

1.1. DEMAND FOR ABOLISHING THE CONCURRENT LIST

Why in news?

The CM of Telangana has pitched for **more autonomy to the states**, suggesting that the concurrent list be done away with.

Historical Underpinnings

- Time and again centre-state relations come under scanner due to rising demands from various corners of the country for more power devolution in favor of states.
- The Indian governance system though federal in nature has strong central tendencies which born out of a mix causes i.e. the inertia to stay within the guidelines set by the Government of India act of 1935, fear of cessation etc.

Centralization of power Vis a Vis Concurrent list

- Since 1950, the Seventh Schedule of the Constitution has seen a number of amendments. **The Union List and Concurrent List have grown while subjects under the State List have gradually reduced.**
- The **42nd Amendment Act** was implemented in 1976, restructured the Seventh Schedule ensuring that State List subjects like education, forest, protection of wild animals and birds, administration of justice, and weights and measurements were transferred to the Concurrent List.
- The Tamil Nadu government constituted the **PV Rajamannar Committee** to look into Centre-State relations. It spurred other states to voice their opposition to this new power relation born due to 42nd amendment act and Centre's encroachment on subjects that were historically under the state list.
- The **Sarkaria Commission** was set up to look into Centre-State relations after opposition shown by states. However, the recommendations of the Sarkaria Commission were not implemented by successive central governments.

Issues with Concurrent list

- **Limited capacity of states:** Some laws enacted by Parliament in the concurrent list might require state governments to allocate funds for their implementation. But due to federal supremacy while the states are mandated to **comply with these laws** they might **not have enough financial resources** to do so.
- **Balance between flexibility and uniformity:** Some laws leave **little flexibility for states to sync the laws** according to their needs for achieving uniformity. A higher degree of detail in law ensures uniformity across the country and provides the same level of protection and rights however, it **reduces the flexibility for states** to tailor the law for their different local conditions.

Seventh Schedule (Article 246)

The Constitution provides a scheme for demarcation of powers through three 'lists' in the seventh schedule.

- The **union list** details the subjects on which Parliament may make laws e.g. defence, foreign affairs, railways, banking, among others.
- The **state list** details those under the purview of state legislatures e.g. Public order, police, public health and sanitation; hospitals and dispensaries, betting and gambling etc.
- The **concurrent list** has subjects in which both Parliament and state legislatures have jurisdiction e.g. Education including technical education, medical education and universities, population control and family planning, criminal law, prevention of cruelty to animals, protection of wildlife and animals, forests etc.
- The Constitution also provides federal supremacy to Parliament on concurrent list items i.e. in case of a conflict; a central law will override a state law.

Why Concurrent list?

- The aim of the concurrent list was to **ensure uniformity** across the country where independently both centre and state can legislate. Thus, a model law with enough flexibility for states was originally conceived in the constitution.
- Also, few concurrent list subjects required **huge finances** needing both centre and state to contribute.

Sarkaria Commission Recommendation on Concurrent List

- The residuary powers of taxation should continue to remain with the Parliament, while the other residuary powers should be placed in the Concurrent List.
- The Centre should consult the states before making a law on a subject of the Concurrent List.
- Ordinarily, the Union should occupy only that much field of a concurrent subject on which uniformity of policy and action is essential in the larger interest of the nation, leaving the rest and details for state action.

- **Infringement in the domain of states:** Some Bills may directly infringe upon the rights of states i.e. relates to central laws on subjects that are in the domain of state legislatures. E.g. anti-terrorist laws, Lokpal bill, issues with GST and Aadhar etc. where states' power are taken away in a cloaked manner.

This asymmetry highlights the need for a detailed public debate on federalism and treatment of items in the concurrent list.

What can be done?

- **Strengthening of Inter-State Council:** Over the year committees starting from Rajamannar, Sarkaria and Punchi have recommended strengthening of Interstate Council where the concurrent list subjects can be debated and discussed, balancing Centre state powers. There is far less institutional space to settle inter-state frictions therefore a constitutional institution like ISC can be a way forward.
- **Autonomy to states:** Centre should form **model laws with enough space for states** to maneuver. Centre should give enough budgetary support to states so as to avoid budgetary burden. There should be least interference in the state subjects.

1.2. EDUCATION AS A CRITERIA FOR LOCAL ELECTIONS

Why in News?

Rajasthan Government has scrapped education criteria for Panchayati Raj elections.

Background

- Under Rajasthan Panchayati Raj (Second Amendment) Act, 2015 it was made mandatory for people contesting zila parishad, panchayat samiti and municipal elections to have passed Class 10.
- Those contesting sarpanch elections to have passed Class 8 and those standing for sarpanch elections in panchayats in scheduled areas to have cleared Class 5.
- Constitutional Validity of the law enacted by Haryana government was challenged in Supreme Court in **Rajbala vs State of Haryana case**, in which court upheld the validity of law barring the illiterate from contesting panchayat polls in the state.
- SC held that the Right to Contest is neither fundamental rights, nor merely statutory rights, but are Constitutional Rights. Further, the Right to Contest can be regulated and curtailed through laws passed by the appropriate legislature.
- The Supreme Court's interpretation is based on the fact that uneducated or illiterate people getting elected to the local bodies can easily be misled by officials if they don't know how to write and read.

Panchayati Raj Elections

- 73rd and 74th Amendment Act in 1992 provided for mandatory constitution of Panchayati Raj Institution as third tier of government at local level.
- Under Article 243 (K) (4) of Indian Constitution State Government by law can lay down the qualification for elections to local bodies.
- Article 243 (O) bans the interference of courts in electoral matters. If there is any dispute in the Panchayat Elections, courts have no jurisdiction over them.
- Panchayat Election can be questioned in the form of an election petition presented to an authority which the state legislature can by law prescribe.
- Haryana Government had passed the Haryana Panchayati Raj (Amendment) Act, 2015 requiring minimum qualification for those contesting in panchayat election.
- States like Assam and Uttarakhand have also brought in legislations to make minimum education criteria for contesting local polls.

Arguments against educational criteria

- **Against grassroots democracy:** When there is no minimum education criteria to become MLA or MP, it is unfair to make such a criteria for panchayat elections.
- **Misplaced Focus:** Experts have said that primary role of an elected public representative is to put forward the point of her/his electorate rather than being well-versed in technicalities of administration.
- **Discriminatory towards Women & Weaker Sections:** Since the rate of literacy is low among the Dalits, Tribals and Women in particular due to societal and historical reasons, this law had disenfranchised a large number of Dalits and Women.
- **Exclusionary Move:** As per 2011 Census, over 70% of the overall rural population over the age of 20 years got barred from contesting the sarpanch elections in Rajasthan. It defeats the very purpose of the Panchayati Raj institutions, to include citizens in multi-tier local governance from all sections of society.
- **Weakens the Panchayati Raj System:** Due to lack of candidates who meet the education criteria, the number of sarpanch candidates who have been elected unopposed has more than doubled in the state as compared to the previous polls.
- **Abdication of Responsibility:** The education criteria penalised the people for failure to meet certain social indicators, when in fact it is the state's responsibility to provide the infrastructure and incentives for school and adult education.

Arguments in favor of educational criteria

- **Progressive Legislation:** It will encourage people to focus on education. People who were till now illiterate will now be encouraged to take up minimum education even if at a later age.
- **Need of the Hour:** This move may further the debate about having educational criteria for MPs and MLAs too. As in the present era, governance has become a complex issue and we must have educated people as our representatives.

- **Improvement in Social Indicators:** Experts argue that having Educational Criteria will lead to betterment of other social indicators like lowering of child marriages, female feticide, and overall improvement of health and wellbeing. Having two child norm as a criterion has already lowered the fertility rates in states.
- **Role-Model Effect:** States rationale is that it will lead to the role-model effect, and citizens in the constituencies will emulate their panchayat leaders, which will lead to social progress.

Conclusion

- In his memorandum to the Simon Commission in 1928, the father of the Indian Constitution B.R. Ambedkar said, "Those who insist on literacy as a test and insist upon making it a condition precedent to enfranchisement, in my opinion, commit two mistakes. Their first mistake consists in their belief that an illiterate person is necessarily an unintelligent person...Their second mistake lies in supposing that literacy necessarily imports a higher level of intelligence or knowledge than what the illiterate possesses..." .
- This decision should force a recasting of the debate on finding ways and means by which elected bodies are made more representative. This is because to mandate paternalistically what makes a person a 'good' candidate goes against the spirit of the attempt to deepen democracy by taking self-government to the grassroots.

1.3. DRAFT IT RULES

Why in news?

The Ministry of Electronics and Information Technology (MeitY) has sought public comments on the proposed amendments to the rules under Information Technology (IT) Act 2000 that seek to make it mandatory for platforms such as WhatsApp, Facebook and Twitter to trace “originator” of “unlawful” information.

Key Suggestions of Draft IT [Intermediaries Guidelines (Amendment) Rules] 2018

- **Definition of intermediaries:** Any social media platform with **more than 50 lakh users** or in the list notified by the government is defined as an “**intermediary**”. Social media platforms such as WhatsApp, Facebook, Instagram, Twitter etc. and search engines like Google fall under the definition of intermediary.
- **Privacy Policy:** The intermediary **must publish their privacy policy** informing the user not to host, display, upload, modify, publish, transmit, update or share any information that is harmful, harassing, blasphemous, defamatory, obscene, threatens security of the state etc.
- **Informing non-compliance:** A new rule 3(4) requires intermediary to **inform its users at least once every month, in case of non-compliance** with rules and regulations, user agreement and privacy policy.
- **Nodal person of contact:** The intermediary is **liable to provide information** sought by any government agency within **72 hours** of the query. They are expected to appoint a ‘**nodal person of contact**’ for 24X7 coordination with law enforcement agencies and officers to ensure compliance.
- **Removal of unlawful content:** The intermediary after being notified by the appropriate authority should **remove or disable access to unlawful content within 24 hours**. The intermediary is also expected to **preserve** such information and associated records for at least **180 days** for investigation purposes (as against 90 days now).
- **Traceability of originator:** The modified Rule 3(5) will introduce a “**traceability requirement**” to enable tracing the originator of information on the platform. It will in effect require a platform to **break end-to-end encryption** and introduce systems for retaining information specific to each bit of user data sent/received, including WhatsApp messages.
- **Tools to identify unlawful content:** The modified Rule 3(9) requires online platforms to **deploy automated tools** to identify and disable access to unlawful content. It requires online platforms to **report cyber security incidents** with the Indian Computer Emergency Response Team.

Need for such regulations

- Social media has brought new challenges for the law enforcement agencies, as it is being used for **recruitment of terrorists, circulation of obscene content, spread of disharmony, incitement of violence, public order, fake news etc.** An active cooperation & coordination between government and technology companies is needed for effective enforcement of the law.
- A number of lynching incidents were reported in 2018 mostly alleged to be because of **fake news/rumors being circulated through WhatsApp and other Social Media sites.** The government needed to strengthen the legal framework and make the social media platforms accountable under law.
- Supreme Court also recognized the need for online platforms following due diligence and enforcing ‘**reasonable restrictions to free speech**’ under Article 19(2) of the Constitution so that their platforms are not used to commit and provoke terrorism, extremism, violence and crime. It allowed government to frame **Standard Operating Procedure (SOP)** to deal with publication of such content.

Information Technology Act 2000

- It is the primary law in India dealing with cybercrimes and electronic commerce, based on **United Nations Model Law on Electronic Commerce 1996**.
- It formed the basis on e-governance in India as it gave recognition to electronic records and digital signatures.
- It **defines several cyber-crimes** like tampering with computer source documents, hacking, cheating using computer resource, publishing obscene information in electronic form, cyber-terrorism etc. and prescribes penalties for them.
- **Section 79 of the IT Act** elaborates on the exemption from liabilities of intermediaries in cases where they are merely acting as ‘conduits’ for information transmitted & published by end-users. **Section 79(2)(c)** mentions that **intermediaries must observe due diligence** while discharging their duties, and also observe guidelines as prescribed by the Central Government.

Challenges posed

- **Definition of “unlawful content”:** The definition of unlawful content is in terms of violation of sovereignty, friendly foreign affairs, public order, decency or morality under Article 19(2) of the Constitution. The scope of such a definition is wide and allows the government to curb any information that goes against it. The activists fear that this might lead to the “**Chinese model of censorship**”.
 - This also goes against the spirit of SC judgement in **Shreya Singhal case** whereby it struck down Sec 66A of IT Act 2000. It was asserted in the judgement that vague and subjective used in the law such as “annoyance”, “inconvenience”, “danger” etc. doesn’t come under the purview of a criminal proceeding. **A penal law can be declared void on the ground of vagueness, if it fails to define the criminal offense with definiteness.**
- **Government Interference:** The draft amendments allow breaking of encryption on messaging platforms such as WhatsApp, but lack any judicial safeguards against governmental abuse or interference. This infringes on the constitutional right to informational privacy and goes against the spirit of **Puttaswamy judgement (2017)**.
- **Pro-active censorship:** Allowing intermediaries to block any “unlawful” content on the Internet or using automated tools for the same, without any oversight, makes them arbiters without any right & violates the right to free speech. The Rules **don’t provide the procedure or the object** for such an exercise. They differ from the requirements governing content of other media like newspapers and television. Moreover, **no provision for content creator to appeal** against the takedowns goes against the principle of natural justice.
- **Longer data retention:** The phrase, “government agencies” is not defined and the specific conditions for data retention, for a longer period, are also not defined. Such retention will be without the information of the user and even despite the user deleting the data on the servers of the intermediary.
- **Induce self-censorship:** Draft Rule 3(4), which inserts a monthly requirement to inform users about the legal requirements, may induce self-censorship. Such a measure by law will require product side changes for smaller startups and entrepreneurs, thereby increasing costs.

