



VISION IAS

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1. POLITY AND GOVERNANCE

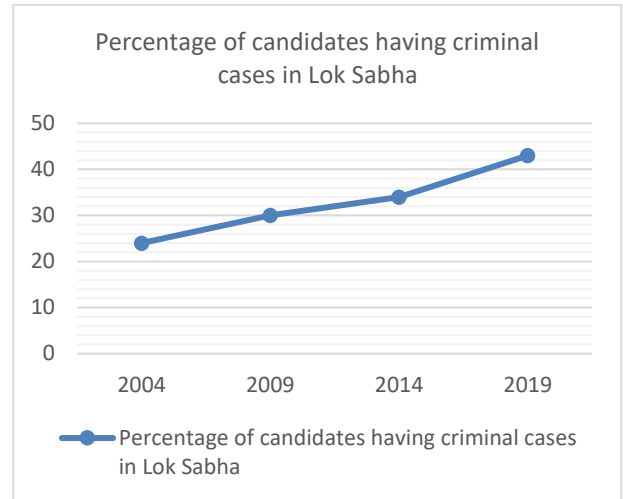
1.1. CRIMINALIZATION OF POLITICS

Why in News?

Recently, Supreme Court made it mandatory for political parties to publish, including on official social media pages, details of cases against their candidates and the reasons for selecting them over others.

Background

- **Criminalisation of politics** means rising participation of criminals in the electoral process and selection of the same as elected representatives of the people.
- Supreme Court called criminalisation of politics an “**extremely disastrous and lamentable situation**”, and raised concerns about “**unsettlingly increasing trend**” in the country.
 - There is an **increase of 109% (in 2019)** in the number of MPs with declared serious criminal cases since 2009.
 - **29%** of those elected to the Lok Sabha in 2019 have **declared serious crimes**.
- Association for Democratic Reforms (ADR) analysis shows that **candidates facing criminal charges had double the chances of winning** as compared to those with clean record.
- Present verdict comes based on contempt petitions filed against political parties for allegedly disregarding the directions given in **Public interest foundation case 2018**.
 - So, exercising powers under **Articles 129 and 142 of the Constitution**, which deal with the contempt power of the Supreme Court and enforcement of its decrees and orders, it has given this verdict.



Legal Provisions

- **Article 102(1) and 191(1)** disqualifies an MP and an MLA respectively on certain grounds.
- **Section 8 of the Representation of People Act, 1951**, bans convicted politicians. But those facing trial, no matter how serious the charges, are free to contest elections.

What Supreme Court said?

- It is **mandatory** for political parties (at the Central and State election level) to **publish detailed information regarding candidates with pending criminal cases** and the **reasons for selecting them** over others as well as to why other individuals without criminal antecedents could not be selected as candidates.
- Such details have to be published on their websites, one local vernacular newspaper and one national newspaper, on the official social media platforms of the political party, including Facebook and Twitter.
- Details of criminal antecedents of candidates should include nature of the offences, and relevant particulars such as whether charges have been framed, concerned Court, case number etc.
- The reasons as to selection shall be with reference to the qualifications, achievements and merit of the candidate concerned, and **not mere “winnability”** at the polls.
- These details shall be published within 48 hours of the selection of the candidate or not less than two weeks before the first date for filing of nominations, whichever is earlier.
- The political party concerned shall then submit a report of compliance with these directions with the Election Commission within 72 hours of the selection of the said candidate.
- If a political party fails to submit such compliance report with the Election Commission (EC), EC shall bring such non-compliance by the political party concerned to the notice of the Supreme Court as contempt of Court’s orders/directions.

Reasons for Criminalisation of Politics

- **Vote Bank politics**: as majority of the voters are manoeuvrable, purchasable. Expenditure for vote buying and other illegitimate purposes through criminals leads to nexus between politicians and criminals.

- **Corruption:** nexus between politicians and criminals have become stronger as politicians get their election funding as well as muscle and manpower from such criminals. This also encouraged criminals themselves to use their power to win elections. Money spent during campaigning is considered as an investment which is compensated by corruption.
- **Inefficiency in The Functioning of EC:** For the past several general elections there has existed a gulf between the EC and the voter. Common people hardly come to know the rules made by the commission. Model Code of Conduct is openly flouted by candidates without any stringent repercussions.
- **Denial of Justice and Rule of Law:** Toothless laws against convicted criminals standing for elections further encourage this process. **Not more than 6 per cent of the criminal cases against Indian MPs and MLAs ended in a conviction**, as per the data submitted by the Centre to the Supreme Court. This is in sharp contrast to the **overall conviction rate of 46%** at the national level under IPC.
- **Lack on inner party democracy:** Though the Representation of the People Act (RPA) disqualifies a sitting legislator or a candidate on certain grounds, there is **nothing regulating the appointments to offices within the party**. A politician may be disqualified from being a legislator, but (s)he may continue to hold high positions within his/her party.

Impact of Criminalization

- The law-breakers get elected as lawmakers- The people who are being tried for various offences are given the opportunity to make laws for the whole country, which **undermines the sanctity of the Parliament**.
- **Loss of public faith in Judicial machinery-** It is apparent that those with political influence take advantage of their power by delaying hearings, obtaining repeated adjournments and filing innumerable interlocutory petitions to stall any meaningful progress. This question the credibility of the judiciary.
- **Tainted Democracy:** Where the rule of law is weakly enforced and social divisions are rampant, a candidate's criminal reputation could be perceived as an asset. This brings in the culture of muscle and money power in the politics.

Previous notable SC judgements

- SC in 1997 directed all High Courts **not to suspend the conviction** of a person on appeal if he was convicted and sentenced to imprisonment by a trial court under the **Prevention of Corruption Act 1988**.
- In Union of India (Uoi) vs ADR 2002, SC directed that all the contesting candidates shall disclose their assets and liabilities, criminal conviction, if any, and pending cases in court of law at the time of filling the nomination papers.
- In Lily Thomas case (2013), SC ruled that a sitting MP and MLA convicted of a jail term of two years or more would lose their seat in the legislature immediately.
- Introduction of **None of The Above (NOTA)** option in **People's Union for Civil Liberties (PUCL) vs Union of India, 2014** to put moral pressure on political parties to put up clean candidates.
- In **Public Interest Foundation Vs Uoi 2014**, SC directed the trial courts to complete the trial of cases involving the legislators within one year.
- In **Lok Prahari Vs UOI case 2018**, SC made mandatory the disclosure of the source of income of political candidates as well as their dependants and associates would be mandatory.
 - Also, disclosure of information regarding contracts with the appropriate government either by the candidate or his/her spouse and dependants was also held to be disclosed mandatorily.
- In **Public interest foundation case 2018**, Court directed disclosure of criminal cases pending against the candidate by himself/herself through EC and his/her political party. Moreover, the criminal antecedent of candidates must be widely publicized through different media including the websites of concerned political parties.

Various committee observation on Criminalization of Politics The Santhanam Committee Report 1963

- It referred to political corruption as more dangerous than corruption of officials and recommended for Vigilance Commission both at the Centre and in the States.

Vohra Committee Report (1993)

- It studied the problem of the criminalization of politics and of the nexus among criminals, politicians and bureaucrats in India. However, even after the submission of report 25 years ago, the report has not been made public by the government.

Padmanabhaiah Committee on Police Reforms

- It found that Corruption is the root cause of both politicization and criminalization of the police.
- Criminalization of police cannot be de-linked from criminalization of politics. It is the criminalization of politics, which has produced and promoted a culture of impunity that allows the wrong type of policeman to get away with his sins of commission and omission.

- **Self-perpetuating:** Since the parties focus on winnability of the candidate (also hampering the inner party democracy), they tend to include more and more influential elements. Thus, criminalization of politics perpetuates itself and deteriorates the overall electoral culture.

Way Forward

- There is a **need to curb the high cost of campaigning** to provide a level playing field for anyone who wants to contest elections.
- As recommended by the **Law Commission's report on Electoral Disqualifications**, by effecting **disqualification of tainted politicians at the stage of framing of charges**, with adequate safeguards, the spread of criminalisation of politics may be curbed.
- Filing of a false affidavit should qualify as a 'corrupt practice' under the Act. Conviction on the charge of filing of a false affidavit must be grounds for disqualification as recommended by the Law Commission.

1.2. PRISON REFORM IN INDIA

Why in news?

Recently, a report by Justice **Amitava Roy Committee for Prison Reforms**, was taken up for hearing before the Supreme court (SC).

Background

- 'Prisons' is a **State subject** under Seventh Schedule to the Constitution.
 - However, the **Ministry of Home Affairs** provides regular guidance and advice to States and UTs on various issues concerning prisons and prison inmates.
- Earlier former Chief Justice of India (CJI) in 2013 had pointed out the inadequacy of reformatory schemes for offenders and other prominent issues like overcrowding of prisons, unnatural death of prisoners, the inadequacy of prison staff and present staff not being adequately trained.
- In response to this, SC had constituted a 3-member committee in **2018**, to look into entire gamut of prison reforms across the country and suggest measures to deal with them.

Important Reform Measures taken so far in India

- The modern prison system was conceptualised by **TB Macaulay in 1835**.
- **Prison Act, 1894**, enacted to bring uniformity in the working of the prisoners in India. The Act provided for **classification of prisoners**.
- **All India Jails Manual Committee 1957-59** to prepare a model prison manual.
- **All India Committee on Jail Reforms 1980-83** under Justice A N Mulla, suggested setting up of a **National Prison Commission as a continuing body to bring about modernisation of prisons in India**.
- In 1987, the GoI appointed the **Justice Krishna Iyer Committee** to undertake a study on the situation of **women prisoners in India**.
 - It has recommended induction of more women in the police force in view of their special role in tackling women and child offenders.

Why is the need for Prison Reforms?

The Supreme Court, in its landmark decision in **Ramamurthy v. State of Karnataka(1996)** had identified various problems which need immediate attention for implementing prison reforms.

- **Rampant Overcrowding:** "**Prison Statistics India**", brought out by **National Crime Records Bureau** stated that in 2015, there were nearly 4.2 lakh inmates in 1,401 facilities against the sanctioned strength of 3.83 lakh, with an average occupancy rate of 114% in most.
 - Due to overcrowding the segregation of serious criminals and minor offenders has turned out to be difficult, which can, in turn, cause bad influence over minor offenders.
 - **Overcrowding results in** restlessness, tension, inefficiency and general breakdown in the normal administration.
- **Delay in Trials:** In 2016, **67%** of the people in Indian jails were undertrials which is extremely high by international standards like it is 11% in UK, 20% in US and 29% in France.
- **Torture and ill-treatment:** The prisoners including the undertrials are forced to do severe labour without any remuneration and treated with utmost torture. There has been a continuous **rise in the custodial deaths** due to torture and ill-treatment. **Women prisoners are more vulnerable to abuse.**

- **Severe staff crunch:** 33% of the aggregate prerequisite of jail authorities still lie vacant, whereas, the ratio between the prison staff and the prison population in India is approximately 1:7.
- **Inadequate prison infrastructure:** Most Indian prisons were built in the colonial era and are in constant need of repair and part of them are uninhabitable for long periods.
 - This results into violation of dignity and basic living conditions which go against UN's Standard Minimum Rules for the Treatment of Prisoners, which suggest of "minimum floor space, lighting, heating and ventilation provision in the prisons."
- **Neglect of Health, Hygiene, food etc:** The prisoners in India suffer from severe unhygienic conditions, lack of proper medical facilities and consistent risk of torment and misuse. The kitchens are congested and unhygienic and the diet has remained unchanged for years now.
- **Issue of women prisoners:** Of the more than 433,000 inmates across the country, nearly 18,500 were women. Though not exclusively looking after female prisoners, there are just 9.6 % women across all levels of the prison administration in comparison to **the 33 per cent suggested in policy documents.**
- **Lack of Communication facilities:** The prisoners are left to live in isolation without any contact with the outside world, their family members and relatives. They remain uninformed about the lives and wellbeing of their family.

Reform measures suggested by Various Committees, Law Commissions and the Judiciary

- **All India Prison Service:** The **All India Committee on Jail Reforms (1980– 1983)**, under Justice A N Mulla recommended to develop an **All India Prison Service** as a professional career service with appropriate job requirements, sound training and proper promotional avenues.
- **Adherence of Model Prison Manual 2016** by all the States and UTs.
- **Uniformity of standards:** Central Government along with NGO's and prison administration should take adequate steps for effective centralization of prisons and a uniform jail manual should be drafted throughout the country.
- **Training & correctional activities:**
 - Training to staff in using the latest technology, correctional measures and physical fitness
 - Involvement of NGOs and other non-profit organizations for educating the prisoners with improved library facilities.
 - Vocational training courses in cloth making, electrification, plumbing, carpentry, etc for the inmates.
 - Facilities for recreational activities such as games and competitions for inmates and staff.
 - Seminars by jail authorities to enlighten the prisoners on their legal rights, health and sanitation problems, HIV/AIDS and issues of mental health, juveniles, minorities and steps to reduce the violence in prisons.
- **Infrastructure:**
 - Technological up-gradations such as biometric identification facilities, prisoner information system, provision of CCTVs, video conferencing facilities, etc. are needed.

Prison Manual (2016)

It aims at bringing in basic uniformity in laws, rules and regulations governing the administration of prisons and the management of prisoners all over the country. Key revisions in the manual include-

- Access to free legal service
- Additional provisions for women prisoners
- Rights of prisoners sentenced to death
- Modernization and prison computerization
- Focus on after care services
- Provisions for children of women prisoners
- Organisational uniformity and increased focus on prison correctional staff
- Inspection of Prisons, etc.

Case Study

Reforming prisons in Telangana

- It aimed to take the system from **security based to a more human-centric one.**
- There was recasting of prison life and redefining the treatment of citizens in conflict with the law.
 - A sufficient number of ambulances are made available 24x7 to tackle emergencies.
 - The prison staff is made accountable for every death – individually and collectively.
- Unhygienic toilets have been transformed into clean private places by paying prisoners to clean them.
- Collaboration with behavioural psychologists for collective behaviour therapy has helped change prisoner attitudes to life, crime and each other.
- With visible results, **staff morale is high** as is the motivation to learn new management techniques to engage with prisoners more closely and less harshly.

Swadhar Greh

- This is a scheme for rehabilitation of women victims of difficult circumstances.
- Among other beneficiaries, the scheme also includes women prisoners released from jail and are without family, social and economic support.

- Up-gradation of hospital infrastructure such as beds, equipment, testing facilities, vehicle during medical emergency, etc. are needed.
- **Staff:** All vacant staff positions need to be reassessed. Recruitment of additional staff including medical, guarding, correctional staff, clerical, etc.
- **Strengthening the open prison system**, which has come as a very modern and effective alternative to the system of closed imprisonment.
- **Strengthening PLVs:** In 2009, National Legal Services Authority (NALSA) brought out a scheme called the Para-Legal Volunteers Scheme which **aimed at imparting legal training to volunteers to act as intermediaries between the common people and the Legal Services Institutions** to remove impediments in access to justice ensure legal aid reaching all sections of people.
- **Report on 'Women in Prisons' by Ministry of Women and Child Development in 2018** recommended:
 - a more robust grievance redressal system and access to female counsellors or psychologists
 - a separate accommodation for mothers in post-natal stage to maintain hygiene and protect the infant from contagion
- **Law commission recommendations like:**
 - Amending the bail provisions in the Criminal Procedure Code with emphasis on the early release on bail of under trials.
 - ✓ Under trials who have completed one-third of the maximum sentence for offences up to seven years be released on bail.
 - ✓ Those who are awaiting trial for offences punishable with imprisonment of more than seven years should be bailed out if they have completed one-half of their sentences.
 - Comprehensive anti-torture legislation on lines of Draft anti-torture legislation (**suggested by 273rd report**)
- **Draft National Policy on Prison Reforms and Correctional Administration, 2007** recommended:
 - Introduction of a **provision for aftercare and rehabilitation** services.
 - **Community-based alternatives** to imprisonment for offenders convicted for relatively minor offences

Conclusion

Indeed, prisons in India make for a massive social organisation. Part and parcel of the larger criminal justice system, they make an invaluable contribution to upholding up the rule of law and, thereby, to the maintenance of law and order, peace and tranquillity in society.

1.3. JOB RESERVATIONS, PROMOTION QUOTAS NOT A FUNDAMENTAL RIGHT

Why in news?

The Supreme Court ruled that there is no fundamental right to reservations in appointments and promotions under articles 16(4) and 16(4A) of the Constitution.

Background

- The case pertains to a decision by the Uttarakhand government in 2012. Back then, the government had decided to fill up posts in public services without providing reservation to members of the Scheduled Caste (SC) and Scheduled Tribe (ST) communities.
- The Uttarakhand High Court directed the state government in 2019 to implement reservations in promotion by promoting only SCs and STs to maintain the quota earmarked for the said categories.

More about the Judgement

The Court held that

- Article 16 (4) and 16 (4-A) are in the nature of **enabling provisions**, vesting a **discretion on the State Government** to consider providing reservations, if the circumstances so warrant.
 - **Article 16(4)** empowers state to make any provision for **reservation of appointments** in favour of any backward class which in opinion of the State, is not adequately represented in the services under State.
 - **Article 16(4A)**, empowers state to make provisions for **reservation in matters of promotion** to SC/ST employees.

- it is settled law that the **state cannot be directed to give reservations for appointment** in public posts. The order further adds that the state is not bound to make a reservation for SCs and STs **in matters of promotions**.
 - The court said that **no mandamus** can be issued by the court directing state governments to provide reservations.
- However, if the **state wishes to exercise its discretion** and make such provision, it **has to collect quantifiable data** showing ‘inadequacy of representation of that class in public services.
- if the decision of the state government to provide reservations in promotion is challenged then the state concerned will have to **place before the court the quantifiable data** that reservations became necessary on account of inadequacy of representation of SCs and STs without affecting general efficiency of administration as mandated by Article 335.

Analysis of the judgement

- The fact that reservation cannot be claimed as a fundamental right is a **settled position under the law** and has been pointed out by several judgments in the past.
 - In 1967, a five-judge bench in **C.A. Rajendran v. Union of India** held that the government is under no constitutional duty to provide reservations for SCs and STs, either at the initial stage of recruitment or at the stage of promotion.
 - The position went on to be **reiterated in several other decisions**, including the nine-judge bench ruling in **Indra Sawhney v. Union of India (1992)** and the five-judge bench decision in **M Nagaraj v. Union of India (2006)**.
- Although this position of law is a settled one, it is nonetheless **at odds with certain other principles** at the heart of the **constitutional vision of equality**.
 - In **NM Thomas judgement (1976)**, the Supreme Court held that the Constitution was committed to an **idea of substantive equality**, i.e. it had to take the **actual circumstances of people** into account when determining what constituted “equal treatment”.
 - The **principled reason for this position** was that groups of people who face structural and institutional barriers towards being able to compete on “equal terms” with others in society — for reasons that are historical, but whose effects are enduring — must be treated in a way that mitigates those existing conditions of inequality.
 - **Reservations** — under this understanding — were a means to bring about genuine and true equality, and not a set of privileges or gifts.
- To interpret the obligations of the state **purely from the textual foundations of Article 16** is not an appropriate approach. Fundamental rights are not isolated provisions and ought to be looked into as an interconnected whole.
- As there are **less avenues for the direct appointment in higher posts**, reservations play a major role for the representation of backward classes in higher posts.
 - According to a Parliament reply last year, only one of the 89 secretaries posted at the Centre belonged to the SC, while three belong to the ST. The court order **may go against the substantive equality** in higher posts.
- The Supreme Court is **not wrong** in saying **that a writ of mandamus cannot be granted** by any court in order to enforce an enabling provision. The writ of mandamus is issued only to compel an authority to discharge a binding duty.

Conclusion

It is a settled principle of law that a **discretionary power cannot be exercised in a fickle manner**. Simply because the exercise of a power is optional for the government does not mean that it can be exercised in a whimsical manner. Article 14 of the Indian Constitution has been interpreted to prohibit all kinds of arbitrary decisions by the government. Thus, the **courts are entitled to examine if a discretionary power has been exercised in a judicious manner**.

1.4. NEW RULES FOR TRIBUNALS

Why in News?

Union Ministry of Finance has framed new rules prescribing uniform **norms for the appointment and service conditions** of members to various Tribunals.

Background

- In **Rojer Mathew vs South Indian Bank & Ors. case 2019**, Supreme Court (SC) struck down the previous Rules 'Tribunal, Appellate Tribunal and Other Authorities (Qualifications, Experience and Other Conditions of Service of Members) Rules 2017' framed by the Centre under **Section 184 of the Finance Act, 2017**.
- SC stated that the rules suffered from "various infirmities" and were "contrary to the principles envisaged in the Constitution as interpreted by this Court".
- Further, it directed the government to **re-formulate the rules in conformity with the principles delineated by the court**.

About the new rules

- The 'Tribunal, Appellate Tribunal and other Authorities (Qualifications, Experience and other Conditions of Service of Members) Rules, 2020', were framed by the Ministry of Finance in exercise of powers under **Section 184 of the Finance Act 2017**.
- These apply to 19 Tribunals including **Central Administrative Tribunals; Income Tax Appellate Tribunal; Customs, Excise, Service Tax Appellate Tribunal etc.** Notably, **Foreigners Tribunals are not covered**.
- **Appointment:** appointments to the above Tribunals will be made by Central Government on the recommendations by the "Search cum Selection Committee" composed of:
 - The Chief Justice of India, or a judge nominated by the CJI
 - President/chairperson of tribunal concerned
 - Two government secretaries from the concerned ministry/department.
- **Removal:** Search Cum Selection Committee has the power to **recommend the removal** of a member, and also to **conduct inquiry** into allegations of misconduct by a member.
- **Qualifications for tribunal members:** **Only** persons having judicial or legal experience are eligible for appointment.
- **Term:** Rules also provide a **fixed term of four years** to the Tribunal members, based on Court's observations that the three-year term under the 2017 Rules precluded cultivation of adjudicatory experience and was thus injurious to the efficiency of the Tribunals.
- **Independence:** The condition in the 2017 Rules that the members will be eligible for **re-appointment has also been dropped** in 2020 Rules based on Court's apprehension that such a clause was likely to affect a member's independence.

Concerns that still remain

- **Lack of judicial primacy in appointments still remain:**
 - In **Supreme Court Advocates on-Record Assn. v. Union of India (Fourth Judges Case)**, it was held that **primacy of judiciary is imperative** in selection and appointment of judicial officers including Judges of High Court and Supreme Court.
 - Strength of search-cum-selection committees of tribunals has been reduced from 5 to 4 by omitting the expert nominee as 5th member. This composition still has 'token representation' of CJI or his nominees as found in Rojer Mathew case.
 - Also, for tribunals like Central Administrative Tribunal (CAT), Debt Recovery Appellate Tribunal (DRAT) etc. a **non-judicial member can become chairperson**, which undermines judicial primacy.
- **Principles laid down in UOI vs R Gandhi, Madras Bar Association case (2010) not met:**
 - **Regarding composition**, it stated that among the 4 membered search-cum-selection committee, there should be 2 judicial appointments.
 - **Term:** the court held that the **term of office shall** be five or seven years.
 - **Suspension of the President/Chairman or member of a Tribunal can be only with the concurrence of the Chief Justice of India.** However, there is no provision in the 2020 Rules to incorporate this direction.

- **Regarding independence of tribunals**, it was held that administrative support for all Tribunals and its members should be from the Ministry of Law and Justice, not from parent ministries or departments concerned. This also remains to be implemented.
- **Only judges and advocates** should be considered for appointment as **judicial member of the tribunal** and not those from the Indian Legal Service.

1.5. GRAM NYAYALAYAS

Why in news?

The **Supreme Court** has directed **all the states** to come out with notifications for establishing '**Gram Nyayalayas**' within a month and has asked the High Courts to expedite process of consultation with state governments on this issue.

Background

- **Entry 65 of State List** in 7th schedule empowers states with "**jurisdiction and powers of all courts, except the Supreme Court**, with respect to any of the matters in this list". "**Administration of justice; constitution and Organisation of all courts, except the Supreme Court and the High Courts**" falls under **Concurrent list**.
- **114th Report of the Law Commission (1986)** recommended setting up of Gram Nyayalayas (**mobile village courts**) at the grass root levels to:
 - provide access to justice to the most marginalized sections of the society specifically to reduce barriers to access in terms of distance, time & associated costs.
 - reduce delay by providing for summary procedure.
 - reduce workload on higher tiers of judiciary.
- They were expected to **reduce** around **50 %** of the **pendency of cases** in subordinate courts and also to take care of the new litigations which are to be disposed within six months.
- **Gram Nyayalayas Act, 2008** came into force on October 2, 2009. More than 5000 Gram Nyayalayas were expected to be set up under the Act for which the Central Government allocated about Rs.1400 crores by way of assistance to the concerned States/Union Territories.
- **However**, presently only 11 states have taken steps to notify Gram Nyayalayas so far. Only 208 Gram Nyayalayas are functioning in the country.
 - In some of the States, the proposals for establishing the Gram Nyayalayas are pending before the High Court for consultation, while in some they are not functioning despite being notified.
 - Though some States have issued Notifications for establishing the Gram Nyayalayas, all the established Gram Nyayalayas are not functioning, (except in Kerala, Maharashtra and Rajasthan).
 - Very few States have shown eagerness to establish the Gram Nyayalayas and **not a single Gram Nyayalaya has become operational in North- Eastern States**.

About Gram Nyayalayas

- **Structure:** It is established for every Panchayat at intermediate level or a group of contiguous Panchayats at intermediate level in a district.
 - The **State Government**, in consultation with the High Court, **notifies the boundaries** of the area under the jurisdiction of a Gram Nyayalaya. It can also alter such limits at any time.
 - It can hold **mobile courts** in villages falling under its jurisdiction and State Government shall extend all required facilities.
- **Appointments:** The **State Government** shall appoint a presiding officer called **Nyayadhikari** for every Gram Nyayalaya in consultation with the High Court, who will be a person eligible to be appointed as a **Judicial Magistrate of the First Class**.
 - The salary and other allowances along with the other terms and conditions of service shall be on the same lines as well.
 - **Representation** shall be given to the members of the SC, ST, women and others.
- **Jurisdiction, powers and authority:** Gram Nyayalaya shall exercise **both civil and criminal jurisdiction**. The judgment passed by a Gram Nyayalaya in civil cases shall be deemed to be a decree.

- Gram Nyayalaya can try criminal cases, civil suits, claims or disputes which are specified in the **First and Second Schedules** to the Act:
 - ✓ Offences not punishable with death, imprisonment for life or imprisonment for a term exceeding two years.
 - ✓ **Theft**, matters regarding **stolen property**, where the value of the property stolen does not exceed rupees twenty thousand
 - ✓ Offences related to **central acts** such as payment of wages, minimum wages, Protection of civil rights, bonded labour, Protection of Women from Domestic Violence Act, etc.
 - ✓ Offences under **states acts** which are notified by each state government.
 - ✓ **Civil and Property suits** such as use of common pasture, water channels, farms, right to draw water from a well or tube well etc.
- The first and second schedules of the Gram Nyayalaya Act can be **amended by both the central and state governments**.
- A Gram Nyayalaya is not bound by the rules of evidence provided in the Indian Evidence Act, 1872 but is guided by the **principles of natural justice** and is subject to any rule made by the High Court.
 - An **appeal** against a judgement of a **criminal case** shall be taken to the **Court of Session**, while a **civil case** appeal shall be taken to **District court**. Appeals have to be heard and disposed of within six months.
 - The primary focus of the Gram Nyayalaya is to bring about **conciliation between the parties**. If any stage that there is a reasonable possibility of a settlement between the parties, the proceedings of Gram Nyayalaya shall be adjourned and the matter shall be referred to conciliator/s.

Ineffectiveness of Gram Nyayalaya

- **Concurrent jurisdiction with regular courts:** Majority of states have set up regular courts at the taluk level instead of setting up Gram Nyayalayas, perhaps with a view to avoid the complexities involved in implementation of a new legislation, fresh appointment of Nyayadhikaris, and negligible funding from the central government.
- **Shortage of human resources:** The progress is affected by non-availability of judicial officers to function as Gram Nyayadhikaries, Non-availability of notaries, stamp vendors etc.
- **Funds:** The slow pace of utilisation of funds under the Scheme is mainly due to the lack of proposals from the States for setting up of Gram Nyayalayas.
 - While some States were facing problem like inadequate amount of Central funds allocation and the acquisition of land for the establishment of Gram Nyayalayas.
- **Reduction of Pendency:** One of the objectives of the Act was to reduce pendency and burden on lower courts in the district but it is revealed that even this has not been fulfilled. The number of cases disposed by Gram Nyayalayas is negligible and they do not make any substantial difference in the overall pendency in the subordinate courts.
- **Functioning:** Gram Nyayalayas have been established on part-time basis (weekly once or twice) and are not in addition to the existing courts.
 - However, it has been observed that in most villages, courts are held only once or twice a month while in others, the frequency is even worse, mostly due to the lack of coordination between High Courts and state governments.
 - They have been grappling with systemic defects, lack of practice of recording case data and status, lack of political will etc.
- **Lack of awareness:** Many of the stakeholders including the litigants, lawyers, police officers and others are not even aware about the existence of Gram Nyayalayas in the district court premises and no conferences or seminars have been organized for creating awareness about this institution.
 - Further, there is ambiguity and confusion regarding the specific jurisdiction of Gram Nyayalayas, due to the existence of alternative forums such as labour courts, family courts, etc.

Way Forward

- **Establishment of permanent Gram Nyayalayas:** They may be established in every Panchayats at intermediate level or group of contiguous Panchayats at intermediate level depending upon the number of disputes which normally arise from that area. While determining the location of the Gram Nyayalayas the location of courts having parallel jurisdiction may also be considered.

- **Infrastructure and Security:** Separate building for the functioning of the Gram Nyayalaya as well as for the accommodation of the Gram Nyayadhikaris and other staff need to be constructed. Provision also has to be made for providing adequate security.
 - Enhancing of the Central assistance in order to motivate the States should also take place.
 - As far the issue of acquiring land is concerned, the State Governments may be encouraged to undertake vertical constructions instead of horizontal to weed out the problem of shortage of land.
- **Creation of a regular cadre of Gram Nyayadhikari:** Officers recruited to this service ought to have a degree in social work apart from a law degree.
 - However, some of the Gram Nyayadhikaris opined that creation of such a separate cadre might not be advisable due to the absence of chances of promotion.
 - Instead, this could be made a compulsory service for a certain period for a newly recruited judicial officer to the regular cadre of first class judicial magistrates or civil judges.
- **Training of Gram Nyayadhikari:** This is imperative keeping in mind the objectives of Gram Nyayalayas. Apart from the legal and procedural requirements of Gram Nyayalayas, training may also include the local language of the community amongst whom they are posted.
- **Creation of awareness among various stakeholders:** Suitable steps may be taken for creating awareness among various stakeholders including the revenue and police officers.

1.6. INNER LINE PERMIT

Why in news?

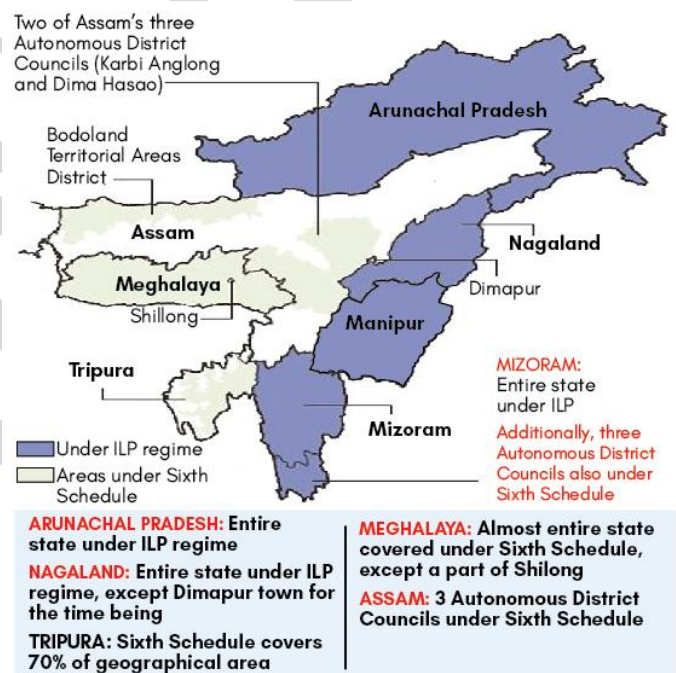
Recently, Manipur has launched an online portal for the travellers to seek Inner Line Permits.

More on news

- Now, applicants can apply the ILP online by making necessary payment and pre-print their permits before reaching the state.
- The new system would also overcome the problems and difficulties faced by the concerned authorities and officials while issuing permits manually at various entry points or gates.

About ILP

- It is a **travel document** that allows an Indian citizen to visit or stay in a state that is protected under the ILP system.
 - Foreigners need a **Protected Area Permit (PAP) to visit tourist places** which are different from Inner Line Permits needed by domestic tourists.
- The system is in force today in four North eastern states — **Arunachal Pradesh, Nagaland and Manipur, Mizoram.**
- No Indian citizen can visit any of these states unless he or she belongs to that state, nor can he or she overstay beyond the period specified in the ILP.
- The concept stems from the **Bengal Eastern Frontier Regulation Act, 1873**, where the British framed regulations restricting the entry and regulating the stay of outsiders in designated areas.



ILP's connection with the Citizenship Act

- The Citizenship Act enables non-Muslim refugees (Hindus, Jains, Sikhs, Buddhists, Parsis and Christians) from Pakistan, Bangladesh and Afghanistan who arrived in the country before December 31, 2014, **to obtain Indian citizenship.**
- If the Act is implemented without the ILP, then the beneficiaries under CAB will become Indian citizens and will be allowed to settle anywhere in the country.
- However, the implementation of ILP bars the refugees from settling in the states under the ILP system.
- **Assam and Tripura** have been up in arms against the Act because these states share the longest borders with Bangladesh and have been subjected to the highest influx of Bengali-speaking undocumented refugees since the partition.

- This was to protect the Crown’s own commercial interests by preventing “**British subjects**” (Indians) from trading within these regions.
- In 1950, the Indian government replaced “British subjects” with “**Citizen of India**”.
 - This was to address local concerns about protecting the interests of the indigenous people from outsiders belonging to other Indian states.
- An ILP is issued by the **state government** concerned.
 - It can be obtained after applying either online or physically.
- It states the dates of travel and also specifies the particular areas in the state which the ILP holder can travel to.

Status of ILP in different states

- **Meghalaya**- It has adopted a resolution for implementing the Inner Line Permit (ILP) regime in the state.
 - In November 2019, the Meghalaya Cabinet approved amendments to the **Meghalaya Residents Safety and Security Act (MRSSA), 2016**, which will lead to laws that require non-resident visitors to register themselves.
 - While Meghalaya has amended the law, it is not yet clear what exact rules, visitors to the state would be subjected too. Officially, it has not been said to be a replication of the ILP regime.
- **Assam**- In Assam too, there have been demands by certain sections for the introduction of ILP.
 - Groups like the **Asom Jatiyatabadi Yuba Chatra Parishad**, a youth organisation, has been organising protest demonstrations seeking ILP throughout the state.
 - Recently, the Assam finance minister has remarked that Assam will not have the ILP.
- **Manipur**- The ILP system came into effect in the state of Manipur from January 1, 2020 and is issuing four types of permits — **temporary, regular, special, and labour permits**.
 - Last year, the **Manipur People Bill, 2018** was passed unanimously by the state Assembly.
 - The Bill puts several regulations on ‘outsiders’ or ‘non-Manipuri people’ in the state.
 - The Bill had undergone series of negotiations regarding defining the “Manipuri” people, after which a consensus was reached regarding 1951 as cut-off year for the definition.

Impacts of ILP

- **Economic Impact**- By imposing restrictions on the entry of ‘outsiders’ into these hill states, there are apprehensions that **tourism** gets affected and the local economy is not able to achieve its potential.
- **Scope of error**- in issuing these documents has been observed due to human intervention, which causes **inconvenience** to the visitors.
- **Fears of marginalisation**- such as in Meghalaya, where a sizable chunk of **non-tribal population** also resides. There is fear psychosis among the non-tribals that their interests will be overlooked, if the ILP is implemented.
 - This is further accentuated as the **definition of indigenous person** of the state remains unclear. E.g. The All Naga Student Association Manipur (ANSAM) is of the opinion that the definition of **who is a migrant** and who is not is not reflected in the ILP guidelines in **Manipur**.

