEAT WAVE

- Recently, researchers have found out that Marine Heat Waves have pushed record number of marine species northwards.
- A marine heatwave is commonly defined **as temperatures being warmer than 90 per cent of the previous Sea Surface Temperature** observations at the same time of year over a 30-year period, for at least five days in a row. It can occur in both summer or winter.
- Factors that cause marine heatwaves include:
  - o **ocean currents** which can build up areas of warm water and

- o air-sea heat flux, or warming through the ocean surface from the atmosphere.
  - o **winds** can enhance or suppress the warming in a marine heatwave,
  - o climate modes like **El Niño** can change the likelihood of events occurring in certain regions.
  - o Rising sea surface temperatures due to greenhouse gases emissions.
- It affects ecosystem structure, by supporting certain species and suppressing others. It can change the habitat ranges of certain species.
- It can cause economic losses through impacts on fisheries and aquaculture.

10.12. UN WORLD WILDLIFE DAY

- **UN World Wildlife Day** is observed on **3rd March**, day of the signature of CITES, to celebrate and raise awareness of the world's wild animals and plants.
- The theme of World Wildlife Day 2019 is **"Life Below Water: For people and planet"** making it **first World Wildlife Day highlighting the importance of marine biodiversity**.
- It was jointly organised by **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** and **United Nations Development Programme (UNDP).**
  - o **CITES** is a **legally binding inter-governmental agreement** which aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
  - o **UNDP** partners with people at all levels of society to help them achieve human development along with Sustainable Development. Its three main focus areas are **Sustainable development**, **Democratic governance and peacebuilding** and **Climate and disaster resilience.**

10.13. ENERGY TRANSITION INDEX

- India has moved up two places to rank 76th among 115 economies in 2019 on World Economic Forum's **Energy Transition Index.**
- Despite its low ranking, **India is the second best in the BRICS block** of emerging economies, with **Brazil** being the best at 46th place globally. **China** lags behind at 82nd in the list.
- **Sweden** remains on the top on the list and is followed by Switzerland and Norway in the top three.
- **WEF** has ranked economies on how well they are able to balance **energy security and access with environmental sustainability and affordability**.

- It considers both the current state of the countries' **energy system** and their **structural readiness** to adapt to future energy needs.

10.14. OPERATION SUNRISE

- Indian forces and Myanmar Army conducted a joint operation "Operation Sunrise"
- The operation targeted Myanmar insurgent group, Arakan Army, and a North-East Indian insurgent group the NSCN (K),
- It was required as Arakan Army threatened the Kaladan multi-mode transit project, a joint project of India and Myanmar which seeks to link Kolkata with Sitwe in Myanmar through sea route. It would have provided another route to reach Mizoram from Kolkata.

10.15. MILITARY EXERCISES

- **AFINDEX-19:** It is a joint field training exercises between **Indian Army and Armies of 17-African Nations**.
- **Sampriti – 2019:** It is the 8th edition of joint military exercise between **Indian and Bangladesh Army** to increase inter-operability and cooperation between the two.
- **Mainamati Maitree Exercise-2019:** It is a series of joint exercise between **Border Security Force (BSF) and Border Guards Bangladesh (BGB)** conducted at Tripura-Bangladesh boarder. Its aim is to conduct **anti-smuggling, tackle illegal migration activity** at integrated check-post with ultimate aim of achieving better border management.

10.16. LUNAR RECONNAISSANCE ORBITER

- NASA's Lunar Reconnaissance Orbiter (LRO) has observed **water molecules** moving around the dayside of Moon.
- LRO is a robotic mission that set out to **map the moon's surface**.
- It was the first mission within the **Lunar Precursor and Robotic Program (LPRP)** which aims at gathering data important for reducing the risks of returning humans to the moon by 2020.
- LRO's recent finding could help us learn about **accessibility of water that can be used by humans in future lunar missions.**

10.17. I-STEM PORTAL

- The government is all set to launch— Indian Science, Technology and Engineering Facilities Map (I-STEM) portal, developed by **IISc Bangalore**.

- It is a **national portal of publicly-funded research facilities and equipment** to enable easy and timely access of resources to researchers working anywhere in the country.

- It would enable them to compare the usage charges, make payments and schedule the time-slots.
- It will **avoid duplication of expensive equipment** thus **bringing down the cost of doing research** in India

11. GOVERNMENT SCHEMES IN NEWS

11.1. TRANSPORT AND MARKETING ASSISTANCE (TMA) SCHEME

Department of Commerce of Ministry of Commerce & Industry has notified the Transport and Marketing Assistance Scheme for Specified agricultural products.