There is a need to keep the privacy-security balance intact and limit the scope for executive overreach. But, such changes in digital information architecture must be brought after a consultative process with all stakeholders on board.

1.4. SECTION 4 OF THE RTI ACT

Why in News?

Recently, Central Information Commission (CIC) has undertaken a transparency audit to ascertain the quality of suo-motu disclosures under **Section 4 of the RTI Act** made by various public authorities.

Finding of Audit

- It found that, out of the 838 public authorities audited, over 85% did not disclose information related to: Budget and programming, Publicity and public interface and e-governance.
- It observed that most public authorities had taken transparency-related measures, however, vital information is not fully displayed on official websites.

Major Reason behind Non-Compliance to Section 4 of RTI.

- **Lack of Awareness among PIO's:** According to an annual report of **State Information Commission (SIC)**, 80% of Public Information Officers (PIO) and Appellate Authorities (AAs) do not know the basics of the RTI Act.
- **Demand Based Supply:** There is focus on furnishing information on demand rather than effectively ensuring voluntary disclosures by public authorities.
- **Poor quality of information provided:** Information proactively disclosed is not updated regularly leading to obsolescence of information provided, lack of important items of information on websites and relevant facts, which reflect **lack of transparency** in processes and inadequate training provided to the concerned PIO.
- **Obsolete record management Guidelines:** The current record management guidelines at Centre and in most states are inadequate to meet the requirements specified under the RTI Act as there is **lack of any electronic document management system** in many of the Departments.
- **Neglect of record keeping:** Leading to a tendency to provide bulk unprocessed information rather than a relevant and intelligible summarization.
- **Lack of Accountability:** Currently there exist **inadequate measures and processes** for an Information Commission to view the adherence levels of this important provision of the Act, also there is **no provision to fix responsibility** on any officer at the level of public authority in case of non-compliance.
- **Non-availability of basic Infrastructure:** Lack of basic infrastructure such as photocopier machines at each Public Authority and basic level of automation such as necessary applications and connectivity hampers its implementation.

Related news

- India recently ranked 6th in the global RTI ranking.
- The Right to Information Rating is a programme founded by Access Info Europe (AIE) and the Centre for Law and Democracy (CLD) and is conducted by Transparency International.

Section 4 of the RTI Act

- It states that, every government department has to voluntarily disclose information through annual reports and websites.
- It mandates that public authorities shall maintain all its records duly catalogued and indexed in a manner and form which facilitate the RTI Act.

Advantages of Suo-moto Disclosure:

- **Limiting Corruption:** Publishing information about the actions of the government keeps public officials under the constant watch of the public, makes governments to be more accountable and less corrupt.
- **Increasing Participation:** It empowers citizen with information which increase their voice in decision making process and policies, which are more likely to benefit them and less likely to be hijacked by special interest groups.
- **Equality in Access:** Proactive disclosure makes the information available to the public rather than particular or few individual(s).
- **Security:** Publishing information also protects the security of individuals within society. Requesting information for some individuals can sometimes be dangerous, particularly if it threatens powerful interest groups.
- **Improving Information Management:** Proactive disclosure is also a more efficient means of disclosing information than processing individual information requests both in terms of the number of people it reaches and the public administration burden.

Way Forward

- **Awareness drive:** Government should make awareness programmes targeting the public as well as governmental bodies, for educating them and promoting about suo-moto disclosure under RTI Act.
- **Training of public authorities:** Public officials should be trained on how to comply with proactive disclosure rules and how to make most effective use of both ICTs and traditional dissemination channels.
- **Establishing Public Records Office (PRO) for website monitoring and auditing:** PRO would have responsibility to oversee proper record keeping in all public offices including preparation and up-dating of manuals, modernization and digitization, monitoring, inspections and other relevant functions. The Public Records Office should function under the overall guidance and supervision of CIC or SIC.
- **Improving Infrastructure:** The ARC report had mentioned that GoI may allocate one per cent (1%) of the funds of the 'Flagship Programmes' for a period of five years for improving the infrastructure requirements.
- **Strict Punishment:** Government officials hide truth/facts of information for camouflaging their acts of corruption/carelessness. This act should come under criminal offence.
- **Improving Record Management:** Record keeping procedures need to be developed, reviewed and revised; cataloguing, indexing and orderly storage should be mandatory; all documents need to be converted into rational, intelligible, retrievable information modules.

1.5. WITNESS PROTECTION SCHEME

Why in News?

Recently Supreme Court asked the states to adopt Witness Protection Scheme.

More on News

- Supreme Court under Article 141/142 of the Constitution of India has provided legal sanctity to the scheme until Parliament/state legislature enacts a law on the matter.
- Although National Investigation Agency (NIA) act provides for witness protection, the scheme has extended it to the witnesses in all other cases as per the threat perception.
- Judgments/Committees in the matter
 - Zahira sheikh vs. State of Gujarat SC observed that witness protection is necessary for free and fair trial.
 - 14th report of Law commission and subsequently in and reports indicated about the need to protect witnesses.
 - Concerns in the matter were also raised by the 4th Report of the National Police Commission (1980).

Related Information

Art. 141 - law declared by the Supreme Court shall be binding on all courts within the territory of India.

Art. 142- Under this, SC can grant appropriate relief for doing complete justice (where there is some manifest illegality, want of jurisdiction or where some palpable injustice is shown to have resulted). Curative petition owes its origin to this article.

Need of Witness Protection Scheme

- Rule of Law: it is imperative to ensure that investigation, prosecution and trial of criminal offences is not prejudiced because of threats or intimidation to witnesses. It will help in strengthening the Criminal Justice System in the Country and improve national security scenario.
- Rights of Witness: While offenders have range of constitutional and legal rights, witnesses have limited rights and protection in current setup. This imbalance of rights many times compels the witnesses to turn hostile.
- Threats to Witness: In many high-profile cases/scams like NRHM scam in UP, Fodder scam in Bihar key witnesses were killed adversely affecting the investigation in these cases.
- International Practice: Countries like US, UK, Canada, and New Zealand have separate programme/acts for the protection of witnesses. In many countries, local police may implement informal protection as the need arises in specific cases.

Challenges

- Lack of resources: Indian police force has acute shortage of manpower (136 personnel per lakh population) and funds even to handle day to day policing. The witness protection duties will further increase the pressure.

- **Right of accused:** Law Commission mentioned that concealing the identity of witness for his/her protection can compromise the rights of the accused to demand a fair trial in case he/she wants to establish authenticity of witness.
- **Privacy of Witness:** Providing physical security to witnesses may not be appreciated by witness as it curtails the privacy and movement.
- **Time frame of protection:** It may be difficult to assess the time frame for protection. E.g. protection of witnesses may be required not only before, but also during and after trial and that too for years considering the delays in Criminal Justice System.
- **Issue in implementation:** Indian Penal Code, Juvenile Justice Act and Whistleblowers Protection Act etc. already have provisions for witness protection but lack of availability of appropriate structure limits the implementation.

Way forward

- **Effective witness protection legislation should be enacted** clearly defining the role of police, government and judiciary. This will create confidence among witnesses.

In this regard, Witness Protection Bill 2015 can be enacted with suitable amendments.

- **Witness protection cell** established under scheme should arrange for the provisions of false identities, relocation, employment and follow up.
- In some cases medical facilities, social services, state compensation, counseling, treatment and other support should be provided to the witness.
- **The witness should be treated with fairness, respect and dignity** and protection from intimidation, harassment or abuse must be prevented throughout the criminal justice process.
- **Overhauling the Criminal Justice System** with faster and scientific investigation, trials and convictions will reduce the need of witness protection.

Witness Protection Scheme

- **Procedure:**
 - Secretary, District Legal Services Authority (DLSA) can pass witness protection order for the witness protection under this Scheme for protection of identity/change of identity/relocation of a witness, categorization of threat etc.
 - The Threat Analysis Report shall be prepared by the ACP / DSP after investigation on direction from DLSA. The police officer will categorize the threat perception and suggest corrective measure.
 - The responsibility of implementation lies on witness protection cell constituted under the scheme.
- **Physical safety:**
 - Ensuring that witness and accused do not come face to face during investigation or trial.
 - Concealment of identity of the witness by referring to him/her with the changed name or alphabet.
 - Escort to and from the court and provision of Government vehicle date of hearing.
 - Close protection, regular patrolling around the witness's house.
- **Use of Technology:**
 - Holding of in-camera trials, videoconferencing, teleconferencing etc.
- **Judicial Support:**
 - Ensuring expeditious deposition of cases during trial on day to day basis without adjournments.
- **Financial provisions:**
 - **Witness Protection Fund** for the purpose of re-location, sustenance or starting new vocation/profession.
- The scheme aimed to enable a witness to depose fearlessly and truthfully. Under it, witness protection may be as simple as providing a police escort to the witness up to the courtroom or, in more complex cases involving an organised criminal group, taking extraordinary measures such as offering temporary residence in a safe house, giving a new identity, and relocation at an undisclosed place.

Witness Protection Bill 2015

The proposed Bill seeks to ensure the protection of witness by-

- Formulation of witness protection programme and **constituting National Witness Protection Council and State Witness Protection Councils** to ensure its implementation
- Constitution of a "witness protection cell" to prepare a report for the trial court to examine and grant protection to the witness referred as "protectee" after being admitted in the programme;
- Providing safeguards to ensure protection of Identity of witness;
- **Providing transfer of cases out of original Jurisdiction** to ensure that the witness can depose freely;
- Providing stringent punishment to the persons contravening the provisions and against false testimonies;

1.6. INDIA URBAN DATA EXCHANGE (IUDX)

Why in News?

Recently, Indian Institute of Science (IISc) has launched a pilot project for the Indian Urban Data Exchange (IUDX) in Electronics City (a township of Bangalore).

Data Exchange - Concept Background

- Cities around the world have learned that they possess a new valuable asset, namely the data generated by their various departments and agencies with each data set having its own security and privacy consideration, as well as commercial, monetary or subscription aspects.
- Cities such as Copenhagen, and Manchester have taken ownership of their data assets by creating data exchanges, which are software platforms that allow controlled sharing of data by providing common ways of accessing and representing the data
- An important idea behind a data exchange is that data silos are actually not a bad thing, as each silo often represents a domain-optimized service that performs that function very well. Instead of breaking silos or moving data into a central repository, this approach chooses to **interconnect the disparate and distributed entities through a common data exchange**.
- In addition, there is an opportunity for third-party providers of data, or third-party providers of data analytics or data annotation, to participate in what becomes a data marketplace.

India Urban Data Exchange

- It's a platform intended to facilitate easy and efficient exchange of data among various stakeholders of Smart Cities by interconnecting disparate urban data platforms, and enabling co-creation and innovation.
- **Smart City Mission** aims to develop an innovative city that uses **information and communication technologies (ICTs)** and will spend over Rs 16,000 crore (8% of the total Rs 2.04 lakh crore investment) on IT.
- After digitising municipal operations, such as waste flow, water supply, traffic patterns, and surveillance systems, the aim is to feed all data into an **Integrated Command and Control Center (ICCC)**.
- In this manner, it reflects the two-way partnership of information sharing between funding agencies and service providers, enabling both to find smarter and more efficient ways of improving service delivery and the overall outcomes achieved for individuals, families and their communities.
- **Monitoring of IUDX: Open Smart Cities of India (OSCI)** will be setup as a non-profit, start up company with central and state government officials, Smart City officials, researchers, and industry players to set up and scale IUDX.

ICCC

- It's a center where the entire city's information is collected, viewed and analysed through a City operations center application.
- **Significance:** Government can take pro-active measures and informed decisions on the basis of the data on a single dashboard. This system would control street lights, parking lights, parking, traffic (including violations and congestions), waste management, water supply etc. through sensors.
- As of June 2018, ICCC were operational under 10 smart cities in India with the latest being Naya Raipur.

Advantage of IUDX

- **Good Governance:** It will serve as a foundation for City Administration to build City Operations Center through which the city Administrators can monitor & operate the various city services Intelligently & efficiently.
- **Informed policy making:** It will empower Citizen, Industry, Academic and Research institution with direct access to a wide variety of data and make informed policy and decision making.
- **Data Monetization:** IUDX would essentially create a unified single-point data market place for various smart cities ecosystem stakeholders. This will help cities with **new revenue sources** and create a fertile environment for innovation.

Concern and Way Forward

- **Data Protection and Usage:** Regulations and laws should detail how consent for gathering data should occur, how data can be used and shared.

- **Privacy and Personal Right Protections:** Smart cities will face challenges of privacy as they strive to balance innovation with personal privacy. Therefore, cities will need to establish laws and regulations that determine how the privacy of its citizens will be protected.
- **Reliability and Liability:** Laws will need to determine exactly who is liable for damages incurred by malfunctioning IoT technology. Standards must be developed that outline how reliable an IoT device must be in order for it to be embedded in a smart city.

2.1. INDIA-BHUTAN

Why in news?

PM of Bhutan is on a trip to India as his first state visit after being sworn in as the new PM in the recently held elections.