1.7. 22ND LAW COMMISSION OF INDIA

Why in news?

Recently, the Union Cabinet approved the creation of the **22nd Law Commission**, with a term of three years.

Background

The 21st Law Commission, **under Justice B.S. Chauhan**, was established in 2015 and had tenure to August 31st 2018. It had submitted reports and working papers on key issues such as **simultaneous elections to the Lok Sabha/State Assemblies** and **Uniform Civil Code**.

About the Law Commission

- The **first Law Commission** was established during the British Raj era in 1834 by the Charter Act of 1833 and was presided over **by Lord Macaulay**.
 - However, **the first Law Commission of Independent India** was constituted in 1955 with **Mr. M. C. Setalvad**, as its Chairman.
- The Law Commission is a **non-statutory body** constituted by the GoI, every **three years**.
- Its major function is to work for legal reform and works as an advisory body to the Ministry of Law and Justice.
- It has so far **submitted 277 reports**.

About the 22nd Law Commission

- **Composition:** It will consist of:
 - a full-time Chairperson (usually who is a retired Supreme Court judge or Chief Justice of a High Court);
 - four full-time Members (including Member-Secretary)
 - Secretary, Department of Legal Affairs as ex-officio Member;
 - Secretary, Legislative Department as ex officio Member; and
 - not more than five part-time Members.
- **Terms of reference:** The Law Commission shall, inter-alia: –
 - **identify laws** which are no longer needed or relevant and can be immediately **repealed**;
 - **examine the existing laws** in the light of Directive Principles of State Policy and suggest ways of improvement and reform.
 - **consider and convey to the Government its views** on any subject relating to law and judicial administration that may be specifically referred to it by the Government through **Ministry of Law and Justice**.
 - **Consider the requests for providing research** to any foreign countries as may be referred to it by the Government through the **Ministry of Law and Justice (Department of Legal Affairs)**;
 - **take all such measures** as may be necessary to harness law and the legal process in the service of the poor;
 - **revise the Central Acts of general importance** so as to simplify them and remove anomalies, ambiguities, and inequities.

1.8. DELIMITATION COMMISSION

Why in news?

Central government has constituted the Delimitation Commission for the purpose of delimitation of Assembly and Parliamentary constituencies in the Union territory of Jammu and Kashmir and the States of Assam, Arunachal Pradesh, Manipur and Nagaland.

More in News

- Commission will delimit the constituencies of Jammu and Kashmir in accordance with the provisions of the Jammu and Kashmir Reorganisation Act, and of Assam, Arunachal Pradesh, Manipur and Nagaland in accordance with the provisions of the Delimitation Act, 2002.
- The delimitation in J&K will be based on the Census of 2011 due to an amendment in the J&K Reorganisation Act.
 - The last delimitation of J&K was done in 1995.
- Commission will be **headed by former Supreme Court judge, Justice Ranjana Desai**.

Case in North-Eastern States

- The delimitation exercise for the purpose of elections to the Lok Sabha and to the State Legislative Assemblies on the basis of 2001 census figures was completed by November, 2008.
- However, **this exercise was postponed in Arunachal Pradesh, Assam, Manipur and Nagaland** on apprehension of threat to the peace and public order.
- Since then, there has been a **significant improvement in the security situation** and a reduction in insurgency incidents, making the situation conducive for carrying out the delimitation exercise now.

About Delimitation

- Delimitation literally means **the act or process of fixing limits or boundaries of territorial constituencies in a country or a province** having a legislative body.
- **Under Article 82**, the Parliament enacts a Delimitation Act after every Census which establishes a delimitation commission.
- **Under Article 170**, States also get divided into territorial constituencies as per Delimitation Act after every Census.
- In India, such Delimitation Commissions have been constituted 4 times – in 1952, 1963, 1973 and 2002.
- The Delimitation Commission is **appointed by the President of India and works in collaboration with the Election Commission of India**.
- The commission has **three ex-officio members**:

- a serving or retired judge of the Supreme Court as the chairperson,
- the Chief Election Commissioner or Election Commissioner nominated by the CEC and
- State Election Commissioner of the concerned state.
- Its functions include:
 - **Determining the number and boundaries of constituencies** to make population of all constituencies nearly equal and providing equal representation to equal segments of a population.
 - **Identifying seats reserved for Scheduled Castes and Scheduled Tribes**, wherever their population is relatively large.
- Its **orders have the force of law** and cannot be called in question before any court.
- There was **no delimitation after the 1981 and 1991 censuses** due to various family planning programmes implemented by the central government.
- In 2002, the **84th Constitutional Amendment** was used to freeze the process of delimitation for Lok Sabha and State assemblies till at least 2026.

1.9. NATIONAL E-GOVERNANCE SERVICE DELIVERY ASSESSMENT (NESDA) 2019

Why in news?

First-ever National e-Governance Service Delivery Assessment (NeSDA) 2019 rankings were released by Department of Administrative Reforms and Public Grievances.

More About NeSDA 2019

- It is done for **4 categories**: Union territories (7), North-Eastern States and Hill states (11), Remaining states (18), Central government ministries websites.
- It primarily assesses all State/UT and Central Ministry service portals on **7 key parameters**: Accessibility, Content Availability, Ease of Use, Information Security & Privacy, End service Delivery, Integrated Service Delivery and Status & Request Tracking.
- Framework covers **six sectors**, viz. Finance, Labour & Employment, Education, Local Government & Utilities, Social Welfare (including Agriculture & Health) and Environment (including Fire).
- The assessment was aimed at **improving the overall e-Government development** by evaluating the efficiency of service delivery mechanism from a citizen's perspective.

Key Recommendations

- Creating an inclusive Digital Ecosystem
- Mandatory sector-specific service focus to attain SDG Goals
- e-Literacy for inclusiveness
- Improvising Accessibility for higher uptake
- Security and privacy for public data
- Embracing new age technologies for improved service delivery
- Adoption of Standards for uniformity in governance
- Integrated service delivery – focus on IndEA (India Enterprise Architecture)

Ranking

- Delhi, Chandigarh, Daman and Diu administration have emerged leaders among Union territories across all parameters.
- Haryana and Rajasthan are the leading states in the assessment under the "remaining states" category comprising 18 states.
- The website of the Central Board of Direct Taxes (CBDT) under the Finance Ministry is the winner under the assessment of central ministry service portals category. Whereas, the ministry portals of Health & Family Welfare, and Human Resource have emerged leaders across "all parameters".
- In terms of portals Kerala Scored the highest in states and UTs category.

2. INTERNATIONAL RELATIONS

2.1. TRUMP'S VISIT TO INDIA

Why in News?

Recently, Donald Trump visited India becoming first US President to come to India on a stand-alone visit in the seven decades of Indo-US diplomatic ties.

Key takeaways from recent visit

- **'Namaste Trump'** event was organised on the lines of **'Howdy, Modi!'** held in Houston last year.
- India-US upgraded their relationship to **'Comprehensive Global Strategic Partnership'**.
- **US International Development Finance Corporation** announced \$600 million financing facility for renewable energy projects in India.
- **Strategic Convergence in the Indo-Pacific:** US appreciated India's role as a net provider of security in Indian Ocean Region and both countries decided to propose a new partnership between **USAID and India's Development Partnership Administration for cooperation in third countries.**
- **Defence cooperation:** USA reaffirmed India's status as a **Major Defence Partner.**
 - Both countries decided for early conclusion **Basic Exchange and Cooperation Agreement (BECA).**
 - \$2.6 billion worth of **24 Seahawk (MH-60 Romeo) anti-submarine warfare helicopters** for the Indian Navy and an \$800 million deal for the purchase of **6 AH-64E Apache attack helicopters** deals were finalised.
- Both sides decided to a setup a new **Counter-Narcotics Working Group** between their respective law enforcement agencies and decided to reinvigorate **Homeland Security Dialogue.**
 - Both sides called **Pakistan to rein in cross-border terror threats** and bring justice for the victims of 26/11 attack and the Pathankot terror attack of 2016.
- **Two MoUs on mental health and for access to high quality, safe and affordable medical products** were signed.
- **Partnership for Global Leadership:** US reaffirmed support for India's permanent membership on a reformed U.N. Security Council and for India's entry to the Nuclear Suppliers Group at the earliest.
 - Both countries expressed interest in the concept of the **Blue Dot Network.**
 - US welcomed India's role in development and security assistance and providing connectivity in **Afghanistan.**

Blue Dot Network

- Blue Dot Network was launched in 2019 on the side-lines of the 35th ASEAN Summit by the **US, Australia and Japan.**
- It is a joint project of the **US Overseas Private Investment Corporation**, in partnership with **Australia and Japan.**
- Initiative will **evaluate projects on various parameters**, in line with 'G20 Principles for Quality Infrastructure Investment' including level of public consultation, transparency in funding, debt traps and basic environment norms.
- Projects that meet the norms will get a **"blue dot" certification**, which will enable them to **attract private funding and not have to depend on state-funding alone.**
- This is seen as **alternative to 'predatory lending' and debt trap diplomacy of China** under **Belt and Road initiative (BRI)**, by facilitating foreign investment in projects that come under this network.
- **Differences as compared to BRI:**
 - BRI involves direct money for infrastructural needs. But Blue Dot doesn't involve direct money supply as it relies on private investments based on infrastructure's standards.
 - Blue Dot will require coordination among multiple stakeholders when it comes to grading projects.

Recent developments in India US relationship

- **Defence:**
 - In August 2018, US granted to India the designation of **Strategic Trade Authority Tier 1**, "providing India with greater supply-chain efficiency by allowing US companies to export a greater range of dual-use and high-technology items to India under streamlined processes." This authorisation is the equivalent of NATO allying with Japan, South Korea and Australia.
 - US has emerged as **second largest defence supplier** to India. Since 2008, India has bought more than \$18 billion worth of US military hardware.

- US supported **designation of Jaish-e-Mohammed chief Masood Azhar as a global terrorist** under UN Security Council Resolution 1267, and played role placing of Pakistan on the **grey-list of the Financial Action Task Force**.
- **Trade relations: Trading relations:** US is now India's largest trading partner (With, the bilateral trade at USD 87.95 billion in 2018-19). However, a trade deal remains elusive.
- **Energy: India US Strategic Energy Partnership** launched in April 2018, seeks to enhance energy security, bolster strategic alignment etc.
 - India has started importing crude and LNG from the US only in the past 2-3 years, but **total imports are estimated at \$6.7 billion**. US emerged as India's sixth largest oil supplier.
- **Collaboration in science, technology and innovation: Joint mission of NASA and ISRO-** world's first dual-frequency Synthetic Aperture Radar satellite proposed for 2022.
- **Strategic Convergence:**
 - **In the Indo-Pacific:** Both countries engage through **India-U.S.-Japan trilateral summits (JAI)**, the India-U.S.-Australia-Japan **Quadrilateral consultations**, among others.
 - On Afghanistan, India is much more in the US' calculus than in 1990 as it is pushing India to fill to play larger role.

Frictions in India-US relationship

- **Trade related Transactionalism of USA:**
 - US has recently **removed India from its list of developing countries** and will now on consider India as a developed country for the purpose of deciding on trade related practises and duty concessions. (See box)
 - Earlier, US terminated India's designation as a beneficiary developing nation under **Generalised System of Preferences (GSP)** by US. U.S.
 - **Tariffs war:**
 - ✓ In 2018, US imposed tariffs on steel and aluminium imports from various countries, including India have brought down the US share in India's steel exports to 2.5% in 2018-19 from 3.3% in 2017-18.
 - ✓ India's refusal to remove the **20% tariffs on ICT products**.
 - **Apart from this there are differences in opinion on issues such as subsidies to farming sector, digital trade and IPR.**
- **U.S.'s soft policy towards Pakistan:** Trump recently said US' relationship with Pakistan is a "very good one".
 - With **Afghan Peace deal**, if U.S. leaves Afghanistan, it might strengthen Taliban and consequently Pakistan's influence in Afghanistan.

- Under the WTO rules, any country can "self-designate" itself as a developing country.
- But, United States Trade Representative (USTR) employed methodology that excludes countries which have per capita GNI above \$12,375 as per World Bank data, or are members of the Organisation for Economic Cooperation and Development (OECD), G20, classified as "high income" by the World Bank or account for more than 0.5% of global merchandise trade.
 - So, **India (along with other countries like Brazil, Indonesia, South Africa) was removed** from the list of developing countries.

Way Forward

Both countries have shared values of democracy, rule of law, human rights etc., and have convergence of strategic interests and have a vital role to play in strengthening global governance in trade, climate change, nuclear power etc. So, resolution of bilateral issues is in the interests of both.

- **Signing the trade deal at the earliest** to root out major bilateral tensions should be on the priority of both the nations.
- US needs to be more sensitive towards India's reservations against US's soft policy towards Pakistan and India needs to prepare itself for a larger security role in Afghanistan in a big way.

2.2. US-TALIBAN AGREEMENT

Why in news?

Recently, the United States of America signed the "**Agreement for Bringing Peace to Afghanistan**" with the Taliban in Doha, Qatar.

Background

- The peace deal between the Taliban and the U.S. comes after a long and risky negotiation and includes several difficult proposals that will unfold in phases.
- During this time, the Taliban had opened up formal channels of communication with other countries like China, Russia, Iran. However, India did not conduct any negotiations with the group.

Key Highlights of the Agreement

- **Withdrawal of foreign forces.** The United States agreed to reduce its number of troops in the country from roughly 12,000 to 8,600 within 135 days.
 - If the Taliban follows through on its commitments, all U.S. and other foreign troops will leave Afghanistan within fourteen months.
- **Release of prisoners-** The deal also provides for a prisoner swap. Some 5,000 Taliban prisoners and 1,000 Afghan security force prisoners would be exchanged by 10 March, when talks between the Taliban and the Afghan government are due to start.
- **Recognition to Taliban-** The US will move to the United Nations Security Council to remove Taliban members from the sanctions list.
- **Counter terror measures-** The Taliban would prevent any terror group from using Afghanistan to threaten the security of US and its allies.
- **Intra-Afghan Negotiations-** will be started among all the stakeholders of the Afghan society and the Taliban would commit towards it. The Taliban agreed to start talks with the Afghan government in March 2020. Throughout the negotiating process, the Taliban had resisted direct talks with the government, calling it an American puppet.
 - **Permanent and comprehensive ceasefire-** will be an item on agenda of intra-Afghan dialogue and negotiations.

Why the war has lasted for so long?

- **Fierce Taliban resistance-** which did not allow the NATO forces to eliminate them. This was further accentuated due to limitations of **Afghan forces and governance.**
- **Reluctance of other western countries-** to keep their troops for longer in Afghanistan.
- **Lack of political clarity in US Strategy-** which has raised questions about its effectiveness over the past 18 years.
- **Each side was trying to break the stalemate-** and the Taliban had been trying to maximise their leverage during peace negotiations.
- **Increasing terror attacks-** such as by the Islamic State militants in Afghanistan, who have been behind some of the bloodiest attacks in recent past.
- **Role of Pakistan-** as Taliban has their roots in Pakistan, and they were able to regroup there during the US invasion due to Pakistan's help.

Significance of the agreement

- It will bring to an end to one of the longest wars in the contemporary world.
- It gives a chance for Afghanistan to bring an end to nearly two decades of conflict, which has claimed more than 90,000 Afghan lives.
- It's a significant step forward, despite deep uncertainty and scepticism over where it will lead. When the only alternative is unending war, many Afghans seem ready to take this risk for peace.
- It has brought all the sections of Afghan society in the peace process.

Challenges to the agreement

- **Lack of clarity over prisoner swap-** which has been inserted in the agreement, but the Afghan government has maintained that it had not committed to such a swap.
- **Inconsistency in Taliban's working-** especially in the over ground political process remains a difficult issue.
 - **Sharing of power-** between the Afghan government and the Taliban will not be an easy road to travel.
 - **Disarming and reintegrating Taliban fighters into society-** Some analysts are also worried that rank-and-file Taliban fighters might not abide by a peace deal.
 - At the same time, the Taliban is **stronger now** than at any point in the last eighteen years.
 - With an estimated sixty thousand fighters, it controls many districts throughout the country and continues to launch major attacks, including in Kabul and on Afghan security bases.
 - It earns millions of dollars from opium poppy cultivation and the illegal drug trade, which pose further problems for the peace process.
 - The withdrawal of American troops is dependent on the Taliban's fulfilment of major commitments that have been obstacles for years.
- **Weak central government-** which is afflicted by ethnic, sectarian, and tribal differences.

- **Role of Pakistan-** which serves as the home base for the Taliban leadership, could feel excluded from talks and mobilize opposition against them.
- **Threat of terrorism-** is still present, with more than twenty terrorist groups operating inside the country, according to Afghan official.
 - Further, the leader of a terrorist group, the **Haqqani Network**, Sirajuddin Haqqani, is the Taliban's deputy leader and military commander.
 - Even in the description of Al Qaeda in the agreement, the Taliban refused to accept the word "terrorist."
- **Conditions for women and minorities-** The text of the agreement does not contain any specific language regarding the protection of women or civil society.
 - Previously, the Taliban has banned girls from schools and women from public life.

India's role in Afghan peace process

- Traditionally, India has been in favour of democratically elected government in Afghanistan and has promoted its cause. India had argued that the Taliban **are not elected and have no locus standi**, as they do not represent the will of Afghan people.
 - That's why India has called for "**Afghan-led, Afghan-owned, and Afghan-controlled**" process, with participation of the Afghanistan government.
- Later, India said it is committed to "**any process**" which can help Afghanistan emerge as a united, peaceful, secure, stable, inclusive and economically vibrant nation, with guaranteed gender and human rights.
- India had laid down some **red lines** for the process-.
 - All initiatives and processes must **include all sections of the Afghan society**, including the legitimately elected government.
 - Any process should **respect the constitutional legacy** and political mandate.
 - Any process should not lead to **any ungoverned spaces where terrorists** and their proxies can relocate.

India's stand on Taliban

- India for the first time decided to engage with the Taliban, and sent its envoy in the signing of the peace pact.
 - When Taliban was in power between 1996 and 2001, India did not recognise it diplomatically and officially.
- While India has never negotiated directly with the Taliban, except during the IC-814 hijack in 1999.
- India was part of the Moscow-led talks with the Taliban in November 2018, which two former Indian diplomats attended as "non-official representatives".

Implications of US Taliban agreement for India-

- **Spread of terror-** If the US withdrawal takes place in haste, it could have dangerous effects for Indian security.
- **Strategic challenges-** It is not clear whether **India, which is not a U.S. ally**, is included in the terms of agreement, and whether Pakistan-backed groups that threaten India, would still operate in Afghanistan.
- **Security Challenges-** There are worries that there may be a "**mainstreaming of the Haqqani network**" in the region, which will have direct impact on Indian security.
 - Some fear that the fighters who will be freed from Afghanistan will be relocated on Line of Control now to fight the Pak-sponsored terror in Jammu and Kashmir.

Way Forward

- India must adopt a balanced diplomacy without favoring any particular section by sacrificing its own interests.
- India must ensure that it remains in the loop of consultations or otherwise arrange for alternative means to safeguard its commercial and security concerns in the aftermath of the withdrawal of coalition forces. Leaving the past behind, India may also unilaterally open dialogue with the Taliban to protect its interests.
- India should harness the strategic depth and goodwill of Afghan citizens to become a prominent player in the Afghan process in future.



2.3. SAARC REVIVAL

Why in News?

Sri Lanka's former Prime Minister Ranil Wickremesinghe has pitched for **revival of SAARC** for better regional integration and development of the region.

Background of current scenario

- The last SAARC summit was held in 2014 and **subsequent summits could not be held after 2016** Summit scheduled in Pakistan got cancelled in the backdrop of terrorist attacks in **Pathankot and Uri**.
 - In 2016, India along with Afghanistan, Bangladesh, Bhutan, Maldives and Sri Lanka declined from participating in the Islamabad SAARC summit.
- In **SAARC Minister's Meeting 2019**, both countries' ministers boycotted each other's speeches.
- In the regional outreach of BRICS summit of 2016, rather than SAARC, BIMSTEC leaders were invited giving message that BIMSTEC (of which Pakistan is not a member), has come to be flaunted as an alternative to SAARC.

About South Asian Association for Regional Cooperation (SAARC)

- Established with the signing of the SAARC Charter in Dhaka in 1985. Its secretariat is in Kathmandu, Nepal.
- **Objectives:** To promote the welfare of the people of South Asia and to improve their quality of life, and to accelerate economic growth, territorial integrity, mutual trust and benefit etc.
- **Members:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

Need for revival of SAARC

- **SAARC**, as an organisation, reflects the **South Asian identity of the countries**, historically and contemporarily. It has geographical identity. Equally, there is a cultural, linguistic, religious and culinary affinity that defines South Asia.
- **South Asian** countries are closely tied in their socio-political state as they face similar traditional as well as emerging issues like **terrorism, energy shortage, hydro-politics, climate change** among many others. SAARC can be a platform for starting dialogue for timely addressal of these issues.
- **BIMSTEC can complement but not replace SAARC** as there is a huge difference in both. SAARC has had 18 summits in the 32 years of its existence and it has an extensive network of mechanisms, regional centers and conventions as well as a permanent Secretariat. On the other hand, the BIMSTEC has recently got momentum and is yet to find its role.
- **Attraction towards other groupings:** If SAARC becomes redundant there may be possibility that other neighbouring countries may join SCO, as many have applied for or already have observer status.
 - If India loses its clout in this region, then it will be a critical setback to its aspirations for a global role.

Failures and challenges of SAARC

- **South Asia Free Trade Agreement (SAFTA) that came into force in 2006** is often highlighted as a prominent outcome of SAARC, but given the presence of sensitive lists, it is **yet to be implemented** in spirit.
- Pakistan's non-cooperation has stalled some major initiatives under SAARC. For example: **SAARC- Motor Vehicles Agreement (MVA) and SAARC satellite project** (replaced with BBIN-MVA and South Asia satellite respectively).
- SAARC **does not have any arrangement for resolving disputes** or mediating conflicts.
- **Security cooperation:** There is a lack of consensus on threat perceptions. For instance, while cross-border terrorism emanating from Pakistan is a major concern for India, Pakistan has failed to address these concerns.
- **Asymmetry between India and other member countries:** They perceive India as "Big Brother" and have been reluctant to implement various agreements under SAARC.
- SAARC faces a **shortage of resources**, and countries have been reluctant to increase their contributions.

Benefits of BIMSTEC over SAARC

- **More trade and greater trade potential:** Trade among the BIMSTEC members reached 6% in just a decade, while in SAARC, it has remained around 5%. Presence of **India as well as Thailand** are its major strength.
- BIMSTEC also made substantial progress with regard to regional connectivity via land and sea and achieved what SAARC could not achieve in defining cross-border terrorism.

- **Economic integration:** As per world Bank report, with intra-regional trade at less than 5% of total trade, South Asia is the **least integrated** region in the world, dwarfed by East Asia's 35% and Europe's 60%. SAARC is critical for economic integration of the region.
- Building on **Neighborhood first policy** of which SAARC could become the central pillar.

To face such challenges, the South Asian countries must cooperate. The **European and ASEAN experience** is testimony to the contribution of regional cooperation in the economic growth of the countries.

Way Forward

- To make SAARC more effective, the **organisation must be reformed and member countries must reach a consensus** regarding the changes required. So, first step should be to setup a mechanism for **informal discussions, formal mediation and resolution mechanisms** tailored to the region's specific needs and problems
 - One of the reasons for BIMSTEC's popularity is that the member countries have generally cordial relationships, something patently missing among the SAARC countries.
- Apart from BIMSTEC, India should continue to build on sub-regional initiatives that have turned out to be successful like **SASEC** (South Asian Sub Regional Economic cooperation comprising of Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka) and **BBIN** (involving Bangladesh, Bhutan, India and Nepal).
- Sri Lanka's former Prime Minister proposed '**Economic Integration Road Map (EIRM)**': a "sub-region", consisting of the five southern States of India and Sri Lanka, to tap the total population of 300 million people and a combined GDP of over \$500 billion.
 - Addressing para-tariffs and non-tariff barriers for successful regional integration, tapping e-commerce and enhancing tourism were crucial to such a road map.

Recently, Sri Lanka's PM Mahinda Rajapaksa visited India and notable outcomes were:

- **Asked India to defer debt repayments for 3 years so that other countries can follow suit.** Sri Lanka owes approximately \$60 billion total foreign and domestic debt.
- Sri Lanka **requested further financing** from India for its nationwide housing project. He also discussed other Indian investments planned, including an LNG port, and a joint Indo-Japanese bid for building an oil terminal in Colombo's Eastern port.
- India and Sri Lanka agreed to hold a meeting with the Maldives leadership to re-operationalise India-Sri Lanka-Maldives NSA level dialogue and trilateral maritime security cooperation amid growing Chinese interests.
- **Concerns that remain:**
 - Pursuing the policy of not allowing any national resources to be given to foreign control, Sri Lanka will **discontinue some key projects with Indian role like oil projects in the eastern Trincomalee port and Mattala airport.**
 - **Post-LTTE war reconciliation:** no firm commitment on the implementation of 13th amendment, which prescribes the devolution of powers to the Tamil minority north and eastern provinces, and ruled out any resolution that was not acceptable to the "majority community" of Sri Lanka.

2.4. INDIA – MYANMAR

Why in news?

Recently, India and Myanmar signed number of agreements with a focus on **socio-economic development of Myanmar** during the State Visit of the President of Myanmar to India.

Why Myanmar Should Matter to India?

- **Geostrategic importance to India:** India shares a long land border of over 1600 Km with Myanmar as well as a maritime boundary in the Bay of Bengal. Four north-eastern states viz. Arunachal Pradesh, Nagaland, Manipur and Mizoram share boundary with Myanmar.
 - Thus, it is geopolitically significant to India as it sits at the intersection of India's "**Neighbourhood First**" policy and "**Act East**" policy.
- **Sub regional economic cooperation:**
 - It is the only **ASEAN** country adjoining India and, therefore, seen as a gateway to South-East Asia and a key component of South and South-East Asian regional cooperation.
 - **Moreover,** Myanmar is an important member of the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**, as well as **Mekong Ganga Cooperation** to impart significance in the context of our "Act East" policy.

- **Co-operation in Regional Security:** Myanmar has reaffirmed its respect of the sovereignty and territorial integrity of India and steadfastly upheld the policy of not allowing any insurgent group to utilise Myanmar's soil to undertake hostile acts against the Indian Government.
- **Indian Diaspora:** The origin of the Indian community in Myanmar is traced to the mid-19th century with the advent of the British rule in Lower Burma in 1852.
 - There are varying estimates of 1.5-2.5 million people of Indian origin living and working in various parts of Myanmar.

India- Myanmar Relations: Various Aspects

- **Development Cooperation:** No other country has committed as much in grant-in-aid to Myanmar as India. Recently, under '**India-Myanmar Friendship Project**' India has handed over 250 pre-fabricated houses in the Rakhine State for the rehabilitation of refugees after their return. Additionally, four major connectivity projects —
 - **Kaladan Multi-Modal corridor,**
 - repair of 69 bridges on the **Tamu-Kalewa road** and
 - the construction of the 120-km **Kalewa-Yargyi corridor,** both of which are part of the India-Myanmar-Thailand trilateral highway
 - the **Rhi-Tiddim road** in the Chin state bordering Mizoram.
- **Defence Co-operation:**
 - In July 2019, India-Myanmar signed a landmark defence cooperation agreement.
 - **Post 2018,** India and Myanmar armed forces have carried out two joint military operations, codenamed **Operation Sunshine,** to fight militants along the borders of Myanmar's Rakhine state.
 - India-Myanmar also conducts a **historic bilateral naval exercise, IMNEX** to underline the growing significance of the Bay of Bengal.
 - India also invited the Myanmar Army to participate in the **India-led multilateral Milan naval** exercise that occurs biennially in the Andaman and Nicobar Islands.
 - India also provides military training and conducts joint military exercises with the Myanmar Army such as the **India-Myanmar Bilateral Military Exercise IMBAX.**
 - To elevate its "Made in India" arms industry, India has identified Myanmar as key to **increasing its military exports.** Myanmar bought India's first locally-produced anti-submarine torpedo, called **TAL Shyena, in 2017.** In 2019 Myanmar acquired a diesel-electric Kilo-class submarine, **INS Sindhuvir.**
- **Commercial Cooperation:** India is the fifth largest trading partner of Myanmar. Bilateral Trade Agreement, signed in 1970, has been growing steadily to reach US\$ 1.67 Billion in 2017-18.
 - Agriculture sector dominates trade, particularly supply of **beans and pulses to India and timber.** India's exports to Myanmar include **sugar, pharmaceuticals** etc.



Important Takeaways of the Visit

- **Opening of coordinated bus service** between Imphal and Mandalay.
- India's assistance in the construction of **Integrated Che and Point at Tamu, Myanmar,** bordering Manipur.
- **India will offer medical radiation equipment** Bhabhatron II for treatment of cancer patients, and strengthen cooperation in the health sector.
- **Agreed to have government-to-government cooperation** in petroleum, including in refinery, stockpiling, blending and retail.
- Extend the **Quick Impact Project schemes to Myanmar.**
- India will help Myanmar with the project of e-ID cards, which is modelled after the Aadhaar project.
- Both sides agreed to enable the launch of **India's RuPay Card in Myanmar.**
- The two sides decided to provide more projects to **Rakhine State Development Programme.**
- Commitment to continue negotiations on various pending treaties like **Mutual Legal Assistance Treaty and Extradition Treaty.**
- An **MoU** on 'Cooperation for Prevention of Trafficking in Persons; Rescue, Recovery, Repatriation and Re-Integration of Victims of Trafficking'.
- Early completion of the Paletwa-Zorinpui road – the final leg of the Kaladan project.

- Myanmar's oil and gas has attracted the **largest foreign investment** from India.
- **Disaster Relief:** India responded promptly and effectively to assist Myanmar in humanitarian relief operations following natural calamities like **Cyclone Mora (2017)** by providing support in capacity building in disaster risk mitigation.
- **Cultural Co-operation:** Building on the shared cultural heritage, India is undertaking some key initiatives like restoration of the **Ananda Temple in Bagan** and India donation of a 16-foot replica of the **Sarnath Buddha Statue** which has been installed at the premises of **Shwedagon pagoda in Yangon**.
- **People to People contact:** For ease of people-to-people movement, the two countries signed the **Land Border Crossing Agreement in 2018**, which allowed bona fide travellers with valid document to cross the border at two international points of entry/exit: **Moreh-Tamu and Zokhawathar- Rih**.
 - The '**High Impact Community Development Projects**' and the '**Border Areas Development Projects**' for States in the border regions of Myanmar.

Major issues /areas of concern:

- **Countering the China factor:** China is creating its own sphere of influence in Myanmar through various channels.
 - One of the flagship projects is the **China-Myanmar Economic Corridor (CMEC)**, which is a part of China's Belt and Road Initiative (BRI). This makes Myanmar a major access route to the Indian Ocean.
 - Also, India's **economic engagement with Myanmar lags behind China**.
- **Delayed Infrastructure projects:** Almost every Indian project in Myanmar is running behind schedule.
 - For instance, there is a need to expedite progress of India-Myanmar-Thailand Trilateral Highway and Kaladan Multi-Modal Transit Transport (KMMTT), which passes through the disturbed Rakhine State of Myanmar.
- **Issue of Border security:** Over the years, the India-Myanmar border has become the main conduit for the trafficking of arms and drugs from Myanmar.
 - Additionally, the cross-border movement of insurgents is another significant security challenge emanating across the India-Myanmar border.
 - **India is therefore re-examining the Free Movement Regime (FMR)**, due to recent reports submitted to the Home Ministry stating that the smuggling of light arms, drugs and counterfeit currencies have been spotted along the border.
- **India's stance on Rohingyas:** Though India provided humanitarian relief for Rohingya Refugees, India's plan to deport 40,000 Rohingyas to Myanmar for security reasons, drew outcries not only from the United Nations and human rights groups but also ultra-nationalists in Myanmar.

Free Movement Regime

- In order to facilitate free movement of the tribal people along the border of India and Myanmar, the mechanism of the free movement regime was introduced.
- Free Movement Regime (FMR) allows the tribes living along the border to travel 16 km across the boundary without visa restrictions.

Way ahead/Potential Areas of Co-operation:

- **Leveraging cultural linkages:** India's cultural diplomacy through Indian Government's "**Buddhist Circuit**" initiative, which seeks to double foreign tourist arrivals and revenue by connecting ancient Buddhist heritage sites across different states in India, **should resonate with Buddhist-majority Myanmar**.
- **Capacity Building:** Enhancing strong academic links between institutions of India and Myanmar and replicating best learning practices will help in human resource development as well as Myanmar's social and economic transformation.
- **India's economic involvement** in Myanmar, largely through the public sector, has not been up to the mark with complaints about **implementation delays and quality controls**. This gap, however, can be bridged by the **Indian private sector**, as opportunities expand.
- **Strengthening Act East - cooperation between Northeast India and Western Myanmar:** Four states in the Northeast share common borders with **Myanmar's Sagaing and Chin provinces**. Thus,
 - Governments need to come up with action plans for transforming the evolving **corridors into development corridors**.
 - Businesses on both sides, especially **Small and Medium Enterprises in contiguous provinces and border haats** can energise exchange of local produce.

- Border trade through **Tamu/Moreh and Rhi/Zhokhowthar** needs to become more formalised with truly **single-window clearances** and easier currency arrangements.
- Co-operation on larger initiatives, such as the sale of refined petroleum products from the **Numaligarh refinery in upper Myanmar**.

Conclusion

India-Myanmar ties are on the path of a remarkable transformation through efforts toward making bilateral relations profoundly significant in each other's foreign policy.

2.5. BBIN AGREEMENT

Why in news?

A meeting of Bangladesh, Bhutan, India and Nepal (BBIN) on the BBIN Motor Vehicles Agreement (MVA) was held recently.

More on news

- The meeting was held to discuss the **passenger and cargo Protocols** that are to give effect to the **Motor Vehicles Agreement for the Regulation of Passenger, Personal and Cargo Vehicular Traffic** between Bangladesh, Bhutan, India and Nepal.
- This is the first meeting of the group since their meeting in Bengaluru in January 2018, when the two Protocols were last discussed.
- Bhutan participated in observer capacity.
- The delegations discussed a **draft enabling MOU (memorandum of understanding)** among Bangladesh, India and Nepal for implementing the BBIN MVA, without obligation to Bhutan.



About BBIN MVA

- The BBIN project was conceived when SAARC at its 18th Summit in Kathmandu failed to sign a SAARC Motor Vehicles Agreement in November 2014—chiefly because of Pakistan.
- Bangladesh, Bhutan, India and Nepal have signed a **sub-regional** Motor Vehicle Agreement (MVA) in June 2015 for regulation of passenger, personnel and cargo vehicular traffic between the four BBIN countries.
- Originally, the BBIN MVA mentioned **30 identified priority transport connectivity projects** with an **estimated cost of over US \$8 billion** that will rehabilitate and upgrade remaining sections of trade and transport corridors in the BBIN countries.
- India, Nepal and Bangladesh have ratified the Agreement while **Bhutan failed to get its Parliament's nod** to ratify the same. It has some reservations about its environmental impact owing to increased traffic of heavy-duty vehicles.
- Under **South Asia Sub-regional Economic Cooperation (SASEC) programme, Asian Development Bank (ADB)** has been providing technical, advisory, and financial support to this initiative.
- On November 1, 2015, a cargo vehicle made the **first successful trial run** from Kolkata to Agartala via Bangladesh that reduced the distance by over a thousand kilometres.

Significance

- Ineffective transit agreements, non-existent common guarantee mechanisms and insufficient transit harmonisation procedures place limits on regional trade flows. The **BBIN MVA is a milestone in improved trade facilitation**, promoting **investment linkages** among the member countries with a view to capitalising on potential bilateral and regional value chains.
- The BBIN initiative has the potential to significantly **change the dynamics of the existing trade** related activities paving the way for **greater market access** for production centres in the sub-region.
 - If the transport corridors transformed into economic corridors, it can potentially increase **intra-regional trade within South Asia by almost 60%** and with the rest of the world 30%.