Objective	Coverage	Salient Features

To provide assistance **for the** international component of freight and marketing of agricultural produce **which is likely** to mitigate disadvantage of higher cost of transportation of export **of specified agriculture products due to trans-shipment and** to promote brand recognition **for Indian agricultural products in the specified overseas markets.**	• All exporters, duly registered with relevant Export Promotion Council as per Foreign Trade Policy, of eligible agriculture products shall be covered under this scheme.
	• **Export categories which are not eligible include:**
	  ○ Products exported from SEZs/ EOUs/ EHTPs/ STPs/ BTPs/ FTWZs
	  ○ Exports through trans-shipment, i.e. exports that are originating in third country but trans- shipped through India;
	  ○ Export of goods through courier or foreign post offices using e-Commerce
		• Assistance under TMA would be provided in cash through direct bank transfer as part reimbursement of freight paid.
		• The scheme covers freight and marketing assistance for export by air as well as by sea (both normal and refrigerated cargo).
		• The level of financial assistance would be different for different regions and shall be admissible for exports made through EDI (electronic data interchange) ports only.
		• The assistance shall be admissible only if payments for the exports are received in free foreign exchange through normal banking channels.
		• The scheme would be included in the Foreign Trade Policy (2015-20)

11.2. FLOOD MANAGEMENT AND BORDER AREAS PROGRAMME (FMBAP)
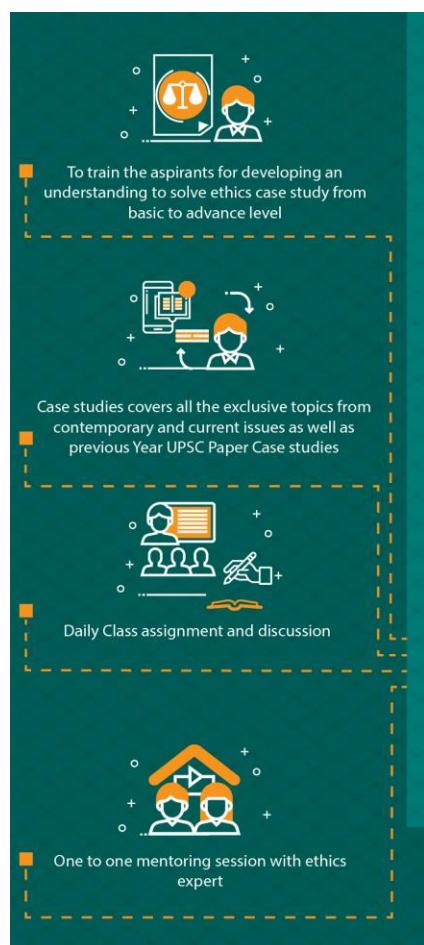
The Union Cabinet has approved the "**Flood Management and Border Areas Programme (FMBAP)**" Scheme for **Flood Management Works** in entire country and River Management Activities and **works related to Border Areas** for the period **2017-18 to 2019-20.**

Objective	Salient feature
To assist the State Governments to provide reasonable degree of protection against floods in critical areas by adopting optimum combination of structural and non-structural measure**s and enhancing capabilities of State / Central Government officials in related fields.**	• The FMBAP scheme has been framed by merging the components of two continuing XII Plan schemes titled "**Flood Management Programme** (FMP)" and "**River Management Activities and Works related to Border Area**s (RMBA)". • **Coverage-** will be implemented **throughout the country** for effective flood management, erosion control and anti-sea erosion. • **Funding Pattern-** • **For FM Component** for works in: • **In general category States** will continue to be 50% (Centre): 50% (State) • **In special category states** (North Eastern States, Sikkim, J&K, Himachal Pradesh and Uttarakhand) will continue to be 70% (Centre): 30% (State). • **For RMBA component** being specific to activities in border areas with neighbouring countries and in accordance with bilateral mechanisms, the projects / works will continue to be funded as 100% grant-in-aid / central assistance. • **International Cooperation-** by survey and investigations, preparation of Detailed Project Report (DPR) etc. of water resources projects on the common rivers with neighbouring countries like **Pancheshwar Multipurpose Project, Sapta Kosi-Sun Kosi Projects** in Nepal which would benefit both countries.

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11.3. YUVA VIGYANI KARYAKRAM (YUVIKA)

The **Indian Space Research Organisation (ISRO)** had launched a **special programme for School Children called "Young Scientist Programme" or Yuvika.**

Objective	Salient features
• **Aimed at imparting basic** knowledge on Space Technology, Space Science and Space Applications to the young students **with the intent of arousing their interest in the emerging areas of Space activities.** • Help students to appreciate what they are being taught **in the school and its real application in Space Science & Technology.**	• **3 students from each State/ Union Territory** to be selected to participate in this programme every year covering CBSE, ICSE and State syllabus. Those who **have finished 8th standard and currently studying in 9th standard** will be eligible for the programme. • **Chief Secretaries** of the respective States/ Administrators of Union Territories in **India to arrange for the selection of three students** from each of their State/UT and **communicate the list** to ISRO. • Students belong to the **rural area have been given special weightage** in the selection criteria.