Bhutan's significance for Indian Foreign policy

- **A trusted partner:** India-Bhutan ties are governed by 1949 Friendship Treaty (amended in 2007) which states that both countries will ensure perpetual peace, friendship and protect each other's national interests.
 - Bhutan stands out as an exception in South Asia as a country whose **relations with India do not oscillate between China and India based on the party in power.**
 - Bhutan has time and again stood by India be it 1971 or the immediate action against Indian insurgents in its territory. Similarly, India has shown its respect by visiting Bhutan first on the state visit or standing beside Bhutan during Doklam crisis, both countries has **stood the test of good neighborly relations.**
- **Strategic Relevance:** Bhutan acts as a buffer between two big powers that is India and China. The Chinese finger problem where it claims Ladakh, Nepal, Sikkim, Bhutan and Arunachal to be a part of its territory, jeopardises Indian and Bhutanese sovereignty. Thus, for both Bhutan and India it is imperative to avoid such territorial claims together.
- **Economic overlapping:** India continues to be the largest trade and development partner of Bhutan. India has contributed generously towards latter's Five Year Plans since 1961.
 - **Cooperation in hydropower** has over the years intensified as main pillar of economic ties and has evolved to become Bhutan's major export item and a major source of its revenue. The hydro relations has benefitted India to tackle its energy deficiency and helped Bhutan's economy to grow simultaneously.
 - Also three Hydropower projects developed with Indian assistance have already been completed, they are **1020 MW Tala Hydroelectric Project, 336 MW Chukha Hydroelectric Project, 60 MW Kurichhu Hydroelectric.**

Changing Dynamics

- **Friendship under strain:** Though the friendship treaty is the bedrock of relationship it is ironical that Bhutan takes it with the pinch of salt. **India's big brotherly attitude** in its neighborhood is not taken well even by Bhutan. Though Doklam was a diplomatic victory but some political analysts branded it as India's self image as a protectorate.
 - Also, the political meddling, regime management and economic arm twisting (blockade in 2013) increases Bhutan's mistrust for India's intention.
- **Biased strategic approach:** Bhutan has often accused India of India first approach rather than a bilateral one. Bhutan sees itself a sovereign and often India's sovereignty comes first anytime when there is instability in the neighbourhood. E.g.
 - To India the most immediate concern is **Chinese increasing incursion in the trijunction area** in general and its physical presence in Chumbi valley in particular. Chumbi valley is very close to the Siliguri corridor (Chicken neck) to which if China gets complete access from Bhutan and its contested territory settlement; it can give a strategic edge to China threatening Indian sovereignty once and for all. That is why India held its ground during Doklam.
 - Also, China is expanding through **Belt Road Initiative (BRI)** a mega connectivity project with strategic implication for India particularly. The western contested China-Bhutan territory is essential for the project i.e. for the railway line from Lhasa-Shigatse to Nepal and later to Bhutan. Therefore, China is keen to swap northern part for territories in western Bhutan.
 - India sees **Bhutan from a Chinese prism**, increasing sensitivities on the Bhutanese side. Doklam upstanding of India was seen by many to protect its own interest not the territorial interest of Bhutan. Bhutan has become skeptical of India protecting its national interest as China looms larger in the region due to its growing military and economic prowess.

- **Economic Drift:** India-Bhutan economic ties are stronger but Bhutan now sees itself as a self-reliant economy which is being thwarted due to one-sided Indian commercial policy. According to Bhutanese analysts, Bhutan's economy has become auxiliary to India's economic intervention model.
 - The study has found that over 60% of government expenditure goes into the import of goods from India. Further, 75 per cent of the country's external debt is accounted by hydropower loans and India accounts for 80 per cent of Bhutan's exports.
 - **India's stranglehold over Bhutan's economy** along with unfair business practices often leads to economic crisis such as the debt and rupee crunch. The fundamentals of economic dependency including the hydropower projects are becoming subjects of debate, with the unfair tariff rates, time runs and a jobless growth.
 - The remedy they see lies in diversifying its economy from a hydropower-based economy to Multidiverse one and China has a great role to play in this diversification being an economic powerhouse.

Way Forward

- **Recalibrating the friendship:** India should take Bhutan's perspective of India's dominant status in South Asia for a balanced approach in implementing the friendship treaty.
 - It has to build Bhutan's trust on India's intention by following the treaty in letter and spirit and not on a choose-and-pick basis. The carrot-and-stick policy should be abandoned to rebuild the faith in the friendship treaty.
- **Strategic balancing:** Bhutan and India bilaterally should look at all matters of territorial incursions. India needs to develop a standalone Bhutan policy that is independent of Chinese lens.
 - In various regional groupings, India-Bhutan should cooperate and coordinate their national interests. The BRI of China can have huge implication for sovereignty and security of both countries therefore both need to connect by lessening the barriers.
 - The operationalisation of BBIN motor vehicle agreement (Bhutan-Bangladesh-India-Nepal) can be good for starters.
- **Inclusive Economic ties:** India has to make efforts to reduce Bhutan's debt fears. Operationalisation of the pending projects can reduce the fears.
 - Also, the PM came with four agendas i.e. a fair tariff for the 720 MW bilateral Mangdechhu project; seeking India's support for Bhutan's 12th Five Year Plan (FYP); starting the 2,560 MW Sunkosh Reservoir project and waiving off the Central GST for Bhutan. These are critical for Bhutan's economic future and commercial plans and India has to adopt an open, participative approach to achieve them.
 - There is no harm in diversifying one's economy and India should see it as a new opportunity to partner with Bhutan and help diversify its economy. It should transform its relation from an aid provider to an investment-led developer. Skilling Bhutan's youth, developing a bilateral tourism policy and increasing private investment can be helpful for both.



2.2. INDIA-MALDIVES

Why in news?

The President of the Republic of Maldives, within a month of assuming office visited India on his first State Visit.

Background

India and Maldives share ethnic, linguistic, cultural links, steeped in antiquity and enjoy close, cordial and multi-dimensional relations. However there have been various recent developments which left a strain on the ties like-

- **Political partnership:** India-Maldives ties were cordial under President Nasheed regime. But his eviction in 2012 had put India-Maldives ties under strain since then. This was followed by India showing its dissatisfaction over the ouster, the imposition of emergency and crackdown on democratic institutions.
- **Strategic partnership:** Under President Yameen's government Maldives improved its proximity with China with the signing of FTA for leasing out strategic land to China under debt-equity swap, China's help in development of 3 islands Chinese loan assistance, amending the Maldivian Constitution in 2015 allowing foreigners to own land etc. This increased China's strategic footprint in southern Indian ocean under the garb of development.



Significance of change in regime in Maldives

- **Political Bonhomie:** The return of democracy is expected to improve the mutual trust between the two countries as well as may further lead to betterment of ties.
- **Strategic Advantage:** Maldives is advantageously located geographically in Indian Ocean. Also, China's large presence since the inception of Belt and Road Initiative has huge implications for Indian security. The new government's insistence on the implementation of India First Policy in letter and spirit is crucial for India.

Recent developments exemplifying recalibration of ties

- India recently announced \$1.4 billion financial assistance to the island nation in a bid to bail out its debt-trapped economy.
- Backed by India, Maldives recently became Indian Ocean Rim Association (IORA) Member. Also, it is helping expedite its inclusion in the Commonwealth again.
- Apart from the increasing official visits between the two countries (Indian PM visited Male before the current visit by Maldivian President), both sides reiterated commitment to maintain close relations with each other. For instance, Maldives reaffirmed commitment to 'India First' policy.

Challenges

- **Political Uncertainty:** Like initial euphoria over Sri Lanka democratic government victory and the later unfolding of subsequent events there is similar concerns with Maldivian coalition government. Thus, India cannot fully rely on Maldivian government.
- **China Factor:** Though the Maldivian government has said it will rework the FTA but the huge debt owed to China may force Maldives to tread cautiously without antagonising China. Thus, India cannot stop its neighbour to engage actively with China due to its growing economic prowess in its backyard.
- **Terrorism Concern:** In the past decade the number of Maldivians drawn towards terrorist groups like the Islamic State (ISIS) has grown in number due to political instability and socioeconomic underdevelopment. This has perpetual security concerns for India.

- **No independent Island policy:** Though India is working towards a regional security architect under IORA and trilateral security arrangement it lacks an independent policy dealing collectively with archipelagos like Seychelles, Maldives, Madagascar and Mauritius amidst increasing Chinese presence along these islands.

Way Forward

- **India needs to actively and diplomatically engage with its southern neighbours including Maldives.** Political support and people to people participation has to be readily increased. An independent archipelago foreign policy needs to be developed to systematically partner with them. Also, the trilateral and bilateral security arrangements need to be reinforced in order to address the changing power structures in Indian Ocean.
- **More sustainable investment policies favouring socioeconomic development** in an atmosphere of trust once developed can have long term benefits to both countries relationship.
- India may further its approach of **non intervention in Maldives** to manage a lighter diplomatic influence on a similar stance as it did during the previous regime. This may help India to build trust in the region and to get past its Big Brotherly image in the region.



2.3. EXTRADITION

Why in News?

Recently, UK Court ordered the **extradition** of fugitive Vijay Mallya to India to face fraud charges resulting from the collapse of his defunct Kingfisher Airlines.

Background

- Increasing Absconding:** Globalisation and increased interconnectivity poses significant hurdles to bring high profile cases to justice, as, it has become relatively easier for offenders in India to escape to foreign countries and evade arrest and prosecution in the country.
- Low Extradition Success:** India's success rate in extraditing fugitives is abysmally low i.e. only one in every three fugitives are being successfully extradited to India.

Significance of Extradition

- For Serving Justice:** Bringing back offenders from foreign countries is essential for providing timely justice and grievance redressal.
- Deterrence to Future Absconding:** It serves as a deterrent against offenders who consider escape as an easy way to subvert India's justice system.
- National Security and Safety:** Extradition of person responsible for terror and criminal activity, will create an environment of Justice and sense of Justice in the people of country.
- Economic Growth:** Bringing Economic fugitives back, could improve the health of financial institution of India and tackling NPA crisis.

Challenges for India

- No treaty:** India has a fewer number of bilateral extradition treaties compared to other countries and of particular concern is the fact that India does not have extradition treaties with several neighbouring states, such as China, Pakistan, Myanmar and Afghanistan. Eg: India doesn't have a treaty with Antigua and Barbuda, which delays the extradition of Mehul Choksi.
- Crimes under Treaty:** Extradition is generally limited to crimes identified in the treaty which may vary in relation to one State from another, as provided by the treaty.
- Overburdening CBI:** Multiple extradition cases such as those related to money laundering, terrorism and economic offences, are either taken up by the CBI or sent to the CBI, by the state police, for investigation. The

What is Extradition?

- Extradition is the delivery on the part of one State to another of those whom it is desired to deal with for crimes of which they have been accused or convicted and are justifiable in the Courts of the other State
- Extradition Act 1962 provides India's legislative basis for extradition.

Extradition Treaties: Extradition treaties help provide a defined legal framework for the return of fugitives between countries.

- Section 2(d) of Extradition Act 1962** defines an 'Extradition Treaty' as a Treaty, Agreement or Arrangement made by India with a Foreign State, relating to the Extradition of fugitive criminals and includes any treaty, agreement or arrangement relating to the Extradition of fugitive criminals.
- General Conditions of Extradition**
 - Principle Of Extraditable Offences** lays down that extradition applies only with respect to offences clearly stipulated as such in the treaty.
 - Principle Of Dual Criminality** requires that the offence for which the extradition is sought be an offence under the national laws of the extradition requesting country as well as of the requested country.
 - Rule of Specificity:** The extradited person must be proceeded against only against the offence for which his extradition was requested.
 - Free & Fair Trial:** He must be accorded a fair trial (part of international human rights law now). Judiciary and other legal authorities are likely to apply these principles equally to situations where no extradition treaty exists.
- Nodal authority for Extradition in India:** Ministry of External Affairs, Government of India is the Central/Nodal Authority that administers the Extradition Act and it processes incoming and outgoing Extradition Requests.

Difference Between Extradition and other process

- In deportation:** a person is ordered to leave a country and is not allowed to return to that country.
- In exclusion:** a person is prohibited from staying in a particular part of a sovereign state.
- Deportation and Exclusion are **non-consensual orders** that do not require a treaty obligation. Deportation is governed by the **Foreigners Act, 1946**.

CBI was created to deal with corruption cases, and is understaffed to take up larger cases involving extradition.

- **Double Jeopardy Clause:** It debars punishment for the same crime twice. It's the primary reason for India's failure to extradite David Headley from the US.
- **Human Right Issues:** UK and other European countries have often denied extradition requests on the possibility that the requested person will be subject to poor conditions or custodial violence in India's prisons. Indeed, overcrowding, crumbling infrastructure, poor sanitary conditions and lack of basic amenities, among others, all contribute to making Indian prisons less of places for rehabilitation and mostly for punishment.
- **Absence of Anti torture legislation:** It has resulted in difficulty to secure extraditions because there is a fear within the international community that the accused persons would be subject to torture in India. For e.g. Denmark denied extradition of Kim Davy in Purulia Arms case due to risk of "torture or other inhuman treatment" in India.
- **Diplomacy, Bilateral relations and Domestic politics:** Extradition process depends on bilateral relations and the opportune use of diplomacy and negotiations to push for the process by the requested country.

Way Forward

- **Enhancing Bilateral Relation:** Leveraging diplomacy and bilateral negotiations to persuade countries to process requests expeditiously. In return, India should on the basis of reciprocity and comity process, expedite extradition requests received from foreign states swiftly and efficiently.
- **Sign More Extradition Treaties:** India has extradition treaties with 47 countries, but till date has managed to get only 62 accused extradited.
- **Effective Preventive Law and Policy measures:** It can deter the escape of offenders, like Fugitive Economic Offenders Bill, 2018, signifies the government's efforts to shift its focus to preventive, ex ante legal mechanisms.
- **Expedite Prison Reform** to dispel concerns regarding poor prison conditions and potential human rights violations of the requested person.
 - India may ratify the **UN Convention Against Torture (1984)** (already signed by India) to establish India's zero tolerance towards torture and custodial violence.
- **Addressing investigational delays:** To improve the capacity and organisational efficiencies of law enforcement agencies so that they may conduct speedy investigation in these cases
- **Adopt the Good Practices:** Like by placing suitable organisational mechanisms to familiarise itself with laws and regulations of treaty states. It will also help in improving the synergy between the MEA and law enforcement agencies.
- **Setting up a Separate Cell:** This will help to provide expert legal advice and assistance on drafting, certification and translation of evidence, will help mitigate the possibility of rejection of requests.