- Having a **multi-modal transportation network** in the BBIN sub-region would be quite useful for **landlocked Nepal and Bhutan**.
- This will help India develop its **North-Eastern region**, as the transportation cost for moving goods from other part of India to North-Eastern region through Bangladesh and vice-versa will be greatly reduced.
 - **Opening of Bangladeshi ports** add to the possibilities of India transporting goods to north-eastern states though **four different routes**: Chittagong-Mongla-Agartala via Akhura; Chittagong-Mongla-Daouki via Tamabil; Chittagong-Mongla-Sutarkandi via Sheola; and Chittagong/Mongla-Bibekbazar via Simantapur.

Implementation Challenges

- **Bhutan was unable to ratify the agreement** as the concern in Bhutan is that the streamlining of the movement of passenger and cargo vehicles will result in increased traffic, tourists and pollution.
- Various travel restrictions at the border **Land Customs Stations (LCSs)**, delays due to **transshipment issues**, poor and sometimes **non-existent infrastructure** at some LCSs, and other customs documentation and clearance-related problems are significantly adding up to the time and financial costs of conducting trade among these nations.
- Apart from infrastructural problems, the **suspicion towards India as a big brother** seeking dominance has been a perennial impediment for the regional integrity.
- The Agreement allows **carrying return cargo** to its home country as it will significantly reduce the cost of transportation.
 - However, local transport bodies, particularly those in Bangladesh and Nepal, are opposing this provision as they think that it will adversely affect their business.

Way forward

- **Inland Container Depots (ICDs)** are to be constructed at strategic locations to avoid loading and unloading at roadsides near the border posts and they should be designated as customs clearance points.
- Public and private sector investment should be encouraged to facilitate the modernisation of the transport sector for standardisation of vehicular dimensions including emission standards.
- Over time, the provisions of the **BBIN MVA should be aligned with those of the TIR (Transports Internationaux Routiers) Convention of the International Road Transport Union**. That will further facilitate seamless cargo movement among these countries by reducing the number of physical checks and paper works.

2.6. BREXIT: UK LEAVES THE EUROPEAN UNION

Why in News?

The United Kingdom has officially left the European Union (EU) after 47 years of membership.

Background

- In 2016, a **referendum** took place to decide whether UK should stay in European Union. In the referendum people decided that UK should leave EU.
- In 2017, UK formally triggered **Article 50 of Lisbon treaty** and began the two-year countdown of BREXIT.
- However, due to lack of support for the BREXIT deal in the UK's parliament, multiple extensions were sought by it.
- On 31st January **UK became the first state to leave** the EU and an 11-month transition period has kicked in.

Changes in UK and EU relations during the transition phase

- UK will vacate its position from all EU institutions including membership in EU's parliament.
 - The UK had 73 Members of European Parliament, they automatically lose their seats.
 - British ministers will no longer attend regular EU meetings, and the Prime Minister will no longer be an automatic attendee at EU Council summits, although he can still join if he is given a special invitation.
- During the transition period, the UK will continue to obey EU rules and make payments to the EU, i.e.:
 - For any legal dispute of UK with an EU member country, the **European Court of Justice** will be the final adjudicator.
 - Till a deal is signed between EU and UK the trade rules of pre-BREXIT era will continue to be applicable. However, **Britain is now free to negotiate with other countries individually**.

- The UK will continue to contribute to the EU Budget as of now. Also, existing schemes that are funded by EU grants will continue to be funded.

Consequences of BREXIT for the EU

- **Trade distortion-** Disintegration of largest single market and labor market will hugely impact trade patterns and global value chains.
- **Geopolitical standing** -EU will become smaller and weaker both in economic and geopolitical terms. It will become less united and may lead to further exit referendums e.g. GREXIT. Further it may be less vocal and influential in dealing with global issues and loose the bargaining power. Economic crisis may get deep with far reaching effects on EU as a regional organization.
- **De-globalization-** Restricting the free movement of people, goods and services may lead to increased xenophobia and de-globalization.
- **EU's Reputation:** Brexit would seriously threaten the EU's global standing and soft power status and its ability to play a greater role in contemporary world order.

Impact on India

Key opportunities

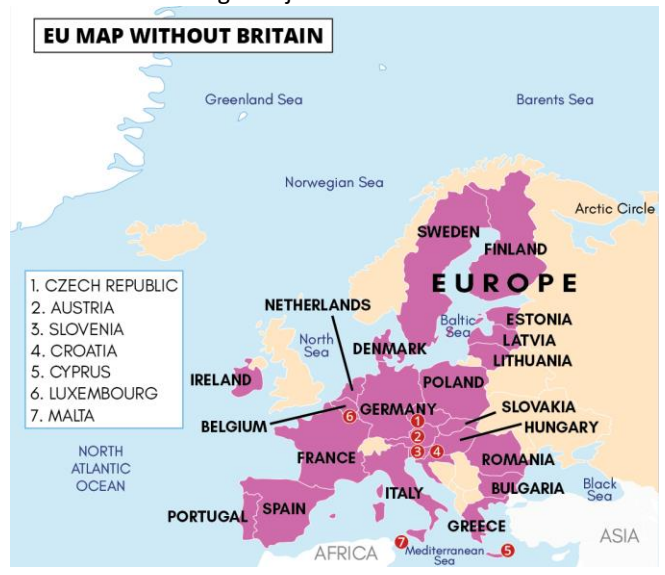
- **Free Trade Agreement (FTA):** India may start talks on free trade deals with Britain, EU after Brexit.
 - EU and India have been negotiating a FTA since 2007. Despite growing trade between the EU and India, talks stalled in 2013, only resuming in 2018.
 - UK would be looking to develop trade relations with emerging markets from around the world as an alternative to loss of EU's market.
 - Potential sectors to benefit from an FTA between the UK and Indian include textile, machinery, engineering goods, information technology and banking.
- **Demand for Indian Labour:** India's high proportion of skilled working-age population and high growth rate will be of particular interest for the UK.
- **Service sector:** India which is laying greater emphasis on innovation and high-end works could emerge as a major source of high tech exports for the UK.
- **Easy market access:** India is the major Foreign Direct Investment (FDI) source for the UK because many Indian firms have used it as a gateway to Europe.
 - With the UK moving out of EU, it might offer more incentives such as tax breaks, easy regulations and opening up markets to Indian firms to keep them attracted.
- **Cheaper imports:** The UK's currency is expected to remain weaker, so it would be less expensive for Indian firms to import from their subsidiaries in the UK.

Key challenges

- **Political Risk:** It can cause regional uncertainty and the changing dynamics can potentially reverberate to reach Asia and thus India.

European Union

- It is an **economic and political union** involving **27 European countries**.
- It allows **free trade and free movement of people**, to live, trade and work in whichever country they choose.
- **Article 50 of Lisbon Treaty** provides for exit of member countries from European Union.
 - For any country to come out of European Union, it has to negotiate a settlement deal with EU.
- It has its own currency, the **euro**, which is used by 19 of the member countries, its own parliament and other institutions
- The United Kingdom joined it in 1973.



Britain's proposed New Immigration Policy in post BREXIT era

- The UK government has announced that they are ending free movement and will introduce an Immigration Bill to bring in a firm and fair points-based system that will attract the high-skilled workers.

- **Impact of Global growth on Indian economy:** India cannot be isolated from the impact from global and regional subdued growth. Any global slowdown brought forth by Brexit could adversely affect India's growth in exports and manufacturing sector.
- **Dual Negotiation:** India's FTA negotiation with EU, which saw an impasse on the issue of bilateral investments, might now need a renegotiation of FTA with the union. Additionally, a separate trade agreement with the UK might also need to be worked on.
- **Currency weakness and unhedged exposure:** While The Indian Rupee is primarily anchored to the Dollar, the currency is not completely devoid of volatility, necessitating RBI's intervention when applicable.

Way forward

- India should fast track its negotiations on FTA with both EU and UK.
- India should look towards other countries for better access to EU market such as Germany, France, and Italy etc.
- Indian policy toward the region should be shaped keeping in mind the new De hyphenated dynamics of the region.



फाउंडेशन कोर्स सामान्य अध्ययन प्रारंभिक एवं मुख्य परीक्षा 2021

इनोवेटिव क्लासरूम प्रोग्राम

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करेंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन

- सीसेट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करेंट अफेयर्स मैगजीन

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3. ECONOMY

3.1. REVITALIZING SEZs

Why in News?

SEZs in India have achieved 100-billion-dollar worth of exports in FY 2019-20.

About SEZs

- **Special Economic Zone (SEZ)** is a specifically delineated duty-free enclave and deemed to be foreign territory for the purposes of trade operations, duties and tariffs.
- India's SEZ Policy was implemented from 1 April, 2000. Subsequently **SEZ Act, 2005** was introduced.
- **The main objectives of SEZs were**, generation of economic activity, promotion of exports and investment, employment generation, infrastructure development.
- **SEZ Rules provide** for, simplified procedures for conducting business, single window clearances, simplified compliance procedures and emphasis on self-certification.

Major challenges and potential solutions

- **About half of the land notified for SEZs was unutilized (as of August 2017):** It was mainly due to lack of flexibility to utilise land in SEZs for different sectors.
 - Recently, Maharashtra government proposed to use unutilised land for affordable housing.
- **Sunset Clause:** According to **Section 10AA of the Income Tax Act**, units in SEZs get a phased tax-holiday for a period of 15 years. However, the benefit is available to only those units that start operations before March 31 this year. Industry bodies are asking to extend sunset clause, owing to slowdown in economy.
 - However, **benefits under indirect taxes**, like exemptions on GST and incentives on exports continue to exist.
- **Minimum Alternate Tax (MAT):** Government has cut MAT to 15 per cent from 18.5 per cent. However, industry is demanding a complete removal of MAT.
 - MAT is an attempt to bring zero-tax-high-profits companies into the income tax net. It is calculated on the basis of the book profits of a company, not its taxable income.

Brief overview of SEZs

- Number of operational SEZs have grown to 241 as against 235 at the end of FY 2018-19.
- **Exports from SEZs are growing at a faster rate than overall exports from the country.** E.g. In April-June 2019, even as overall export growth from India slowed down to 2 per cent, exports from SEZs posted a robust 15 per cent growth.
- In SEZs, growth in manufacturing segment was around 4%, while in services segment (constituting majorly of IT & ITeS) export growth was 23.69%.
- Since the SEZ Act came into force in 2005, over 2 million jobs have been created, with an **incremental annual growth rate of 25.2%**. The share of **SEZ exports in India's total exports value** has grown to around 30% in 2018-19.

Recommendations of the Baba Kalyani Committee

- **Reincarnation of SEZs as employment and Economic Enclaves (3Es) and shift focus from export to economic and employment growth.** For this, incentives for the manufacturing SEZs have to be based on specific parameters including demand, investment, employment and technology, value addition and inclusivity.
- **Other supports for SEZ (3Es)**
 - Flexibility to enable 3E units to seamlessly support business outside the zone.
 - Supply of power directly to units from independent power producer (IPPs) at competitive rates
 - Fast tracking various approvals via online mode
 - Integrating MSMEs with the 3Es and giving additional incentives to zones focusing on priority industries
 - Infrastructure status to 3E projects to make cheaper finance available to them
- **Connectivity to remote SEZs** through development of last mile and first mile connectivity.
- **Replicate Success of ITeS**, in other services sector like health care, financial services, legal, repair etc.
- **Tax benefits** for services SEZs, extension of sunset clause, lowering taxes (such as a MAT of 9 per cent and exemption from DDT) for identified strategic services and allowing supplies to domestic market in Indian currency to bring parity between goods and services.
- **Ease of doing business** by simpler entry and exit processes using time-bound online approval and dispute resolution through robust arbitration and commercial courts.
- Prepare a **sunrise list for "focused diversification"** such as engineering and design, biotech and healthcare services.
- **Align the policy framework to avoid competition among similar schemes** of industrial parks, export-oriented units, SEZ, national investment and manufacturing zones etc.

- **Constraints for services sector:** At present, domestic firms are required to pay in foreign exchange for services rendered by a SEZ unit. However, for sale of goods, payments could be made in rupee terms. Due to this, companies outside SEZ have to go through the hassle of changing rupee to foreign exchange for payment purpose.
 - To deal with this problem, it has been suggested an amendment in the definition of “services” in the SEZ Act, 2005.
 - 15 per cent corporate tax, currently applicable to new manufacturing companies in SEZs, could be extended to new services firms.
- **Job work (working on raw materials supplied by principal manufacturer) for domestic tariff area (DTA):** SEZ units are currently allowed to undertake job work for export on behalf of DTA units in **certain sectors** subject to the condition that the finished goods are exported directly from SEZ units.
 - Approving job work for other sectors like gems and jewellery would boost exports.
- **Domestic sales of SEZs face a disadvantage:** as “they have to pay full customs duty”, as compared to the lower rates for countries due to free-trade agreement (FTA). It is suggested that the “best FTA rates” should be allowed for domestic sales, too.
- **Need to do away with NFE Rules:** A primary requirement for SEZ units to be eligible for benefits is to have a positive net foreign exchange (NFE).
 - However, this added to the transaction costs and was also challenged at WTO as prohibited export subsidy.
 - So, the government could **link eligibility criteria to investments in R&D, innovation** and employment generation and align it with global trade norms.
- **Existence of multiple models of economic zones** such as SEZ, coastal economic zone, Delhi-Mumbai Industrial Corridor, National Investment and Manufacturing Zone, food park and textile park.
 - This could be addressed by **rationalisation of models**. E.g. proposed Coastal Economic Zones consisting of a series of SEZs and Sagarmala project that aims at port-led industrialisation.
 - Also, business community is demanding to **grant infrastructure status to buildings of SEZs**, permit external commercial borrowing (ECB) for entire SEZ infrastructure etc.
- **Lack of a future ready SEZ policy because of which** India is not able to emerge as alternate to China and facing competition from countries like Bangladesh and Vietnam.

Recent steps taken by government

- **Local sourcing norms clarified for single-brand retailers:** sourcing of goods from units located in SEZs in India would qualify for meeting the mandatory 30 per cent local sourcing conditions.
 - As per the current FDI policy on single-brand retail trading, 100% overseas investments are allowed in the sector. But sourcing of 30 per cent of the value of goods procured is mandatory from India for such companies having FDI beyond 51 per cent.
- **All existing notified SEZs deemed to be multi-sector SEZs**, enabling coexistence of a SEZ unit from any sector along with any other SEZ unit.
 - This would release land parcels in single commodity SEZs for other sectors. This reduced confusion for new industry, like, artificial intelligence as to which category of SEZs to fit them into.
- **Minimum land area** required for setting up a multi-product SEZ has been revised from **500 hectares to 50 hectares**. Also, **Minimum built-up area** requirements for services have also been significantly reduced.
- **Implementation of some Baba Kalyani committee recommendations:** it include review of specific exclusions proposed in net foreign exchange computation in light of ‘Make in India’ initiative, sharing of duty exempted assets/infrastructure between units to be allowed against specific approval.
- Last year, the **definition of “person” who can set up their units in SEZ was broadened** to include “trust” or “any entity notified by Central Government”. This could help increase the number of exporting units as, now infrastructure investment trusts and real estate investment trusts will be permitted to operate in SEZs.

Net Foreign Exchange criteria is determined by subtracting the value of imported inputs, input services and capital goods along with the value of all payments made in foreign exchange from the value of exports.

3.2. VADHAVAN PORT

Why in News?

The Union Cabinet has given its 'in-principle' approval for setting up a Major Port at VadHAVAN, located about 190 km north of JNPT in Maharashtra.

Background

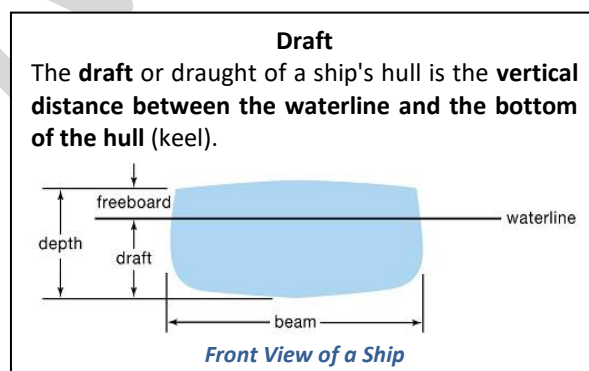
- Seaports are gateways of international trade and play a crucial role in a nation's economy.
- Government of India has envisaged spending **Rs. 100 lakh crore on infrastructure**. Port infrastructure and capacity enhancement will be an integral part of this spending.
- India has **12 major and 205 notified minor** and intermediate ports. Only two major ports, namely Jawahar Lal Nehru Port Trust (JNPT) (1989) and Ennore (Kamraj) Port (1999), and 9 minor ports by state governments have been developed in the last 30 years.

More about VadHAVAN port

- The port site at VadHAVAN has an **18m draft naturally available** and a **20m navigational channel also naturally available**.
 - The two largest container ports of the country, **JNPT and Mundra**, have drafts of **15m and 16m**, respectively, whereas the world's largest container-handling modern deep draft ports require a draft of at least **18-20m**.
 - This eliminates the need for any capital and maintenance dredging. Also, minimal need for maintenance dredging gives it a cost advantage over other ports.
- **Total Cost:** The total cost of the project will be ₹65,544.54 crore.
- VadHAVAN port will be developed on "**landlord model**". All the business activities would be undertaken under the **private-public partnership (PPP) mode** by private developers.
- **Special Purpose Vehicle (SPV) for the project:** An SPV will be formed with Jawaharlal Nehru Port Trust (JNPT) as the lead partner with equity participation equal to or more than 50% to implement the project.
- **Environment Friendly Port:** It is being developed in a manner that 65 acres of **mangroves** around the port area **are not harmed**. Also, it has been claimed that there will be '**no land acquisition**' and '**no displacement**'.

Significance of the VadHAVAN port

- **India's biggest container port:** With development of the VadHAVAN port, India will **break into countries with top 10** container ports in the world.
- **Capacity Expansion:** Development of this port will enable **cargo container vessels of 16,000-25,000 TEUs capacity**, giving advantage of economies of scale and reducing logistics cost.
 - **TEU (Twenty-Foot Equivalent Unit):** It is commonly used unit to measure a ship's cargo carrying capacity. (Generally referred to a container sized 20 feet in length, 8 feet wide and 8 feet tall.)
- It will also **cater to the spill over traffic from JNPT port** once its planned capacity of 10 million TEUs is fully utilized.



History of VadHAVAN port

- **The VadHAVAN port was cancelled in 1997-98** following protests by the locals, but the Centre has now given the green signal for its construction.
- In 1998, the **Dahanu Taluka Environmental Protection Authority (DTEPA)**, a 15 member committee appointed by the Supreme Court, had **opposed the proposal of developing a port** after it surveyed the site.

- **Need for a deep draft port:** The ever-increasing size of container ships makes it imperative that a deep draft container port in West Coast of India is developed. This need will be fulfilled with the development of **Vadhavan Port**.
- **Port-led Development:** The demand for container traffic will further accelerate after the plans for improving logistic infrastructure fructify and the 'Make in India' push drives greater exports.

Conclusion

- India is the **sixteenth largest maritime country in the world**. The Indian ports and shipping industry play a vital role in sustaining growth in trade and commerce. The development of the Vadhavan Port enables this when complemented by schemes like Sagarmala and Bharatmala.
- Collectively, the **port-led development** has the potential to generate employment, increase exports and boost the economy taking forward the vision of 'Make-in-India'.

Port Management Models

- **Service Port model-** The port authority owns the land and all available assets—fixed and mobile—and performs all regulatory and port functions. Here, the **port trust is both the landlord and the cargo terminal operator**.
- **Landlord port model-** The publicly governed port authority acts as a regulatory body and as landlord while **private companies carry out port operations**—mainly cargo-handling activities. E.g. Kamarajar Port.
- Currently, most major port trusts in India carry out terminal operations as well, resulting in a **hybrid model** of port governance.

Related news

- The Union Cabinet has given its nod to **Major Port Authorities Bill 2020** that will replace a 1963 law governing country's 12 major ports.
- It seeks to replace the existing act to grant enhanced autonomy to the major ports in doing business in the highly competitive environment and effectively respond to market challenges.
- The Bill is **listed for introduction, consideration and passage by the Parliament**.

3.3. FORMATION AND PROMOTION OF FARMER PRODUCER ORGANIZATIONS (FPOS)

Why in News?

Recently, Cabinet Committee on Economic Affairs, approved scheme titled "**Formation and Promotion of Farmer Produce Organizations (FPOs)**".

Background

- The **concept of FPO begun during 2011-12** when a pilot project was launched where in 2.5 lakh farmers were roped into 250 FPOs. Based on its encouraging results it was extended to other areas.
- The **report of 'Doubling of Farmer's Income (DFI)**' has recommended formation of **7,000 FPOs by 2022** towards convergence of efforts for doubling the farmers' income.
- In **Union Budget 2019-20**, creation of 10,000 new FPOs over the next five years was announced.

About the scheme

- It is a **Central Sector Scheme** under Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW), **Ministry of Agriculture & Farmers Welfare**.

What are Farmer Producer Organizations?

- A **Producer Organisation (PO)** is a legal entity (company, a cooperative society etc.) formed by primary producers, viz. farmers, milk producers, fishermen, weavers, rural artisans, craftsmen.
- FPO is one type of PO where the **members are farmers**.
- Through formation of FPOs, the farmers will have better collective strength for **better access to quality input, technology, credit and better marketing access through economies of scale for better realization of income**.
- **Current scenario:**
 - Currently, there are over 5,000 FPOs in the country. 20% of these are struggling to be viable and 50% are in mobilisation stage only.
 - Only 45% of the small and marginal farmers are covered under institutional credit out of the 85% of S&M farmers.
 - Some **challenges faced by FPOs** include difficulty in mobilising farmers, proper management, problems every incubation project faces, limited membership, policies, autonomy and credit restrictions without offering collateral etc.

Other steps taken for FPOs promotion

- Steps to integrate e-National Agriculture Market (e-NAM) with FPOs and warehouses to provide end-to-end connectivity for farmers.
- 500 FPOs in fisheries sector are also being promoted.
- 100 percent income tax exemption is being given from profit derived by FPOs having annual turnover up to Rs.100 crore for activities such as post-harvest value addition to agriculture.

- **Objective:**
 - **10,000 FPOs would be formed** in five years period from 2019-20 to 2023-24 to ensure economies of scale for farmers.
 - **Handholding support to each FPO** would be continued for **5 years from its year of inception** for which support will continue till 2027-28.
- **Beneficiaries: Small and marginal farmers** who do not have economic strength to apply production technology, services and marketing including value addition.
- **Implemented by-** Small Farmers Agri-business Consortium (SFAC), National Cooperative Development Corporation (NCDC) and National Bank for Agriculture and Rural Development (NABARD). Also, States can nominate their Implementing Agency in consultation with DAC&FW.
- **Other salient features**
 - **Cluster Based Business Organizations (CBBOs)** will be formed at cluster/state level for implementing the scheme.
 - Minimum number of members in FPO will be 300 in plain area and 100 in North East & hilly areas.
 - At least 15% of the targeted FPOs would be in aspirational districts with at least one FPO in each block of aspirational districts of the country.
 - FPOs will be promoted under "**One District One Product**" cluster to promote specialization and better processing, marketing, branding & export by FPOs.

3.4. SOIL HEALTH CARD SCHEME

Why in news?

Soil Health Card scheme recently completed five successful years of implementation.

Background

- Soil health and fertility is the basis for sustainable profitability of the farmers. **Using optimal doses of fertilizers and cropping pattern as per the scientific recommendation** is the first step towards sustainable farming.
- In India, the current consumption of Nitrogen, Phosphorus, and Potassium (NPK) ratio is 6.7:2.4:1, which is **highly skewed towards nitrogen** (urea) as against ideal ratio of 4:2:1.
- According to the estimates, fertilizers subsidy amounts to around Rs.5000/hectare of net cropped area, resulting in **excessive use of fertilizers**, especially NPK at the cost of micro-nutrients and manure.
 - India spent nearly Rs **80,000 crore** on fertilizer subsidy in 2018.
- In keeping with the **need for balanced use of fertilizers** government of India introduced **Soil Health Card (SHC) Scheme across India in 2015.**

About the scheme

- It aims to **promote soil management practices and restore soil health** by ensuring judicious use of inputs/soil nutrients.
- Under this, **SHC is a printed report** that a farmer will be handed over for each of his holdings.
 - It is **provided to all farmers** in the country at an **interval of 2 years** to enable the farmers to apply recommended doses of nutrients based on soil test values to realize improved and sustainable soil health and fertility, low costs and higher profits.
- The scheme is being promoted by **Department of Agriculture, Cooperation and Farmers welfare** under **Ministry of Agriculture and Farmers Welfare** and implemented by respective Department of Agriculture in States & UTs.

Performance of the scheme

- **Coverage:** Around 22.5 crore SHCs have been distributed.
- **Increased yield:** As per the data from National Productivity Council (NPC), the scheme has facilitated decrease of use of chemical fertilisers by 8-10% while **enhancing the crop yield by 5-6%.**
- **Cost of cultivation:** Cost of cultivation decreased by 16-25% in **rice**, 10-15% in **oilseeds & Pulses.**
- **Savings in fertilizers:** In **rice**, savings of nitrogen was found to be around 20kg/acre; in **pulses**, it was 10kg/acre.
- **Soil analyzing capacity:** It has increased from 1.78 to 3.33 crore soil samples per annum in short period of 5 years.
 - Existing Soil testing labs (STLs) are being strengthened and new static and mobile STLs have been established, along with the Village level soil testing facilities (VLSTLs).

- Farmers can also track soil samples on the **Soil Health Card Portal**.
- The cost of sampling, testing and reporting is borne by Central Government. It provides the sum to the state governments.
- Soil samples are tested with respect to **12 parameters**:
 - Macro nutrients: **Nitrogen (N), Phosphorus (P), Potassium (K)**;
 - Secondary nutrient: **Sulphur (S)**;
 - Micro nutrients: **Zinc (Zn), Iron (Fe), Copper (Cu), Manganese (Mn), Boron (B)**;
 - Physical parameters: **pH, EC (electrical conductivity), OC (organic carbon)**.
- Based on this, SHC provides two sets of fertilizer recommendations for six crops including recommendations of organic manures. This database is available in 21 languages.
 - Farmers can also get recommendations for additional crops on demand.
- **Setting up soil testing labs**: Under the scheme village youth and farmers up to 40 years of age are eligible to set up Soil Health Laboratories and undertake testing.
 - A laboratory costs up to 5 Lakhs, 75% of which can be funded by the Central and State Governments.
 - The same provisions apply to Self Help Groups, Farmers' Cooperative Societies, Farmers Groups and Agricultural Producing Organisations.
- **Benefits**: Soil testing **reduces cultivation cost** by application of right quantity of fertilizer.
 - It ensures **additional income** to farmers by **increasing yields**. In the long term, it will ensure **food security**.
 - It promotes **crop diversification** and **sustainable farming**.
 - It is also **creating jobs** for the agrarian youth through provision of subsidy for setting up labs.
- Recent addition is the pilot project of '**Development of Model Villages**' which encourages sampling and testing of cultivable soil in partnership with the farmers.
 - Under the pilot, one village per block is adopted to collect soil samples at the level of individual farm holdings rather than at grid level.

Challenges

- **Inadequate infrastructural backing**: There are limited availability of testing equipment, old soil testing labs, non-functional equipment, lack of appropriate power back-up, lack of internet connectivity and physical assets.
- **Deficit of human resources**: Lack of trained and skilled manpower for testing and IT trained personnel for interpretation of analysis reports, preparation of recommendations and their online communication. This affects the quality of services and the credibility of the scheme.
- **Policy design constraints**: SHC related extension services are constrained, which limits the scope of advisories given to farmers.
 - Physical and micro-biological indicators (such as soil texture, water holding capacity, and water quality and bacterial content) are not tested.
 - The grid size (for taking sample) is fixed and not based on the soil variability index (soil variogram). Ideally, if variability is high, GRID size should be less and vice versa.
- **Suitability of recommendations**: Sometimes farmers are not able to understand the recommendations. In some cases, recommended fertilizers and bio-fertilizers are not available at village level at reasonable prices.
- **Implementation lags**: Although some southern and western states performed better, in some states even allocated resources are not being spent or utilized due to lack of capacities.

Suggestions and Recommendations

- A significant impact of the scheme is the increase in the use of gypsum and other micro nutrients. **Subsidy** on recommended dose of micro-nutrients, bio-fertilizers and organic inputs should be encouraged.
- Overall, the progress of SHC scheme in terms of coverage is satisfactory, now **quality of soil sample collection**; testing and timely distribution of SHCs to farmers should also be focused.
 - **NPC** recommended the government to develop **standard operating practices** for labs for storage of soil samples, their analysis and distribution of soil health cards efficiently.
 - **Accreditation of testing labs** as per National/international standard institutes should be initiated.
- **Financial backing** needs to be improved to fill the infrastructural gaps and to expand the network of testing facilities as well as improve its quality and efficiency.

- **Incentivise the manpower** involved in implementation of the scheme. For example, honorarium for collecting soil samples can be increased to encourage personnel.
- **Ensure uniform performance across states:** Some states like Karnataka, TN, Chhattisgarh, UP, etc were better performers compared to other states. This inequity should be effaced by focusing on weaker areas.
- **Convergence of similar state schemes** that support strengthening of the soil testing infrastructure for efficient use of resources.
- **Other policies** like water exploitation, electricity, etc. should be in line so that crop diversity can protect soil health in the long run.

3.5. BOOST FOR DAIRY SECTOR

Why in News?

Central government has made some changes in **Dairy Processing and Infrastructure Development Fund (DIDF) scheme** to take the white revolution (associated with milk production) to the next level.

More on News

- Government **increased the interest subvention** or subsidy on loans given to the dairy sector from 2 per cent to 2.5 per cent.
- The funding period of the scheme is revised (earlier 2017-18 to 2019-20: now 2018-19 to 2022-23) and the repayment period has been extended up to 2030-31.
- It also proposed to intensify the **Quality Milk Programme** for both cooperative and private sector with fund sharing basis to improve quality of milk.

About the scheme

- **Ministry:** This **Central Sector Scheme** was launched by Department of Animal Husbandry and Dairying, **Ministry of Fisheries, Animal Husbandry & Dairying.**
- **Aim:** To create additional milk processing capacity, invest in infrastructure to modernize and bring efficiency in dairy processing plants and machinery.
- **Beneficiaries:** **End Borrowers** such as Milk Unions, State Dairy Federations, Milk Cooperatives, Milk Producer Companies etc.
- **Under the scheme,** fund has been set up under **NABARD.** Funding will be in the form of interest-bearing loan, implemented by **National Dairy Development Board (NDDB) and National Dairy Development Cooperation (NCDC)** directly through the End Borrowers.
 - The respective State Government will be the guarantor of loan repayment.
- **Expected Benefits:**
 - It will benefit 95 lakh milk producers covering 50,000 villages.
 - There will also be the creation of an additional 210 tonnes per day milk drying capacity, modernisation, expansion and creation of milk processing capacity of 126 lakh litre per day.

A brief overview of dairy sector in India

- India ranks first in milk production since 1998 accounting for 20 per cent of world production and with milk production of 176.3 million tonne in 2017-18.
- India also has the largest bovine population in the world.
- A government initiative known as **Operation Flood (1970–1996)** helped India to boost its milk production. India's milk production has grown by over 10 times since 1950.
- According to **National Sample Survey Office's (NSSO) 70th round survey**, more than one-fifth (23 per cent) of agricultural households with very small parcels of land (less than 0.01 hectare) reported livestock as their principal source of income.
- As per **2018-19 Economic Survey**, of the total milk produced in rural areas around 52% is the marketable surplus.
 - Of this surplus, about 36% of the milk sold is handled by the **organized sector** (evenly shared by Co-operative & Private Dairies) and the rest by the **unorganized sector.**
- **Budget 2020** aims to double the country's milk processing capacity by 2025. (from 53.5 million tonne to 108 million tonne)
- In India milk production is growing by 6.4% during the last 5 years and has increased from 146.3 million tonnes (mt) in 2014-15 to 187.7 mt in 2018-19.

3.6. TECHNICAL TEXTILES

Why in news?

Cabinet Committee on Economic Affairs (CCEA) has recently approved the setting up of a **National Technical Textiles Mission** with a total outlay of ₹1,480 Crore.

About Technical Textiles

- **Technical textiles (TT)** are textiles materials and products manufactured primarily for **technical performance and functional properties** rather than aesthetic or decorative characteristics.
- **Other terms used for TTs** include industrial textiles, functional textiles, performance textiles, engineering textiles, invisible textiles and hi-tech textiles.
- They are used **individually or as a component/part of another product** to enhance its functional properties.
- They are not a single coherent industry and **market segment is diverse** and broad based.
 - Its usage is in diverse industries from aero space to railways to construction etc. and is developing in other industries also due to technological advances.
- They have been divided into **12 major segments** (see infographic).

| | | |
|--|---|--|
| Meditech Diapers, Sanitary Napkins, Disposables, Contact lens, Artificial Implants | Mobiltech Airbags, Helmets, Nylon Tyre Cords, Airline Disposables | Oekotech Recycling, Waste Disposal, Environmental Protection |
| Packtech Wrapping Fabrics, Polyolefin, Women Sacks, Leno Bags, Jute Sacks | Protech Bullet Proof Jackets, Fire Retardant Apparels, High Visibility Clothing | Sportech Sports Net, Artificial Turf, Parachute Fabrics, Tents, Swimwear |
| Agrotech Shadenets, Fishing Nets, Mulch Mats, Ant - hail Nets | Builttech Cotton Canvas Tarpaulins, Floor and Wall Coverings Canopies | Clothtech Zip Fasteners, Garments, Umbrella Cloth, Shoe Laces |
| Geotech Geogrids, Geonets, Geocomposites | Hometech Mattress and Pillow Fillings, Stuffed Toys, Blinds, Carpets | Indutech Conveyer Belts, Vehicle Seat Belts, Bolting Cloth |

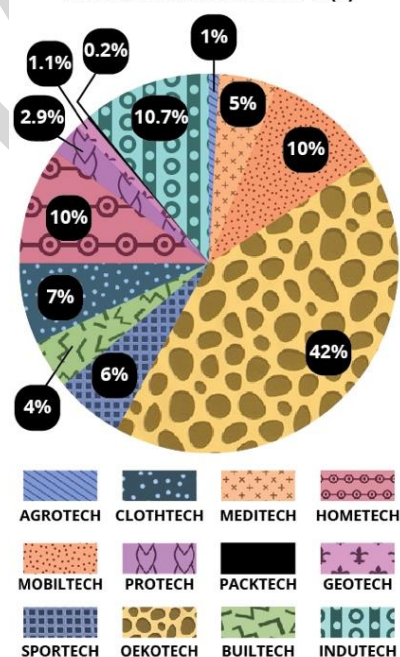
Indian Scenario

- TT is a knowledge based research oriented industry and has been slowly but steadily gaining ground due to reasons such as: functional requirement, health & safety; cost effectiveness; durability; high strength; light weight; versatility; customization; user friendliness; eco friendliness; logistical convenience etc.
- Indian technical textiles segment constitutes around **6% of the \$250 billion global technical textiles market**.
- TT constitute **12-15% of the total textile value chain in India** (in European countries it is 50%).
- The annual **average growth of the segment in India is 12%** as compared with world average growth of 4%.

Prospects of Technical Textiles

- **Push domestic production and unlock export potential:** While conventional textiles is export intensive, technical textiles is **import intensive industry**.
 - One of the factors for low consumption of technical textiles is import intensive nature of many products which makes them cost prohibitive, restricting their consumption.
 - With increase in indigenous production, there is a huge potential of export of technical textiles **particularly in the SAARC countries**, where also this industry is not well developed and depends on import to meet their domestic demand.
- **Scope for small scale and cottage industries:** While production of specialized yarn and fabrics takes place in the large and medium scale but the conversion of these fabrics into finished goods is done in **small scale sector** and even in **cottage sector**.
- **Disposable income factor:** The consumption of disposable segment of the technical textiles is directly related to the disposable income (DI). With increase in DI, the consumption of disposable items like, wipes, sanitary napkins, baby diapers, adult diapers, and health care products is expected to increase at an exponential rate.
- **Inherent strengths of textile sector:** India's textile industry has fundamental strengths which can be utilized for gaining advantage in commodity market of technical textiles through **cost competitive manufacturing structure**.
 - In the high-end niche areas also Indian textile industry has an edge through **networking with research institutes** and **final consumers** for development of **new technologies**.
- **Use of new technologies:** With new developments taking place in fiber/yarn technology the scope of this industry is expanding at a very fast pace.