Related News - Interpol Issued Red Corner notice against Mehul Choksi

About Interpol (International Criminal Police Organization)

- It is an international organization facilitating international police cooperation. It has 192 member countries and has HQ at Lyon, France.
- Notices are international requests for cooperation or alerts allowing police in member countries to share critical crime-related information.
- The CBI is the nodal authority that executes and handles the issuance of all Interpol Notices in India. There are liaison officers in every state police force as well.

TYPES OF INTERPOL NOTICES



RED NOTICE: To seek the location and arrest of wanted persons with a view to extradition or similar lawful action.



BLUE NOTICE: To collect additional information about a person's identity, location or activities in relation to a crime.



GREEN NOTICE: To provide warnings and intelligence about persons who have committed criminal offences and are likely to repeat these crimes in other countries.



INTERPOL-UN SECURITY COUNCIL SPECIAL NOTICE: Issued for groups and individuals who are the targets of UN Security Council sanctions committees



YELLOW NOTICE: To provide warnings and intelligence about persons who have committed criminal offences and are likely to repeat these crimes in other countries.



BLACK NOTICE: To seek information on unidentified bodies



ORANGE NOTICE: To warn of an event, a person, an object or a process representing a serious and imminent threat to public safety.



PURPLE NOTICE: To seek or provide information on modus operandi, objects, devices and concealment methods used by criminals.

2.4. AMERICAN RETRENCHMENT FROM AFGHANISTAN

Why in News?

US President Donald Trump is ordering an American drawdown in Afghanistan, planning to bring home 50% of the 15000 US troops over next 2 months.

Why US is pulling out?

- The withdrawal is in consonance with President Trump's **America First rhetoric**. According to Trump, US has been wasting its "blood and treasure" on distant conflicts, instead of rebuilding itself. In 17th year since its inception in 2001, the Afghanistan conflict is US's longest running war & has had huge economic as well as human costs. Despite prolonged investment of financial and human resources, the political solution is nowhere in sight and this has resulted in **growing skepticism** within the US administration over the futility of military involvement.
- Also, he added a trade dimension to his argument on the **uneven distribution of security costs**. Despite enjoying massive trade surpluses, many US allies like Germany, Japan, India etc. are not spending enough for their own security.
- Under the new AfPak policy formulated in 2017, US marginally increased troops in Afghanistan, declared their engagement to be open-ended with no fixed timeline for withdrawal & took unprecedented hard stance against Pakistan. It also sought enhanced Indian role in peace and reconstruction process. But this didn't seem to achieve the desired objective, in light of Pakistan-China nexus.

Why United States has not been successful in Afghanistan?

- Domestic political factors:**
 - US has failed to integrate the Taliban into Afghan society beginning in 2001, when Taliban leaders were hunted down instead of being co-opted. On the other hand, it has failed to contain the influence of Taliban as it still controls more than 14 districts (4% of the country) & is openly challenging Govt in other areas as well.
 - Labeled as weak and ineffective, the National Unity government has been plagued by corruption and inefficiency.
- Military factors:** U.S. and Western governments has tried to win the war for Afghans by deploying large numbers of Western military forces and flooding Afghanistan with large amounts of assistance, which has irked the indigenous tribes. Given the terrain and the tactics of avoiding set-piece battles adopted by the Taliban, the continuous use of air power has failed to change the trajectory of the war.
- Role of Pakistan:**
 - The Taliban's sanctuary in Pakistan and support from Pakistan's spy agency, Inter-Services Intelligence (ISI) allowed senior Taliban leaders to run the war in relative security.
 - The Americans didn't realize that they were fighting the "**wrong war in the wrong country**" and they were too late to turn the screws hard on the real enemy, Pakistan – the stoppage of aid by the Trump administration was too little too late and needed to be backed by similar sanctions as imposed on Iran and North Korea.

Related News - US withdrawal from Syria

- The US has begun **withdrawing its troops from Syria**, where they are supporting rebel fighters from the Kurdish-led Syrian Democratic Forces (SDF) alliance.
- Reasons behind the pullout:**
 - Objective of defeating IS achieved as it no longer holds territory and has been flushed out of all urban centres in Iraq and Syria.
 - US's **strategic objective of dismantling Assad-regime** and reducing Iranian influence isn't in the sight of getting achieved.
 - US's **balancing act between Turkey & Kurds** didn't achieve any long term stability, especially in northern Syria.
- Negative consequences:**
 - Possible return of IS in the region in case of a pullout. Though no longer fully controlling territory, there are about 14,000 IS militants in Syria and 17,000 in Iraq.
 - Increase conflict between Syrian Kurdish forces and Turkey, which considers them as terrorists.
 - Uncertainty may further increase over the status of an autonomous Kurdish state incorporating parts of Syria, Turkey, Iraq and Iran.
 - Might lead to further international competition over 'spheres of influence' within Syria. E.g. Iran's attempt to create a 'Shia crescent' from western Afghanistan to the Mediterranean Sea.

AFGHANISTAN: WHO CONTROLS WHAT



- **Socio-cultural factors:** The nomadic and tribal polity in Afghanistan comprises of multiple tribes like Pashtuns, Turks and Persians, each dominant in different regions, asserting their own traditions and culture. The tribal factionalism didn't allow the democratically elected government to settle in Afghanistan, and therefore, dented long-term strategic objective of the US intervention.

The withdrawal is acknowledgment of the fact that US was not winning the war in Afghanistan and fateful submission to the fact staying the course in Afghanistan wouldn't change the situation in their favour.

Consequences of withdrawal

- **Impact on the peace process:** A strong U.S. military presence in Afghanistan is needed to bolster diplomatic peace efforts. U.S. officials are currently engaged in talks with the Taliban. However, the withdrawal at this time will reduce the incentive for the Taliban to strike a deal.
- **Fall of the democratic government & Resurgence of Taliban:** There are a large number of fence sitters in the fractious polity of Afghanistan that don't cross over to Taliban's side because National Unity Government is seen to have the backing of US force. Hence, symbolic presence was seen to be necessary, as observed in the US's AfPak policy in 2017. With the U.S. presence gone, the Taliban — with support from Pakistan & limited assistance from Russia and Iran — might seize all the remaining cities in the country that it currently does not control.
- **Breeding ground for terrorism:** A precipitous U.S. exit would allow Afghanistan to emerge as epicenter of global terror, as during the 1990s & would only embolden other transnational terror organizations like Islamic State Khorasan (the Islamic State's local province), Al-Qaeda in the Indian Subcontinent (al-Qaeda's local affiliate) and Haqqani Network to operate freely inside Afghanistan.
- **Poor capacity of Afghan forces:** With the withdrawal of forces, the missions now underway, including training Afghan forces, advising them in the field, and waging an air campaign, against the Taliban and other militant groups, will face challenges. It will reduce the willingness of chronically under strength Afghan forces to fight.
- **Regional instability:** The withdrawal might further cement regional instability between nuclear powers India and Pakistan. An Islamist regime in Afghanistan would make Pakistan a central player in the country.
- **Refugee crisis:** The civil unrest might lead to a mass exodus of Afghans trying to flee the country could trigger another refugee crisis.

Consequences for India

- A destabilized and Talibanized Afghanistan might lead to upsurge of violence in Jammu and Kashmir & can be used as a staging post for launching attacks on rest of India, as had been the case in late 1990s (IC 814 hijacking).
- There is also an imminent security threat to India's investments & developed infrastructure in Afghanistan.
- Since India is increasing its physical presence in the region through connectivity projects like Chabahar, INSTC etc., an adverse national government will halt the connectivity efforts, increase in refugee crisis and will have a major impact on India's energy security and regional ties in the Middle East.
- US's isolationism through non-interventionist foreign policy could open gates to Chinese military intervention in Afghanistan.
- India must start preparing for the inevitable geopolitical turbulence, including the resurgence of the Islamic State and the potential return of the Taliban to power in Kabul.

Way Forward

- It is important that the Western nations keep funding the Afghan state and provisioning their armed forces so that there is a possibility of Afghan forces pushing back Taliban forces.
- It is important to ensure the involvement of Afghan Government in any peace talks between Taliban and US officials to ensure that meaningful democracy remains in place in Afghanistan.
- As America pulls out, it leaves room for Russia and Iran to influence the region. India now needs to cooperate with both of them to push forward peace process.
- Over 17 years of US presence in Afghanistan, India was not able to use the opportunity to achieve strategic objectives. India's has been hesitant on using the instruments of hard power – weapon systems & platforms - due to fear of being interpreted as adversarial by neighbours. India must step beyond conventional and conservative diplomacy to give monetary and material assistance to the Afghans more pro-actively.
- India needs to use the goodwill it has earned and the links it has established to cement the anti-Taliban forces, without interfering in Afghanistan's internal affairs.
- Domestically, India needs to increase its military presence in the border areas, develop cooperation among intelligence and military organization and modernize the armed forces.
- India has to check radicalization in the country through awareness camps through social media and community engagement.
- A more nuanced Pakistan policy has to be adopted in order to fight a better positioned Pakistan in the region.

2.5. NEW PEACE AGREEMENT ON YEMEN

Why in news?

A UN mediated ceasefire has been reached between Houthi rebels in Yemen and President Hadi's forces in the port city of Hodeida.

Yemen Crisis- Why is there a war?

- Yemen, one of the Arab world's poorest countries and one presently facing the worst humanitarian crisis has been devastated by a civil war.
- The civil crisis was initiated due to Arab Spring and further intensified due to Saudi's political history influence, Saudi-Iran regional competition and International interference.

Impact of ceasefire

- **Halt the humanitarian Crisis:** UN has played a major role in the ceasefire which was pushed most importantly on humanitarian grounds. According to UN, it is the world's worst man-made humanitarian disaster.
- **Regional Stability:** The region is long struggling with political instability and socioeconomic crisis riding on a regional Saudi-Iran hegemonic competition. The cease fire will bring the rival groups on table for a long term political solution. UN will monitor the ceasefire thus bringing an international surveillance to the whole process.
- **Energy and trade security:** There have been constant fears regarding the blockade near **Gulf of Aden** which may choke the trade routes which comprises of huge oil shipment business and thus jeopardizing energy security around the globe as Middle East is the biggest energy security provider.

Arab Spring

- The mass movement in the Middle East for regime change (political) and socio economic equality is termed as Arab Spring.
- It began in 2011 in Tunisia and was spread to Yemen, Syria, Egypt, Bahrain etc.

Conclusion

- Though there are constant fears about the sustenance of the ceasefire but this is a right step. **UN should continue the talk process among rebel groups and the government.**
- **Iran and Saudi Arabia should also be convinced of the futility of the proxy wars** in the region which are equally inimical to their respective governments.
- **A people to people community should be developed** in the region to break the sectarian divide for long term solutions.
- The whole **international community should force US and Russia** to bring to an end the cold war ideological divide.

3.1. FARM LOAN WAIVER

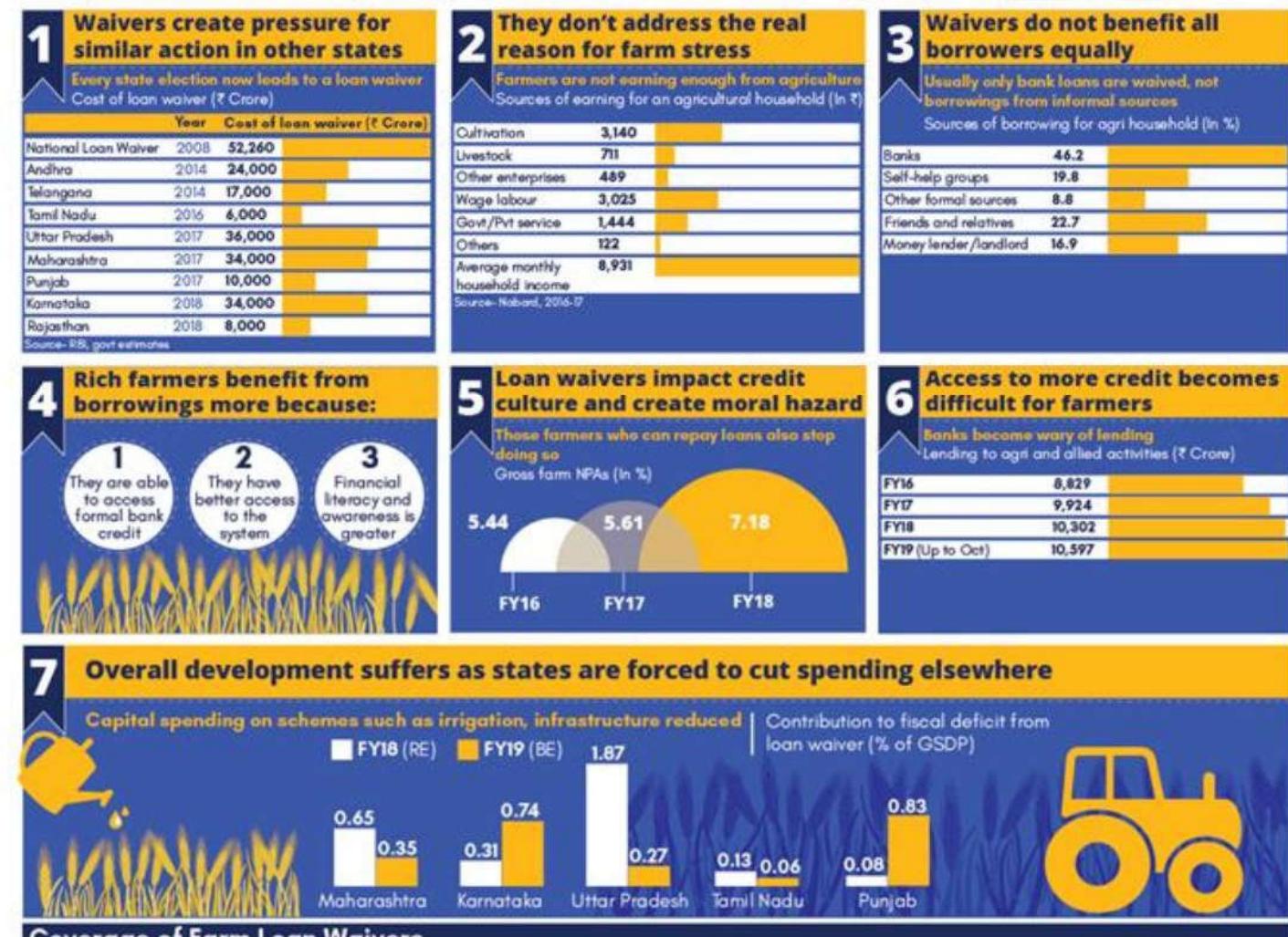
Why in news?