SEGMENT WISE SHARE IN TECHNICAL TEXTILES MARKET IN 2015-16(P)



- New technologies like **nano technology, plasma coating, intelligent textiles, composites, soft shell technology**, retro-reflective material have important bearing on the growth of the technical textile industry.

About the National Technical Textiles Mission

- The aim of the mission is to **position the country as a global leader in technical textiles** and increase domestic use as well.
- It envisages a domestic market size to **reach \$40-50 billion by 2024**, which is valued at \$16 billion presently.
- Mission Directorate will be operational in the **Ministry of Textiles**.
- The Mission will be implemented from 2020 to 2024 and will have **four components**:
 - **Research, development and innovation**: It will have an outlay of ₹1,000 crore. The research will be at fibre level and application-based. Research activities will also focus on development of indigenous machinery and process equipment.
 - **Promotion and market development**: The focus will be on usage of technical textiles in key flagship mission and programmes of the country, including the strategic sectors of agriculture, defence, water and infrastructure, along with Jal Jivan Mission; Swachh Bharat Mission; Ayushman Bharat among others.
 - **Export promotion**: An export promotion council for technical textiles will be set up. It aims to ensure that technical textile exports from the country grow from the present ₹14,000 crore to ₹20,000 crore by 2021-2022 with a 10% average growth every year.
 - **Education, training and skill development**: It will promote technical education at higher engineering and technology levels related to technical textiles and its application areas.

Challenges and Weaknesses of the sector

- **Lack of specifications and standardization of technical textiles**: As the sector is emerging eventually, relevant policies and standards have not yet been developed. There is no quality benchmark for technology for technical textiles.
- **Lack of awareness** about the utility of the products.
- **Non availability of raw materials**: It adds to the cost of the products, and restricts the growth of the sector.
- **Lack of infrastructure**: It includes basic infrastructure as well as **lack of technology**.
- **Deficit of skilled manpower, training and educational facilities**: There is a lack of skill development in the sector, as this aspect has not been focused upon so far. It needs to be dealt with coherently.

Conclusion

Indian technical textile industry has presence in all the 12 segments, which needs to be intensified in order to tap the potential of the industry. India has the ability to gain global leadership in the sector. The mission has been a long awaited step in the right direction. Implementation, monitoring and review are crucial going forward.

Other steps taken by Government

- **National Textile Policy, 2000**: It stated that considering the growing prospects for technical textiles worldwide, priority will be accorded for their growth and development in the country.
- **Expert Committee on Technical Textiles**: It was created by central government, comprising of experts from all the segments of the technical textile industry to:
 - Assess the market size and potential of technical textiles,
 - Identify and prepare project profiles for the potential items to enable the entrepreneurs to take investment decisions,
 - Formulate an action plan to promote the growth of technical textiles.
- **Scheme for Growth and Development of Technical Textiles (SGDTT)**: It was launched in 2007-08, comprising of three main components- Baseline Survey, Awareness Campaigns and Creation of Centres of Excellence.
- **Technology Mission on Technical Textiles (TMTT)**: It was launched in 2010-11. Its first component includes standardization, creating accredited common testing facilities and maintaining a resource centre with IT infrastructure. Second component is development of domestic & export markets for technical textiles.
- **Coverage of technical textiles under Technology Upgradation Fund Scheme (TUFS)**: All the machinery for production TTs has been covered under TUFS. Projects costing \$ 216 million have already been sanctioned under TUFS.
- **Fiscal duty**:
 - **Concessional custom duty**: Major machinery for manufacture of TTs has been covered under the concessional list of 5% basic customs duty.
 - **Excise duty** on man-made fibre / yarn (TT) was reduced from 16% to 8% which is in line with the 8% duty at fibre stage. It has provided a level playing field to this industry.
- **De-reservation** of sanitary napkins / baby diapers: They were earlier reserved for Small Scale Industry sector. It was hindering the setting up of large scale units in this segment.

- **Institutional mechanism:** Inter-Ministerial Committee (IMC) and Steering Committee for Growth and Development of Technical Textiles (SCGDTT) have been setup to constantly review, monitor and take necessary action for promoting the technical textiles.

3.7. RISE IN DIGITAL PAYMENTS

Why in news?

Recently, a study by RBI on 'Assessment of the progress of digitisation from cash to electronic' was released.

Key findings of the report

- **Digital payments in the country** have witnessed a Compound annual growth rate of 61% and 19% in terms of volume and value respectively over past five years, demonstrating a steep shift towards digital payments.
- **72% of India's consumer transactions take place in cash**, double the rate as in China.
- Demand for high-value denominated currency has outpaced low-value denominated currency and this phenomenon may indicate **that cash is increasingly used as a store of value** and less for making payments.
- **Cash in circulation (CIC)** as a percentage of GDP is 11.2% in 2018-19 which is less than pre-demonetisation level of 12.1% in 2015-16.

Note – This data can be supplemented with Digital Finance Article covered in December 2019.

New RBI announcements on Payment and Settlement System

Digital Payments Index (DPI)

- The Reserve Bank shall construct and periodically publish a composite DPI to **capture the extent of digitisation of payments** effectively.
- The DPI would be based on multiple parameters and shall reflect accurately the **penetration and deepening of various digital payment modes**.
- The DPI will be made **available from July 2020** onwards.

Framework to Establish Self-Regulatory Organisation (SRO) for Digital Payment System

- RBI will put in place a framework for establishing an SRO for the digital payment system **by April 2020** with a view to **fostering best practices on security, customer protection and pricing**, among others.
- The SRO will serve as a **two-way communication channel** between the players and the regulator/supervisor.

3.8. CRR LEEWAY FOR NEW RETAIL AND MSME LOANS

Why in News?

- Reserve Bank of India (RBI) asked banks to avail cash reserve ratio (CRR) exemption on incremental retail loans given to MSME, housing and auto sectors between January 31 and July 31, 2020 for a period of five years.
- RBI also decided to link pricing of loans by scheduled commercial banks for the medium enterprises to an external benchmark effective April 1, 2020.

More on news

- **Banks can deduct the equivalent amount of incremental credit** disbursed by them as retail loans to these sectors, over and above the outstanding level of credit to these segments as on January 31, 2020, **from their net demand and time liabilities (NDTL)** for maintenance of the CRR.

Maintenance vs. Non-maintenance of CRR

- All Scheduled Commercial Banks are at present required to maintain with RBI a Cash Reserve Ratio (CRR) of 4% of **the Net Demand and Time Liabilities (NDTL) (excluding liabilities subject to zero CRR prescriptions)** under Reserve Bank of India Act, 1934.
- Non-maintenance of CRR on **new loans** for specified condition implies that **Banks can claim deduction equivalent to these loans from their Net Demand and Time Liabilities (NDTL)**.

Cash Reserve Ratio (CRR)

- It is a specified **minimum fraction** of the NDTL, which commercial banks have to hold as reserves either in cash or as **deposits with the central bank**.
- This money is parked with the Central Bank **without any interest**.
- **Net Demand and Time Liabilities (NDTL):** It shows the **difference between** the sum of demand and time liabilities (deposits) of a bank with the public or the other banks and the deposits in the form of assets held by the other bank.
 - **Bank's NDTL** = Demand and time liabilities (deposits) – deposits with other banks.

- This step could **indirectly decrease interest rates** for auto, housing and MSME sector due to **fiscal room** provided by non-maintenance of CRR on such loans.
- This is **only for the purpose of computing the CRR for a period of five years** from the date of origination of the loan.
- Also, the **leeway is given only on new loans (i.e. incremental credit)** in these sectors post specified date- 31 January 2020. (**Loans before this date** under these sectors are **not eligible**.)

Rationale behind relaxing norms for CRR

- The primary aim is to **revitalise the flow of bank credit** to productive sectors having **multiplier effects** to support overall growth impulses in the economy.
- In the light of prevalent liquidity crunch, it is being seen as an **additional liquidity measure** and also to **nudge banks to lend more** to the needy segments.
- Apart from above, the RBI expects that the special window will **reinforce monetary transmission, strengthen regulation and supervision, broaden and deepen financial markets;** and also **improve payment and settlement systems.**

Rationale for External Benchmark for MSME loans

- RBI has **not been satisfied with the way monetary transmission** works as financial institutions tend to not pass on the benefit to the consumer.
- The current paradigm for determination of interest loans is **based on Marginal Cost of Lending Rate (MCLR)** which is determined by the respective bank.
- RBI aims to **directly link** the interest on loans with an **external benchmark** so that any change can be **directly transmitted to the consumer.**
- To effect this, RBI has proposed to the use of external benchmark rates.
- Earlier, all new floating rate personal or retail loans and floating rate loans to micro and small enterprises (MSEs) extended by banks were linked to external benchmarks since October 1, 2019.
 - **External Benchmarks include policy repo rate;** or any benchmark market interest rate produced by the Financial Benchmarks India Private Ltd. (FBIL), including **Treasury bill rates.**

3.9. DECLINING INVESTMENTS IN P-NOTES

Why in News?

Investments in the Indian capital market through participatory notes (P-notes) have hit a nearly 11-year low by the end of December 2019. The use of P-notes has been on a decline since 2017.

Reasons of such declining trend

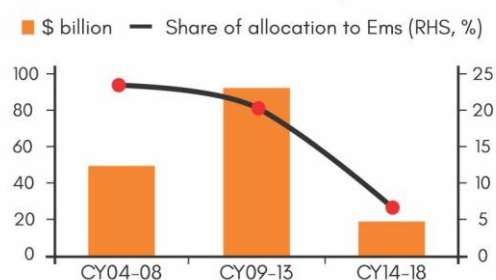
- **Tightening of rules on P-notes:**
 - Recently, Securities and Exchange Board of India (SEBI) mandated that some of the existing **FPIs will have to get separate registrations if they want to issue p-notes based on derivatives.**
 - **Less favourable treatment of non-FATF member jurisdictions,** such as Mauritius, from the perspective of higher KYC restrictions.
 - **Issuers will also have to file suspicious transaction reports** with the Indian Financial Intelligence Unit on P-Notes.
 - Carry out **reconfirmation of the P-Note position on a semi-annual basis** besides carrying out **KYC reviews** every year.
 - Until 2016, P-Note subscribers were not required to seek the issuer's prior permission for transferring the instrument to another investor offshore. But since then, the regulator needs to be updated with the complete **transfer trail of P-Notes on a monthly basis.**

About Participatory Notes

- **P-notes** are offshore derivative instruments of underlying Indian assets. These are issued by registered Foreign Portfolio investors (FPIs) to overseas investors or hedge funds who wish to be part of the Indian stock market without registering themselves with SEBI directly. E.g. Citigroup and Deutsche Bank
- **Benefits:** They provide access to quick money to the Indian capital market. Moreover, it enables the investors to avoid the cumbersome regulatory approval process. Investors save time, money and scrutiny associated with direct registration.
- **Concerns:** Often P-notes have been seen as an instrument that is being misused to launder money or fund illegal activities because of the anonymity involved. Moreover, hedge funds acting through P-notes may cause economic volatility in India's exchanges.

- In July 2017, SEBI notified stricter P-notes norms stipulating a fee of USD 1,000 that will be levied on each instrument to check any misuse for channelising black money.
- **Liberalised norms for foreign portfolio investors (FPIs) based on recommendations of H.R. Khan committee:** these have been impacting investments through P-notes which were earlier preferred for their simplified nature.
 - Under the new rules, FPIs have been divided into two categories and around 80 per cent falls under Category-I and investors planning to set up shop as Category-I is required a simple application form.
 - Further, SEBI has allowed entities registered at an international financial services centre to be automatically classified as FPIs.
 - Mutual funds with offshore funds too can invest in India as FPIs to avail certain tax benefits now.
 - Central banks that are not members of the Bank of International Settlements are also allowed to register as FPIs and invest in the country.
- **Declining equity inflows:** Inflows to India accounted for only approximately 7% of FPIs equity inflows of the last five years (CY14-18), compared with around 20% share in the previous five years (CY09-13). Reasons:
 - **Turbulence in global markets:** including trade war leading to spike in global risk aversion. In such situations, foreign portfolio money tends to move out of riskier assets such as emerging market equities.
 - **Profitability of Indian corporates has worsened over the last decade.** So, the poor performance on Indian equity market vis-à-vis other equity markets, the steep valuation, when compared to other emerging markets and the poor earnings growth in recent quarters could have had a greater impact on FPI decision to invest in Indian equity.

FII equity inflows have declined sharply over the last few years



3.10. EASE OF LIVING INDEX AND MUNICIPAL PERFORMANCE INDEX 2019

Why in News?

Ministry of Housing & Urban Affairs launched two Assessment Frameworks, viz. Ease of Living Index (EoLI) and Municipal Performance Index (MPI) 2019.

Objective of these frameworks

- Indices will help to assess the progress made in cities through various initiatives and empower them to use evidence to plan, implement & monitor their performance.
- Both these indices are designed to assess quality of life of citizens in 100 Smart Cities and 14 other Million Plus Cities.

About MPI, 2019

- It will assess performance of municipalities on **five enablers- Service, Finance, Planning, Technology and Governance** which include **20 indicators** (Education, Health, Water & Wastewater, SWM & Sanitation, Registration & Permits, Infrastructure, Revenue Management, Expenditure Management, Fiscal Responsibility, Fiscal Decentralisation, Digital Governance, Digital Access, Digital Literacy, Plan Preparation, Plan Implementation, Plan Enforcement, Transparency & Accountability, Human Resource, Participation and Effectiveness).
- This will help Municipalities in **better planning and management, filling gaps in city administration** and improving liveability of cities.

About EoLI

- It is aimed at **providing a holistic view of Indian cities** -services provided by local bodies, effectiveness of administration, outcomes generated through these services in terms of liveability within cities and citizen perception of these outcomes.

- **Key objectives**
 - Generate information to guide evidence-based policy making;
 - Catalyse action to achieve broader developmental outcomes including the SDG;
 - Assess and compare the outcomes achieved from various urban policies and schemes
 - Obtain the perception of citizens about their view of the services provided by the city administration.
- EoLI 2019 will facilitate the assessment of **ease of living of citizens across three pillars**: Quality of Life, Economic Ability and Sustainability **which are further divided into 14 categories** (Education, Health, Housing & Shelter, WASH & SWM, Mobility, Safety & Security, Recreation, Economic Development, Economic Opportunities, Gini coefficient, Environment, Green spaces & building, Energy Consumption and City Resilience) across 50 indicators.
- For the first time, as part of the Ease of Living Index Assessment, a **Citizen Perception Survey is being conducted** (which carries 30% of the marks of the EoLI).
- This will help in directly capturing perception of citizens with respect to quality of life in their cities.



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4. SECURITY

4.1. INTEGRATED AIR DEFENCE WEAPON SYSTEM (IADWS)

Why in news?

The US has approved the sale of an **Integrated Air Defence Weapon System (IADWS) to India** at an estimated cost of \$1.9 billion.

Integrated Air Defence Weapon System (IADWS)

- The Integrated Air Defence Weapon System (IADWS) is called as the **National Advanced Surface to Air Missile System (NASAMS-II)**.
 - It is an **upgraded version of the NASAMS** developed by the US firm Raytheon.
- It will be a **combination of different weapons** like Stinger missiles, gun systems and advanced medium-range air-to-air missiles (AMRAAMs), backed by 3D Sentinel radars, fire-distribution centres and command-and-control units.

Significance of deal

- **Modernise India's armed forces:** It helps to modernise India's armed forces and to expand its existing air defence architecture to counter threats posed by air attacks.
- **Multi-layered missile shield over the National Capital Territory (NCT) of Delhi:** It will be used along with indigenous, Russian and Israeli systems to erect an ambitious multi-layered missile shield over the National Capital Territory (NCT) of Delhi against aerial threats.
- **Strengthen the US-Indian strategic relationship:** It helps to improve the security of a major defensive partner, which continues to be an important force for political stability, peace, and economic progress in the Indo-Pacific and South Asia region.
- **Regional Balance:** The proposed sale comes amidst the massive military modernisation by China which is also flexing its military muscles in the strategic Indo-Pacific region.

PROPOSED MULTI - LAYERED MISSILE SHIELD FOR NCT OF DELHI

1. Outermost BMD layer

- ▶ Two-tier indigenous system of AAD (advanced air defence) and PAD (Prithvi air defence) interceptor missiles
- ▶ Designed to track & destroy ballistic missiles both inside (endo) and outside (exo) at altitudes from 15-25 km to 80-100 km
- ▶ **Phase-1** (interceptor missiles with 4.5 Mach speed) meant for 2,000-km range enemy missiles. System almost ready
- ▶ **Phase-2** (interceptor missiles with 6-7 March speed) will be for 5,000-km class missiles

2. S-400 layer

- ▶ Russian Triumf surface-to-air missile (SAM) systems
- ▶ Missiles with interception ranges of 120, 200,250 & 380 km
- ▶ \$5.43 billion (Rs. 40,000 crore) deal inked in October 2018
- ▶ Deliveries to 5 squadrons from Oct 2020 to April 2023

4. Akash layer

- ▶ Indigenous area defence missile system Range: 25-km
- ▶ IAF inducting 15 squadrons of Akash-1 and 2 systems for Rs. 10,900 cr
- ▶ Army has inducted 2 regiments for Rs.14,180 cr. Two Akash-2 regiments on the way

5. NASAMS layer

- ▶ Quick reaction, Networked system of Stingers, gun systems and AMRAAM missiles
- ▶ Deal for almost \$ 1 billion being finalized with the US
- ▶ Geared to track and destroy small incoming targets, shoot around buildings

3. Barak-8 Layers

- ▶ Medium and long-range SAM systems jointly developed by Israeli Aerospace Industries and DRDO
- ▶ Interception range of 70 to 100 km
- ▶ Systems being delivered to Navy (initial cost Rs. 2,606 crore), IAF (Rs.10,076 crore) and Army (Rs.16,830 crore)

4.2. INDO BANGLADESH BORDER

Why in news?

According to the data provided by government, **detected infiltration** through the India-Bangladesh border has **dropped** by over **60%** since 2015 and **deportation** of illegal Bangladeshi immigrants has also **dropped** by over **63%**.

Background

- India shares the **longest land border with Bangladesh**, stretching over 4,097 km.
- This boundary falls in five Indian states: **West Bengal, Assam, Meghalaya, Mizoram and Tripura**.
- It runs through a diverse topography, including dense forests, hills, rivers (and river basins), populous towns and paddy fields.
- The border between India and Bangladesh—highly crucial to their bilateral relationship—has always been difficult to manage given, for one, its sheer length.

Issues related to Indo-Bangladesh border

- **Illegal immigration:** Since 1971 War of independence, illegal immigrants have been pouring into India due to political upheaval. Recent estimates suggest around 24 million illegal Bangladeshi immigrants in India.
 - **Rohingya crisis** (religious persecution) has also added to it as 40,000 rohingya refugees were estimated in India in 2017.
 - Illegal immigrants act as a security risk to the regime, a cultural threat to the existing citizens and a social, economic threat to the host society.
- **Criminal activities across the border:** Transnational crime networks smuggle narcotics, arms, gold, and counterfeit Indian currency and are also involved in **trafficking of humans, cattle and goods**.
 - Easy availability of weapons and ammunitions due to trafficking makes the situation more volatile.
 - Border killings, particularly of Bangladeshi Nationals by BSF (Border Security Force) have been a long standing irritant.
- **Movement of insurgents across the border to safe havens in Bangladesh:** Mostly from north eastern outfits in India such as United Liberation Front of Assam (ULFA), National Democratic Front of Bodoland (NDFB), Dina Halim Daigah (DHD), United Liberation Front of Barak Valley (ULFBV), etc.
- **Demarcating territorial waters:** It has led to serious differences between the two countries. Establishing ownership of the newly created territories, for example: the 1980s controversy surrounding sovereignty over New Moore Island in South Talpatty, Bangladesh.
- **Cross Border Water Disputes** such as sharing of Teesta River, construction of dam by India on Barak River have plagued the border management and bilateral relations.

Problems of Border Management

- **Inadequate border fencing:** due to issues such as riverine areas, protests by residing population and jungle areas where patrolling is difficult.
- **Porous border:** Shared ancestry, linguistic and ethnic ties, and social and familial linkages make the border porous and difficult to manage. It allows free movement of nationals including criminals, of both the countries.
- **Ethnic conflicts and separatist movements:** The situation has worsened due to the changed demographic profile of many Border States and shift in ethnic balance of communities as a result of illegal migration.
- **Over-population in the border areas:** Density of population in the border areas at some places is approximately 700-800 persons per square km on the Indian side and about 1,000 persons on the Bangladesh side.
 - Such an over-populated area with a porous border poses problems in detection and apprehension of criminals who have the option of crossing over to the other side to evade arrest.
- **Cross-border cooperation among the militant groups** of Myanmar, north-east India and Bangladesh along with establishment of their training camps, madrassas in Bangladesh.
- **Political instability and disorder** in its periphery impacts India's security directly or indirectly. Proxy war between India and Pakistan adds to this security risk.


Steps taken so far

- **India Bangladesh Land Boundary Agreement, 2015:** It facilitated exchange of enclaves and simplified the border. India received 51 Bangladeshi enclaves but lost 40 square kilometres in the process as Bangladesh received 111 Indian enclaves.
- **Improved Border surveillance: Comprehensive Integrated Border Management System (CIBMS)** also known as smart fencing has been completed in some parts of the border. It integrates manpower with sensors, networks, intelligence and command and control solutions such as thermal imagers, aerostats, radars, sonar systems.
 - **Project BOLD-QIT** (Border Electronically Dominated QRT Interception Technique) has been implemented along riverine border in Dhubri, Assam where it was not feasible to construct border fencing.
- **Coordination with Border States:** Central Government has announced setting up of **Border Protection Grid (BPG)** with Indo- Bangladesh Border states. It will be supervised by a state level standing committee which will be chaired by respective state secretaries.
 - It will comprise various elements such as physical barriers, non-physical barriers, surveillance system, intelligence agencies, state police, BSF and other state and central agencies.

- **Crime free stretch:** It has been established between BSF border posts at Gunarmath and Kalyani and the BGB (Border guard Bangladesh) posts at Putkhali (West Bengal) and Daulatpur (Bangladesh).
- **Improved border management:** So far 20 border checkpoints have been developed as **Integrated Check-Posts** (ICPs). An ICP is intended to be a one-stop solution that houses all regulatory agencies, such as immigration, customs and border security.
- **Confidence building measures:** Government to government initiatives to promote local participation such as **border haats** have shifted focus to mutual economic gains and building a coalition for peace and cooperation.
- **Raising awareness:** BSF and BGB have been working among locals to improve awareness and ensure crime prevention in border areas.

Conclusion


Recent trends show that steps taken so far are bearing fruit, thus they need to be continued and intensified. Both the countries have **multi-cultural** and **plural societies** and promote **democracy** and **inclusive growth** which would empower marginal groups to become stakeholders.





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5. ENVIRONMENT

5.1. CMS COP 13

Why in news?

Recently, the 13th Conference of Parties (CoP) to the United Nations Environment Programme's (UNEP) Convention on the Conservation of Migratory Species of Wild Animals' (CMS) was held in Gandhinagar, India.

More on the news

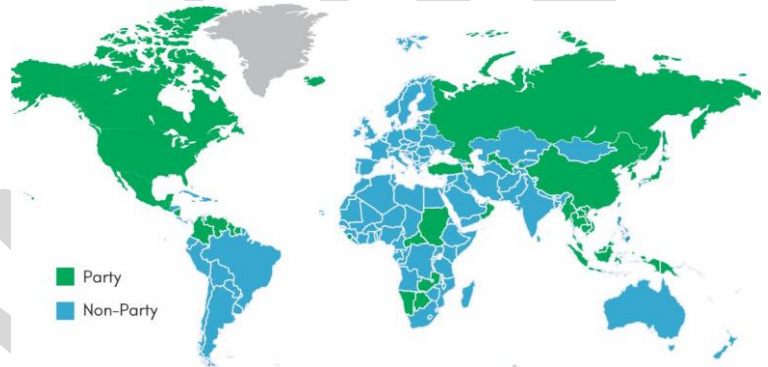
- India has officially taken over its Presidency for the next three years, till 2023.
- CMS COP13 was the largest ever in the history of the Convention.
 - The Conference of Parties is the decision making organ of the Convention (CMS).
- CMS COP13 was the first of a series of international nature-related meetings in 2020, which will culminate with the UN Biodiversity Conference in Kunming, China, in October, which is expected to adopt a new global biodiversity framework - the **Post-2020 Global Biodiversity Framework**.

Convention on the Conservation of Migratory Species of Wild Animals (CMS) or Bonn Convention

- It aims to protect terrestrial, aquatic and avian migratory species throughout their ranges.
- CMS was signed in Bonn, Germany, in 1979 as an intergovernmental treaty **under the aegis of the United Nations Environment Programme (UNEP)**.
- CMS brings together the governments of the countries through which migratory species pass - the Range States; it lays the legal foundation to conduct conservation measures on a global scale.
- The legal instruments under CMS may range from **legally binding Agreements** to less formal **Memoranda of Understanding** and can be adapted to fit the requirements of each region.
- CMS is the only world wide convention that was founded exclusively for the preservation of migrant animals.
- **CMS has two Appendices** listing migratory species to which the Convention applies.
 - Migratory species **threatened with extinction** are listed on **Appendix I** and Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
 - Migratory species that need or would significantly benefit from international co-operation are listed in **Appendix II** of the Convention.

Additional Information on COP 13

- **Theme-** "Migratory species connect the planet and together we welcome them home".
- **Logo-** Kollam- a traditional art form from Southern India, which has been used to depict key migratory species in India.
- **Mascot- Gibi** i.e. The Great Indian Bustard.
- This was the **first CMS COP** to be inaugurated by a host-country Head of Government.



Concept of 'ecological connectivity'

- The Habitat fragmentation has 3 specific effects:
 - a reduction of overall habitat area and quality
 - increased isolation of small habitat patches
 - increased disturbance associated with artificial boundaries of habitat fragments, or 'edge effects'.
- Maintaining or restoring connectivity between fragmented habitats or land patches has been identified as the key to counteracting many of the negative impacts of the habitat fragmentation.
- **Connectivity can be defined** as the degree to which landscapes and seascapes allow **species to move freely** and **ecological process to function unimpeded**.
- Connected ecological communities and habitat patches sustain vital ecological process such as pollination, productivity, decomposition, and biochemical & nutrient cycles.
- Ecological connectivity can also help species **adapt** to future environmental conditions and **buffer** changes by bolstering ecological resilience to disruptive threats such as climate change.

Key highlights of CMS COP 13

- **Adoption of Gandhinagar Declaration-** which calls for migratory species and the **concept of 'ecological connectivity'** to be integrated and prioritized in the Post-2020 Global Biodiversity Framework, which is expected to be adopted at the UN Biodiversity Conference in October this year.
- **Decisions on new species- Ten new species were added** to CMS Appendices at COP13.
 - **Seven species were added to Appendix I**, which **provides the strictest protection**: the Asian Elephant, Jaguar, Great Indian Bustard, Bengal Florican, Little Bustard, Antipodean Albatross and the Oceanic White-tip Shark.
 - The Urial, Smooth Hammerhead Shark and the Tope Shark were **listed for protection under Appendix II**, which **covers migratory species** that have an unfavourable conservation status and would benefit from enhanced international cooperation and conservation actions.
 - New and extended Concerted Actions with targeted conservation plans were agreed for 14 species.
- **Resolutions on various measures-** The **first ever report on the Status of Migratory Species**, presented to CMS COP13, shows that despite some success stories, the **populations of most migratory species covered by CMS are declining**.
- **Relaunch of the CMS Ambassadors Programme-** where three CMS Ambassadors - for **terrestrial, avian, and aquatic species** were named to help raise awareness about the important work of CMS and the plight of migratory species.
- **Recognition of Seven Migratory Species Champions-** including Germany, India, Italy, Monaco, Norway, the European Commission, and the Environment Agency, who were acknowledged for their generous contributions to CMS initiatives.

India and Conservation of Migratory Species

- India is also home to around 500 species of migratory birds from across the globe.
- Several Protected Areas in India share common boundaries with the Protected Areas of neighbouring countries.
- India is a part of the **Central Asian Flyway** for migratory birds.
 - With a view to conserve the birds along the Central Asian Flyway and their habitats, India has prepared a 'National Action Plan for conservation of Migratory Birds along the Central Asian Flyway'.
- India recently hosted the **Steering Committee of the Global Snow Leopard Ecosystem Programme (GSLEP)** of 12 Countries.
 - It resulted in **New Delhi declaration** envisaging development of country specific framework and cooperation between countries for snow leopard conservation.
- India by 2020, will be launching its Marine Turtle Policy and Marine Stranding Management Policy aimed at addressing the pollution caused by micro-plastics.

Other Related Events in the Conference (CMS CoP 13)

Zero Draft of the post-2020 global biodiversity framework

- The zero draft was made available by the CBD Secretariat, which will be further developed in the ongoing process of the Open-Ended Working Group on the **post-2020 Global Biodiversity Framework**.
 - It highlights that past and ongoing rapid declines in biodiversity, ecosystem functions and many of nature's contributions to people mean that most international societal and environmental goals, such as those embodied in the **Aichi Biodiversity Targets** and the 2030 Agenda for Sustainable Development, **will not be achieved on the basis of current trajectories**.
 - A new framework based on a **"theory of change"** is needed with elements of: Resource mobilization; Mainstreaming; Digital sequence information; Sustainable use Capacity-building; National planning; Reporting processes; Issues associated with responsibility and transparency; Indicators.
 - The **theory of change** acknowledges the need for appropriate recognition of gender equality, women's empowerment, youth, gender-responsive approaches and the full and effective participation of indigenous peoples and local communities in the implementation of this framework.
 - It will be implemented using a **rights-based approach** and recognising the **principle of intergenerational equity**.
- The post-2020 global biodiversity framework will set out an ambitious plan to implement broad-based action to bring about a transformation in society's relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled.
 - In this, the **CMS would play an important role**.

Concerted action to conserve Giraffes

- **Seven African countries** including Cameroon, Chad, Ethiopia, Kenya, Niger, Tanzania and Zimbabwe have proposed a plan of 'concerted action' for conserving giraffes.

- Their **decline by 40 per cent over the past 30 years** means that Giraffes are now listed as ‘**Vulnerable**’ on the **IUCN Red List**. Two-subspecies (Nubian and Kordofan Giraffe) are listed as ‘Critically Endangered’ and two others (Reticulated and Masai Giraffe) as ‘Endangered’.
 - Loss, fragmentation and degradation of their habitat, illegal harvesting and trade, disease, and civil unrest are major threats to giraffes.
- Giraffes have also been found to migrate due to over-population and drought.

India and Norway Collaboration

- On the sidelines of CMS COP 13, India and Norway agreed to jointly tackle concerns related to oceans, environment and climate matters.
- Both will work on projects for facilitating a smooth transition towards energy efficient solutions and technologies while **phasing down HFCs**.
- Further work will be done on the **India-Norway Ocean Dialogue** and through the **Joint Task Force on Blue Economy for Sustainable Development**.
- Both countries to work jointly towards **mitigating marine plastic litter and microplastics**.
- Both agreed to work together to deliver an ambitious, strong, practical and effective global biodiversity framework at COP15 of CBD to be held in Kunming, China, in 2020.

Animal Culture Linked to Conservation

- Animal culture, the learning of non-human species through socially transmitted behaviors, is being linked to conservation action **for the first time at the CMS COP13**.
- There is evidence that **whales, dolphins, elephants and primates** acquire some of their knowledge and skills through social learning.
 - Also, some animals may learn socially from adults or peers about various behaviors, including optimal migration routes. E.g. A nut-cracking Chimpanzee can crack open different types of nut by using stones and pieces of wood as a hammer and anvil. Scientists say this cultural capacity enables these Chimpanzees to survive dry seasons in their western habitats.
- Protecting cultural knowledge among peers and across generations may be vital for the survival and successful reproduction of certain species.
- Supporting individuals that act as ‘repositories’ of social knowledge such as elephant matriarchs, or groups of knowledgeable elders, may be just as important as conserving critical habitat.


5.2. DRAFT VISIONARY PERSPECTIVE PLAN TO CONSERVE BIRDS

Why in news?

Recently, the Government of India has placed the draft “**Visionary Perspective Plan (2020-2030) for the conservation of avian diversity, their ecosystems, habitats and landscapes in the country**” in public domain.

More on the news

- There are 554 ‘important bird and biodiversity areas’ (IBAs) in the country. Out of which, 506 sites have globally threatened species.
- There are presently **2,01,503 wetlands**, most of which are under stress due to impacts of urbanization and agricultural runoffs.
- The Visionary plan has proposed to carry out **15 major programmes** and various activities which should be implemented over short-term (2020-2024), medium-term (2024-2027) and long-term (2027-2030).
- This is an addition to India’s **National Wildlife Action Plan (2017- 2031)** which too has several conservation actions for the protection of birds and their habitats.
- The MoEFCC had also come out with ‘**India’s National Action Plan for Conservation of Migratory Birds and their Habitats along the Central Asian Flyway (2018-2023)**’.

| BIRD SPECIES IN NUMBERS | | |
|--|--|---|
| No. of bird species in India: 1,317 | No. of species endemic to India: 72 | No. of species classified as ‘threatened’: 100 |
| No. of species classified as ‘endangered’: 20 | No. of species fall under ‘rare category’ due to sparse population: 270 (21% of total bird species in India) | |
| Bird species categorised as rare, endangered and threatened: Raptors, Pheasants, Bustards, Hornbills, Cranes, Storks and others | |  |

Challenges faced in conservation of birds in India

- **Pressure of anthropogenic activities**- leading to destruction of their natural habitat and factors like environmental degradation, changes in land use like rapid urbanisation and pollution poses a serious threat to their survival.

- **Prevalent bird trade-** despite a complete ban on export of live birds (indigenous and captive-bred exotics).
 - In India, over 370 bird species are reportedly traded in more than 900 markets, making the country the third highest in bird trade globally.
- **Low conviction rate-** due to lack of legally admissible evidence with respect to authenticity of species identification by enforcement agencies.
- **Bird epidemics-** as there is inadequate study and appropriate mechanisms to control bird diseases. E.g. Over 17,000 birds at Sambhar Lake were reported to have succumbed to avian botulism caused by Clostridium botulinum.

Significance of Bird Conservation

- Birds **perform various ecosystem services and functions** such as control of insect pests in agriculture and forestry, rodent control, pollination of plants, seed dispersal and forest regeneration and scavenging.
- Decline in bird population leads to **ecological imbalances** like increase in insect and rodent populations, vector-borne diseases, etc.
 - E.g. the population decline of vultures, which are carrion feeders, led to an alarming increase in the population of stray dogs especially in urban areas across the country.

Key highlights of the Vision Plan

- **Bird surveys in select landscapes-** to identify new **IBAs** for conservation of birds and other biodiversity. It calls for comprehensive strategies for restoration of bird habitats in select IBAs outside the protected areas and monitoring of avifaunal responses.
 - **Quantifying the economic value** of ecosystem goods, services, and functions mediated through the establishment of the IBAs.
- **Species recovery programmes of critically endangered birds-** The plan has envisaged **landscape approach** to control their declining population and protect birds in urban areas, and protection of their habitats from turning into wastelands.
- **Conservation of migratory birds-** through species-specific action plans, setting up of a national database on migratory birds and their habitats, assessment of threats to migratory birds and their habitats etc.
- **Study the impact of anthropogenic activities-** such as discharge of wastes and untreated sewage, disposal of solid wastes including plastics, oil spills and discharge of ballast water, trawling, etc and impacts of invasive and alien species and pathogens on coastal biotic communities with an emphasis on bird populations.
 - An **assessment of the marine debris** including macro-plastics that affect coastal bird population by choking or accidental foraging.
- **Awareness generation and crowd sourcing-** by developing a **national network of birdwatchers** for effective dissemination of information and success stories on bird conservation through citizen science initiatives and electronic media.
- **Implementing Agencies-** It will be implemented by different stakeholders including ministries, with the **Salim Ali Centre for Ornithology and Natural History (SACON)** being the nodal institution for this purpose. **Ministry of Environment, Forest & Climate Change (MoEFCC) is the focal Ministry.**

- The **Salim Ali Centre for Ornithology and Natural History (SACON)** is one of the centres of excellence of the MoEFCC.
- It is registered as a society and **Union Environment Minister is the President** of SACON Society.
- SACON's mission is "To help conserve India's biodiversity and its sustainable use through research, education and peoples' participation with birds at the centre stage".
- SACON is located near Coimbatore city in Tamil Nadu.

Way Forward

It is crucial that this plan is implemented in its spirit, given the huge development pressure on the environment ministry. It becomes more important because, in the hierarchy of conservation actions, birds come well below major species like tigers.

5.3. HIGHWAYS THROUGH TIGER RESERVES AND UNDERPASSES

Why in News?

Arunachal Pradesh government is planning to build a highway named **East-West Industrial Corridor** which includes a **40-km elevated stretch** through the core areas of **Pakhui or Pakke Tiger Reserve (PTR)**.

Effects of highways on wildlife habitats

- **Restricts free movement** where traffic is high in volume and velocity. This can lead to effective loss of hunting grounds, pastures or water sources for animals. They also **break canopy connectivity** for **arboreal animals** such as the lion-tailed macaque.

- **Degradation of habitat and increased mortality:** Road traffic produces **noise and light** that disorient and blinds animals leading to collisions and roadkill.
 - Moreover, infighting for territory could lead to early and increased mortality.
- **Restrict gene flow** there is risk of inbreeding, of disease and ultimately of local extinction.
- A study predicted that if intrusions such as roads continue at the current rate, vital '**heterozygosity**' (**genetic variability**) would decrease by as much as 50% in the next century.

Related Information

- **NH 44** — India's longest highway from Srinagar to Kanyakumari — cuts through wildlife corridors connecting Kanha, Satpura, Pench, Bandhavgarh, Panna tiger reserves and at least four other protected areas.
- **NH 6** — India's second longest highway from Surat to Kolkata — passes through corridors around Melghat, Bor, Nagzira, Simlipal tiger reserves and seven other national parks and sanctuaries.
- **IUCN status of tiger:** Endangered

Pakke or Pakhui Tiger Reserve

- It is bounded by Bhareli or Kameng River in the west and north, and by Pakke River in the east.
- The habitat types are lowland semi-evergreen, evergreen forest and Eastern Himalayan broadleaf forests.
- Notable fauna: Bengal tiger, Indian leopard, clouded leopard, hornbill, Asiatic jackal, barking deer, elephant and gaur.

Steps taken

- **Night traffic bans** have been imposed on various highways passing from Bandipur National Park, Mudumalai Tiger Reserve, Gir National Park etc.
- In 2018, the **National Board for Wildlife (NBWL)** made it **mandatory for every road/rail project proposal** to include a **wildlife passage plan** as per guidelines framed by **Wildlife Institute of India**.
- In 2019, the **Ministry of Road Transport and Highways** asked National Highways Authority of India and states to avoid building highways through wildlife sanctuaries and national parks, unless absolutely unavoidable.
 - In exceptional cases, design should factor in structures such as underpasses, fencing, monkey ladders and noise barriers.
- **Commissioning of underpasses for animals: E.g. 37-km elevated stretch of highway** on the Seoni (Madhya Pradesh)-Nagpur (Maharashtra) sector of the national highway 44 passing through the **Pench Tiger Reserve**. This provides five underpasses and four minor bridges to ensure that movement of animals is not disrupted.

Issues with elevated stretches and underpasses

- **Number of underpasses is generally very less** in contrast to the length of the road stretch.
- It involves **felling of trees** which disturbs the ecology of the area.
- Passage way may not lie in traditional routes and use of passageway in neighbour's territory may involve infighting and more mortalities.
- The **cost** of elevated stretches is much higher.

5.4. ULTRA MEGA RENEWABLE ENERGY PARKS

Why in News?

The Ministry of New and Renewable Energy (MNRE) aims to set up Ultra Mega Renewable Energy (RE) Parks with a capacity of a total of 50 GW in Gujarat and Rajasthan.

More on News

- The initiative could be the **one of the largest renewable energy investment** programmes in the **world**.
- **Khavada in Gujarat and Jaisalmer in Rajasthan** have been identified for RE parks of 25,000 megawatt (25GW) each.
- **Land would be made available** for setting up **solar, wind and wind hybrid plants** and the proposed parks would have received **necessary clearances** of the respective state governments and the Ministry of Defence.
- Ministry of Power has also been requested to **strengthen transmission** to these locations within 24 months for evacuation of power from these parks.

About Ultra Mega Renewable Energy Power Parks (UMREPPs)

- MNRE has undertaken a scheme to develop **UMREPPs under the existing Solar Park Scheme**.
- The **objective of the UMREPP** is to provide land upfront to the project developer and facilitate transmission infrastructure for developing RE based UMPPs with solar/wind/hybrid and also with storage system, if required.

- The **implementing agency** of the UMREPPs may be a **Special Purpose Vehicle (SPV)** in form of a Joint Venture Company (JVC) to be set up between Central Public Sector Undertaking (CPSU) and any State Public Sector Undertakings (SPSU) or State Utility or Agency of the State Government or a SPV fully owned by any CPSU or a SPV fully owned by any State PSU / State Utility / Agency of the State Government.
- Various companies such as NTPC, SECI have proposed to set up UMREPPs of around 42,000 MW in various states.

Advantages of UMREPPs

- **Provide Common Development Zones:** It offer developers location that is well characterized with proper infrastructure and access to amenities and where the risk of the projects can be minimized.
- **Increased Investments:** It increases the investment potential of already preferred renewable energy sector. For instance, the RE sector witnessed significant FDI inflows of \$3.22 billion over the last four years.
- **Enabling the Plug and Play Model:** Government has proposed the parks will already have necessary clearances and hence the developers can start production without delay.
- **Provision of related Services:** Services like secure financing and weather monitoring could be provided in large scale parks.

Mega Energy Push

450 GW target by 2030

175 GW target by 2022 includes:

100 GW solar power | 60 GW wind energy

Installed capacity of RE: 86 GW

34 GW Solar

38 GW Wind

36 GW Under Installation

35 GW Under Bidding

Apprehension

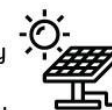
Competition to thermal

Slowdown in RE Implementation

Solar capacity growth | Wind energy

6.5 GW in 2018-19

9.4 GW in 2017-18



5.4 GW in 2016-17

Less than 2 GW now

Other Similar Initiatives

- **Ultra Mega Solar Power Projects:** The scheme envisages setting up at least 25 Solar Parks and Ultra Mega Solar Power Projects, **each with a capacity of 500 to 1000 MW**, targeting over 20,000 MW of solar power installed capacity within a span of 5 years starting from 2014-15.
- **Green Energy Corridor:** The project aims at evacuation of renewable energy from generation points to the load centres by creating intra-state and inter-state transmission infrastructure.

5.5. ENERGY- WATER-AGRICULTURE NEXUS: NITI AAYOG

Why in news?

Recently, the NITI Aayog and the World Bank organized a one-day workshop on **“Energy-Water-Agriculture Nexus: Grow Solar, Save Water, Double the Farm Income”** in New Delhi. This workshop is a part of the **Lighthouse India initiative** of the World Bank.

Lighthouse India is an initiative of the **World Bank Group** to support systematic efforts to create and curate knowledge and know-how generated within India and disseminate it across the country as well as to the outside world.

Need for examining Energy-Water-Agriculture Nexus

- India has been trapped in the energy-water-agriculture nexus for last several decades. The **Green Revolution** of the 1960s helped ensure food security for the starving millions. However, the economics of crop pricing and markets associated with the Green Revolution had damaging and far-reaching consequences on the country's water, energy and land resources.
 - The agricultural sector uses the **maximum amount of freshwater** in the country (around 85%). About 90% of the groundwater extracted is used by irrigation.
 - Groundwater irrigation is also **highly energy intensive**. The **policy of free power supply for agriculture** led to worsening situation by **promoting water intensive crops** such as rice and also encouraging wasteful use of water for irrigation.
 - Schemes such as **Minimum Support Price (MSP)** and the **Public Distribution System (PDS)** have ensured a economic preference for rice and wheat based diets. This has led to a **shift from traditional millets** and the resultant increase in micronutrient deficiency.
- The **sub-optimal use of water and energy** in agriculture has not contributed to any significant increase in agricultural production but has seriously hit the industrial and other sectors of the economy in terms of the availability of these resources and their resultant economic output.
- This points towards the need of examining the water-energy-agriculture nexus.

However, advancements in technology and falling prices, particularly of solar panels, have opened enormous opportunities of not only **shifting the nexus into a virtuous cycle** but also transforming rural livelihoods. India can also increase farm incomes, making agriculture climate resilient, and reducing agro-dependence of rural India by using this nexus virtuously.

Challenges from this nexus

- **Conflict between hunger and resource exploitation-** On one hand, increased agricultural production is needed to end hunger and malnourishment. On the other hand, resources like water are limited and also face contamination due to agricultural runoffs.
- **Conflict between resources-** People need access to food and also need access to energy, especially clean energy.
- **Population growth-** which will require all these resources and mandate production of more food with less energy.

Key insights from the workshop

- **Role of agriculture-** It is the **deciding factor** in the energy-water-agriculture nexus.
 - By giving free power, the agriculture distress will be passed on to next generations because of the over extraction of the ground water.
 - Adopting modern techniques like **drip and sprinkler irrigation** systems can help significantly in conserving water in irrigation.
 - **Incentives at community level** will also have impact on ground water saving.
 - To achieve crop diversification, it is critical that **farmers are linked with right markets**.
- **Grid-connected solar irrigation for agriculture and rural electricity supply-** holds immense potential to achieve the trifecta of saving water, doubling farmer income, and saving electricity.
 - It could lead to increase in groundwater extraction, especially in the areas where groundwater is shallow such as in eastern Uttar Pradesh, and parts of Bihar, Assam, and West Bengal.
- **Involving ground level functionaries-** such as state agriculture universities as they are more familiar with ground level conditions, challenges and solutions. They can also help **generate awareness among farmers**.
- **Design of schemes-** Some flexibility in scheme design and implementation should be provided to the states to help them adapt the interventions as necessary.
 - Scheme on **surface water** is needed for its better utilization to release some pressure on the ground water resources.
 - **KUSUM Scheme** - Farmer Enterprise (FPO/cooperative/FPC) model at the feeder level is most effective for the success of KUSUM-C. Further, it was suggested that the scheme should be linked with various water conservation techniques like micro irrigation and pond development.

Conclusion

The integrated nexus modelling approach provides opportunities for optimization of the water and energy resources in a given state under different scenarios, which may yield improved outcomes from all the sectors of the economy. As the conditions of nexus may vary at the state level, greater understanding can help in classifying the regions and the nexus.

Successful examples of virtuous cycle

- **Gujarat-** A scheme was offered to individual farmers for installation of solar irrigation system on selected feeders if more than 70% farmers on a feeder opt for the scheme.
 - The DISCOM borrows on behalf of the farmer and farmers' debt is serviced out of payment due for surplus electricity sold by the farmer (a sort of on-bill financing).
- **Rajasthan-** has used twin concepts of "**value of water in agriculture**" and "Drought Premium in case of grid-connected solar irrigation".
 - These demonstrate pricing policies for surplus electricity generated by grid-connected solar could encourage water conservation.
- **Maharashtra-** sub-station level solar generation.

Ministry of New and Renewable Energy (MNRE) has launched the **Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyan (PM KUSUM) Scheme** for farmers. KUSUM scheme has **three distinct components**, each of which is a self-standing scheme:

- **Component A:** sub-station level solar power plant between 0.5 MW to 2.0 MW to be installed through private sector, power utility, or farmers collective
 - **Component B:** off-grid solar irrigation
 - **Component C:** grid-connected solar that could convert the existing electric tube-wells to farmer-led solar pumps.
- Government has set separate target for each of these schemes.

5.6. ARSENIC CONTAMINATION IN GROUNDWATER

Why in news?

Recently, Central Ground Water Board (CGWB) released report on **Groundwater Arsenic Contamination in India**.

Key findings of the report

- **21 states** across the country have **pockets with arsenic levels higher than** the Bureau of Indian Standards' (BIS) stipulated permissible limit of 0.01 miligram per litre (mg/l).

- The states along the **Ganga-Brahmaputra-Meghna (GBM) river basin** Uttar Pradesh, Bihar, Jharkhand, West Bengal and Assam are the worst affected.
- Arsenic contamination in groundwater has **penetrated the food chain**, yet mitigation measures are targeted in treatment of groundwater or supply of surface water.
- Also, government testing of water sources for arsenic contamination has also been restricted to drinking water sources; it has not widened the **scope of investigation to water sources used for irrigation**.



Consequences of arsenic contamination

- Drinking of arsenic-rich water results in **skin cancer, cancers of the bladder, kidney and lung, diseases of the blood vessels and reproductive disorders**.
- Regular extraction of ground water for irrigation **deposits arsenic in soil and consequently its uptake by the crops**. Also, paddy farms flooded with contaminated water eventually causes **accumulation of arsenic in the food crops**.
- Rice husk used as **fodder for livestock, exposes them to impacts of arsenic** contamination. This leads to **potential risk for humans when they consume cattle-based food products**.
- The presence of arsenic in food crops means **spread of arsenic is much wider** and beyond the GBM basin.
- The entry of arsenic into the food chain, in addition to drinking water **increases possibilities of biomagnification**.
 - **Biomagnification** is concentration of a toxin (such as pesticides) at successively higher levels in a food chain.

CGWB (established in 1970) is a subordinate office of **Ministry of Water Resources** entrusted with the responsibilities of providing scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of ground water resources of the country.

Sources of arsenic contamination

- Natural processes in groundwater: **Weathering of rocks and minerals** comprising sand, silt and clay, **followed by leaching and runoff**.
- **Anthropogenic activities** like intense exploitation of groundwater, application of fertilizers, burning of coal and leaching of metals from coal-ash tailings.

Methods to tackle Arsenic contamination

- Treatment technologies based on **oxidation, coprecipitation, adsorption, ion exchange and membrane** process has been developed for removal of arsenic from contaminated water.
- Among the various removal technologies, **lime softening and iron coprecipitation have been reported to be the most effective**.
- Innovative technologies, such as **permeable reactive barriers, phytoremediation, biological treatment and electro kinetic treatment** are also being used to treat arsenic contaminated water and soil.
- **Rainwater harvesting and recharging of ground water table** to avoid fall in groundwater level and check leaching of metals into groundwater.

Other contaminants, sources and effects

| Metal | Sources | Toxic effects |
|----------|---|---|
| Cadmium | coal, nuclear and coal power plant, batteries, ceramics, toys | Itai Itai disease |
| Chromium | Leather/tranner, thermal power plant, mining fertilizers, textile photography | Allergies, Bronchial asthma |
| Lead | Mining, coal, automobile, paper dyeing, petrochemicals | Learning disability, mental retardation |
| Mercury | Mining, paper and pulp, coal power plant, cement, electrical equipments, pesticides cosmetics | Minimata disease |
| Nickel | Mining, coal, power plant, phosphate fertilizers, chocolate, automobile electroplating | Dermatitis, pneumonia |
| Uranium | Mining | Cancer |
| Zinc | Phosphate fertilizers, distillery, pharmaceuticals | Fever |

5.7. TREATMENT OF WASTEWATER

Why in news?

Recently study by the **United Nations University - Institute for Water, Environment and Health (UNU-INWEH)**, noted that efficiently treating wastewater can help meet SDGs.

Findings of the report

- The **world generates about 380 trillion litres (tl) wastewater every year**, which is projected to rise roughly 51 per cent by 2050 to 574 tl.

- Nutrients such as **nitrogen, phosphorous and potassium** recovered from wastewater produced annually can offset 13.4 per cent of global demand to produce fertilisers.
- Energy can be recovered from such wastewater in the form of methane by anaerobic digestion of wastewater. This methane can be used as green fuel or to generate electricity.
- **Usable water** reclaimed from wastewater can **irrigate up to 31 million hectares** of agricultural land.
- With **full-energy recovery**, current wastewater volume could provide enough **methane fuel** to power 196 million households by 2030 and 239 million households by 2050.
- **Asia** contributed the most at **42 per cent of global wastewater generation**, followed by Europe and North America (18 per cent each) in 2015.
- At per capita level, rich countries in North America generated almost 140 per cent more than the world average. Europe's per capita output was half of North America's.

About UNU-INWEH

- UNU-INWEH acts as the **"UN Think Tank on Water"** and contributes to the resolution of the global water challenge through a unique programme of **applied research and education**.
- It carries out its work in cooperation with other research institutions, international organizations, individual scholars, and scientists throughout the world.
- It's **vision is to create a world free of water problems** where sustainable human development and environmental health and security are assured for all.

Need for Wastewater management in India

- As per **NITI Aayog's composite water management index**, India is facing one of its major and most serious water crises. Its water demand is projected to be twice the available supply by 2030. While almost **80% of water supply** flows back into the ecosystem as wastewater.
- In India, 70% of states **treat less than half of their waste water** and the median state treated **33% of its water** in 2016-17.
- **Scarcity of water in most of the cities** (due to rise in population and fall in water availability), **can be addressed** by waste water management. E.g. According to a study, **waste water recycling can meet more than 20 per cent of the Bangalore's daily needs**.
- In India **more than half of the cultivated land** is rain-fed and treated water can be used to tackle water demands, and climate change impact. E.g. nearly **90 percent of wastewater in Israel** is treated for reuse, most of it in **agricultural irrigation**.
- **To check water contamination** due to untreated water entering surface and ground water sources. India is currently ranked **120 among 122 countries in the water quality index**. **21% of communicable diseases** in India are from usage of unsafe water.
- **To maintain Food security:** Due to contaminated soil agricultural productivity reduces, which directly affects food security.
- **To achieve SDG 6:** It calls for the improvement of water resource management in a broad, inclusive and integrated way. A major portion of **663 million people around the world** who still lack improved sources of drinking water are from India.

Case studies

- **Avadi Sewage Treatment Plant:** Tamil Nadu Police Housing Corporation has successfully constructed an **off-grid sewage treatment plant** that not only solved the problem of sewage disposal but also provided a pond of treated water for fishing, vegetable cultivation and recharging of groundwater.
- **Sewage-fed aquaculture system of Kolkata:** Farmers around Kolkata city in India developed a technique of using domestic sewage for fish culture and other agricultural purposes.
- **Zero liquid discharge in textile industry in Tirupur:** is first to opt for zero liquid discharge in a systematic manner, eliminating the release of pollutants.
- **Singapore's NEWater** is reclaimed water, purified using dual-membrane (via microfiltration and reverse osmosis) and ultraviolet technology, can be used for **potable and non-potable purpose**.

Steps taken for waste water management

- **Initiatives by NITI Aayog**
 - NITI Aayog's **Composite Water Management Index** which ranks state includes **water treatment capacity as parameter** to enable effective water management.

- NITI Aayog under **Urban Management Programme** on 'Water Recycling and Reuse' is working on capacity building for **Urban Water Cycle Management for Sustainable and Resilient Water Infrastructure and Healthy Cities**.
- **National Policy on Faecal Sludge and Septage Management (FSSM)** to be implemented under Swachh Bharat Mission, AMRUT and Smart City Mission.
- Government set up a **Centre of Excellence in the area of Decentralized Wastewater Management**, at IIT Madras.
- Gujarat government has come up with a plan to **limit supply of freshwater for drinking and irrigation purposes only**. While industrial demand will be met through treated wastewater.
- Construction of **Sewage Treatment plants (STPs)** to treat sewage generated by domestic and industrial waste. Also, **Common Effluent Treatment Plants (CETPs)** for cluster of small-scale industries.
- '**Namami Gange Programme**' under 'Ganga action plan' was launched for effective abatement of pollution, conservation and rejuvenation of National River Ganga and **Yamuna Action Plan** to restore river Yamuna.

Way forward

- Adoption of strategies like **environmental taxes, pollution levies, polluter pay principle** and **circular approach (use, treat, reuse)** to manage wastewater.
- **Strict legal and regulatory framework** to regulate and treatment of industrial waste.
- **Knowledge, innovation and capacity building** on wastewater can be promoted by policy-makers and researchers.
- According to NITI Aayog **water regulatory framework** for wastewater management should be established in all states firming timelines for implementation.
- To shift to wastewater recycling, finance and technology constraints need to be sorted out by promotion **Public-Private Partnership**.

5.8. SCIENTIFIC DISPOSAL AND UTILIZATION OF FLY ASH

Why in news?

The National Green Tribunal has recently directed **thermal power plants to take prompt steps toward the scientific disposal of fly ash**.

More on the news

- The tribunal said the non-compliant plants will have to pay environmental compensation.
- **Central Pollution Control Board (CPCB)** has been asked to compute and levy environmental compensation.
- The tribunal also directed a committee comprising CPCB and IIT, Roorkee to assess the environmental damage with regard to the breach sites and submit its recommendation within three months.

Fly ash

- It is a fine powder, which is the by-product of burning coal in thermal power plants.
- **Composition:** Fly ash includes substantial amounts of oxides of silica, aluminum and calcium. Elements like Arsenic, Boron, Chromium, lead etc. are also found in trace concentrations.

Fly ash Generation in India

- Coal/Lignite based Thermal Power Generation has been the backbone of power capacity addition in the country. **Indian coal is of low grade with ash content of the order of 30-45 %** in comparison to imported coals which have low ash content of the order of 10-15%.
- Large quantity of ash is, thus being generated at coal/lignite based Thermal Power Stations in the country, which not only requires large area of precious land for its disposal but is also one of the sources of pollution of both air and water.
- The fly ash generation in India stands about 217.04 million ton and 77.59% of it was utilized in 2018-19.
- **Methods of scientific disposal**
 - **Dry Fly Ash Disposal system:** Electrostatic precipitation (ESP) enables collection of dry Fly Ash which is then transported by trucks or conveyors at a site and disposed of by constructing a dry embankment.
 - **Wet Fly Ash Disposal System:** Fly Ash is mixed with water and transported as slurry through pipe and disposed of in ash ponds or dumping areas near the plants.

Utilisation of Fly Ash

- **Used in agriculture:** It improves water holding capacity and soil aeration, thus increasing crop yield. It also contains micronutrients like phosphorus, potassium and calcium
- **Used in variety of construction works-** Fly ash is a proven resource material for many applications of construction industries and currently is being utilized in manufacturing of portland cement, bricks/blocks/tiles manufacturing, road embankment construction and low-lying area development, etc.
 - **Concrete made with fly ash is stronger and more durable** than traditional concrete made with Portland cement.
 - Fly ash is a **lightweight material and therefore it undergoes lesser settlement** and hence can be used for embankment construction over weak substrate such as alluvial clay or silt where excessive weight could cause failure.
- **Manufacturing of Absorbents** that are suitable for purification of waste gases, drinking water purification, waste water treatment etc.

Government Measures to promote Fly Ash Utilization

- **Central Electricity Authority (CEA)** on behalf of Ministry of Power has been monitoring the fly ash generation and its utilization in the country at coal/ lignite based thermal power stations since 1996-97.
- The Ministry of Environment, Forests and Climate Change (MoEFCC) issued the first directive for promoting fly ash utilisation in 1999. It was subsequently amended with notifications issued in 2003, 2009 and 2016. Notifications on Fly Ash Utilization in 2016 had following features-
 - Mandatory uploading of details of fly ash available on Thermal Power Station's (TPS) website and updating of stock position at least once in every month;
 - Increase in mandatory jurisdiction of area of application from 100 km to 300 km;
 - Cost of transportation of fly ash to be borne entirely by TPS up to 100 km and equally shared between user and TPS for more than 100 km and up to 300 km;
 - target of 100% Fly Ash utilization by 31st December 2017;
 - Mandatory use of fly ash based products in all Government schemes or programmes e.g. Pradhan Mantri Gramin Sadak Yojana, Mahatma Gandhi National Rural Employment Guarantee Act, 2005, Swachh Bharat Abhiyan, etc.
- The GST rate on fly ash and fly ash aggregate with 90% or more of fly ash content was reduced from 18% to 5% in 2017.
- A mobile app for ash management- **ASH TRACK** was created to help establish a link between fly ash users and power plant executives.
- Another government notification, released in February 2019 states that-
 - The existing red clay brick kilns located within 300 km shall be converted into fly ash-based bricks or blocks or tiles manufacturing unit within one year from the date of publication of this notification.
 - In order to encourage the conversion, TPS should provide fly ash at the rate of Re 1 per tonne and bear the full transportation cost up to 300 km to such units.

Way Forward

- Renovation and modernization of coal/lignite based Thermal Power Stations need to include -
 - the **technological advancement** required to ensure development of dry fly ash collection, storage and disposal facilities so that fly ash in dry form could be made available to its users.
 - **marketing strategy** for the development of fly ash based industries and making available fly ash and fly ash based building products in the nearby markets.
- **Policy support:** To promote the usage of fly ash, state and local governments should issue preferential policies that encourage its recycling, such as the preferential purchase of recycled fly ash products and reduction of the overall effective tax.
- Specifications for **Fly Ash based building materials should be standardized** and their use must be promoted.
- There is a need to encourage '**Industry-Institute Interactions**' regarding scientific disposal of fly ash for entrepreneur development, creating awareness and organizing training programmes.
- Induction of 'Fly Ash' as a subject in academic curriculum of Engineering and Architecture is needed.

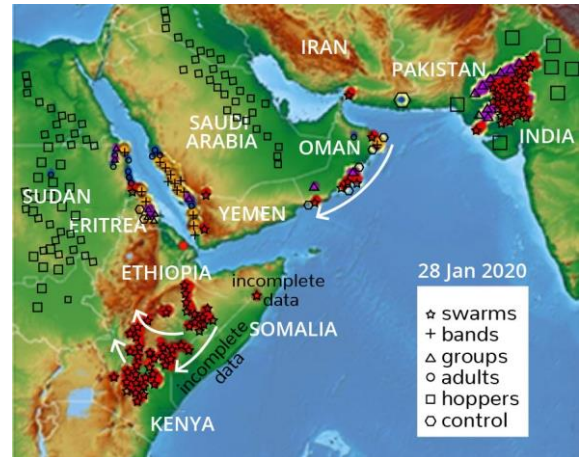
5.9. LOCUST ATTACK

Why in News?

During the past few weeks, **major locust attacks have been observed in several countries** in western and southern Asia and in eastern Africa.

Areas affected by Locusts attack

- Locust swarms spread to **Djibouti, Eritrea, Uganda, Tanzania, South Sudan and Democratic Republic of Congo (DRC)** in February.
- FAO has identified three hotspots of threatening locust activity- the Horn of Africa, the Red Sea area, and Southwest Asia.
 - **Horn of Africa** has been called the **worst-affected area**, with an unprecedented threat to food security and livelihoods.
 - ✓ Locust swarms from Ethiopia and Somalia have travelled south to Kenya and 14 other countries in the continent.
 - **In the Red Sea area**, locusts have struck in Saudi Arabia, Oman, and Yemen.
 - **In Southwest Asia**, locusts swarms have caused damage in Iran, India, and Pakistan.
- In India, locusts attacks emanating from the desert area in Pakistan have **struck parts of Rajasthan and Gujarat**, causing heavy damage to standing crop.
- Funds sought by Food and Agriculture Organization (FAO), to combat locust outbreaks in east Africa, **nearly doubled** in a month to \$138 million for February 2020.



About Locusts

- Locusts are a **group of short-horned grasshoppers** that multiply in numbers as they migrate long distances in destructive swarms (up to 150km in one day).
- The swarms devour leaves, flowers, fruits, seeds, bark and growing points, and also **destroy plants** by their sheer weight as they descend on them in massive numbers.
- **Four species of locusts are found in India:** Desert locust (*Schistocerca gregaria*), Migratory locust (*Locusta migratoria*), Bombay Locust (*Nomadacris succincta*) and Tree locust (*Anacridium sp.*).
- The **desert locust is regarded as the most destructive pest** in India as well as internationally, with a small swarm covering one square kilometre being able to consume the same amount of food in one day as 35,000 people.
- In all there are three breeding seasons for locusts -**Winter breeding** [November to December], **Spring breeding** [January to June] and **Summer breeding** [July to October]. India has only one locust breeding season and that is Summer breeding.
- **Locust Warning Organisation (LWO)**, Directorate of Plant Protection Quarantine and Storage, **Ministry of Agriculture & Farmers Welfare**, is responsible for monitoring, survey and control of Desert Locust in Scheduled Desert Areas mainly in the States of Rajasthan and Gujarat.

Relationship between Ecological conditions and Locusts attack

- When **conditions are favourable for reproduction**, locust numbers increase and when they are not, numbers decrease either by natural mortality or through migration.
 - For the **Desert Locust, favourable conditions for breeding are**-moist sandy or sand/clay soil to depths of 10-15 cm below the surface, some bare areas for egg-laying, and green vegetation for hopper development.
- As per Scientists, **unusual weather patterns** exacerbated by **climate change** have created ideal conditions for insect numbers to surge.
 - **Warmer seas** are creating more rain, **wakening dormant eggs**, and **cyclones** that disperse the swarms are getting stronger and more frequent.

5.10. INDIAN SCIENTIFIC EXPEDITION TO THE SOUTHERN OCEAN 2020

Why in News?

Recently, the 11th expedition of an Indian mission to the Southern Ocean, or Antarctic Ocean has been commenced.

About the Expedition

- It is a part of the **Indian Southern Ocean Research Program** which was initiated in 2004 when the pilot expedition took place onboard **ORV Sagar Kanya**. This is the **11th** such Expedition.
- This program was initiated by the Ministry of Earth Sciences (MoES) and is operated under **National Centre for Polar and Ocean Research (NCPOR)**.
- A key objective of the mission is to quantify changes that are occurring and the impact of these changes on **large-scale weather phenomenon**, like the Indian monsoon, through tele-connection.
- The expedition involved working on **Six Core projects**. They are:
 - **Study hydrodynamics and biogeochemistry** of the Indian Ocean sector of the Southern Ocean. It also involves sampling sea water at different depths.
 - Observations of **trace gases in the atmosphere, such as halogens and dimethyl sulphur** from the ocean to the atmosphere.
 - Study organisms called **coccolithophores** that have existed in the oceans for several million years; their concentrations in sediments so as to create a picture of past climate.
 - **Investigate atmospheric aerosols** and their optical and radiative properties, to quantify their impact on Earth's climate.
 - Study the **Southern Ocean's impact on Indian monsoons**.
 - Understand **dynamics of the food web in the Southern Ocean** for safeguarding catch and planning of sustainable fishing.

Importance of studying Southern Ocean

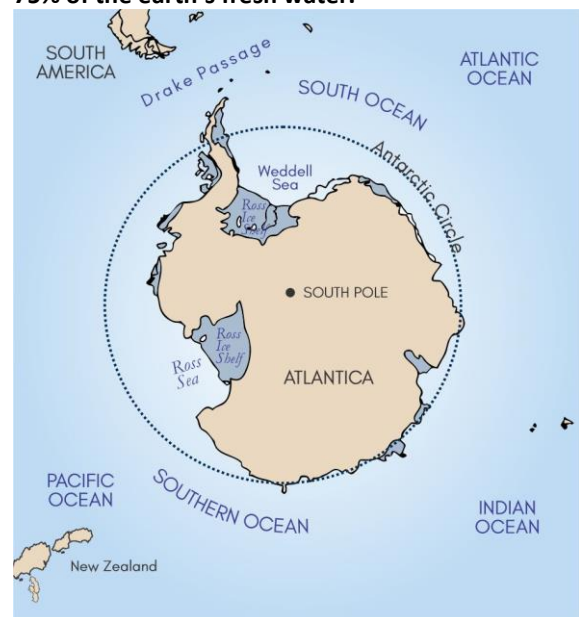
- **Understanding weather phenomenon: Polar front**, a weather front located typically in the mid-latitudes that separates Antarctic and Polar air masses, acts as a trigger for mid-latitude cyclones.
- **It is a potential sink of atmospheric Carbon dioxide**: The Southern Ocean (SO) is the source and sinks for several intermediate and deep water masses of the world oceans.
 - The higher amount of the vertical transfer of the momentum from the horizontal winds due to lack of landmass and high surface wind speeds leads to deeper mixed layers.
- **Complex Food Web Structure**: SO is a High-Nutrient Low Chlorophyll (HN-LC) regime due to lack of bioavailability of Iron to support primary production. Such regimes are known to have complex food-web structure including highly active microbial loop.

About Southern Ocean

- Southern Ocean, also called Antarctic Ocean is the southern portions of the Pacific, Atlantic, and Indian oceans and their tributary seas surrounding Antarctica.
- Unbroken by any other continental landmass, the Southern Ocean's narrowest constriction is the Drake Passage between South America and the tip of the Antarctic Peninsula.

About Antarctica

- Antarctica "the white continent" is the **fifth** largest continent in the world.
- **James cook** discovered Antarctica when he was crossing the Antarctic Circle.
- It has unique wildlife, extreme coldness, dryness, windiness and unexplored territories.
- It is situated within the **Antarctic Circle** and is surrounded by **Southern Ocean**.
- The world's largest ocean current, **the Antarctic circumpolar current** circumvents the Antarctic continent
- Of the 14 million-sq.km area, **98% is covered with thick ice sheets** that formed 25 million years ago and **holds 75% of the earth's fresh water**.



- Underestimating it could be disastrous in period of global warming.

- **Understanding Impact of Climate change in polar region:** In Polar Regions, surface temperatures are projected to rise twice as fast as the global average, due to a phenomenon known as **polar amplification**.

Conclusion

All oceans around the world are connected through the Southern Ocean, which acts as a transport agent for things like heat across all these oceans. The conveyor belt that circulates heat around the world is connected through the Southern Ocean and can have a large impact on how climate is going to change due to anthropogenic forces.

India's Permanent stations in Antarctica

Dakshin Ganga

- It was established in 1983 over the Ice shelf in Central Dronning Maud Land region.
- The station was abandoned in 1990 as it got buried under snow.

Maitri

- It was established in 1988 on an ice free, rocky area on the Schirmacher Oasis.
- Maitri also serves as a gateway to one of the largest mountain chains in central Dronning Maud land.

Bharati

- It was established in 2013 is located between Thala Fjord & Quilty bay, east of Stornes Peninsula in Antarctica.
- It facilitates year-round scientific research activity by the Indian Antarctic program.

About NCPOR

- It was established as an autonomous Research and Development Institution of **the Ministry of Earth Sciences** in 1998.
- It is India's premier R&D institution responsible for the country's research activities in the Polar and Southern Ocean realms.
- The Centre is designated as the **nodal organization** for the co-ordination and implementation of the Indian Antarctic Programme.
- Year-round maintenance of the two Indian stations (**Maitri & Bharati**) in Antarctica is the primary responsibility of the Centre.

5.11. THE WORLD OF ORGANIC AGRICULTURE: STATISTICS & EMERGING TRENDS 2020

Why in News?

The survey was released by Switzerland-based Research Institute of Organic Agriculture and Germany-based International Federation of Organic Agriculture Movements — Organics International (**IFOAM**)

Key Global Findings

- Currently, **1.5 percent of world's agricultural land is organic**. The regions with **largest areas of organic agricultural land are Oceania** (almost 50 percent of the total organic area) and **Europe** (22 percent).
 - **Australia (35.6 million hectares) has most agricultural land under organic farming.**
 - In 16 countries, 10 percent or more of the agriculture land is organic. **Liechtenstein has the highest organic share.**
 - There was an **increase in organic agricultural land in all regions**. In Europe, the area grew by 8.7 percent and in Asia by almost 8.9 percent.
- The number of organic producers is increasing i.e. 2.8 million organic farmers in 2018 (a rise of 55% from 2009).
 - Of the **2.8 million organic producers** 47 per cent were in Asia, followed by Africa, Europe and Latin America.
 - **Countries with most producers are India, Uganda and Ethiopia.**
 - Nearly **80 per cent of the world's organic producers are smallholders** mostly from low- and middle-income countries.
- **United States the single-largest market** (42 per cent share) for organic food and drink.