Newly elected state governments in Madhya Pradesh, Rajasthan and Chhattisgarh, have declared packages for loan write-offs for farmers.

More on News

- Farm Loan Waiver:** It is a consistent demand by the farmers because of the persistent distressed farm situations across the country.
- Since 2014, eight states have written off loans to farmers and four more states — Rajasthan, Assam, Chhattisgarh and Madhya Pradesh — had announced the waiver. The debt relief is paid through state budgets.

Issues with the Farm Loan Waiver



Coverage of Farm Loan Waivers

- UP's debt waiver covers only one-fourth of the total estimated farm debt in the state.
- Punjab's debt waiver covers less than one-seventh of the total estimated farm debt in the state.
- Maharashtra's farm debt waiver covers almost one-third of the state's farm loans.

ALL-INDIA LOAN WAIVER in 2008, central government announced a one-time write-off of loans for 3.7 crore small and marginal farmers and 60 lakh other farmers. **Key observations of CAG Audit include:**

- 13.5% of eligible beneficiaries were excluded.
- 8.5% cases where ineligible beneficiaries received relief.
- 6% of farmers not given benefits according to their entitlement.

Macro-economic impacts of Farm Loan Waiver: At its most basic, farm loan waivers simply transfer liabilities from private sector to public sector balance sheets. The waivers will have four effects on aggregate demand:

- **Private consumption impact:** Loan waivers will increase the net wealth of farm households pushing consumption up. However, World Bank study on the “ADWDRS” of 2008-09 found no rise in consumption after the loan waivers.
- **Public sector impact:** Loan waivers involve spending that does not add to demand (because these are liability transfers to the states’ balance sheets) but the actions taken to meet Fiscal Responsibility Legislation (FRL) targets (higher taxes and/or lower expenditure) will reduce demand.
- **Crowding out impact:** Loan waivers will result in higher borrowing by the states with fiscal space. This could squeeze out private spending by firms.
- **Crowding in impact:** Bank balance sheets will improve to the extent that non-performing farm loans are taken off their books. So they might be able to provide additional financial resources to the private sector, leading to greater spending.

Way Forward

The primary reason for persistent farm distress is the inability of farmers to get remunerative prices, due to the prevailing disconnect with the value chain resulting from market asymmetry, and lackadaisical institutional and infrastructure support.

A loan waiver is only an element of immediate relief. **Greater focus is required on enhancing their loan repayment capacity** via smooth supply and value chains, and better price realisations along with farm credit reforms . This could be achieved by following measures:

- **Institutional Strength:** The most important constraint of Indian farmers is their small and uneconomical size of holdings. This can be overcome by
 - Encouraging the formation and working via **farmer producer organisations (FPOs)** that act as aggregators and help farmers overcome their unorganised nature.
 - **Government spending in the creation of suitable storage capacities** - either independently or in public-private partnership (PPP) model- will not only help farmers to store their produce, but also connect them to institutional finance through a much more secure mechanism of warehouse receipt finance through FPOs.
 - Ensure reach of minimum support price & crop insurance across the geography and crops.
- **Better Decision-Making:** Agriculture and markets remain highly disconnected, with poor information flow across unusually long supply chains in most agricultural commodities.
 - An independent national set-up could be created with a PPP at the block/district level to provide necessary information that would empower farmers to make the right decisions- from choice of crop and cropping practices, to harvesting and sales.
 - ✓ This would augment input purchase support to small and marginal farmers, in line with direct cash transfer, as well as strengthen the efficacy of free market mechanism for ensuring remunerative prices.
- **Agriculture Credit Reforms**
 - Extend period of crop loan to four years, to account for the erratic pattern and spatial distribution of rainfall. Like industrial loans, extend provision of restructuring and one-time settlement for industry to farm loans.
 - A specific, region and crop-based scheme of loan concessions and one-time settlement would ensure that credit discipline is not eroded.
 - Institutionalise a mechanism, with a regulatory authority supervising the scheme of de-stressing farm loans, based on a scientific basis for calculating stressed assets and restructuring them. NABARD should be utilised for this purpose.

Conclusion

While there is a case for loan waiver in exceptional circumstances, this could not be the only solution, especially given the associated moral hazard, which actually incentivizes defaults on loans. It can, for a host of reasons being faced by the Indian economy in general, and agriculture in particular (e.g. rising pressure of population, uncertain policies and regulations and other production risks such as diseases, shortage of inputs like seeds and irrigation, coupled with drought, flooding and unseasonal rains), be part of the bucket of various solutions. DBT scheme similar to Rythu Bandhu Scheme of Telangana could be well emulated as a way forward.

3.2. AGRICULTURE EXPORT POLICY, 2018

Why in news?

- With an aim to double farmers' income by 2022, and to double agricultural exports by 2022, Government of India has recently come up with the Agriculture Export Policy, 2018.
- The Cabinet has also approved the proposal for establishment of Monitoring Framework at Centre with Ministry of Commerce as the nodal Department with representation from various Ministries/Departments and Agencies and representatives of concerned State Governments, to oversee the implementation of Agriculture Export Policy.

Current Agriculture Trade Scenario

- World agricultural trade has been relatively stagnant in the last five years (2013-2017) due mainly to fall in global prices.
- Due to effect of fall in global prices and back to back droughts during 2014-15 and 2015-16 India's agricultural export dropped by 5% compound annual growth rate (CAGR).
- Indian agricultural exports grew at 9% compared to China (8%), Brazil (5.4%) and USA (5.1%) between 2007 and 2016. However, India's agriculture exports are lower than countries like Thailand and Indonesia with much smaller agricultural land thus depicting a higher potential.
- While India occupies a leading position in global trade of agricultural products like rice, its total agricultural export basket accounts for little over 2% of world agriculture trade.
- Also, India has remained at the lower end of the global agricultural export value chain given that majority of its exports are low value, raw or semi-processed and marketed in bulk.
- The share of India's high value and value added agricultural produce in its agriculture export basket is less than 15% compared to 25% in US and 49% in China. India is unable to export its vast horticultural produce due to lack of uniformity in quality, standardization and its inability to curtail losses across the value chain.

Objectives of the Agriculture Export Policy

- To double agricultural exports from present \$ 30+ Billion to \$ 60+ Billion by 2022 and reach \$ 100 Billion in the next few years thereafter, with a stable trade policy regime.
- To diversify our export basket, destinations and boost high value and value added agricultural exports including focus on perishables.
- To promote novel, indigenous, organic, ethnic, traditional and non-traditional Agriculture products exports.
- To provide an institutional mechanism for pursuing market access, tackling barriers and deal with sanitary and phytosanitary issues.
- To strive to double India's share in world agriculture exports by integrating with global value chain at the earliest.
- Enable farmers to get benefit of export opportunities in overseas market.

Elements of the Agriculture Export Policy Framework

Vision of the Agriculture Export Policy: "Harness export potential of Indian agriculture, through suitable policy instruments, to make India global power in agriculture and raise farmers' income."

The policy recommendations are organized in two broad categories: strategic and operational

1. Strategic Recommendations	
Policy Measures	<p>Stable Trade Policy Regime</p> <ul style="list-style-type: none">Providing assurance that the processed agricultural products and all kinds of organic products will not be brought under the ambit of any kind of export restriction.Identification of a few commodities which are essential for food security in consultation with the relevant stakeholders and Ministries. <p>Reforms in APMC Act and streamlining of mandi fee</p> <ul style="list-style-type: none">Using the Directorate General of Foreign Trade (DGFT) field offices, Export Promotion Councils, Commodity Boards and Industry Associations to act as advocacy forum for reform by all the states including removal of perishables from their APMC Act.State Governments would also be urged to standardize/ rationalize mandi taxes for largely exported agricultural products.
Infrastructure and Logistics Support	<ul style="list-style-type: none">Pre-harvest and post-harvest handling facilities, storage & distribution, processing facilities, roads and world class exit point infrastructure at ports facilitating swift trade.Mega Food Parks, state-of-the-art testing laboratories and Integrated Cold Chains.Identifying strategically important clusters, creating inland transportation links alongside dedicated agricultural infrastructure at ports with 24x7 customs clearance for perishables.

Holistic approach to boost exports	<ul style="list-style-type: none"> Involve important organizations related to agricultural production to make special efforts towards promotion of export. Krishi Vigyan Kendras will be involved to take export oriented technology to farmers and create awareness among farmers about export prospects. Work towards similar agencies like the United States Food and Drug Administration (USFDA) / United States Department of Agriculture (USDA) and European Food Safety Authority (EFSA) which cover all aspects of agricultural-food production and trade in an effective and calibrated manner. A holistic response to Sanitary and PhytoSanitary (SPS) and Technical Barriers to Trade (TBT) barriers faced by Indian products
Greater involvement of State Governments in Agriculture Exports	<ul style="list-style-type: none"> Identification of a nodal State Department / Agency for promotion of agriculture export Inclusion of agricultural exports in the State Export Policy Infrastructure and logistics to facilitate agricultural exports Institutional Mechanism at Union level, State level and cluster level to support exports Encourage the industry bodies/associations to play a more pro-active role and greater involvement of industry in R&D

2. Operational Recommendations

Focus on Clusters	<ul style="list-style-type: none"> Put in place institutional mechanism for effective involvement and engagement of small and medium farmers for entire value chain as group enterprise(s) within cluster of villages at the block level for select produce(s). This will help to realize actual benefit and empowerment of farming community to double their income through entire value chain. <ul style="list-style-type: none"> Subject to successful implementation of these clusters, a transition to Agri Export Zones (AEZs) could facilitate value addition, common facility creation and higher exports from such zones. 	<ul style="list-style-type: none"> The concept of Agri Export Zone (AEZ) was introduced in 2001, through EXIM Policy 1997-2001, to take a comprehensive look at a particular produce/product located in a contiguous area for the purpose of developing and sourcing the raw materials, their processing/packaging, leading to final exports. AEZ focuses on convergence of existing Central and State Government schemes to take care of financial and policy interventions required at various stages of value chain In all 60 Agri Export Zones (AEZ) were notified by the Government till 2004 - 05. No new AEZs have been set up after 2004. All the notified AEZs have completed their intended span of 5 years and have been discontinued.
Promoting value added exports	<ul style="list-style-type: none"> Product development for indigenous commodities and value addition Promote value added organic exports <ul style="list-style-type: none"> Marketing and branding of organic products Develop uniform quality and packaging standards for organic and ethnic products Organic products in North East- development of 'AMUL' – style cooperatives Promotion of R&D activities for new product development for the upcoming markets Skill development 	
Marketing and promotion of "Brand India"	<ul style="list-style-type: none"> Constituting separate funds dedicated to marketing of organic, value added, ethnic, GI, Region specific and branded products. 	
Attract private investments in export oriented activities and infrastructure	<ul style="list-style-type: none"> Benefits of private investment include better quality compliance; smooth logistic handling; expansion to distant markets. The Infrastructure proposed to support agriculture exports from the Focus States includes: Packhouse, Processing infrastructure, Exit Point Infrastructure, Air cargo and Infrastructure abroad. Ease of Doing Business (EODB)& Digitization: Farm level – digitization of farmer land records, Market Intelligence cell at Department of Commerce and Portal for Information dissemination, Trade procedures and facilitation and Grievance cell. Developing Sea Protocol: Developing sea protocols for perishables must be taken on priority for long distance markets. Export of perishables requires special storage, transportation and handling at desired temperatures where Time is a major constraint. 	

Establishment of Strong Quality Regimen	<ul style="list-style-type: none"> Establish and maintain single supply chain and standards for domestic and export market SPS and TBT Response Mechanism: it is suggested to create an institutional mechanism under the aegis of Department of Commerce with representation of relevant Ministries, Agencies to address India's market access request, calibrate it with trading partner's market access request for accessing the Indian market and quickly respond to SPS/TBT barriers.
Research and Development	<ul style="list-style-type: none"> Agricultural research and development (R&D) led by private industry along with higher infrastructure spend by the government will be the key to boosting agricultural exports. Along with this, innovations in packaging, improving shelf life of products and greater R & D in developing products to suit the palates of importing countries would be a priority.
Miscellaneous	<ul style="list-style-type: none"> Creation of Agri-start-up fund: Entrepreneurs are to be supported to start a new venture in Agri products exports.