India's status

- 1.1% land of total farmland under organic cultivation in 2018
- 1.14 million organic producers — 41% of the 2.8 million global total.
- 1.9 million hectare under organic agriculture (including in-conversion areas) — 2.7% of the 71.5 million hectare global total.
- 64% growth in organic acreage in decade through 2018; 8.9% growth from 2017 to 2018.
- 47% of world's organic cotton production.

- The IFOAM survey on standards and legislation found **84 countries had standards regarding organic farming by 2019**, and 17 more were in the process of drafting legislation.
- Number of **Participatory Guarantee Systems (PGS) initiatives has been growing** on all continents.
 - PGS are locally focused quality assurance systems. PSG have proven to be an affordable alternative to third-party certification, an effective tool to develop local markets for organic produce and are particularly appropriate for small farmers.

5.12. INCOIS LAUNCHES SERVICES FOR MARINE-BASED USERS

Why in news?

Indian National Centre for Ocean Information Services has launched three products to better cater to its users.

Three products include

- **Small Vessel Advisory and Forecast Services System (SVAS):**
 - It is to improve operations of the numerous small marine vessels, particularly fishing vessel by **warning about potential zones where vessel overturning can take place, ten days in advance**.
 - The warning system is based on **'Boat Safety Index' (BSI)** derived from forecast outputs such as wave height, wave steepness, directional spread and the rapid development of wind at sea.
- **The Swell Surge Forecast System:**
 - Designed for the **prediction of Kallakkadal or Swell Surge** that occurs along the Indian coast, particularly the west coast.
 - Kallakkadal (term used by Kerala fishermen) are **flash-flood events** that take place without any noticeable advance change in local winds or any other apparent signature in the coastal environment.
 - Kallakkadal, mistaken as Tsunami, is different from it as, it is caused by meteorological conditions in the Southern Ocean.
- **Algal Bloom Information Service (ABIS):**
 - It **provides near-real time information on spatio-temporal occurrence and spread of phytoplankton blooms** over the North Indian Ocean, which are detrimental to coastal fisheries and induce respiratory problems within the coastal population.
 - For this, **four regions have been identified as bloom hotspots**
 - ✓ North Eastern Arabian Sea
 - ✓ Coastal waters off Kerala
 - ✓ Gulf of Mannar
 - ✓ Coastal waters of Gopalpur (Odisha)

Indian National Centre for Ocean Information Services (INCOIS)

- INCOIS is an **autonomous organization under the Ministry of Earth Sciences (MoES)**, established in 1999 at Hyderabad.
- It is a unit of **Earth System Science Organization (ESSO)**, New Delhi. ESSO operates as an executive arm of the MoES for its policies and programmes.
- INCOIS is mandated to **provide the best possible ocean information and advisory services** to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvement through systematic and focused research.

6. SOCIAL ISSUES

6.1. PERMANENT COMMISSION AND COMMAND POSITIONS TO WOMEN ARMY OFFICERS

Why in News?

Supreme Court of India has made a landmark verdict in **The Secretary, Ministry of Defence versus Babita Punia and Others case (2011-2020)**, by **allowing permanent commission (PC) status to women officers in Short Service Commission (SSC)** in the Indian armed forces and making them **eligible for command positions**.

Background

- Women officers have been serving in the Armed Forces for about 80 years. They were inducted in the **Military Nursing Service in 1927** and in the **Medical Officers cadre in 1943**.
- Starting in 1992, other branches like **Army Ordnance Corps, Army Education Corps (AEC) and Judge Advocate General (JAG)** were opened up, followed by opening up of more Arms/Services gradually over the years.
- Initially, they were brought in for 5 years of service under **Women Special Entry Scheme**, which was later converted into **SSC in 2006**. The tenure of engagement was increased to 10 years in 1996 and further extended to 14 years in 2004.
- Thus, a female officer on Short Service Commission could only work for 14 years. After this, she had to retire from service.
- Accordingly, they were granted time-scale substantive promotions to the rank of **Captain, Major and Lt Col after 2, 6 and 13 years of reckonable service** respectively at par with the promotions available to the Permanent Commission Officers.
- In 2008, Women became eligible for **PC in Army Education Corps and Judge Advocate General Department**. However, they are still excluded from some Combat arms such as **infantry and armoured corps**.
- A case was first filed in Delhi High Court by women officers in 2003. In **2010, Delhi High Court, in a landmark judgement**, had directed the government to allow grant of permanent commission to women serving in short service commission saying they “deserve better from the government” which had shown reluctance in treating them on par with their male counterpart.
However, the HC had turned down their plea of being allowed in combat operation. But the order was never implemented, and was challenged in the Supreme Court by the then government.
- After this verdict in 2010, **Navy and the Air Force allowed permanent commission for women** officers in branches like Fighter Pilots and Naval Armament Inspectorate respectively. But the Army stalled.
- Last year, **Ministry of Defence (MoD) decided to grant permanent commission to women in 8 Arms/Services of Indian Army** where they are inducted for Short Service Commission — Signals, Engineers, Army Aviation, Army Air Defence, Electronics and Mechanical Engineers, Army Service Corps, Army Ordnance Corps and Intelligence.
- **Major concerns that remained:**
 - **2019 order of the MoD:**
 - ✓ it was only for officers with less than 14 years of service, thus keeping out those who have served longer, and have been petitioners.
 - ✓ it would only keep them in the staff appointments rather than command position.
 - Women officers in SSC could not attain a rank of Colonel or above unlike Permanent Commission Officers.
 - Pension benefits were denied to women officers in SSC because they get eligible for the same after 20-24 years of service.

Organization of Indian Army

- Indian Army functions under two parts namely **Combat Arms and Services**.
- **Combat Arms** consist of **(Fully) combat roles** like Armoured corps, infantry and mechanised infantry as well as **Combat Support roles** like Corps of Army Air Defence, Army Aviation Corps, Corps of engineers and Corps of signals.
 - Gorkha Rifles, Dogra regiment, Punjab Regiment etc. come under Infantry.
- **Services** consist of Army Service corps (ration, transport and clerks), Army Medical Corps, Army Ordnance Corps (armament, ammunition, vehicles, clothing and all equipment), The Intelligence corps etc.
- **Commissioned officers** are the leaders of the army and command anywhere from Platoon, Company, Battalion, Brigade, Division, Corps & the Whole army.

About the recent SC verdict

| What it allows | What it doesn't allow |
|--|--|
| <ul style="list-style-type: none"> All women serving as SSC are now entitled to opt for PC — they are qualified for PC as much as all male SSC officers are entitled to opt for the PC. Applies to women in all in 10 branches of the SSC Arms/Services of the Army — no exceptions. It has also made recommendations to correct the anomalies including in the matter of pensions due to women Officers, who have been serving and completed more than 14 years of service. Those who served 20 or more years, whether or not they got a PC, will be entitled to pension benefits. Women were already allowed to be Platoon and Company commanders, but never a Unit even if they were in Permanent Commission. The verdict enables them to become Commanding Officers in units and larger groupings which are headed by Colonel and above ranks respectively. <ul style="list-style-type: none"> This Colonel and above ranks were unfairly denied to women earlier. Command is now open to women officers — this doesn't necessarily mean commanding to fight battalions, but that women can rise to the colonel level to be eligible for which 15 years of service is required. A command can also be of a non-fighting unit. | <ul style="list-style-type: none"> Does not open combat arms (infantry and armoured corps) to women — the judgment leaves it to the government of the day, without nudging in any direction. Does not make permanent commission mandatory — a woman officer can opt for it, but does not get it mandatorily, or by right. No such thing as a right to take command of something — command positions are decided on the basis of vacancies, qualifications (academic, performance, medical). It usually takes 20 years for an officer to get to this level. Does not amount to an affirmative action/reservation of jobs in PC or command position — it promises equality of treatment, but the discretion of granting command and PC posts lies with the Army and government, but the decision must be explained. |

Way Forward

India began recruiting women to non-medical positions in the armed forces in 1992, yet they make up about 4 percent of the army's more than one million personnel, according to latest data. Moreover, 6.7% of the Navy and 13.28% of the Air Force personnel were women as of June 2019. So, it suggests that India remains a long way from equal representation in the army and other branches of the military.

- More measures like opening the doors of the National Defence Academy, which is still reserved only for boys post-schooling, and adding women to the rank and file (in the same way police has woman constables) are also needed to ensure women get the representation they deserve.
- In the navy and air forces, certain combat roles are open to women, but there is no such provision yet in the army. We should follow the examples of Australia, Germany, Israel and the United States, which allow women to take on combat roles.
 - Women should get their fair share of respect and honour in army as **30% of the total number of women officers are in fact deputed to conflict areas** which shatters the suppositions that she is weak or unsuitable to perform her duties on rough terrains.

6.2. WOMEN AND DIGITAL LITERACY

Why in news?

Recently, Facebook launched the **'We Think Digital'** programme in partnership with the **National Commission for Women (NCW) and Cyber Peace Foundation** to provide digital literacy training to 1,00,000 women across seven states.

About the programme

- It seeks to **provide digital literacy training to 1,00,000 women** across seven states in Uttar Pradesh, Assam, West Bengal, Madhya Pradesh, Gujarat, Jharkhand, and Bihar.
- Its **objective** is to create digital leadership amongst women and help them use technology to **empower, enable** them to make smart choices and be secure from online risks.

Understanding digital literacy

- It has been defined as **the ability of individuals and communities to understand and use digital technologies** for meaningful actions within life situations.
- Any individual who can operate computer/laptop/tablet/smart phone and use other IT related tools is being considered as **digitally literate**.
- It has three aspects:
 - Finding and consuming digital content;
 - creating digital content;
 - communicating or sharing.

- Starting from the state of **Uttar Pradesh**, the programme will be expanded to other states including, Assam, West Bengal, Madhya Pradesh, Gujarat, Jharkhand, and Bihar throughout the year.
- The programme will focus on **digital literacy and citizenship**, addressing issues around **privacy, safety, and misinformation**.

Status of digital literacy among women

- **Digital gender gap** in India is huge, as less than a third of India's total internet users are female i.e. 29 %.
- Globally in developing countries the number of women using the internet is **12% less than men**.

Reasons for low digital literacy amongst women

- **Social conditioning:** Women, often did not make use of ICTs meant to empower them because of several obstacles such as lack of self-confidence, low self-esteem, illiteracy, averseness in use of in modern technology resulting in low exposure and awareness.
- **Affordability:** Mostly due to poverty and lack of resources, they are unable to afford computer and internet services readily. Given that women on average earn 25% less than men globally, high internet prices discriminate disproportionately against women.
- **Digital skills & education:** Women face several barriers such as lack of competence in use of equipment, lack of training facilities etc. Yet, the country is making slow progress on providing digital literacy training and Internet access in public institutions at large scale.
- **Grim status in Rural Sphere:** Women in rural India face multiple issues for gaining digital literacy, such as lack of education, awareness, accessibility and often restrictions/resistance **because of their gender**.
 - A study conducted in rural Tamil Nadu (2000), showed that the majority of women did neither own the infrastructure nor did they know about the internet enabled computer facilities available at kiosks in their villages.
- **Online safety:** Mostly, Police and courts are still not equipped to handle ICT-mediated violence and harassment cases. Legislation to protect the privacy of data and communications is also not implemented in true spirit, bringing an overall aversion from the digital services.

Why digital literacy and digital inclusion is significant for women?

- **Access to financial services (economic empowerment):** Knowledge of and access to these digital services such as **mobile money services** can empower women to start small businesses and give them greater control over their money and savings. This has positive implications for their communities as **women globally reinvest about 90% of their income into their households**.
 - **For example: M-Pesa mobile money service in Kenya** has gained much traction in development circles M-Pesa, as it has uplifted 2% of Kenya's households out of poverty. The results are most compelling for female beneficiaries.
- **Activism and participation in campaigns against gender inequality:** Women's ability to connect and mobilise via social media and the internet is increasingly vital to the success of campaigns against gender inequality.
 - **#DelhiGangRape** resulted in anti-rape provisions being built into India's Criminal Code,
 - **#sendeanlat** ('tell your story') has generated national discussions on violence against women in Turkey.
 - **#metoo** movement, brought the issue of workplace sexual harassment to the fore globally.

Measures

- Multiple initiatives have been started by the Government of India to help the people in rural areas and women in particular to gain digital literacy.
 - **National Digital Literacy Mission (NDLM)**.
 - **'Digital Saksharta Abhiyan'** (DISHA), launched in 2014 with a target of reaching out to 42.50 lakh people
 - **'Pradhan Mantri Gramin Digital Saksharta Abhiyan'** (PMGDISHA) in 2017 with a special focus on covering 6 crore rural households by March 2019.
 - **Beti Bachao Beti Padhao, e - Sakhi, and Mahila E-Haat** among others.
- **Many NGOs and Corporates** have joined to develop use of local languages to access the internet and use of voice and videos for the illiterate.
- **Private-Public partnerships** are also at play in building digital literacy, bridging the gender gap and empowering mothers digitally - giving rise to **'Digi-Moms'**.

- **Access to information, connection and liberation:** The internet means access to a wealth of information, women’s ability to communicate with each other freely, regaining a sense of agency in their own education as they teach themselves new skills.
 - At times, it may be deemed inappropriate for girls and women to ask questions regarding **sensitive subjects like reproductive health, sex, religion, politics, and societal norms**. Internet has a wide range of resources that can provide women with information about their health and well-being.
- **Access to educational resources:** The biggest benefits of being digitally literate is that there is a plethora of **free learning resources online**. From YouTube videos to educational apps, one can use these platforms to supplement the education, to learn new skills etc.
- **To fight social discrimination through digital inclusion:** A study on mobile phone ownership and usage by women in India, found that households where women had mobile phones reported **lower tolerance for domestic violence** and higher women’s autonomy in mobility and economic independence.
- **To counter cyber threat:** With the advent of laptops, smartphones and online learning, there is an urgent need to give girls the tools to be safe in this online environment, as new challenges, such as cyberbullying, make it critical to equip girls with the relevant skills and digital awareness.

Conclusion

Thus, India must view “digital-gender-divide” as “digital-gender-opportunity”, as it will present a tangible opportunity for women to tackle longstanding challenges of gender inequalities, including access to employment, income, education and health services.

6.3. NATIONAL CONSULTATION ON THE REVIEW OF BEIJING +25

Why in news?

To mark **25 years of adoption of Beijing Declaration and Platform for Action (BPfA)**, Ministry of Women & Child Development (MoWCD), National Commission for Women (NCW) and UN Women organized a National Consultation on Review of Beijing +25.

More on news

- The aim of the consultation was to **bring together civil society and the women and youth of India**, gender equality advocates from all walks of life, in a national public conversation on the urgent actions that need to be taken for the realization of gender equality.
- It also aimed to **galvanize all stakeholders to implement actions** that remove the most conspicuous barriers to gender equality.
- The year 2020 marks the twenty-fifth anniversary of the **Fourth World Conference on Women and adoption of the Beijing Declaration and Platform for Action (1995) (Beijing + 25)**.

12 critical areas of concern

- Women and the environment
- Women in power and decision-making
- The girl child
- Women and the economy
- Women and poverty
- Violence against women
- Human rights of women
- Education and training of women
- Institutional mechanisms for the advancement of women
- Women and health
- Women and the media
- Women and armed conflict

About Beijing Declaration and Platform for Action (1995)

- BPfA was adopted in Fourth World Conference on Women (1995). It sets **strategic objectives and actions for advancement of women** and achievement of gender equality in 12 critical areas of concern.
- **1995 Fourth World Conference on Women**, held in **Beijing**, was one of the largest gatherings of the United Nations, and a critical turning point in the world’s focus on **gender equality and the empowerment of women**.
 - **United Nations has organized four world conferences (WC)** on women. Three others are First WC in Mexico City (1975), Second WC in Copenhagen (1980) and Third WC in Nairobi (1985).
- Worldwide progress in implementation of BPfA is reviewed every five years by **Commission on the Status of Women (CSW)**.
 - **CSW** is a functional commission of **UN Economic and Social Council (ECOSOC)** and principal global intergovernmental body exclusively dedicated to promotion of gender equality and women empowerment.

- The platform is **not a legally binding document**, but rather a guide for the U.N. governments and non-governmental organizations.
- It for the first time facilitated the “**persistent discrimination against and violation of the rights of the girl child**”, getting included as a separate critical area of concern addressing issues such as **child marriage, female infanticide, genital mutilation and prenatal sex selection**.

India’s major achievements in the promotion of empowerment of women since the adoption of the Beijing Declaration and Platform for Action

- **Setting up Nodal Ministry of Women and Child Development (MoWCD)**, to give the much-needed impetus to the holistic development of women and children.
 - Two Statutory Commissions have been established to safeguard the constitutional and legal rights of women and Children, namely: i. **National Commission for Women (NCW)** ii. **National Commission for Protection of Child Rights (NCPCR)**
- **Enactment of Enabling Legislations:** Such as, The Criminal Law (Amendment), Act 2013, The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, The Protection of Women from Domestic Violence Act (2005), The Dowry Prohibition Act, (1961) The Prohibition of Child Marriage Act (2006) The Protection of Children from Sexual Offences Act, (2012), The Pre-Conception and Pre-Natal Diagnostic Techniques Act (PC&PNDT) 1994.
- **Programme and Schematic Intervention:** GoI, has been implementing number of schemes and programmes for creating an enabling environment for women and also children. Such as,
 - **Integrated Child Protection Scheme (ICPS)**,
 - **Indira Gandhi Matritva Sahyog Yojana (IGMSY)** for pregnant and lactating women to improve their health and nutrition status,
 - **Support to Training & Employment programme for Women (STEP)** scheme to ensure sustainable employment and income generation.
 - **Ujjawala scheme** is implemented for prevention of Trafficking and Commercial Sexual Exploitation
- **Mechanisms for Convergence:** Convergence is the key to effective implementation of Ministry’s programmes. **For example:** To improve Child Sex Ratio and empowering the Girl Child (**Beti Bachao Beti Padhao**) a joint schematic initiative of Ministry of Health & Family Welfare, Human Resource Development with MoWCD.
- **Gender Budgeting Initiatives:** GoI introduced a Gender Budget Statement as part of the Union Budget, as an important tool for reporting allocations for women and provides an indication of the funds flowing to them. To institutionalise this Gender Budgeting Cells (GBCs) in all Ministries / Departments was set up.
- **National Policy for the Empowerment of Women 2001:** Aimed at bringing about advancement, development and empowerment of women in all spheres of life through creation of a more **responsive judicial and legal system** sensitive to women and mainstreaming a gender perspective in the development process.
- **High Level Committee on Status of Women (HLC) in 2012, was constituted** to understand the status of women since 1989 and to evolve appropriate policy intervention based on a contemporary assessment of women’s needs.

7. SCIENCE AND TECHNOLOGY

7.1. DARK NET

Why in news?

Recently, **The Narcotics Control Bureau (NCB) arrested the country's first 'darknet' narcotics operative**, who allegedly shipped hundreds of psychotropic drug parcels abroad.

What is Dark Net?

- Also known as **Dark Web**, Dark Net is that **part of the Internet that cannot be accessed through traditional search engines** like Google nor is it accessible by normal browsers like Chrome or Safari.
- It **generally uses non-standard communication protocols** which makes it inaccessible by internet service providers (ISPs) or government authorities.
- **The content on Dark Net is encrypted** and requires specific browser such as **TOR (The Onion Ring)** browser to access those pages.
- **Dark Net itself is only a part of the Deep Web** that is a broader concept, which includes sites that are protected by passwords. **For e.g.-** A person's bank statements which are available online but will not be pulled up in generalised Internet searches. Only difference is that while the **Deep Web is accessible, the Dark Net is deliberately hidden.**
 - The part of internet that is readily available to general public and searchable on standard search engines is called as **Surface Web**.

Narcotics Control Bureau

- It was constituted by the Government of India **in 1986** under the **Narcotic Drugs and Psychotropic Substances Act, 1985.**
 - The act provides for the penalty of property derived from or used in illegal traffic in narcotic drugs.
- It is the **apex drug law enforcement and intelligence agency** responsible for fighting drug trafficking and the abuse of illegal substances in India.
- It **works in close cooperation with** the Customs and Central Excise/GST, State Police Department, Central Bureau of Investigation (CBI), Central Economic Intelligence Bureau (CEIB) and other Indian intelligence and law enforcement agencies both at the national and states level.
- The NCB **provides resources and training** to the personnel of India's Drug Law Enforcement Agencies in fighting drug trafficking. It also **monitors India's frontiers** to track down points where smuggling activities take place with foreign traffickers.
- The Narcotics Control Bureau's **national headquarters is located in Delhi and is affiliated to Ministry of Home Affairs.**

TOR (The Onion Ring)

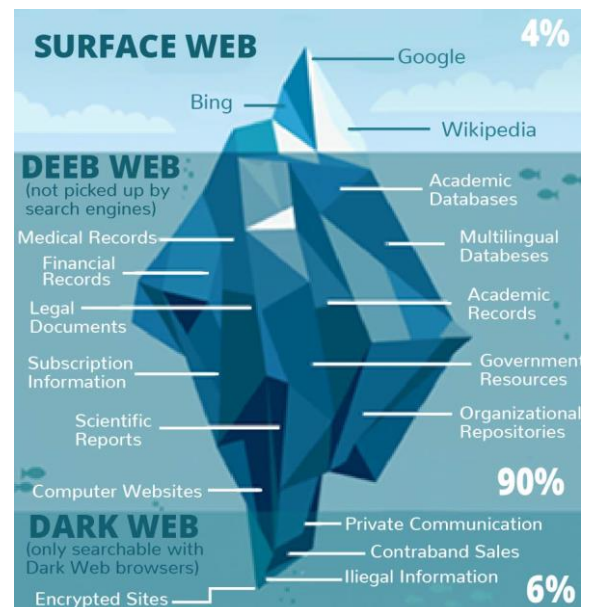
- **TOR browser was developed in the mid-1990s** by the United States Naval Research laboratory employees to protect US intelligence communications online.
- It is termed so as the traffic from the **browser creates several layers like those of an Onion before reaching the destination site.** In other words, unlike normal surfing, the computer does not connect directly to the server where the website is located. Instead, a whole series of servers are involved in the connection in order to create the greatest possible anonymity.

Uses of Dark Net

- **By journalists and citizens working in oppressive regimes**, to communicate without any government censorship.
 - It was used by activists during the Arab Spring and is known to have been used by Chinese citizens.
- **By researchers and students to do research on sensitive topics** as it is known to have large virtual libraries.
- **By law enforcement agencies for sting operations.**
- **Access content** blocked by local Internet service providers
- **To maintain privacy** of sensitive communications or business plans.

Concerns associated

- **Anonymity:** Because of their end-to-end encryption dark net offers a high degree of anonymity and thus it is near-impossible to track.



- **Haven for illicit activity:** In a study titled Cryptopolitik and the Darknet, it was highlighted that **of the 2,723 websites on Darknet, 57 % hosted illicit content.** Malicious actors like cyber criminals, terrorists and state-sponsored spies use dark web for various activities like payment card fraud, illicit finance, selling banned drugs, etc.
 - One of the most infamous dark web marketplaces was the **Silk Road**, best known for selling illegal drugs that was eventually busted by the Federal Bureau of Investigation.
- **Technical-challenges to establish digital evidence in courts :** As most users are tracked in foreign countries, it offers multiple complexities and roadblocks in investigation.
- **Privacy and ethical concerns:** Decrypting communications to catch criminals has been opposed by activists as it would risk everyone's data present on the dark web.
- **Use of crypto currencies:** Deals done on darknet are mostly through crypto currencies like Bitcoin. As identities remain anonymous, enforcement agencies are unable to trace Dark Net criminals.

Steps taken in India

- The Centre has directed all **law enforcement agencies to have control over foreign-based content providers of data and meta data** and to make **legislative changes to provide immunity for cyber hackers**, which law enforcement agencies use to counter Dark web transactions.
- Centre for Development of Advanced Computing (CDAC) is working with CSIR on developing a **darknet/network telescope-based cyber security monitoring and interference framework.**
 - This will help law enforcement agencies track cyber criminals who sell illegal products and services on such platforms and also track terrorism-related communications and activities,
- **Kerala police have established a specialised darknet lab in Cyberdome** and four officers have been trained as darknet analysts to monitor these activities.
 - To keep up with increasing the cyber security threats, the police are trying to maintain a high level of awareness regarding the latest cyber security trends and events.

Need of the hour

- **International collaboration** in strengthening cyber security framework to deal with challenges posed by Dark Net.
- **Investment in research and development and training and capacity building** of personnel in the field of cyber security.
- **To amend the Information and Technology Act and Evidence Act** to deal with the new age cyber-crimes.
- **A code of criminal procedures dealing with cyber-crime** that would come under the Ministry of Home Affairs, which deals with policing issues.

7.2. NATIONAL MISSION ON QUANTUM TECHNOLOGIES & APPLICATIONS (NM-QTA)

Why in News?

The government in its Budget 2020 has announced the largest ever science mission- **National Mission on Quantum Technologies & Applications (NM-QTA).**

Background

- Quantum technologies are rapidly developing globally with a huge disruptive potential that is likely to change entire paradigm of computation, communication and encryption.
 - Recently, **a quantum computer built by Google, called Sycamore**, took 200 seconds to perform a calculation that the world's fastest supercomputer, Summit, would have taken 10,000 years to accomplish.

About Quantum Technology

Quantum Technology is based on the principles of quantum theory which revolves around wave-particle duality of matter. Sub-atomic matters like electrons may act as wave and there is some uncertainty involved in determining characteristics like their speed or location. This uncertainty or probability (0 to 1) is used in quantum computing.

About Quantum Computing

An ordinary computer chip uses bits which hold information in the form of 0 (off) or 1 (on). Instead of bits, quantum computers use quantum bits or qubits. This helps it in following ways:

- **Superposition (qubit can take values of 0 or 1 or range from 0 to 1):** unlike normal computer which rules out wrong methods to find the right one, a quantum computer can go down every method at once. So, they even carry potential to crack today's encryption easily.
- **Entanglement:** although contested and not fully understood yet, it is kind of teleportation of information, where information at one side of wave function can be used to interpret at the other, even if they are physically separate.

- It is perceived that the countries who achieve an edge in this emerging field will have a greater advantage in garnering multi-fold economic growth and dominant leadership role.
- **Countries like China and USA are already in a fierce race of achieving leadership position.**
 - There were **492 quantum patents filed in China** in 2018, more than the USA (248).
 - In 2018, US framed a law that earmarked \$1.2 billion for quantum research.

About the mission

- **Ministry:** It will be implemented by the Department of Science & Technology (DST), Ministry of Science and Technology.
- **Budget Outlay:** It is proposed to provide an outlay of 8000 crore over a period five years.
- **The areas of focus** for the Mission will be in fundamental science, translation, technology development, human and infrastructural resource generation, innovation and start-ups to address issues concerning national priorities.
- **Applications which will receive boost** include those in aero-space engineering, numerical weather prediction, simulations, securing the communications & financial transactions, cyber security, advanced manufacturing, health, agriculture, education and other important sectors with **focus on creation of high skilled jobs, human resources development, start-ups & entrepreneurship leading to technology lead economic growth.**

Significance of the mission

- **Support to advanced and interdisciplinary research projects in quantum technology through government's financial and organizational support.**
 - India is the third largest when it comes to publishing papers, but it doesn't translate into creating actual products, thus the gap between research and product development needs to be reduced.
- **Push to next generation transformative technologies:** like quantum computers and computing, quantum communication, quantum key distribution, quantum encryption, crypt analysis, quantum devices, quantum sensing, quantum materials, quantum clock and so on.
- **Putting India on the world's Quantum-map:** A boost in Quantum computing will help India to come on par with the United States and China.
- **Creation of innovative applications by industries:** It will thereby stimulate economic growth and job creation, which will feed back into a growing quantum-based economy.
- **Addressing India specific national and regional issues:** Quantum technologies can be used to in sectors such as weather forecasting, artificial intelligence, financial modelling, cyber security including securing the communications & financial transactions. For Example-
 - Quantum computers are extremely powerful compared to conventional computers when solving certain kinds of problems like **finding prime factors of large numbers and searching large databases.**

The **prime factorization quantum algorithm** has important implications for security as it can be used to break RSA encryption, a popular method for secure communication.

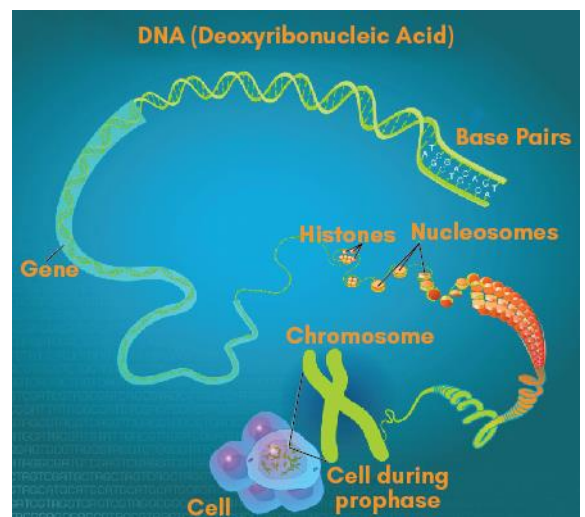
7.3. MAPPING THE INDIAN GENOME

Why in news?

Union government has given clearance to an ambitious gene mapping project known as the Genome India Project with an estimated worth of Rs 238 crores.

More on the news

- The project has been cleared by **Department of Biotechnology** (under the Ministry of Science and Technology).
- It involves **20 leading institutions including the Indian Institute of Science** in Bengaluru and a few IITs.
- The Centre for Brain Research, an autonomous institute of IISc, Bengaluru will serve as the nodal point of the project.



- The first stage of the project will look at samples of 10,000 persons from all over the country to form a grid that will enable the development of a Reference Genome.

About Genome mapping/sequencing

- A genome is the entire DNA, or sequence of genes, in a cell. Simply put, the genome is divided into chromosomes, chromosomes contain genes, and genes are made of DNA.
- Each genome has approximately 3.2 billion DNA base pairs.
- Sequencing a genome means deciphering the exact order of base pairs in an individual. The way these base pairs are arranged, or variations and mutations in their pattern, can provide clues about the individual's health or ill health, inherited or acquired.

Significance of the project

- Existing global genetic studies of the Human Genome Project are based mainly on Caucasian; urban middle class samples (95%), which are not considered representative of all humans.
- This project holds importance to ensure that India, with its unparalleled human diversity both horizontal (caused by migration and intermixing of races) and vertical (caused due to endogamy resulting in specific patterns of trait inheritance), is adequately represented in terms of genomic data.
- The project will help India develop indigenous capacity to generate, maintain, analyze, utilize and communicate large-scale genome data, in a scalable manner.

Applications of the Project

- **Predictive and Preventive Healthcare-** The outcomes of the project will help in faster and efficient diagnosis of rare genetic diseases.
 - This will also help in determining epidemiology of genetic diseases to enable cost effective genetic tests, enabling efficient diagnosis of heritable cancers etc.
- **Precision medicine-** This will help to understand the type and nature of diseases and traits that comprise the diverse Indian population. For example, Vysy community in Andhra Pradesh possess a genetic mutation that renders them susceptible to a category of anaesthetics. Genome sequencing can help to prepare customised and targeted treatments for them.
- **Scientific research-** Mapping the genetic diversity of India would further improve scientific understanding of evolution both from a biological (intra- and inter-species interaction, species-ecology interactions, etc) and sociological (migration patterns, rituals, etc) point of view.

Challenges

- **Data storage and privacy-** There are concerns regarding anonymity and misuse of genetic data without informed consent in the absence of data privacy law in place.
- **Genetic stereotyping and stigmatization-** There is the potential that some of these genomic differences may be treated as retarding and mutually exclusive. This leads to stereotyping of populations on lines similar to caste identities.
- **Medical Ethics:** The technology can be misused to create designer babies as was done recently by a Chinese scientist. Also burdening people with mutation information can lead them to make lifestyle changes that are not necessary in routine conditions .
- **Interpretational issues-** There are very few trained clinicians and genetic counsellors who could interpret the data in meaningful manner and in the best interest of the patient.
- **Technological errors-** Even a single base pair false positive error can create huge burden for the individual and community in terms of wrong diagnosis and unnecessary treatment.

Conclusion

Genome India project embraces scientific technology for the advancement of Indian healthcare, ushering India towards the new gold standard of Precision medicine. Policies that can enable the project to work optimally need to be framed to ensure its smooth and sustained functioning. Robust data privacy law and trained genetic clinicians can help take the healthcare system to the next level.

7.4. SCIENTIFIC UTILISATION THROUGH RESEARCH AUGMENTATION-PRIME PRODUCTS FROM INDIGENOUS COWS (SUTRA PIC)

Why in News?

The government has unveiled a programme SUTRA PIC to research on 'indigenous' cows.

More on News

- Finance Minister had announced research programmes into indigenous cattle in the 2016-17 as well as in the 2019-20 Union Budget.
- The stated objective was to develop products as well as improve the genetic quality of indigenous cattle breeds.

About SUTRA PIC

- The program will involve participation of Research Institutions, Academics, Grassroots Organizations and so on to carry out R & D work, technology development and capacity building at local level covering **following five thematic areas**:
 - **Uniqueness of Indigenous Cows**: Major aim under this theme is the systematic scientific investigation of uniqueness of pure Indigenous Indian cows.
 - **Prime-products from Indigenous Cows for Medicine and Health**: The research proposals under this theme should undertake detailed scientific investigation of chemical profiling, identification of bioactive principle responsible for enhancing activity of antibiotics and anticancer drugs, and other medicinal properties of Prime Products from indigenous cow from modern perspective.
 - **Prime-products from Indigenous Cows for Agricultural Applications**: The project proposals under this theme will aim to perform scientific investigations of role of Prime Products from Indigenous cows on plant growth, soil health and providing immunity in plant system, their application as organic manure and bio-pesticide in agriculture, among others uses.
 - **Prime-products from Indigenous Cows for Food and Nutrition**: The proposals under this theme will aim to perform scientific research on:
 - ✓ Complete characterization of milk and milk products derived from Indian indigenous cows.
 - ✓ Nutritional and therapeutic properties of curd and ghee prepared from indigenous breeds of cows by traditional methods
 - ✓ Development of standards for traditionally processed dairy products of Indian origin cow
 - ✓ Identification of Bio/Chemical markers to authenticate the quality of ghrita.
 - **Prime-products from indigenous cows-based utility items**: Proposal under this theme aims to standardize effective, economic and eco-friendly preparations of Utility products from the Prime components of indigenous cows.
- To be funded by multiple scientific ministries, the **initiative is led by the Department of Science and Technology (DST)**.

7.5. BAN ON RO SYSTEMS

Why in news?

Recently, the Union Ministry of Environment, Forest and Climate Change (MoEFCC) has issued a draft notification that seeks to ban **membrane-based water purification systems (MWPS)**, primarily reverse osmosis (RO), in areas where the water supplied meets norms.

Background

- The National Green Tribunal (NGT) in May, 2019, instructed the

Reverse Osmosis

Osmosis is the movement of water that occurs when two compartments are separated by a semi-permeable membrane whereby water moves from an area of low solute concentration to an area of high solute concentration.

Reverse osmosis (RO) is a process by which pressure is used to force water through a tight membrane that blocks passage of solute, particulate matter, bacteria, and endotoxins, among other things, to produce pure water.

Benefits of RO

- **Safer drinking water**: As it removes salt, contaminated particles and other impurities in the water.
- **Better taste**: Due to removal of chemicals and debris in the water.
- **Relatively low energy usage**.

MoEFCC to notify prohibiting the use of drinking water prepared through RO systems in areas where the amount of total dissolved solids (TDS) was less than 500 milligram/litre (mg/l).

- Ban was ordered on the grounds that RO wasted water and that, in the process of removing salts, they often deprived drinking water of essential salts.
- It also asked the ministry to lay down a requirement for RO systems manufacturers that **the recovery of treated water should be at least 60 per cent** as against 20 per cent prescribed by the Bureau of Industry Standards (BIS) in 2015. Gradually, the recovery rate should be enhanced to 75 per cent.