Challenges in Policy Implementation

- Achieving an agriculture export **target of \$60 billion by 2022 looks ambitious**, given the current global market conditions. More so, because **India's export basket** largely comprises meat, marine products, and basmati rice whose demand in the world market is inelastic.
- India has a track record to open up imports whenever prices of crucial food items (potato, onion, pulses, etc.) start climbing. This hurts local producers. The **Indian government is always "pro-consumer"**, backing cheap imports to keep inflation in food prices low.
- There are several instances of **sudden increase in export duties and lowering of import duties** to keep food prices in check. The Centre cut the import duty on wheat by a fifth when prices increased in 2016-17, leading to imports from Australia and Ukraine flooding the market. Similarly, a zero import duty on palm oil hurts domestic oilseeds farmers.
- The current **minimum support price (MSP)** of wheat and rice make India foodgrain quite dear in the domestic market. In such cases, India cannot export it into the international market.
- A **dispute at the World Trade Organization (WTO)** can also not be ruled out. Already, the United States accuses India of subsidising farmers heavily to keep prices low.

Related News

UAE and Saudi Arabia had decided to **use India as a base to address their food security concerns**. In accordance with the Agriculture Export Policy, the farm-to-port project will be similar to a special economic zone but in the style of a corporatised farm, where crops would be grown keeping a specific market in mind.

3.3. GM CROPS

Why in News?

Recently a research paper co-authored by leading agriculture scientist M.S. Swaminathan questioned the utility of GM crops in improving agricultural productivity and sustainability.

About GM Crops

- **Definition:** According to WHO, Genetically modified organisms (GMOs) are organisms in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination. Foods produced from or using GM organisms are referred to as **GM foods**.
- **Indian Scenario**
 - Till now, **Bt cotton**, a non-food crop, has been the only GM crop cultivated in India.
 - Attempts to commercially release **Bt Brinjal** were stalled by a moratorium in 2010 by the Environment Ministry.
 - With respect to **DMH -11, a transgenic mustard** developed at Delhi University, GEAC has demanded more tests before its commercial cultivation.

GM Crops Complementing Green Revolution

	Green Revolution	Complementing via GM Crops
Increased Yield	Green revolution helped to increase productivity of various crops over the years.	GM crops can help to continue this trend and hence help increase farmers' income. For example cotton yields over the years have almost doubled in India over the years.
Food Security	Prior to the Green Revolution, India was the largest importer of food aid, mainly under the PL480 programme of the U.S. leading to India being labelled as a nation surviving on a "ship-to-mouth" basis.	GM crops offer a solution to further enhance the India's food security needs. This is in tune with the goals of the National food Security Act ,2013.
Increased crop resilience	Over the years, post the Green revolution, new challenges to crop productivity have emerged such as new diseases, insects, climate change, etc.	<ul style="list-style-type: none">• GM crops have greater resistance to diseases, pests, herbicides, etc without excessive use of chemicals.• GM crops have greater tolerance to cold/heat, drought, flood, salinity, etc. which is even more important due to climate change.
Reduction in Imports	The Green revolution reduced import dependence with respect to Rice and wheat.	GM crops can help provide the next great leap by helping to eliminate import of edible oil, Pulses, etc.
Socio-economic Development	The Green revolution has brought prosperity amongst the medium & large farmers in the Punjab-Haryana-Western UP belt .	GM crops provide an opportunity to bring an " evergreen " revolution that benefits landless, marginal and small farmers in other corners of India .

Issues and Challenges with GM Crops

- **Monopoly:** Critics claim that **patent laws** give developers of the GM crops a lot of control over the food supply. This can lead to domination of world food production by a few companies.
 - There's also controversy over the "**terminator seeds**", which allows farmers to use the seeds just once; hence every growing season fresh seeds have to be bought.
- **Outcrossing:** The migration of genes from GM plants into conventional crops or wild species may have an indirect effect on food safety and food security.

Ever Green Revolution

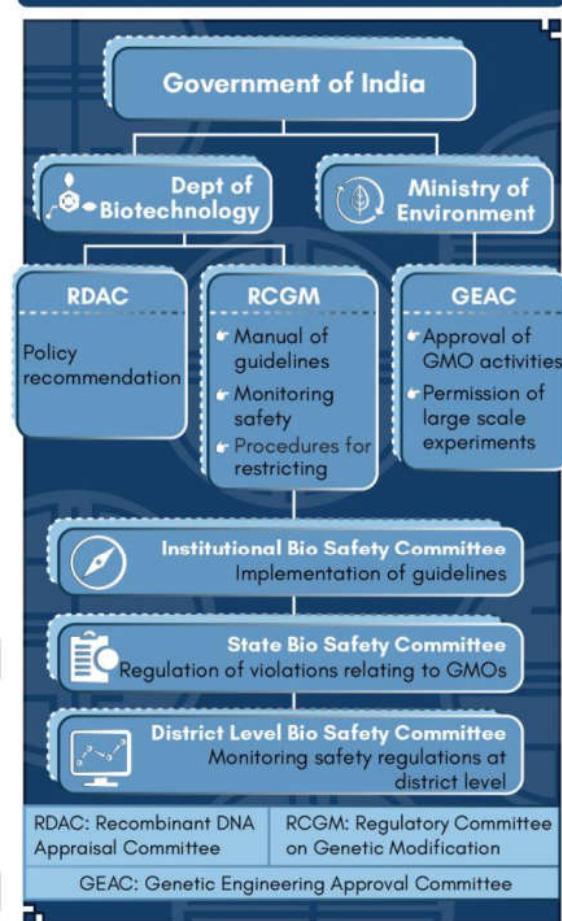
- M S Swaminathan coined the term "**Evergreen Revolution**" to highlight the pathway of increasing production and productivity in a manner such that **short and long term goals of food production are not mutually antagonistic**.
- It targets increased production from less land, less pesticide, less water, etc. and **Integrating ecology and technology** is the way forward towards an evergreen revolution.

- **Decline in yield:** There has been witnessed a decline/stagnation in yield after few years with respect to many GM crops which in turn leads to diminishing returns.
- **Concerns for human health:** Gene transfer from GM foods to humans can be problematic if the transferred genetic material adversely affects human health. This would be particularly relevant if antibiotic resistance genes were to be transferred.
 - **Allergenicity:** While no allergic effects have been found relative to GM foods currently on the market, this remains a concern.
- **Resistance developed by Pathogens:** There is always a concern of pathogens becoming resistant to the toxins produced by GM crops. For example the **pink bollworm** has grown resistant to the toxins produced by BT cotton seed of Monsanto.
- **Concerns for the environment:** The susceptibility of non-target organisms (e.g. bees and butterflies) and the **loss of biodiversity** of crop/plant species remains a concern.
 - Toxins produced in GM crops are present in every part of the plant, so when the parts that have not been harvested decompose, a considerable amount of the **toxin may reach the soil/water table**.
- **Regulatory Challenges**
 - **Possibility of data manipulation:** The GEAC does not conduct the closed field trials on their own but are solely dependent on the data provided to them by the technology developer making it susceptible to manipulations and fudging the data.
 - **Concerns regarding GEAC:** Issues such as adhucism in its constitution, criteria adopted for selection of its members, dominance of bureaucrats, no representation from civil society or states where Bt Cotton has been introduced, head not being from field of Biotechnology etc. remain.
 - **Functioning of DLCs:** The presence of District Level Committee (DLC) which regulates GM crop at the ground level is hardly felt in any of the States.
- **Negative public perception:** Public attention has focused on the risk side of the risk-benefit equation owing to **lack of transparency and ignorance** about the scientific facts related to GM crops. Moreover, **India has imported edible GM soybean and canola** so the resistance to growing the same is contradictory.

Way Forward

- **Improved legal regime:**
 - An independent authority, **the Biotechnology Regulatory Authority of India (BRAI)**, to regulate organisms and products of modern biotechnology should be setup.
 - **The Cartagena Protocol on Biosafety and the Biological Diversity act, 2002** must be effectively implemented.
 - **Proactive Patent regime:** It must be ensured that proper legislative and judicial safeguards exist to prevent monopolisation of the GM seed market. For example the recent Supreme Court held that US company Monsanto cannot claim patents on its GM cotton seeds.
- **Transparency:** The GEAC reports must be made public and effective discussion should be held with scientific community and civil society to allay their fears.
- **Cooperation:** The state governments must be consulted before taking a decision related to GM crops issue as agriculture is a state subject.
- **Providing Choice to Consumers:** Mandatory labelling of GMOs should be enforced to provide an option to consumers.
- **Analyse Cost-Benefit of New Technology:** It can be argued that while technological changes inevitably have led to some negative externalities, a broader picture should be kept in mind when deciding to include them in our day to day life.

REGULATORY FRAMEWORK IN INDIA



The Cartagena Protocol on Biosafety to the Convention on Biological Diversity

- It aims to ensure the **safe handling, transport and use of living modified organisms (LMOs)** resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health.
- It was adopted in 2000 as a supplementary agreement to the Convention on Biological Diversity and entered into force in 2003.
- It establishes an **advance informed agreement (AIA)** procedure for ensuring that countries are provided with the information necessary to make informed decisions before agreeing to the import of such organisms into their territory.
- It also establishes a **Biosafety Clearing-House** to facilitate the exchange of information on LMOs and to assist countries in the implementation of the Protocol.

Biological Diversity act, 2002

- The Act aims at **conservation** of biodiversity, **sustainable use** of its components and fair and equitable **sharing of benefits** arising out of utilization of genetic resources..
- The Act covers foreigners, non-resident Indians, body corporate, association or organization that is either not incorporated in India or incorporated in India with non-Indian participation in its share capital or management.
- The Act is implemented through a **three-tiered institutional structure**:
 - The **National Biodiversity Authority (NBA)** at central level (Union Territories are also placed under NBA)
 - The **State Biodiversity Boards (SBBs)** at state level
 - **Biodiversity Management Committees (BMCs)** at local level.
- BMCs have been mandated to prepare **People's Biodiversity Register** in consultation with local people which would have comprehensive information about local biological resources, their medicinal use or any other traditional knowledge associated with them.
- States in consultation with local bodies may notify areas of biodiversity importance as **Biodiversity Heritage Sites (BHS)**.

3.4. DRAFT ELECTRICITY AMENDMENT BILL

Why in News?

Ministry of Power has sought comments on a revised draft of the Electricity Amendment Bill after incorporating suggestions from the Standing Committee on Energy and other stakeholders.

Background

- The three segments of the electricity sector in India (**generation, transmission, and distribution**) were initially bundled together with the state owned electricity boards. In the 90s, the generation segment was opened up to the private sector and later a few states restructured the system by segregating the three segments.
- The Electricity Act, 2003 was the next big reform attempt at the electricity sector regulation.
- However, **competition in the transmission and distribution segments has been limited** in India with very little participation from the private sector.
- The Electricity (Amendment) Bill, 2014 was introduced to: (i) increase competition in the sector by segregating the distribution segment into distribution and supply, (ii) rationalise tariff determination, and (iii) promote renewable energy.

Key Features of the Bill

- **Segregation of distribution network and retail supply of electricity:** The bill provides for separate licences for maintaining the distribution network (**distribution licence**) and for the supply of electricity (**supply licence**).
- **Purchase and sale of power:** Power Purchase Agreements (PPAs) is a legal contract between the power plant (generation company) and the power distribution company (discoms). The amendments provide that all purchase or sale of power will be done through long/medium/short term PPAs.
- **Tariff ceiling by CERC/SERC:** For the retail sale of electricity, the Central Electricity Regulatory Commission and State Electricity Regulatory Commissions will determine only the ceiling tariff, and the supply licensee may charge any tariff below this ceiling. However the Commissions will not determine the tariff if the electricity has been procured through competitive bidding.
- **Reforms w.r.t Subsidy Regime:**
 - **Move toward direct subsidy:** Typically electricity subsidy is transferred to the state discoms that incorporate these into the tariffs. The bill says that now subsidy can be provided only through direct benefit transfer to the beneficiary.
 - **Elimination of cross subsidy:** The draft amendments provide that the cross subsidisation of tariff within a distribution area will not exceed 20%. Further, such cross-subsidies will be progressively reduced and eliminated within three years.
- **Renewable energy:**
 - **Renewable energy Definition:** Currently the Act does not define renewable sources of energy. The draft bill defines renewable energy sources to include hydro (limit notified by the central government), wind, solar, bio-mass, bio-fuel, waste including municipal and solid waste, geo-thermal, tidal, co-generation from these sources, and other sources as notified by the central government.
 - **Renewable Purchase and Generation Obligation (RPO, RGO):** The amendments define RPO and RGO which will be notified by the central government.
- **Smart grid and metering:** The draft amendments define smart grid and suggest that smart meters should be installed at each stage, for proper measurement of consumption.
- **Composition of the SERC selection committee:** The draft amendments change the composition of the SERC selection committee to: (i) have more central government members, and (ii) be chaired by a serving Supreme Court judge.

Benefits of the proposed amendments

- **Choice to consumers:** Separation between the infrastructure builder (for power distribution) and the licensee to supply would entail more than one electricity supplier in an area and consumer will have options to change their power supplying company or utility based on the efficiency of their services.
- **End Sectoral Bias due to cross subsidy:** Differential pricing and subsequent cross subsidising raises the input costs for manufacturing and service sectors.

- **Breaking the cycle of subsidy and losses:** The DBT feature introduced has potential to eliminate losses incurred by the DISCOMS and is also beneficial to the end consumer as subsidy shall be directly transferred to the beneficiary.
- **24*7 Power supply:** The draft amendments propose that 24X7 power supply is an obligation and the state electricity regulatory commission can penalise the power distribution company (discoms), if it fails to do so.
- **Violation of PPA to be penalised:** This feature provides a major relief for power generators which lately have been facing brunt of states cancelling PPA citing high cost or lack of funds.
- **Boost for Renewable Sector:** The bill's features for renewable energy will help India to achieve its targets wr.t clean energy.

Issues with the Amendment

- **Ability of consumers to switch between suppliers:**
 - Consumers should have the facility to easily switch from one supply licensee to another and the supply of power to the consumer should not be interrupted during such transition. The amendments do not explicitly provide for how such switching will work, and **what will happen during the transition from one supplier to the other.**
 - The 2003 Act provides for multiple licensees to set up their own distribution network in the same area, thus allowing for competition. However, the electricity distribution segment has not seen much competition. Setting up a new network requires **significant capital investment** and hence acts as an entry barrier for new participants.
- **Procurement exclusively via PPA:** Supply companies may face unanticipated demand at times and thus the question is why they are not allowed to procure any power through ways other than PPAs.
- **Composition of Selection Committee for SERCs:** The proposed SERC selection committee has only one representative from the state, and five from the centre. Additionally, the rationale for having a serving judge of the Supreme Court on the selection committee of all SERCs in the country is unclear.
- **Issues with removing cross subsidies may increase subsidy burden on exchequer:**
 - **Increased tariffs for low paying consumer:** It could increase the tariffs for the currently low paying consumers (agricultural and residential) who are being subsidised.
 - **Subsidy burden on the exchequer:** The state or central government may choose to alleviate any increase in their tariffs by giving them explicit subsidies through DBT. This could increase the subsidy burden on the exchequer.

3.5. SMART METERS

Why in news?

The government plans to make all electricity meters smart prepaid in three years (from April 1, 2019).

About Smart Meters

- They are part of the advanced metering infrastructure solution that measures and records electricity use at different times of the day and send this information to the energy supplier.
- They allow two-way communication, between energy providers and consumers of electricity.

Other related decisions

- The Draft Electricity Amendment Bill has defined smart grid and suggested that smart meters should be installed at each stage, for proper measurement of consumption.
- Under Ujjwal DISCOM Assurance Yojana (UDAY), the government has targeted to install 35 million smart meters by 2019.

Advantages of Smart Metering

- **For utilities**
 - Reduce operational costs of energy companies as fewer call-outs are needed, and the accuracy of billing is improved.
 - Enable remote monitoring: utilities can monitor households or commercial establishments that do not pay their bills and can shut down their services remotely.
 - Load management: Smart meters can relay information back to Distribution companies as to when the demand for power is maximum, so that suitable strategies such as time of day (TOD) tariffing can be adopted.
 - Prevention of theft and pilferage: With "Smart" meters in place, a feedback can be sent back to the utility in case of theft and pilferage to reduce aggregate technical & commercial losses (currently about 20.58% according to Ministry of Power).
- **For consumers**
 - Monitoring the quality of supply: "Smart" meters can also provide customers a real time analysis on the quality of power being supplied.
 - Eliminate the hassle of monthly or quarterly meter readings: In the past, to make it easy for utilities' personnel to take readings, meters were placed outside of buildings. Smart meters can however be placed anywhere within the house.
 - Closer eye on energy usage: This gives consumers better access to information and allows them to make more informed decisions on the use of electricity in their homes, leading to reduced power wastage, and long-term carbon and financial savings.
 - Equitable Tariff: The insights provided by the smart meter infrastructure can be used for the creation of an even more customer-centric tariff structure.

Aggregate Technical and Commercial (AT&C) losses

- It is the difference between energy input units into the system and the units for which the payment is collected.
- It has two components:
 - Technical Loss is due to flow of power in the transmission and distribution system. This should normally be in the range of 8-12% considering the Indian networks.
 - Commercial loss is due to theft of electricity, deficiencies in metering, misuse of category on realization of revenue etc.

Impact of AT&C Losses

- Saving from this loss can mitigate the impact of escalating operating costs and progressively higher quantum and costs of power purchase to meet growing power needs, resulting in lesser burden on the consumer.

Disadvantages of Smart Metering

- **For the Electric Companies**
 - Short-term increase in costs: The cost in terms of personnel training and equipment development and production to transition to a new technology and new set of processes.
 - Data management: Managing and storing vast quantities of the metering data collected and ensuring the security and privacy of metering data.
 - Resistance by customers: Managing negative public reaction and acquiring customer acceptance of the new meters.
- **For Consumers**
 - Data privacy issue: There's no way to protect the privacy of the personal data collected.
 - Short-term cost: There is an additional fee for the installation of the new meter.

Way forward

To ensure adoption and seamless working of smart metering, following steps need to be taken:

- **Developing robust and accessible IoT platform:** A key building block for a meaningful smart meter infrastructure is the IoT platform which will enable consolidation, storing, securing and analysis of the data received by the individual measuring devices.
- **Ensuring widespread and high quality electric and telecom connectivity:** To connect the meters to the IoT platform that they depend on for functioning, they need a robust connection that is not always available
- **Open platforms for smart metering services:** This will ensure that entry into such an extensive infrastructure market does not put many smaller players like regional energy providers and start-ups at a disadvantage.
- **Developing a robust policy and regulatory framework:** Such a roadmap will create an enabling environment for market players, utilities and consumers as well as ensure synchronization between policies at central and state level.
- **Building technological capacity and expertise:** currently, the smart meters manufactured in the country rely heavily on imported components. Development of domestic capacity to produce meter components can go a long way in reducing per meter costs for the country.
- **Designing of effective demand side management programmes:** to ensure adoption of energy efficiency measures across consumer segments is needed.

3.6. PRADHAN MANTRI UJJWALA YOJANA (PMUY)

Why in News?

Recently, government has extended the scope of beneficiaries to be covered under Pradhan Mantri Ujjwala Yojana (PMUY).

About the move

- Earlier, beneficiaries under the PMUY included all the BPL families who suffer with at least one deprivation under Socio-economic caste census 2011.
- It has been expanded to cover all SC/ST households, beneficiaries of Antyoday Anna Yojana (AAY), PMAY (Gramin), forest dwellers, most backward classes (MBC), Tea and Ex-Tea Garden Tribes, people residing in Islands or rivers island.
- Now, the scheme will cover all the poor households of the country. Under this, new beneficiaries will be those among holders of both ration cards and Aadhaar, who will identify themselves as poor through self-declaration.

Achievement of PMUY

- LPG penetration in India has risen from 56% in 2014 to 80% in May 2018.
- Till now, of the 5.8 crore connection released, 3.8 crore are beneficiaries from the SECC list and 2 crore from the other seven categories added later.

About the PMUY

- It aims to provide 8 crore deposit free LPG connections to women from BPL households by 2020.
- The LPG Connection is released in the name of adult woman of the BPL Family, with a financial support of RS 1600/- subject to the condition that no LPG connection exists in the name of any family member of the household.
- Consumers will have the option to purchase gas stove and refills on EMI (zero interest), recovered through LPG subsidy received by the beneficiary.

Expected outcomes of PMUY

- It was launched to make clean energy affordable and accessible because air-pollution in rural households becomes lethal due to use of wood or cow dung as cooking fuel.
- It would lead to savings in cost and time spent in collecting wood, resulting thereby in improved opportunities to earn income and spend time with the family.
- It would have a positive outcome on health, especially that of women, children's education and employment.

Challenges in further adoption

- **Overall Cost:** Most of the states cited initial high cost as a major barrier for adoption of this scheme. Similarly, non-support by the government at the refilling stage forces the poor to pay more than rich in urban areas.
- **Long waiting time and sparse LPG distribution centres:** The number of distributors has not kept pace with the increasing number of active LPG consumers e.g. between 2016-2018, the total number of active LPG consumers increased by 31 per cent, while total number of distributors went up by 9 per cent.
- **Information Gap:** Data on PMUY connection is provided only at the state level and district-wise disaggregation is not available. Therefore, it is difficult to conclude that households are moving away from using solid fuels for cooking. They are possibly being used for other purposes.

What needs to be done?

- **Demand-side intervention:** There is a need for more information about the scheme in the public domain for a comprehensive evaluation and mid-course correction. For this, village-level ASHA workers can be roped in to create awareness about the ill-effects of traditional chulhas, which will create a bottom-up demand for cleaner fuels.
- **Strengthening the supply chain:** By ensuring adequate provisions for affordability, availability, and accountability of the scheme.
- **Diversified Options:** Government should try to diversify fuel options and make cylinders in different portable sizes and make door-to-door refilling service available, in order to reduce leakages and pilferages.

3.7. COAL SWAPPING SCHEME EXTENDED

Why in news?

Government has decided to extend the Coal Swapping Scheme to **private power producers and non-regulated cement and steel sectors.**

What is Coal Swapping Scheme?

- It's a **coal supply rationalization scheme** to private power producers and non-regulated cement and steel sectors that are importing coal or have domestic supply linkages.
- Now bilateral arrangements can be signed between two consumers for swapping full or part of their entitled quantity of coal allocation for at least six months.
- This will be facilitated via an electronic platform where participants can register, and on a pre-decided time applicants can swap coal supplies with the registered participants.
- Coal India would be the nodal agency for the swapping arrangement.

Requirement of Coal Swapping Scheme

- **Inadequate quantity of domestic coal**, rising imports and high price for imported coal necessitates government intervention while allocating the available coal among power producing firms
- Even after implementing SHAKTI, the **desired coal supplies were still not being fulfilled**. SHAKTI has been facing other logistical issues like the Coal India approach of taking advance payment without committing to any assured supply creating cash flow problems for already stressed power generators.
- **Supply Costs**
 - In the current scenario, coal supplies are based on allocations made over the years to power plants and the coal blocks are not necessarily the nearest to the generation units.
 - Many times distance between coal mine and power plant is more than 1000 km. This creates erratic availability and high transportation costs to be added to the cost of coal. **Coal Swapping will reduce the supply cost of coal enabling production of cheaper power.**
- Coal Swapping will now allow state run coal producers to **divert more coal to efficient power plants**, benefitting both coal producer and easier availability of coal to power plants.

Scheme to Harness and Allocate Koyla (Coal) Transparently in India (SHAKTI) Policy

- Adopted in 2017, it is the new policy of allocating Coal to Thermal Power Plants.
- State/Central Power Plans to get coal linkages as per Ministry of Power recommendations.
- Coal Linkage on auction basis for private producers.

3.8. NEW RULES FOR E-COMMERCE

Why in news?

Recently, government introduced **changes in e-commerce norms** which are said to be clarificatory in nature and are not new restrictions.

Changes introduced by the new rules

- From February 1, 2019, e-commerce companies running marketplace platforms — such as Amazon and Flipkart — **cannot sell products through companies, and of companies, in which they hold equity stake**.
- It **put a cap of 25% on the inventory that a marketplace entity or its group companies can sell from a particular vendor**. Inventory of a vendor will be deemed to be controlled by e-commerce marketplace entity if more than 25% its purchases are from the marketplace entity or its group companies.
- **No seller can be forced to sell its products exclusively on any marketplace platform**, and that all vendors on the e-commerce platform should be provided services in a “fair and non-discriminatory manner”. Services include fulfilment, logistics, warehousing, advertisement, cashbacks, payments, and financing among others.
- The marketplaces will **not be allowed to offer deep discounts** through their in house companies listed as sellers (check price cartelization).
- E-commerce marketplace entity will be required to **furnish a certificate along with a report of statutory auditor to Reserve Bank of India**, confirming compliance of the guidelines, by September 30 every year for the preceding financial year.
- E-commerce entities will have to **maintain a level playing field** and ensure that they do not directly or indirectly influence the sale price of goods and services.

The above mentioned rules explain certain principles laid down in a 2017 circular on the operations of online market places, wherein **100% foreign direct investment through automatic route is allowed**. Some other discussion points in the circular were as follows:

- **Scope of Marketplace Model:** E-Marketplace would include warehousing, logistics, order fulfillment, call centre, payment collection etc.
 - The move was aimed at **bringing new entrants/smaller players in the e-commerce business**.
 - It would also **increase the need for office spaces, warehouses & logistics**, providing a boost to the real estate business.
 - It would also **check tax evasion through illegal warehousing**.
- **Predatory Pricing:** Predator pricing (dominant player reducing prices to such an extent to edge out other players) is an anti-competition practice under Competition Act 2002. The government would **appoint a regulator to check discounts offered by e-commerce players**, so that they don't sell below market prices & compliance with FDI norms.
- **Cap on % sale by single vendor to 25%** (explained above).

Models of E-Commerce Marketplace Model

- E-commerce Company provides an IT platform on a digital or electronic network to act as facilitator between buyers & sellers without warehousing the products.
- It aggregates various retailers/brands and provide a sales channel (offers shipment, call centre, delivery and payment services) to them but cannot exercise ownership of the inventory.
- It allows for a superior customer service experience, as many smaller brands have greater outreach now, with their fulfillment processes taken care of by online marketplaces. E.g. E-Bay/Shopclues etc
- 100% FDI is allowed in marketplace model of e-commerce.

Inventory Model

- Products are owned by the online shopping company. The whole process end-to-end, starting with product purchase, warehousing and ending with product dispatch, is taken care of by the company.
- Allows speedier delivery, better quality control and improved customer experience and trust. But, it restricts cash flow and is difficult to scale
- FDI in multi-brand retail is prohibited, including e-commerce retail (B2C);
- E.g. Jabong, YepMe etc.