Concerns Related to RO systems in India

- **Demineralisation of Water after RO:** It leads to loss of precious minerals like Calcium and Magnesium which causes issues such as
 - Soft water (i.e., water low in calcium and magnesium) is associated with increased morbidity and mortality from cardiovascular disease (CVD) compared to hard water.
 - When used for cooking, soft water was found to cause substantial losses of all essential elements from food (vegetables, meat, cereals). Such losses may reach up to 60 % for magnesium and calcium or even more for some other microelements.
- **Limitations in removing other toxic impurities:** The RO technology is limited to the removal of excess TDS and doesn't work in cleaning other impurities or metals in water.
- **Wastage of water:** Present RO systems recover only 20 per cent of water while 80 per cent go waste.
- **Misleading advertisements by RO manufacturers:** Certain manufacturers in India make incorrect claims about water having high arsenic and fluoride contamination being treatable by RO technology.

Provisions of the draft notification

- **Prohibition of MWPS in BIS compliant water supply areas** at the Point of Use or at the Point of Entry for purification.
- MWPS installed by commercial or industrial purpose shall operate within the provision of The Water (Prevention and Control of Water Pollution) Act, 1974.
- Central Pollution Control Board to be the Nodal Agency for implementing the rules.
- **Specifications for MWPS:** All systems must provide online and real time flow and TDS measurement, with data logger at inlet and outlet of water purifier.
- **Increasing Recovery efficiency (R.E.) of permeates in MWPS:**
 - **For Domestic Category:** R.E. should be greater than 60 per cent (to be enhanced to 75 per cent in the future).
 - **For Commercial Category:** R.E. should be greater than 80 per cent (to be enhanced to 90 per cent in the future).
 - **For Industrial Category:** R.E. should be greater than 85 per cent (to be enhanced to 90 per cent in the future).

Total Dissolved Solids (TDS)

- **Dissolved solids refer to** any minerals, salts, metals, cations or anions dissolved in water.
- **TDS comprise inorganic salts** (principally calcium, magnesium, potassium, sodium, bicarbonates, chlorides, and sulfates) **and some small amounts of organic matter** that are dissolved in water.
- As per a WHO study, **TDS levels below 300 mg per litre are considered to be excellent**, while 900 mg per litre is said to be poor and above 1200 mg is unacceptable.

Bureau of Indian Standards (BIS) guidelines on drinking water

- It prescribes standards for drinking water based on certain organoleptic, physical, virological, bacteriological and biological parameters such as TDS, pesticide residues limit, limits concerning toxic substances etc.
- **According to BIS standards, drinking water is considered below par if the TDS is above 500 mg/l.**
- BIS standards also state that RO system is not recommended for treatment of raw water having Arsenic level above 0.1 mg/l and Fluoride level above 8.0 mg/l.

Contentious issue

The draft notification **only mentions BIS-compliance** which gives rise to several concerns:

- **BIS-compliance depends on several parameters, not just TDS.**
 - Thus household receiving water with acceptable TDS levels (below 500 mg/l) but with other elements (eg, nitrates, sulphates, fluorides, etc) above the acceptable limit of BIS, will still not comply with the specification. The household, however, would not require an RO system to treat it as TDS was already within limits and RO systems are ineffective in treating other impurities.
- **The BIS does not have any minimum limit for TDS in treated water:** Thus the issue of demineralisation of water after RO, which adversely affects the health of consumers, has not been addressed.

7.6. GOVERNMENT NOTIFIES MEDICAL DEVICES AS 'DRUGS'

Why in news?

Recently, the Union Ministry of Health has notified that starting from April 1, 2020, all medical equipment would qualify as "drugs" under the Drugs and Cosmetics Act, 1940.

More on the news

- As per the new notification, **all devices**, including instruments and implants, whether used alone or in combination for **various purposes** like diagnosis, prevention, monitoring, among others, **will be regulated under the legislation**.
- Medical equipment under this definition include implantable medical devices such as knee implants, CT scan, MRI equipment, defibrillators, dialysis machine, PET equipment, X-ray machine etc.
- The manufacture, import and sale of all medical devices will now need to be certified by the **Central Drugs Standard Control Organisation**.

| Law/regulatory body | Remark |
|-----------------------------------|--|
| CDSKO | Body under Ministry of Health and Family Welfare, Government of India provides general information about drug regulatory requirements in India |
| NPPA | Drugs (Price Control) Order 1995 and other orders enforced by NPPA |
| The Drugs and Cosmetics Act, 1940 | Regulates the import, manufacture, distribution, and sale of drugs in India |
| The Pharmacy Act, 1948 | Regulates the profession of Pharmacy |

CDSKO: Central Drugs Standard Control Organization
NPPA: National Pharmaceutical Pricing Authority

Positive Implications

- It will help government to regulate the high prices of essential medical devices.
- It will **nudge Indian companies** to ensure that all medical devices meet certain standards of quality and efficacy, given that India imports more than 75% of its medical devices.
- It will make medical device companies **accountable for quality and safety of their products**.
- It will lead to **recruiting competent resources** that cater to the additional workload that these new regulations will bring in.
- It will also provide an **additional assurance of safety to the customers**. Further, these rules could be changed now as per the **evolving technologies** and needs of people.

Negative Implications

- The local micro and small scale device manufacturers will have to **comply with standards and procedures considered too costly for them**.
 - The **Association of Indian Medical Device Industry** has stated that most small manufacturers would find it tough to comply with and to have qualified regulatory staff to meet the Medical Device and Diagnostic Rules (MDR).

Central Drugs Standard Control Organisation (CDSKO)

- CDSKO under Directorate General of Health Services, Ministry of Health & Family Welfare is the National Regulatory Authority of India.
- Its **headquarter** is located at **New Delhi**.
- Under the **Drugs and Cosmetics Act**, CDSKO is responsible for approval of Drugs, Conduct of Clinical Trials, laying down the standards for Drugs, control over the quality of imported Drugs and coordination of the activities of State Drug Control Organizations.
- CDSKO along with state regulators, is jointly responsible for **grant of licenses** of certain specialized categories of critical Drugs such as blood and blood products, I. V. Fluids, Vaccine and Sera.

Related news

- Health Ministry also released **Medical Devices Amendment Rules, 2020**, by amending the Medical Devices Rules, 2017 for **mandatory registration of medical devices**.
 - Medical devices shall be **registered with Central Licensing Authority** through an identified online portal established by CDSKO.
 - The registration will remain **voluntary for 18 months**.
- NITI Aayog, Health Ministry reach consensus on Medical Devices Bill being drafted**
- Consensus was reached over various provisions of **Medical Devices (Safety, Effectiveness and Innovation) Bill, 2019**. Bill is being drafted for Cabinet approval.
 - So far finalised draft of Bill proposes that medical devices should be **regulated by a separate division** under Central Drugs Standard Control Organisation (CDSKO).
 - Division will be headed by a technical expert, and there will be **no separate regulator**, as conceptualized by NITI Aayog earlier.
 - Draft also proposes regulation of devices will be under a **separate Act** and not under Drugs and Cosmetics Act, 1940, as was being pushed by Health Ministry.

- E.g. a small manufacturer of masks or neck bracing collars would find it difficult to hire a qualified QMS manager with biomedical engineering.
- **Against the expectations of the domestic medical device industry** to have a separate law (to regulate medical devices), the government has come up with the current rule that defines such devices as "drugs" and brings it under the purview of Drugs and Cosmetics Act for regulatory approval.
 - Any non-conformity under Drugs and Cosmetics Act can be treated as a criminal offence by a drug inspector at his discretion and taken before a court without any risk proportionate penalties.
- **Wide definition of Medical devices:** It has been estimated that by virtue of these notifications, approximately 1700 medical devices would become regulated in India. The notified definition for medical devices is very wide and subjective and is aimed at including all medical devices being sold in the Indian market.

Way forward

Government should hold multi-stakeholder consultations so that rationale behind this initiative can be communicated and those expressing concerns are appropriately heard. Government should consider expediting the finalisation of the Medical Devices Bill for better regulation of the Medical Devices. (refer to adjacent Box)

MEDICAL DEVICE CLASSIFICATION IN INDIA ACCORDING TO THE PROPOSED SCHEDULE M-III DRAFT

The draft Schedule M-III released by the Central Drug Standards Control Organization (CDSCO) of India, includes a proposed risk classification for medical devices, based on their intended use.

| Class | Risk Level | Device Examples |
|-------|--------------------|--|
| A | Low Risk | Thermometers/tongue depressors |
| B | Low-Moderate Risk | Hypodermic needles/suction equipment |
| C | Moderate-High Risk | Lung ventilator/bone fixation plate |
| D | High Risk | Heart valves/implantable defibrillator |

THE DRAFT

Aayog rejects health ministry view that devices should be treated as drugs

Under health ministry's plan, CDSCO would regulate devices as well

Draft bill suggests an autonomous body on the lines of FSSAI

It would have device experts who are not pharmacists

IIT Labs could be used for testing

Big Market

▶ India's medical devices industry is fourth largest in Asia.

▶ Currently pegged at **\$10 billion**

▶ It is projected to grow to **\$50 billion** by 2025

Dedicated law to follow to govern production, import and sale of medical devices

7.7. INTERNATIONAL INTELLECTUAL PROPERTY (IP) INDEX

Why in news?

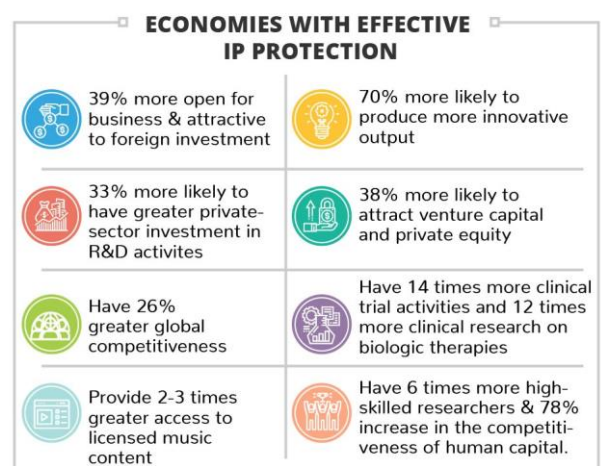
Recently **International Intellectual Property Index 2020** was released by US Chamber of Commerce's Global Innovation Policy Centre (GIPC).

More on news

- **India's ranked 40th among 53 countries**, while in 2019 India was ranked at **36th position out of 50 countries**.
- However, **India's score increased** from 36.04 per cent in 2019 to 38.46 per cent in 2020, a 2.42 per cent jump in an absolute score.
- The **US, the UK, Sweden, France and Germany remained the top five** economies on the index.

Other observations by GIPC with respect to India

- Since the **National IPR Policy 2016**, the Government of India has **made effort to support investments in innovation and increasingly robust IP protection and enforcement**.
- The policy has improved the speed of processing for patent and trademark applications, increased awareness of IP rights among Indian innovators and creators.
- However, it noted that **"job is not yet done"** on establishing stronger IP protections.
- India needs to do more in the field of patent enforcement, compulsory licensing, regulatory data protection, transparency in reporting seizures by customs, signing **Singapore Treaty on Law of Trade Marks and Patent Law Treaty**.



- **The Patent Law Treaty (PLT)** was adopted in 2000 with the aim of **harmonizing and streamlining formal procedures** with respect to national and regional **patent applications and patents** and making such procedures more user friendly.
- **Singapore Treaty on the Law of Trademarks** aims to create a modern and dynamic international framework for the **harmonization of administrative trademark registration procedures**.
- India is **not a signatory** to both the treaties.

National IPR Policy 2016

National IPR Policy is a vision document that aims to create and exploit synergies between all forms of intellectual property (IP), concerned statutes and agencies.

Seven objectives of IPR Policy

- **IPR Awareness:** To create public awareness about the economic, social and cultural benefits of IPRs.
- **Generation of IPRs:** To stimulate the generation of IPRs.
- **Legal and Legislative Framework:** To have strong and effective IPR laws, which balance the interests of owners with larger public interest.
- **Administration and Management:** To modernise and strengthen service oriented IPR administration
- **Commercialization of IPRs:** Get value for IPRs through commercialization.
- **Enforcement and Adjudication:** To strengthen the enforcement and adjudicatory mechanisms for combating IPR infringements.
- **Human Capital Development:** To strengthen and expand human resources, institutions and capacities for teaching, training, research and skill building in IPRs.

7.8. INSIGHT MISSION

Why in news?

US National Aeronautics and Space Administration's (NASA) InSight mission detected quakes and magnetic pulses on the planet Mars.

About InSight mission

- **Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight)**, is the **first mission** dedicated to looking deep beneath the Martian surface.
- It is part of NASA's **Discovery Program** and is supported by a number of European partners including **France's** Centre National d'Études Spatiales (CNES), the **German** Aerospace Centre (DLR) and the **United Kingdom** Space Agency (UKSA).
- The **Discovery Program** is a series of Solar System exploration missions by NASA which began in 1992.
- InSight lander mission **landed on Mars at site Elysium Planitia (nickname Homestead hollow)**, in November 2018.
- It is embedded with **seismometer** for detecting quakes, **sensors** for gauging wind and air pressure, **magnetometer and heat flow probe** designed to take the planet's temperature.
- The mission has **two objectives**
 - **Formation & Evolution:** Understand the formation and evolution of terrestrial planets through investigation of the interior structure and processes of Mars.
 - **Tectonic Activity:** Determine the present level of tectonic activity and meteorite impact rate on Mars.

Other active missions to Mars:

- Mars Orbiter Mission- ISRO, India
- Mars Atmosphere and Volatile Evolution (MAVEN) -NASA, USA
- Curiosity -NASA, USA
- 2001 Mars Odyssey- NASA, USA
- Mars Reconnaissance Orbiter- NASA, USA
- Mars Express – ESA, Europe
- ExoMars Trace Gas Orbiter- ESA, Europe and Roscosmos, Russia

Future missions to Mars:

- Mars 2020 – NASA, USA
- ExoMars Rover – ESA, Europe
- Emirates (Hope) Mars Mission – UAE
- Mars Global Remote Sensing Orbiter and Small Rover– CNSA, China

What InSight told us so far?

- **At the Surface of Mars**
 - InSight mission is the **first on the surface of Mars to detect magnetic signals** with help of magnetometer.
 - It also says most **surface rocks at InSight's location are too young and this magnetism must be coming from ancient rocks underground**.
 - There is **variation in magnetic signals by day and night**.

- **Underground**

- Seismic Experiment for Interior Structure (**SEIS**) has found more than 450 seismic events, the largest quake was about magnitude 4.0, **less strong than earthquakes** detected on Earth, **but a lot stronger than the moonquakes** on Moon.
 - ✓ **SEIS** enables to hear multiple trembling events from hundreds to thousands of miles away.
- Mars **doesn't have tectonic plates like Earth**, but it does have volcanically active regions, one of this is **Cerberus Fossae**, that can cause rumbles.
- These seismic waves are affected by the materials they move through, which **provide way to study the composition of the planet's inner structure**.
- '**Low velocity layer**' in the mantle slows down s- waves, possibly because it is not fully solid.

- **In the wind**

- The spacecraft's weather sensors have **detected thousands of passing whirlwinds**, which are called **dust devils** when they pick up grit and become visible.
- SEIS feels these whirlwinds pulling on the surface like a giant vacuum cleaner.
- These **whirlwinds will help in subsurface seismic exploration** over planet Mars.

7.9. VOYAGER-2

Why in news?

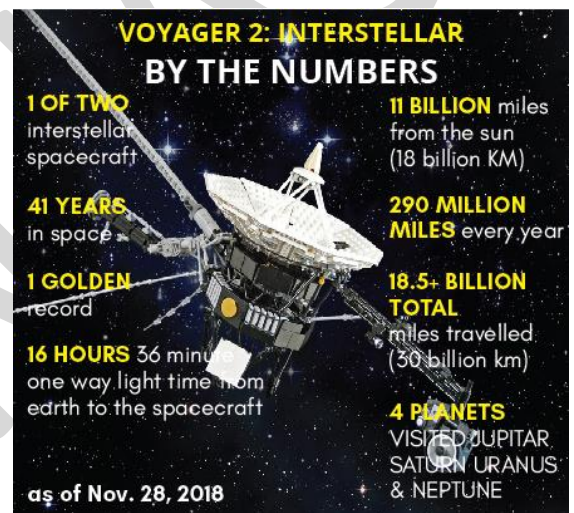
Recently, the NASA fixed a glitch in its Voyager-2 probe.

More on news

- Voyager 2 is now 11.5 billion miles from the Earth and, at that distance, light takes 17 hours to reach it or for messages from it to reach mission control on Earth.

About Voyager 2

- The two-spacecraft Voyager-1 and Voyager-2 missions, were designed to replace original plans for a "Grand Tour" of the planets that would have used four highly complex spacecraft to explore the five outer planets during the late 1970s.
- Like Voyager 1, Voyager 2 also was designed to find and study the edge of our solar system.
- Voyager **gets its power from a radioisotope thermoelectric generator (RTG)** which turns heat from the decay of a radioactive material into electricity.
 - Because of the way it uses the decay of the material, the power budget for the craft drops by about four watts per year.
- It is the only spacecraft to study all four of the solar system's giant planets- Jupiter, Saturn, Uranus and Neptune at close range.
 - It officially entered '**interstellar space**' in November 2018. It joined its twin—Voyager 1—as the only human-made objects to enter the space between the stars.
 - ✓ This space between the stars, is **dominated by the plasma** that was ejected by the death of nearby giant stars millions of years ago.
 - The sun sends out a constant flow of charged particles called the solar wind, which ultimately travels past all the planets to some three times the distance to Pluto before being impeded by the interstellar medium.
 - This forms a giant bubble around the sun and its planets, known as the **heliosphere**.
- It was the first human-made object to fly past Uranus in 1986 and Neptune in 1989, making it the only spacecraft to have had a close look of the icy planets.



8. CULTURE

8.1. DARA SHIKOH

Why in news?

The Ministry of Culture recently set up a **7-member panel** of the Archaeological Survey of India (ASI) to locate the grave of the Mughal prince Dara Shikoh (1615-59), who is believed to be buried somewhere in the **Humayun's Tomb complex in Delhi**.

About Dara Shikoh

- Dara Shikoh, was the eldest son of Mughal emperor Shah Jahan, who in 1642, formally confirmed Dara Shikoh as his heir, granting him the title of **Shahzada-e-Buland Iqbal**.
- He was killed after losing the war of succession against his brother Aurangzeb.
 - **Battle of Samugarh** was decisive struggle in a contest for the throne between the sons (**Aurangzeb and Murād Bakhsh**, on the one side, and, **Dara Shikoh**) of the Mughal emperor Shah Jahān after the emperor's serious illness in 1657.
- He was **liberal in outlook** and tried to find commonalities between Hindu and Islamic traditions.

Contributions to Art and Culture

- He translated the **Bhagavad Gita** as well as **Upanishads** from their original Sanskrit into Persian in 1657 so that they could be studied by Muslim scholars.
 - His translation is often called **Sirr-e-Akbar** ("The Greatest Mystery"), where he states that the work referred to in the Quran is none other than the Upanishads.
 - **Majma-ul-Bahrain**, a short treatise written in Persian, was also devoted to a revelation of the mystical and pluralistic affinities between **Sufic and Vedantic speculation**.
- '**Dara Shikoh Album**' is a collection of paintings and calligraphy assembled during 1630s by Dara Shikoh and presented to his **wife Nadira Banu Begum** in 1641-42.
- He is credited with the **commissioning of several** exquisite examples of **Mughal architecture** such as, the tomb of his wife Nadira Begum (Lahore), the Shrine of Mian Mir (Lahore), the Dara Shikoh Library (Delhi), the **Akhun Mullah Shah Mosque** (Srinagar) and the **Pari Mahal garden palace** (Srinagar)
- Some historians argue that Dara Shikoh, was the total antithesis of Aurangzeb, in that he was deeply syncretic, warm-hearted and generous — but at the same time, he was also an indifferent administrator and ineffectual in the field of battle.
- **Italian traveller Niccolao Manucci** has written down the details of Dara Shikoh's death in his book Travels of Manucci.

8.2. PAYYANUR

Why in news?

Kerala plans to set up a **Mahatma Gandhi Smriti Museum** at Payyanur, situated on the banks of the Perumba river in Kerala's Kannur district.

Historical Significance of the place

- **The Simon Commission Protest in 1928:** Moyarath Sankaran, A. Lakshmana Shenoy and Subrahmanyam Thirumunpu were the leaders of 'Simon Go Back' protest in Payyanur.
- **The Salt Satyagraha in 1930:** Under the leadership of 'Kerala Gandhi' K. Kelappan, the satyagraha saw a procession of 33 satyagrahis from Kozhikode to Payyanur which earned Payyanur the distinction of "Second Bardoli".
- **Anti-untouchability movement:** Payyanur was also an epicentre of the anti-untouchability movement. Great leaders of the movement at Payyanur — A.K. Gopalan, K.A. Keraliyan and Vishnu Bharatiyan — ushered boys from the **oppressed Pulaya community** into the Kurumba Bhagavathi Temple.
 - One of the first crusaders against casteism in Payyanur was **Swami Anandattheertha**, a Konkani Brahmin by birth, who was consecrated as 'Swami Anandattheertha' by **Narayana Guru** and fought lifelong for the rights of Dalits.
- **Gandhi's connection:** Gandhiji visited Kerala in 1934 to call on Swami Anandattheertha. He planted a mango tree in his Ashram, which still thrives at that site.

8.3. GURU RAVIDAS JAYANTI

Why in news?

Recently, the birth anniversary of Sant Ravidas was celebrated across the country.

About Sant Ravidas

- Sant Ravidas was a **14th-century poet-saint, social reformer and a spiritual figure** and founder of the **Bhakti movement in North India**.
- His parents belonged to a leather-working **untouchable** community.
- His devotional songs were included in the Sikh scriptures, **Guru Granth Sahib**.
- Ravidas taught **removal of social divisions of caste and gender**, and **promoted unity** in the pursuit of personal spiritual freedoms.

8.4. POOMPUHAR TO BE DIGITALLY RECONSTRUCTED

Why in news?

Poompuhar, a port city in Tamilnadu, submerged under Sea 1000 years ago is being digitally reconstructed under **Indian Digital Heritage project**.

About Poompuhar

- **Poompuhar (Puhar)** which served as capital of Chola Dynasty, is located at the mouth of Cauvery river.
- It is mentioned in Sangam literature and satellite studies showed that the **city was established in the Cauvery Delta about 30 km away from the existing Poompuhar town around 15,000 years ago**.
- It was submerged due to “**kadalkol**” or rising sea levels around 1000 years ago.

About Indian Digital Heritage project

- It is initiative of the **Department of Science & Technology (DST)**, for the **digital documentation and interpretation of our tangible and intangible heritage**.
- The basic goal of the IDH project was to **bring fine synergy of Geospatial technologies with matured ICT technologies** to help preserve, use, and experience India's vast heritage in digital form.
- It also **aimed to provide analytic tools for the art-historian, the architect or any scientist** in conducting scholarly studies of Indian heritage.
- First project under it was ‘**Digital Hampi**’.



8.5. KUMBHABISHEGAM CEREMONY AT BRIHADISVARA TEMPLE

Why in news?

Recently, ‘Kumbhabishegam’ ceremony was held at ‘Brihadeshwara temple’ after 23 years.

About Kumbhabhishekham

- Kumbhabhishekham is part of the consecration ceremony of Hindu temples.
- **Kumbha** means the Head and denotes the Shikhara or Crown of the Temple (usually in the gopuram) and **abhishekam** is ritual bathing.

About Brihadeshwara Temple

- Brihadeshwara Temple, **dedicated to Lord Shiva**, is located in Thanjavur, Tamil Nadu at the South bank of **Kaveri river**.
- It is also known as **Periya Kovil, RajaRajeswara Temple and Rajarajeswaram**.
- The temple was built between 1003 AD and 1010 AD by the great Chola emperor **Raja Raja I**. It is one of the largest temples in India and is an **example of Dravidian architecture**.
- The temple is **part of the UNESCO World Heritage Site** known as the ‘**Great Living Chola Temples**’ with other two being the ‘**Temple at Gangaikondacholapuram**’ and ‘**Airavatesvara temple at Darasuram**’.

Location Of **Chola Temples** In The **UNESCO** World Heritage Site.



8.6. EARLY HUMANS LIVED IN NORTHERN INDIA 80,000 YEARS AGO

Why in news?

An archaeological excavation carried out in the trenches at Dhaba in the upper Son river valley in Madhya Pradesh has found evidence of the continuous human occupation in this area almost 80,000 years ago.

More on news

- The excavation unearthed a **large tool industry (Lithic Industry)** spanning the period of the Toba super-eruption.
 - The **large Megalithic tools** were dated between approximately 80,000 years and 65,000 years and the **small tools** were dated at approximately 50,000 years.
 - Therefore, **suggesting a continuous inhabiting** of this region by humans undisturbed by the super-eruption.
 - The tools strongly resemble stone tool assemblages from the **African Middle Stone Age (MSA)** and **Arabia**, and the earliest artefacts from **Australia**, suggesting that it is likely the product of Homo sapiens as they dispersed eastward out of Africa.

Significance of the findings with respect to Human Population Dispersal

- This finding is important in the face of **competing theories** on the first presence of human populations in different regions of the world and on human dispersal from Africa.
 - The common view with respect to Homo sapiens migration was that modern humans spread out of Africa only in the last 50,000 years.
 - In recent times, the fossil evidences have also suggested that, modern humans were already out of Africa by 200,000 years ago in Greece, in Arabia and China by 80-100,000 years ago etc.
- It also rules out the volcanic winter hypothesis.
 - **About 74,000 years ago**, the Toba volcanic super-eruption, centred around Sumatra, is believed to have caused an almost decade-long spell of cold weather — **a volcanic winter** — across many parts of the Earth.
 - There is an argument that this induced winter not only led to the **cooling of the Earth's surface** for almost a thousand years since the eruption, but also destroyed huge populations across Asia.

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9. ETHICS

9.1. PROTEST IN A DEMOCRACY- RIGHTS, ISSUES AND RESPONSES

Why in News?

In the recent past, questions have been raised on the methods of protests, like violence or blocking of roads, adopted by people in light of CAA as well as on the use of excessive restraints like imposing Section 144 or excessive police force.

Need of Right to protest in a democracy

Dissent is thinking or feeling differently about something, and protest is taking action based on dissent.

Historically, protests have often **inspired positive social change** and the advancement of human rights, and they continue to help define and protect civic space in all parts of the world. In fact, most of the **world's major democracies like USA and India were born out of some sort of protest.**

Right to Protest in India

- The right to protest peacefully is enshrined in the Indian Constitution—**Article 19(1)(a)** guarantees the freedom of speech and expression. It includes **Right to Demonstration or Picketing but not right to strike**. **Article 19(1)(b)** assures citizens the right to assemble peaceably and without arms.
- In the case of **Ramlila Maidan Incident v. Home Secretary, Union Of India & Ors.**, the Supreme Court had stated, "Citizens have a fundamental right to assembly and peaceful protest which cannot be taken away by an arbitrary executive or legislative action."
- It was in **Maneka Gandhi vs. Union of India** that Justice Bhagwati had said, "If democracy means government of the people by the people, it is obvious that every citizen must be entitled to participate in the democratic process and in order to enable him to intelligently exercise his rights of making a choice, free & general discussion of public matters is absolutely essential."

Protests encourage the development of an **engaged and informed citizenry**. They strengthen representative democracy by **enabling direct participation** in public affairs.

They enable individuals and groups to **express dissent and grievances**, to share views and opinions, to expose flaws in governance and to publicly demand that the authorities and other powerful entities rectify problems and are accountable for their actions. This is **especially important for those whose interests are otherwise poorly represented** or marginalised.

Among many values, like equality, justice, liberty, that democracy upholds, **fairness is one of its distinguishing characteristics**. **To be fair is to give to others their due**, and in the context of protesting, this means that **everyone deserves to be heard**. The right to protest formally involves the exercise of numerous fundamental human rights, and is essential for securing all human rights. So, **a democracy offers Right to Protest as a natural and fundamental right to its citizens.**

Some common forms of Protest

- **Pacifism:** it employs Active Goodwill and Reconciliation.
- **Satyagraha and Ahimsa:** Gandhiji adopted the method of Satyagraha and Ahimsa in his protests. The term "Satyagraha" is combination of words **Sat or truth**, and **Agraha meaning firmness**, to give us "truth force" or "soul force." Also, he was influenced by the Hindu philosophy of **ahimsa** (the idea that the most effective sacrifice was self-sacrifice and suffering while refusing to injure others). It includes methods like negotiation, arbitration, moral suasion, mass demonstrations etc.
 - "We who in engage in nonviolent direct action are not the creators of tension. We merely bring to the surface the hidden tension that is already alive." - Martin Luther King, Jr.
- **Civil disobedience:** It involves active, professed refusal of a citizen to obey certain laws, demands, orders or commands of a government. Often the protest itself, sometimes, is regarded immoral because of the notion that "What is legal is moral." However, it may not always be true and the law may be in conflict with constitutional morality or may be disregarding a "higher law" i.e. natural and/or fundamental rights of people. For instance, **Apartheid law in South Africa** was grossly discriminatory to Blacks.
 - "It is a sin to be silent when it is your duty to protest." - Abraham Lincoln
- **Violent protest:** Violence is an illegal crime against society and State and hinders the achievement of a democratic and peaceful order. It is said that violent protests are hallmark of autocratic systems and there should be no place of violence in democratic systems.
 - However, it is also the duty of the State to adopt democratic means and allow the citizens to register their grievance by non-violent means.
 - "Those who make peaceful revolution impossible will make violent revolution inevitable." - John F. Kennedy

Balancing Rights with Duties

Today, people manifest their power in a democratic setup **not only by voting but also by the way of protests**. And power comes with responsibilities. So, Indian constitution puts some reasonable restrictions in Article 19(2) and Article 19(3) on freedom of speech and assembly respectively.

Moreover, civil society activism has potential to go awry, as seen in Chauri Chaura incident. So, duties like **preservation of public property, maintaining public order and ensuring no inconvenience or harm to general public**, have been marked important. There are also some Gandhian guidelines for protests:

- Right is earned, not presumed or seized
- Suffering, of self (not others), is a primary test of earning of merit
- Ahimsa is the norm, not a mere technique

Moreover, in a vibrant democracy like India where **Judiciary is present to look into legality or constitutionality of acts of Executive and Legislature**, a direct challenge to the authority of State should be avoided.

It is important to remember that **Right to Protest should not be used as a tool that weakens the social order**. In fact, it is meant for enrichment of democracy as it **provides a platform to civil society to register its grievances and also encourage discussions and debates**. So, to conclude, if used responsibly and effectively, Right to protest can not only enrich democracy but also bring it closer to the idealised form of society.

For Case Studies: Suggested Course of Action attitude and approach of police administration during protests

In the recent wave of protests, the Police was facing the dilemma between upholding law and order on one hand while providing an effective space for peaceful protesters on the other. For example, complains regarding **indiscriminate use of Section 144 of CrPC, lathi charge, arrests** etc. have been raised. Recently, Allahabad HC termed the roadside banners based on naming and shaming as **encroachment into citizen's right to privacy**. So, in this context, it is emphasized that both **rights of protestors and safety of public and police should go hand in hand**.

| Stakeholders | Responsibilities |
|------------------------------|--|
| Police administration | <ul style="list-style-type: none"> • Facilitating citizens to make their voices heard in peaceful environment • Communicating which actions are permitted and which are not • Differentiating anti-social elements from the larger numbers who just want to demonstrate peacefully through effective community policing |
| Protest organizers | <ul style="list-style-type: none"> • Communicate the intentions of the event in advance to police • Condemn activities and avoid statements that endanger life and property • 2nd ARC- Code of conduct by political parties on permissible forms of dissent |
| Participants | <ul style="list-style-type: none"> • Protest within the limits of law and avoid tactics that harm general public |
| General Public | <ul style="list-style-type: none"> • Do not become the conduit of rumours • Help police in gathering crucial intelligence. |
| Government | <ul style="list-style-type: none"> • Responsive to grievances of citizens |

There are different types of protestors and each require different, 'graded response' approach:

- **Political agitators:** Respecting right under Art19(1)(b), such meetings and processions should normally be allowed by Police. Approach to regulate such protest is:
 - deploy police in **adequate numbers at strategic spots** like markets or government offices, **intensify patrolling** and **maintain strong reserves** to handle contingencies.
 - Even in peaceful protest, **proper police escort is needed** to prevent potential clashes.
 - Police should normally not interfere till they resort to intimidation.

Should a Civil Servant be a part of protest? As per All India Services (Conduct) Rules, 1968

- **Rule 5-** No member should be a member, or associated with any political party or political movement or activity
- **Rule 7-** No member of the Service shall make any statement of **fact** or opinion which has the effect of an adverse criticism of any recent policy or action of the Government and it should be done in official capacity only.

Article 19 of Indian Constitution- gives Right to free speech and protest

- In a recent judgement, **Tripura High Court pointed out that** If an employee speaks out in the social media in a general perspective which is not inconsistent with the collective interest of the Institution, that is part of his right of free speech.

- **Transport services** like bus can be closed down if life and property are endangered
- If it is apprehended that protestors will resort to violence and it has been decided to take firm action, the **leaders should be picked up early** to disrupt their ranks. In such cases, **known rowdies and goondas should also be arrested** and can be released later when situation is normal.
- **Students:** they can be aggressive. Severe action against them also leads to public sympathy. So, patience and forbearance are needed.
 - Police should act with **utmost restraint** and **method of persuasion** should be followed.
 - ✓ **Teachers or principals** having some influence on students can be used.
 - Force should generally not be used even when legally justified. Force should be used **only if students resort to violence against life and property**.
 - Student leaders can be made aware of if some hooligans join up with students.
 - If students indulge in violence, strict action must be taken. Still, force should be used just to overawe the students and restraint should be there.
- **Communal section:** administration should adopt **secular and unbiased approach:**
 - 2nd ARC seeks to encourage community policing, programmes for confidence building measures by police, constituting District Peace committees/Integration Councils to identify local problems, interaction among communities and strengthening IPC and CrPC.
 - **Rumours** have to be immediately attended to along with frequent press briefings
 - **A riot scheme (contingency plan)** for communal trouble must be ready and rehearsed
 - **In case the situation deteriorates**, use of Section 144, more police force, arrest of anti-socials, searches for weapons, suspension of arm licenses, special squads for quick investigation, guard at places of worship, intelligence on movement of suspicious characters, guarding points of ingress and use of force to disperse mob would be needed.

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10. NEWS IN SHORT

10.1. 9TH SCHEDULE OF INDIAN CONSTITUTION

- Recently there was **demand to put reservation provisions** for schedule caste, schedule tribe and other backward classes **under 9th schedule of constitution**.
- 9th Schedule of the Constitution **contains a list of central and state laws which cannot be challenged in courts**.
 - Any act which is added under the 9th schedule gets resistant from any encroachment from judiciary even if it infringes the fundamental rights of an individual.
 - It was **added with the First amendment in 1951**.
- While most of the laws protected under the Schedule concern agriculture/land issues, the list includes other subjects, such as reservation. For example, a Tamil Nadu law that provides 69 per cent reservation in the state is part of the Schedule.
- **In IR Coelho versus State of Tamil Nadu case**, Supreme Court held that laws placed in the 9th Schedule were open to judicial scrutiny implying that such laws could not be entitled to blanket protection.
 - SC observe that Judicial review is a basic feature of the Constitution and to insert in the 9th Schedule an Act which, or part of which, has been struck down as unconstitutional in exercise of the power of judicial review, is to destroy or damage the basic structure of the Constitution.
- However, **SC laid down dual test to examine the validity of a law placed in the Ninth Schedule** i.e. Whether it violates any fundamental right and if yes whether the violation also damages or destroys the basic structure.
 - If the answer to both the questions is in the affirmative, then only a law placed in the Ninth Schedule can be declared unconstitutional.

10.2. BILL TO INCLUDE MORE TRIBES IN SCHEDULED TRIBE CATEGORY

- Recently, The **Constitution (Scheduled Tribes) Order (Amendment) Bill, 2019**, which seeks to grant Scheduled Tribes (ST) status to certain communities in Karnataka, was passed by Parliament.
- The Bill amends the section of Constitution (Scheduled Tribes) Order, 1950 that deals with STs in Karnataka.

- Communities included are: **Parivara, Talawara and Siddi tribes (of Belagavi, Dharwad)**.
- STs have been defined in clause (25) of article 366 of the Constitution as “such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under article 342 to be STs for the purposes of this Constitution.
- Under Article 342 of the Constitution, the **first specification of STs** in relation to a particular State/UTs is **by a notified order of the President**, after consultation with the governor of the State concerned. These orders can be **modified subsequently only through an Act of Parliament**.
 - The criterion followed for specification of a community, as scheduled tribes are indications of **primitive traits, distinctive culture, geographical isolation, shyness of contact with the community at large, and backwardness**.
 - This **criterion is not spelt out in the Constitution** but has become well established.
 - It subsumes various definitions contained in 1931 Census, the reports of first Backward Classes Commission 1955 etc.
- **The list of STs is State/UT specific** and a community declared as a ST in a State need not be so in another State.

10.3. HIMACHAL PRADESH ACHIEVES 100% LPG COVERAGE

- Recently, **Himachal Pradesh became the first state** in the country to have 100% LPG gas coverage.
- Along with Pradhan Mantri Ujjwala Yojana, the state government launched its own **Himachal Grihini Suvidha Yojana in May 2018** to cover the remaining households.
- Pradhan Mantri Ujjwala Yojana is a scheme of the **Ministry of Petroleum & Natural Gas** for providing **free LPG connections to women from Below Poverty Line (BPL) households**.
- Initially, PMUY envisaged a target of 5 crore connections, which was later increased to 8 crore.

10.4. INDIA PORTS GLOBAL LIMITED (IPGL)

- The government approved the **exemption of India Ports Global Ltd from the Department of Public Enterprises (DPE) guidelines** for smooth execution of Chabahar Port project.
- IPGL was incorporated as a special purpose vehicle jointly promoted by Jawaharlal Nehru Port Trust (JNPT) and Deendayal Port Trust (DPT) for

development and management of Shahid Beheshti Port of Chabahar in Iran.

- All the shares of JNPT & DPT were purchased by "Sagarmala Development Company Ltd" (SDCL) in December, 2018.
 - SDCL is a CPSE and therefore **IPGL being subsidiary of SDCL had also become a CPSE**. As a result, Guidelines of DPE were technically applicable on IPGL.

10.5. MALDIVES REJOINS COMMONWEALTH

- Maldives has recently rejoined the Commonwealth, bringing the total number of nations in the global organization to 54.
- Maldives last joined the Commonwealth in 1982 but quit it in 2016 after being threatened with suspension **over its human rights record and lack of progress on democratic reform**.
- The new government in Maldives, after 2018 elections, has undergone various reforms such as freeing of political prisoners and return of exiled opposition figures and applied to rejoin the Commonwealth in December, 2018.
- It will now be part of the **Commonwealth heads of government meeting in Kigali, Rwanda, in June 2020**.

The Commonwealth

- It is a voluntary association of 54 independent and equal countries, mostly former territories of the British Empire.
 - Rwanda and Mozambique - have no historical ties to the British Empire.
- All member countries of the Commonwealth must subscribe to the values and principles of the **Commonwealth charter**, including a commitment to the **development of free and democratic societies and the promotion of peace and prosperity**.
- **India** is a member of the Commonwealth.
- Commonwealth Secretariat was created in 1965 as a central intergovernmental organisation to manage the Commonwealth's work.
- Commonwealth member countries choose who becomes **Head of the Commonwealth**.

10.6. MOUS FOR ESTABLISHING ADDU TOURISM ZONE

- Recently, **India and Maldives signed five MoUs for establishing the Addu Tourism zone** in five islands of Addu atoll.
- A **6th MoU was also signed to set up a bottled water plant in Hoarafushi** (an inhabited island of the northern-most atoll, Haa Alif Atoll in Maldives).
- All six projects are grant **projects fall under India's High Impact Community Development Scheme (HICDP)**.

- HICDP constitute an **important dimension of development partnership** between India and Maldives and projects under it are **driven by needs of communities** on the islands.
- Addu atoll is **also known as Seenu Atoll**, and is the **southernmost atoll of the Maldives**.
 - An atoll is a ring-shaped coral reef that surrounds a body of water called a lagoon.
- There are **small lakes, wetlands, and marshy taro fields** (a tropical plant grown primarily for its edible corms i.e. a root vegetable) that are unique to Addu Atoll.
- Atoll has some of the **earliest known settlements recorded** in the country.



10.7. AFRICAN UNION (AU)

- The annual African Union Summit was held in Addis Ababa in Ethiopia.
- AU is a **continental body** consisting of the **55 member states** that make up the countries of the African Continent.
- Its **secretariat** is at **Addis Ababa, Ethiopia**.
- It was officially **launched in 2002** in Durban, South Africa as a successor to the **Organisation of African Unity**.
- The AU is guided by its vision of "AN INTEGRATED, PROSPEROUS AND PEACEFUL AFRICA, DRIVEN BY ITS OWN CITIZENS AND REPRESENTING A DYNAMIC FORCE IN THE GLOBAL ARENA."
- To ensure the realisation of its objectives and the attainment of the Pan African Vision of an integrated, prosperous and peaceful Africa, **Agenda 2063** was developed as a strategic framework for Africa's long term socio-economic and integrative transformation.
- African Union is trying to bring **African Continental Free Trade Agreement (AfCFTA)** for goods and services. 54 member countries have already signed it, out of which 27 have ratified it.
- India in 2019 extended a **grant of \$50 million package** to Niger to host African Union Summit.

10.8. DIRECT TAX VIVAD SE VISHWAS BILL, 2020

- Recently, Lok Sabha passed the Direct Tax Vivad Se Vishwas Scheme Bill.
- It is an **amnesty scheme with the aim of reducing litigations related to direct taxes.**
 - The government expects to resolve 90% of the income tax disputes through this scheme.
- It is aimed at releasing about Rs 9.32 lakh crore stuck in 483,000 cases across various fora **including at the Commissioner (Appeals), Income Tax Appellate Tribunal (ITAT), high courts, Supreme Court and debt recovery tribunals, besides reducing needless litigation and associated expenses.**
 - Income tax cases being arbitrated abroad can also be settled under this scheme.
- The Bill offers a **waiver of interest, penalty and prosecution for settlement of these disputes.**
 - It offers a complete waiver of interest and penalty for payments made by March 31.
 - For payments made from April 1, an additional 10% of the disputed amount will need to be paid.
 - The scheme will remain open till June 30.
- Last year, government introduced **Sabka Vishwas (Legacy Dispute Resolution) Scheme** as a one-time measure for liquidation of past **disputes of Indirect Taxes** (Central Excise and Service Tax) as well as to ensure disclosure of unpaid taxes by a person eligible to make a declaration.

10.9. FINANCIAL SECRECY INDEX (FSI) – 2020

- The index was launched by **Tax Justice Network (TJN)**, an independent international network.
- FSI ranks jurisdictions according to their **secrecy** and scale of their offshore financial activities, every two years.
- It is a tool for understanding **global financial secrecy, tax havens** or secrecy jurisdictions, and illicit financial flows or capital flight.
 - It examines how intensely the **country's legal and financial system allows wealthy individuals and criminals to hide and launder money.**
 - Parameters used in the ranking include automatic exchange of information and registration of beneficial ownership.
- Cayman Island ranked first, moving up two slots from the 2018 ranking. US continued to retain its second position. **India ranks 47** out of 133 countries.

- Countries such as US, Singapore, Japan, Netherlands and UAE that figure on the top 10 list of FSI-2020 are also among the top 10 FDI investors to India.
- According to TJN, an **estimated \$21 to 32 trillion of private financial wealth is located**, untaxed or lightly taxed, in **secrecy jurisdictions (tax havens) around the world.**

10.10. FDI POLICY IN INSURANCE SECTOR

- The **Department for Promotion of Industry and Internal Trade (DPIIT)** recently allowed **100% FDI in insurance intermediaries** through the automatic route.
- **Insurance intermediaries** are brokers or agents who liaise between insurance companies and customers. They include insurance brokers, reinsurance brokers, insurance consultants, corporate agents, third-party administrators, and surveyors and loss assessors.
- This step will **bring in global practices in the country**, which will include new insurance products and selling strategy.
- The **FDI policy earlier allowed 49% foreign investment** in the insurance sector, which includes insurance intermediaries.

10.11. MARKET INTELLIGENCE AND EARLY WARNING SYSTEM PORTAL

- Recently, **Ministry of Food Processing Industries (MoFPI)** launched **Market Intelligence and Early Warning System (MIEWS)** portal.
- It will provide **'real time monitoring'** of prices of **tomato, onion and potato (TOP)** and for simultaneously **generating alerts** for intervention under the terms of the **Operation Greens (OG)** scheme.
- It will **enable the government** to monitor the supply situation for timely market interventions and price stabilisation in case of a price crash during a glut.
- Portal will disseminate information related to TOP crops such as prices and arrivals, area, yield and production, crop calendars and crop agronomy, in an easy-to-use visual format.
- **Operation Greens** launched by MoFPI, with an outlay of Rs 500 crores, aims to **stabilize the supply of TOP crops** and to ensure availability of TOP crops throughout the country round the year **without price volatility.**

10.12. SPICE+ WEB FORM

- **Ministry of Corporate affairs** has launched **Simplified Proforma for Incorporating Company Electronically Plus (SPICE+)** to make it easier for **incorporating business** in India.
- It was issued as part of Centre's **Ease of Doing Business** initiative to ease starting business.
- It integrates 10 services from various ministries and departments into one form.
- It is a collaboration of **Ministries of Corporate affairs** and **Labour & Employment; Department of Revenue and Maharashtra government**.
- It also provides for Employees' Provident Fund Organisation (EPFO) and Employees' State Insurance Corporation (ESIC) registration.

10.13. LIGHT COMBAT HELICOPTERS (LCH)

- LCH production centre was inaugurated in Bengaluru, under the Make in India initiative.
- LCH is a 5.5-tonne class **multi-role combat helicopter** designed and developed by **Hindustan Aeronautical limited (HAL)**.
- It is **powered by two Shakti engines** and inherits many technical features of the Advanced Light Helicopter.
- The **features that are unique to LCH** are sleek and narrow fuselage, tri-cycle crashworthy landing gear, crashworthy and self-sealing fuel tanks, armor protection and low visibility features which makes it agile and survivable.
- LCH has the distinction of being the first attack helicopter to land in Forward Bases at Siachen, 4,700 mts above sea level with 500kg load.

HAL Dhruv (Advance Light Helicopter):

- It is a multi-role and multi-mission helicopter, intended for both military and civil operators.
- Current military operators of the HAL Dhruv are India, Bolivia, Burma, Israel, Maldives and Nepal.

10.14. PRANASH MISSILE

- DRDO is developing the **200-km strike range** Pranash ballistic missile which would be **used for tactical missions**.
- It is a **surface-to-surface ballistic missile** and will be used by the Army and the Air Force for destroying enemy targets at short ranges.
- The missile would be an **advanced version of the 150-km strike range Prahar missile** developed by the DRDO .
- It will be a **non-nuclear missile and will be propelled by a single-stage solid propellant engine**.
- It will be **one of the cheapest missiles in the world in its range category**.

- The missile **could be exported to friendly foreign countries as it is outside the purview of the Missile Technology Control Regime (MTCR)**, which places export restrictions on missiles with ranges of more than 300km.

10.15 EXERCISES

- **Sampriti- IX:** It is joint military exercise between **India and Bangladesh** recently held at Umroi, Meghalaya.
- **Indradhanush – V 2020:** It is joint air force between **India and United Kingdom** recently held at Air Force Station Hindon in Uttar Pradesh.
- **Ajeya Warrior-2020:** It is joint military exercise between **India and United Kingdom** recently held at Salisbury Plains, United Kingdom.

10.16. BIOFUEL FROM MICROORGANISMS

- Recently, **International Centre for Genetic Engineering and Biotechnology (ICGEB)** scientists developed a method to improve the **growth rate and sugar content** of a marine microorganism.
- They have successfully engineered a marine **cyanobacterium called Synechococcus sp. PCC 7002**, which showed a higher growth rate and sugar (glycogen) content of the cells, which will help in biofuel production.
- Generally, **sugars come from the photosynthesis** in plants, that converts carbon dioxide into biological components such as sugars, proteins and lipids.
- However, **Cyanobacteria (blue-green algae) can also perform photosynthesis** and produce sugar by fixing the carbon dioxide in the atmosphere. Further, cyanobacterial biomass **provides a nitrogen source in the form of proteins**.
- Bio fuel is **any hydrocarbon fuel** that is produced from organic matter (living or once living material) in a short period of time.

International Centre for Genetic Engineering and Biotechnology (ICGEB)

- The ICGEB is an **intergovernmental organisation** established as a special project of **United Nations Industrial Development Organization**, in 1983.
- The Organisation has three Component laboratories in:
 - Trieste, **Italy**,
 - New Delhi, **India**
 - Cape Town, **South Africa**.
- It became **fully autonomous** since 1994 and is running 46 laboratories and forms an interactive network with over **65 Member States**.
- It operates within the United Nations Common System, as **Centre of excellence for Research, Training and Technology Transfer to industry to promote sustainable global development**.

10.17. NORTHERN EUROPEAN ENCLOSURE DAM (NEED)

- Recently, a Dutch government's proposal to **build two mega dams to separate the North Sea from the Atlantic Sea**, is being hailed as a future solution to **defend northern Europe from rising sea levels**.
- **Northern European Enclosure Dam (NEED)** is a set of two proposed dams in the English Channel between:
 - Scotland and Norway: **NEED-North** France and England: **NEED-South**
- It would cut off the **North and Baltic Seas from the Atlantic Ocean**.
- When completed, it would be the longest dam in the world. (Currently the largest dam in the world is the **Saemangeum Seawall in South Korea**).
- NEED would have a combined volume of 36.2 km³ which would require 51 billion tons of sand. That is equal to one year's worth of global sand use
- NEED would protect coastal communities in 15 countries, and up to 55 million people, from sea level rise.
- **Concerns:**
 - The damming of the North Sea would produce important **changes in the tidal amplitudes, on both sides of NEED**. This would have a major effect on the circulation of sediment, nutrients and small marine life in the area.
 - NEED would lock Europe's four busiest ports—Rotterdam, Antwerp, Bremerhaven, Hamburg—behind a huge dam. New harbours would need to be built on the exterior of the dams to accommodate the volume of traffic to the interior ports.



10.18. FLAME THROATED BULBUL

- The flame-throated bulbul, also called as **Rubigula**, was **chosen as the mascot** for 36th National Games to be held in Goa.
- Flame-throated Bulbul is the **State bird of Goa** and is **endemic to southern peninsular India**.

- The bird **prefer habitats like rocky, scrub covered hills** mostly in the Eastern Ghats and central peninsular India and in some places in the Western Ghats.
- It is **locally distributed** in southern Andhra Pradesh, eastern Karnataka, Goa, Orissa, eastern Kerala and northern Tamil Nadu.
- It is a **Schedule – IV bird**, according to Wildlife (Protection) Act, 1972.
- Its IUCN status is **Least Concern**.
- **About National Games**
 - The Indian Olympic Games was held as National Games since 1940.
 - The National Games of India is the premier **Multi Discipline Sporting Event** held in the country, **once in every two years**. Although the periodicity of National Games is two years, it is not allowed to coincide with the years scheduled for the conduct of Olympic Games and Asian Games.
 - The duration and the regulations of the National Games are entirely **within the jurisdiction of the Indian Olympic Association**.

10.19. ARTH GANGA

- In first meeting of National Ganga Council, PM had urged for a holistic thinking process where 'Namami Gange' evolves to 'Arth Ganga'.
- It is a **sustainable development model through economic activity** along the banks of Ganga River.
- **As part of this process,**
 - **Farmers should be encouraged** to engage in sustainable agriculture practices, including zero budget farming, etc.
 - **Creation of infrastructure for water sports** and development of camp sites, cycling and walking tracks etc would also be taken up.
 - **Priority could be given to women Self Help Groups** and ex-servicemen organizations.
 - **'Hybrid' tourism potential** of the river basin area- for purposes of religious as well as adventure tourism.
- There will also be setting up of a **Digital Dashboard** where data from villages and urban bodies should be monitored on a daily basis by Niti Ayog and Ministry of Jal Shakti.

10.20. SINGCHUNG BUGUN VILLAGE COMMUNITY RESERVE

- It is a community reserve launched by **Bugun community** of Singchung Village, **Arunachal Pradesh** by joining hands with the Forest Department. It borders the Eaglenest Wildlife Sanctuary, situated in Tezpur, Assam.

- The local Bugun tribe supported the formation of community reserve to conserve the **critically endangered** bird called **Bugun liocichla**.
 - About 20 pairs are left in the world, and all of them live in and around Eaglenest.
- The area is home to unique flora and fauna including the **red panda, the clouded leopard and over 500 bird species**.
- It has been accorded the same legal protection as a Wildlife Sanctuary and the community reserve received the **India Biodiversity Award for Conservation of Wild Species** in 2018.

10.21. LARGEST SUBTERRANEAN FISH

- World's largest known **subterranean (occurring under the earth's surface)** fish has been found recently in a cave in a remote forested area of **Meghalaya's Jaintia Hills**.
- It is **40 cm long** which is nearly five times the mean length for all known subterranean fish to date.
- It is an **almost-blind species** that seems similar to the Golden Mahseer (Tor Putitora).
- **Subterranean ecosystems** are considered extreme, high-stress environments characterised by darkness, truncated food webs and food scarcity.
 - Despite this, they harbour exceptional vertebrate and invertebrate taxa (21,000+ species), many of which are evolutionarily unique, and relics of ancient fauna given their long-term isolation.

10.22. MT. ACONCAGUA

- It is the **highest peak (6962 metres) outside Asia** located in Andes mountain range, Argentina.
- It has been in news as **India's Kaamya Karthikeyan** became the youngest girl in the world to summit it.
- The Andes Mountains were formed as the result of subduction of the oceanic Nazca Plate under the South American continent.

10.23. DANAKIL DEPRESSION

- Danakil Depression in **northeastern Ethiopia (Afar Region)** is one of the **hottest, driest and lowest places on Earth at 100 metres below sea level**.
 - The Depression **overlaps the borders of Eritrea, Djibouti and the entire Afar Region of Ethiopia**. It is part of the great East African Rift Valley.
- At the northern end of the Great Rift Valley, and separated by live volcanoes from the Red Sea, the plain **was formed by the evaporation of an inland water body**.
- All the water entering Danakil evaporates, and **no streams flow out from its extreme environment**. It is covered with more than 10 lakh tonnes of salt.

- **Extremophile microbes can adapt to environmental conditions that are too extreme** for everything else. New research, however, has pointed that **Danakil Depression is too daunting even for these microorganisms**.



10.24. 1ST 'NATIONAL CONFERENCE ON COASTAL DISASTER RISK REDUCTION AND RESILIENCE (CDRR&R) - 2020'

- Conference was **organised by the National Institute of Disaster Management (NIDM)**, in New Delhi.
- The conference **focused on enhancing human capacity in terms of better understanding about coastal disaster risks and effective collaborative actions**, by implementing Prime Minister's 10-point agenda and Sendai Framework for Disaster Risk Reduction.
- NIDM, under **Ministry of Home Affairs** was constituted under the Disaster Management Act 2005.
 - It has been entrusted with the nodal national responsibility for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

10.25. BIMSTEC DMEX 2020

- The **2nd Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation Disaster Management Exercise (BIMSTEC-DMEx) 2020** was attended by five (out of seven) member nations Bangladesh, India, Myanmar, Sri Lanka and Nepal at Puri, Odisha. Thailand and Bhutan did not participate.
- It was 3-day exercise which discussed standardisation of protocol, formulation of policy and guidelines for **protection of heritage sites during disasters** and their conservation post-disaster.
- National Disaster Response Force hosted BIMSTEC-DMEx 2020.

10.26. MADHYA PRADESH RADIO-TAGS RESCUED PANGOLINS

- On the eve of the **ninth World Pangolin Day**, the Madhya Pradesh forest department announced the first-ever successful radio-tagging of the Indian pangolin. Two rescued animals were radio-tagged and released in the **Satpura tiger reserve** six months ago.
- Pangolins are the **most trafficked wildlife species** in the world.
- Commonly known as **scaly anteaters**, the **toothless** animal evolved an **armour of scales** which has now become the **main cause of its disappearance**.
- They are the **only mammals wholly-covered in scales**.
- Out of the eight species of Pangolin, the **Indian Pangolin** and the **Chinese Pangolin** are found in India. The Chinese pangolin is found in North-East India while the Indian Pangolin is distributed across India, except the extreme arid zones, Himalayas and the North-East.
- **Major threats to pangolins in India:** hunting and poaching for local consumptive use (e.g. as a protein source and traditional medicine) and international trade, for its meat and scales in East and South East Asian countries, particularly China and Vietnam.
- The **Indian Pangolin** is under “**Endangered**” category of IUCN Red List whereas **Chinese Pangolin** is “**Critically Endangered**”.
- Both the Pangolins are listed in **Schedule I of Wildlife (Protection) Act, 1972**.

Satpura Tiger Reserve

- Satpura Tiger Reserve is located in Satpura landscape, **south of Narmada River** in Madhya Pradesh.
- Satpura tiger reserve comprises of three protected areas namely, **Satpura National Park, Bori Sanctuary and Pachmarhi Wildlife Sanctuary**.
- **Denwa river** is the main water source of the park.
- Other than Tigers the prime species that are found here are Black Buck, Leopard, Dhole, Indian Gaur, Malabar Pied Hornbill, Malabar Whistling Thrush.
- **State Bird of Madhya Pradesh, Asian Paradise Flycatcher (Dhudraj) is also found here.**

10.27. STORM DENNIS

- It is the **second-strongest** (top spot is still occupied by the Braer Storm of 1993) **non-tropical storm on record in the North Atlantic Ocean** that caused widespread flooding across parts of the United Kingdom.
- Dennis resulted from the rare **merger of two unusually intense bomb cyclones**.
 - A **bomb cyclone is simply a storm that intensifies very rapidly**. Bomb cyclones form

when air near Earth’s surface rises quickly in the atmosphere, triggering a sudden drop in barometric pressure — at least 24 millibars within 24 hours.

- Unlike Hurricanes, **bomb cyclones don’t need warm ocean water in order to form**. While they sometimes arise over the ocean, they can also appear over land.
- Unlike hurricanes, **bomb cyclones arise in mid-latitudes**, where fronts of warm and cold air might collide. They rarely strike in summer, **rather they form between late fall and early spring**, when warm tropical air meets up against frigid Arctic air.

10.28. PARSİ POPULATION

- Recent data show that Parsi population in the country has gone up by 233 since the launch of the Jiyo Parsi Scheme.
- The population of Parsis, a notified minority community under **National Commission of Minorities Act 1992**, had **declined from 1,14,000 in 1941 to 57,264 in 2011**. In this backdrop the scheme was introduced.
- Jiyo Parsi scheme, **launched in 2013**, aims to **arrest the decline in population of the Parsi Community** in India.
- **It comprises of three components:** Advocacy Component, Health of the Community Component and Medical Component.
- The scheme adopts a **scientific protocol and structured interventions** to stabilise the Parsi population.
- Some reasons identified by National Commission for Minorities (NCM) for decline in population of Parsis:
 - Late and non-marriages
 - Fertility decline
 - Emigration
 - Out-Marriages; and
 - Separation and divorces.

About Parsis (Zoroastrians)

- Parsis follow **Zoroastrianism**, which was founded by the **Prophet Zoroaster (Zarathustra)** in ancient Iran.
- They emigrated to India to avoid religious persecution by Muslims in around **8th century**.
- They live chiefly in **Mumbai** and also in Karachi (Pakistan) and Bengaluru (Karnataka, India).

10.29. MULTICELLULAR ANIMAL WITHOUT MITOCHONDRIAL DNA

- Researchers have found a **multicellular animal** with no mitochondrial DNA.
- The organism ‘**Henneguya salminicola**’ a microscopic parasite is a **non-oxygen breathing**

animal. It is only known animal to exist without the need to breathe oxygen.

- One of the **common characteristics of multicellular animals is 'mitochondrial respiration'**, the process by which oxygen is used to generate **'adenosine triphosphate'**, the fuel used to power cellular processes for instance to burn food.
- This **'mitochondrial respiration'** in which oxygen is used to generate energy is also called as **'aerobic respiration'**. While **'anaerobic respiration'** is the process by which cells do not use oxygen, rather it uses oxidising agents to generate energy.
- It is seen as a **process of de-evolution**, as it has **shed unnecessary genes responsible** for aerobic respiration and become an even simpler organism.

10.30. 5G HACKATHON

- **5G Hackathon** is aimed at **shortlisting India focused cutting edge ideas** that can be converted into workable 5G products and solutions.
- It is organised by **Department of Telecommunications (DoT)** in association with government, academia & industry stakeholders.
- It will **convert innovating ideas into products** and solutions in different verticals and **develop India specific use cases** around 5G.
- It is open to developers, students, start-ups, SMEs, academic institutions & registered companies in India & NRIs.
- It was organised along side **India Mobile Congress (IMC), 2020**, New Delhi. India Mobile Congress is the **largest digital technology forum in South Asia** organised by the DoT and Cellular Operator Association of India.

10.31. COALITION FOR EPIDEMIC PREPAREDNESS INNOVATION (CEPI)

- A group of scientists at CEPI are in the process to develop a vaccine against the novel coronavirus. Group also includes an Indian origin scientist, Professor SS Vasan.
- **CEPI is an innovative global partnership** between public, private, philanthropic, and civil society organisations.
- **CEPI is working to accelerate the development of vaccines against emerging infectious diseases** and enable equitable access to these vaccines for people during outbreaks.
- CEPI was launched at **2017 World Economic Forum** in Davos. CEPI was founded by the governments of Norway and **India**, the Bill & Melinda Gates Foundation, the Wellcome Trust, and the World Economic Forum.
- Australia, Belgium, Canada, Germany, Japan, Norway, the European Commission as well as the

Bill and Melinda Gates Foundation and the Wellcome Trust are supporting CEPI financially.

- The initiative **focuses on diseases** which the World Health Organization has identified as possible originators for future pandemics.
- CEPI's **initial priority pathogens** include Middle East respiratory syndrome (MERS), Lassa, Nipah, Chikungunya and Rift Valley Fever.

10.32. BHASKARACHARYA NATIONAL INSTITUTE FOR SPACE APPLICATIONS AND GEO-INFORMATICS (BISAG(N))

- Cabinet has approved Elevation of **Bhaskaracharya Institute of Space Applications and Geoinformatics (BISAG), Gujarat as BISAG(N)** under Ministry of Electronics & Information Technology.
- **BISAG was a state agency** of the Department of Science and Technology, **Government of Gujarat**. It will now be an autonomous scientific society under the Government of India instead of the state government.
- BISAG works in close co-ordination with Government departments to **facilitate the use of spatial and geo-spatial technologies for the planning and developmental activities** pertaining to Agriculture, Land and Water Resource Management, Wasteland/Watershed Development, Forestry, Disaster Management, Infrastructure and Education.
- The elevation of BISAG has been done **to maintain efficiency and innovation** of services, facilitate implementation of expanded scope of activities, efficient rollout of GIS projects and facilitate aid, research and development **at the institute**.

10.33. NATIONAL SCIENCE DAY

- **Theme in 2020- "Women in science"**.
- The Government of India designated 28 February as National Science Day (NSD) in 1986 and theme-based science communication activities are carried out all over the country.
- It is celebrated every year on **28th February** to commemorate the discovery of the **'Raman Effect'** by **Sir C.V. Raman** for which he was awarded the Nobel Prize in 1930.
- **Nodal Agency- National Council for Science & Technology Communication (NCSTC)**, Department of Science and Technology (DST) acts as a nodal agency to support, catalyze and coordinate celebration of the National Science Day throughout the country in scientific institutions, research laboratories and autonomous scientific institutions associated with the Department of Science and Technology.

10.34. NATIONAL DEWORMING DAY

- Recently, tenth round of **National Deworming Day (NDD)** was conducted by Ministry of Health and Family Welfare.

About NDD

- NDD was **launched in 2015** to make **every child in the country worm free**.
- According to World Health Organization **241 million children between the ages of 1 and 14 years** are at risk of **parasitic intestinal worms in India**, also known as **Soil-Transmitted Helminths (STH)**.
- As part of this campaign, children and adolescents aged 1-19 years are being administered **Albendazole (400 mg)** across government, government-aided schools, anganwadis, private schools and other educational institutions.
- First round of NDD is conducted on February 10 each year. **Bi-annual round** of deworming is recommended in the States where prevalence of **STH infection is more than 20%**.
- Soil-transmitted helminths refer to the intestinal worms infecting humans that are transmitted through contaminated soil ("Helminth" means parasitic worm).
- Soil-transmitted helminth infection is found mainly in areas with warm and moist climates where sanitation and hygiene are poor, including in temperate zones during warmer months.

10.35. PURIFIED TEREPHTHALIC ACID (PTA)

- In the recent Budget, **government abolished an anti-dumping duty** being levied on imports of PTA in public interest.
- PTA** is a **raw material** used to make various **man-made fabrics** or their components such as, polyester staple fibre and spun yarn. It makes up for around **70-80%** of a polyester product.
- Owing to its properties such as **weathering resistance, strength and flexibility**, PTA's usage is growing across various end-use industries such as food and beverages, electronics, and industrial fibre.
- Removing the duty will allow PTA users to source from countries like China, Taiwan, Malaysia, Indonesia, Iran, Korea and Thailand, making it upto \$30 per 1,000 kg **cheaper**.
 - The move will also help to make the **textiles sector** a globally competitive industry.

10.36. FOUR-FOLD JUMP IN LI-ION BATTERY IMPORTS SINCE 2016

- As per Government reply in Lok Sabha, **India has quadrupled its imports of lithium-ion (Li-ion) batteries** and more than tripled its import bill on the product, from 2016-2018.
 - Indian manufacturers** source Li-ion batteries from China, Japan and South Korea and the country is **among the largest importers in the world**.
 - Around 450 million Li-ion batteries were imported in 2019 (till November).
 - The cost of these imports rose from ₹2,600 crores in 2016 to ₹6,500 crores in 2019
- Steps taken by India**
 - Union Cabinet in 2019 approved a programme, **National Mission on Transformative Mobility and Battery Storage** in the NITI Aayog to drive clean, connected, shared, sustainable and holistic mobility initiatives.
 - ISRO has commercialized indigenously developed li-ion battery technology** and has selected 14 companies for transfer of technology.
 - Central Electro Chemical Research Institute (CECRI), under Council of Scientific & Industrial Research (**CSIR**) and **RAASI Solar Power Pvt Ltd** have **signed a Memorandum of Agreement for transfer of technology for India's first Li-ion Battery project in 2018**.

For more details on Li-Ion kindly refer October, 2019 VISIONIAS Current Affairs.

10.37. ICOSDITAUS-2020

- International Conference on Standardisation of Diagnosis and Terminologies in Ayurveda, Unani and Siddha Systems of Medicine (**ICoSDiTAUS**) was jointly **organized by the Ministry of AYUSH and the World Health Organization (WHO)**.
- Objective:** To mobilize commitment for **International Classification of Diseases (ICD-11) implementation and further development of the supplementary chapter on traditional medicine diagnoses in ICD-11**.
- The **sixteen countries** which took part in conference are: India, Sri Lanka, Mauritius, Serbia, Curacao, Cuba, Myanmar, Equatorial Guinea, Qatar, Ghana, Bhutan, Uzbekistan, Switzerland, Iran, Jamaica, and Japan.
- Outcome:** Adopted '**New Delhi Declaration on Collection and Classification of Traditional Medicine (TM) Diagnostic Data**' and emphasised the commitment of the countries to Traditional Medicine as a significant area of health care.

International Classification of Diseases

- ICD is **international standard for reporting diseases and health conditions**. It is the **diagnostic classification standard** for all clinical and research purposes.
- ICD defines the universe of diseases, disorders, injuries and other related health conditions, listed in a comprehensive, hierarchical fashion.
- The ICD is maintained by WHO.
- **ICD-11** is eleventh revision of ICD containing necessary terminological and ontological elements for seamless use in digital health.

Traditional medicine (TM)

- TM refers to the **knowledge, skills and practices based on indigenous experiences used in the maintenance of health and treatment of physical and mental illness**.
- TM is also termed **'alternative or complementary medicine'**.
- TM Conditions which were earlier not part of ICD have found a place in the 11th Revision i.e ICD-11.

10.38. UNESCO WORLD HERITAGE SITE JAIPUR

- Recently, **UNESCO presented the World Heritage City certificate** for Jaipur.
- In July 2019, **Jaipur the 'Pink City of India'** was declared as United Nations Educational, Scientific and Cultural Organization (**UNESCO**) world heritage site.
- The fortified city of Jaipur was **founded in 1727 by the Kachwaha Rajput ruler of Amber, Sawai Jai Singh II**.
- It was established on the plain and built according to a grid plan interpreted in the light of **Vedic architecture**.
- The architecture of streets with colonnades (a row of evenly spaced columns supporting a roof or other structure), which intersect the centre, creating large public squares called 'chaupars' is one unique feature of the city.
- With Jaipur's inclusion, the number of world heritage sites in India has increased to 38, including **30 cultural, seven natural and one mixed site**.
- **Ahmedabad became the first Indian city** to get UNESCO world heritage status in 2017.

10.39. SURAJKUND INTERNATIONAL CRAFTS MELA

- The **largest crafts fair in the world**, it is being organized since 1987 to showcase the **richness and diversity of handicrafts, handlooms and cultural heritage of India**.
- It is organized at Surajkund, District Faridabad, Haryana.
- For the 34th Surajkund International Crafts Mela-2020, the state of **Himachal Pradesh** has been chosen to be the Theme State.
- Since 2013, the fair was upgraded to an international level and around 20 countries participate in the fair.
- It is organized by the Surajkund Mela Authority & Haryana Tourism in collaboration with Union Ministries of Tourism, Textiles, Culture and External Affairs.

10.40. NEOLITHIC AGE SIVA LINGA DISCOVERED

- Recently, an 18-foot Siva linga has been discovered by at the **Bhairaveswara Swamy Temple** atop the **Mopuru hillock**, in Andhra Pradesh.
- The linga was believed to have been naturally formed during the **Neolithic age** dated back to 3,000 - 2,800 B.C.
- The discovery of the Siva linga has thrown light on the **religious practices** of Neolithic civilisations during which people used to worship idols of Gods and Goddesses in **standing posture**.

About Neolithic Age

- Neolithic (New Stone Age) followed the **Paleolithic** Period, or age of chipped-stone tools, and preceded the **Bronze Age**.
- It was characterized by stone tools shaped by **polishing or grinding, dependence on domesticated plants or animals**, settlement in permanent villages, and the appearance of such crafts as pottery and weaving.
- **Important Neolithic sites in India:** Burzahom and Gufkral (Kashmir), Chopani Mando (U.P), Brahmngiri and Tekkalkota (Karnataka), Chirand (Bihar).

11. GOVERNMENT SCHEMES IN NEWS

11.1. PRADHAN MANTRI KISAN SAMMAN

Why in news?

Recently, Union Government has revised target **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** scheme's beneficiary target from 14 crore to 12 crore.

| Objectives | Salient Features |
|--|---|
| <ul style="list-style-type: none"> To provide an assured income support to all land holding farmers. To supplement the financial needs of farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income. This is expected to protect them from falling in the clutches of moneylenders for meeting such expenses and ensure their continuance in the farming activities. | <ul style="list-style-type: none"> It is a Central Sector Scheme under Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers' Welfare. Income support of Rs.6000/- per year is provided to all farmer families across the country in three equal installments of Rs.2000/- every four months. Definition of family for the Scheme is husband, wife and minor children. Responsibility of identification of beneficiary farmer families rests with the State / UT Governments. Fund is directly transferred to the bank accounts of the beneficiaries. Farmers can do their self-registration through the Farmers Corner in the portal or through Common Service Centers. Farmers can know status of their payment through the Farmers Corner in the portal. Excluded categories under PM KISAN <ul style="list-style-type: none"> All Institutional Land holders Farmer families with one or more members with: <ul style="list-style-type: none"> ✓ former or present Constitutional posts, ✓ Serving and retired employees of PSEs, ✓ Pensioners whose monthly pension is Rs.10,000/-or more, ✓ Persons who paid Income Tax in last assessment year, ✓ Professionals like Doctors, Engineers registered with Professional bodies and carrying out profession. PM-KISAN Mobile App was launched on 1st Anniversary of PM KISAN on which farmers can view the status of their application, update or carry out corrections of their Aadhaar cards and also check history of credits to their bank accounts. |

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