Impact

- **E-commerce companies:**
 - Most of e-commerce firms source goods from sellers who are related 3rd party entities. E.g. WS Retail contributes to 35-40% of Flipkart's overall sales. **Cloudtail India**, the biggest retailer operating on Amazon, has its 49% equity held up by Amazon or its subsidiaries. Amazon also holds up 48% equity in another major retailer, **Appario Retail**. This will **impact backend operations of e-commerce firms**, as group entities would now have to be removed from the e-commerce value chain.
 - Also, players like Amazon and Flipkart, who have their private labels, will not be able to sell them on their platforms if they hold equity in the company manufacturing them.
 - Currently, most of the e-commerce are burning cash to attract consumer base and hence, are in deep losses. In the long run, this will help large companies build a viable business rather than just depend on discounts.
- **Retailers:**
 - The absence of large retailers will bring relief to small retailers selling on these platforms. Traditional brick-and-mortar stores, who now find it difficult to compete with the large e-commerce retailers with deep pockets, will become more competitive.
 - Marketplaces are meant for independent sellers, many of whom are MSMEs (Micro, Small & Medium Enterprises). These changes will enable a level playing field for all sellers, helping them leverage the reach of e-commerce.
 - But, it may also become difficult for small start-ups to raise funds from big e-retailer companies. Also, mandatory listing of inventory on different platforms may increase sales cost for MSMEs.
- **Consumers:** Consumers **may no longer enjoy the deep discounts** offered by retailers that have a close association with marketplace entities.
- **Employment:** The **threat of job losses** in the supply chain network has emerged as a major concern, as the number of e-commerce orders will go down, warehouse expansion plans may take a hit and the utilization of delivery executives will reduce, leading to significant job losses.
- **Growth of the sector:** By 2022, the size of digital economy in India will be approximately \$ 1 trillion and by 2030, it could constitute almost 50% of the entire economy. Licensing and price controls may depress a fast growing sector.
- **International Trade Outlook:** As 71 members led by countries like China, Japan and the US began exploring possible WTO framework on free cross-border e-commerce at Buenos Aires ministerial (2017), the new guidelines **preempt any possible obligations on e-commerce imposed by WTO**. It would enable Govt. to take a stand in international trade negotiations and discussions, which is fully **cognizant of the need to preserve flexibility** and create a level-playing field for domestic players.

Way Forward

- E-Marketplaces should **change their business model** and begin to look at franchise channels, rather than equity investments channels, to do business in India.
- The Government should come out with an E-Commerce policy which establishes a **commonly accepted definition of e-commerce**, provides a level playing field for domestic & foreign businesses. Draft E-Commerce Policy has already been submitted by the commerce ministry.
- A single legislation should be enacted to address all aspects of e-commerce so that the legal fragmentation seen across the various laws is reduced, viz. the Information Technology Act, 2000, Consumer Protection Act 1986 etc.
- Setting up an **accreditation system for vetting e-commerce platforms** which adhere to good business practices is the need of the hour.

3.9. ANGEL TAX

Why in news?

Recently, several startups raised concerns regarding **taxation of angel funds** after 'angel tax' notices were sent to them under **Section 56 (2) of the Income Tax Act**, which provides for taxation of funds received by an entity.

About Angel Tax

- It is a **levy of 30.9 per cent on the amount exceeding the fair market value of shares issued by unlisted companies** (mainly start-ups) which will be treated as income from other sources.
- **Fair value** is a rational and unbiased estimate of the potential market price of a good, service, or asset.
- The fair value is **determined by the tax authorities** after the investments are made by the angel investors and are taxed accordingly.
- Angel Tax was introduced in 2012, with the purpose of **keeping money laundering in check**.

Issues with Angel tax

- There is **no definitive or objective way** to measure the '**fair market value**' of a startup.
- Several startups find it **difficult to justify the higher valuation** to tax officials.
- The problem is that start-ups are valued subjectively on the **discounted cash flow model** (valuation method used to estimate the value of an investment based on its future cash flows), which does not take into account factors such as goodwill and can result in differences of opinion on what constitutes "fair value".
- While the India-based companies are getting hefty tax notices, **start-ups with a base in Singapore and other tax havens have escaped the tax notices**.

Related facts

- Earlier in April, the government gave relief to startups by allowing them to **avail tax concession** if total investment, including funding from angel investors, does not exceed Rs 10 crore with the approval from eight-member inter-ministerial board.
- Moreover, an **angel investor** picking up stakes in a startup should have a minimum net worth of Rs 2 crore or an average returned income of over Rs 25 lakh in the preceding three financial years.
- For startup founders, **venture capital firms and overseas investors** are also the key sources of funds and both these funds are **exempt from this tax**.

Angel Investor

- It is a **private individual**, mostly high net worth, usually with business experience, who directly **invests part of his or her personal assets** in new and growing unquoted businesses.
- Angel investments are typically the **earliest equity investments made in startup companies**.

	Angel Investor	Venture Capitalist
Identity of investor	They are individuals looking to invest their own funds.	They are firms or companies that pool money from groups of investors into a combined fund to invest in emerging businesses.
Stage of company	Generally they are looking to invest in startups and early-stage businesses that are just starting to engage in technical development and market research.	They rarely back startups and mostly invest in emerging businesses that are more established, seeing them through their growth stages and into IPOs or mergers.
Investment amount	They invest in smaller amounts than venture capitalist.	They hold more funds to invest as they pool money from number of investors hence they invest in higher amount .
Length of investment	They are commonly invested for a period of two to five years before exiting the investment.	They typically stay invested for at least 10 years before getting out.
Level of Contribution And Involvement	They frequently have industry experience or contacts to offer, but very rarely want to have any sort of direct involvement in the running of the business.	They typically expect to have a high level of involvement in the business's decision-making , often going so far as to demand a seat on the board of directors.

3.10. STATES' START-UP RANKING 2018

Why in News?

- The Department of Industrial Policy and Promotion (DIPP) announced results of the first ever States' Start-up Ranking 2018.
- Gujarat ranked the best performer and Karnataka, Kerala, Odisha, And Rajasthan are the top performers.

About State Start-up Ranking 2018

- Government had launched this initiative in 2016 with the objective of encouraging States and Union Territories to take proactive steps towards strengthening the Start-up ecosystems in their states. The methodology has been aimed at creating a healthy competition among States to further learn, share and adopt good practices.
- States have been identified as leaders across various categories such as Start-up policy leaders, incubation hubs, seeding innovation, scaling innovation, regulatory change champions, procurement leaders, communication champions, North-Eastern leader, and hill state leader.
- The tools for ranking are –
 - State and Union Territory Start-up Ranking Framework.
 - Compendium of Good Practices for Promoting Start-ups in India.
 - Start-up India Kit – It is a one-stop guide on all the benefits available to start-ups from the Startup India initiative.

Start-up definition by government

Start-up means an entity, incorporated or registered in India not prior to seven years, with annual turnover not exceeding INR 25 crores in any preceding financial year, working towards innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property.

Start-Ups in India

- India is the third largest start up hub in the world with 20% of the start-ups emerging from tier 2 and tier 3 cities.
- The major start-ups in India comprise of tech based (close to 45%) and about 72% being young founder below the age of 35 years.
- The growth drivers of the flourishing start-up ecosystem are – government focused on policy start-ups, demographic dividend, rapid urbanisation, large number of internet users and India being an emerging market.

3.11. RETAIL, SME LOANS TO BE LINKED TO EXTERNAL BENCHMARKS

Why in News?

Reserve Bank of India (RBI) has asked the banks to link the **floating interest rate on retail loans and loans extended to micro and small businesses** to external benchmarks like Repo Rate or Treasury Bills.

Need for Change

- This move comes because Banks were **slow to pass on the reduction in their MCLRs** in January 2017 to their actual lending rates.
- For example – Of the 12 banks whose spreads widened, six banks took up to six months to pass on the benefit of lower MCLRs to their lending rates; remaining six banks passed on the benefit of their lower MCLRs, but only partially even after six months. Even though changes in MCLRs are expected to be passed on to at least fresh borrowers immediately.
- These changes are the culmination of the recommendations made by an **internal study group on working of MCLR** of the RBI headed by **Dr. Janak Raj**.

New RBI Guidelines

- The RBI said the lending rate on such loans should be linked to one of the four benchmarks
 - Reserve Bank of India's **policy repo rate**.
 - Government of India **91-day treasury bill yield**.
 - Government of India **182-day treasury bill yield**.
 - Any other benchmark market interest rate produced by the **Financial Benchmark India Private Ltd.**
- Banks have to implement the new scheme from **April 1, 2019**.
- The Move is expected to end the practice of lowering interest rates to only new customers to attract more business while the existing customers continue to pay higher rate.
- **The spread (margin)** over the benchmark rate — to be decided wholly at banks' discretion at the inception of the loan — should remain unchanged through the life of the loan, unless the borrower's credit assessment undergoes a substantial change and as agreed upon in the loan contract.

Interest Rate policy over the years

- **October 1994:** Banks were required to declare **Prime Lending Rate (PLR)** which was the rate it would charge to its most credit worthy customer.
- **April 2003:** Benchmark Prime Lending Rate to overcome rigidity and inflexibility of PLR.
- **July 2010: Base Rate** - Under this system, Banks were required to announce their base rates which would be the minimum rate under all circumstances
- **April 2016:** Marginal Cost of Funds Based Lending Rate (MCLR) - RBI decided to shift to MCLR because the rates based on marginal cost of funds are more sensitive to changes in the policy rates
- **December 2018:** External Benchmark Based Rate (proposed, final guidelines to be out soon).

How MCLR was calculated

As per RBI guidelines, the MCLR comprise of:

- **Marginal Cost of funds:** The marginal cost of funds shall comprise of Marginal cost of borrowings and return on net worth.
- **Negative Carry on CRR:** Negative carry on the mandatory CRR which arises due to return on CRR balances being nil.
- **Operating Costs:** All operating costs associated with providing the loan product including cost of raising funds shall be included under this head. It shall be ensured that the costs of providing those services which are separately recovered by way of service charges do not form part of this component.
- **Tenor premium:** These costs arise from loan commitments with longer tenor. The change in tenor premium should not be borrower specific or loan class specific. In other words, the tenor premium will be uniform for all types of loans for a given residual tenor.

Advantages of new system

- The Linking of floating rates to external benchmarks will lead to **reduction in credit costs in the long run** for retail and MSME Sector.
- All banks will have to benchmark their loan **against a common benchmark**, which will make it easier for borrowers to track it.
- This is one of the series of steps taken by RBI to **increase Credit flow to MSME Sector** as it is crucial for economic growth and employment.
- Banks around the world have already moved to external benchmarking system so this step brings Indian system in line with **International Banking practices**.

Financial Benchmarks India Pvt Ltd

- It is an independent benchmark administrator to develop and administer benchmarks relating to money market, government securities and foreign exchange in India.
- It was created on the recommendation of **Shri Vijaya Bhaskar Committee** on benchmark administration of India.
- The FBIL, jointly owned by **FIMMDA, FEDAI and IBA**, was formed in December 2014 as a private limited company under the Companies Act 2013.
 - **FIMMDA:** Fixed Income Money Market & Derivatives Association of India
 - **FEDAI:** Foreign Exchange Dealers' Association of India
 - **IBA:** Indian Banks Association

3.12. GDP BACK SERIES DATA

Why in News?

NITI Aayog and the Central Statistics Office (CSO) released the 'back-series' of India's gross domestic product (GDP) data from 2005-06, using a new methodology.

Background

- In 2015, the government adopted a new method for the calculation of the gross domestic product of the country.
 - adopted the Gross Value Added measure to better estimate economic activity.
 - change also involved a bringing forward of the base year used for calculations to 2011-12 from the previous 2004-05.
- However, this led to the problem of not being able to compare recent data with the years preceding 2011-12. The back series data released provides the earlier years' data using the new calculations.

Highlights of the New Data

- The new data shows that, contrary to the earlier perception, the Indian economy never graduated to a 'high growth' phase of more than 9% in the last decade or so.
- It was also pointed out that the newer data, especially for the mining and manufacturing sectors, shows that India did not recover from the global financial crisis as quickly as initially thought.

Gross Domestic Product (GDP) vs Gross Value Added (GVA)

- Gross Domestic Product (GDP) is the monetary value all final economic goods and services produced in a country during a specific period of time.
- GVA is measure of value of goods and services produced in economy.
- GVA + taxes on products - subsidies on products = GDP
- GVA is sector specific while GDP is calculated by summation of GVA of all sectors of economy with taxes added and subsidies are deducted.



Why there is a difference in old and new data?

- There is a revision of base year to a more recent year.
- While doing the exercise, the government adopted the recommendations of the United Nations System of National Accounts, which included measuring the GVA, Net Value Added (NVA), and the use of new data sources wherever available. One of these data sources is the **Ministry of Corporate Affairs MCA-21 database**, which became available since 2011-12 only.
 - The key difference between the two was that the **old method measured volumes** — actual physical output in the manufacturing sector, crop production, and employment for the services sector. MCA-21's approach has been discussed in the box.
- The new method is also statistically more robust as it tries to relate the estimates to more indicators such as consumption, employment, and the performance of enterprises, and also incorporates factors that are more responsive to current changes, unlike the old series that usually took 2-3 years to register an underlying change.

MCA-21 Database

- It is an e-governance initiative that was launched in 2006 to allow firms to electronically file their financial results and advance filing of corporate accounts, to calculate national accounts.
- It allows for a **more granular approach**, looking at the balance sheet data of each company and aggregating the performance of the sector from that, after adjusting for inflation.
- It also include addition to the **volume index of Index of Industrial Production (IIP)** and establishment-based dataset of Annual Survey of Industries (ASI).

Issues in New Data

- **Difference with earlier findings:** The new back series data diverges from the estimates made in a draft report released by the National Statistical Commission in August 2018. The clear example of this is agriculture, where no new database has been used and all the data on prices, production and inputs is based on same data set.
- **Not enough explanation on Datasets and proxies:** There is not enough explanation for the choice of datasets and proxies, especially those datasets that didn't exist before 2011-12. Though the CSO release mentioned usage of several proxies, there were no details about why those were selected over other datasets.
- **Credibility debatable:** The role of the NITI Aayog in the release of the statistical exercise of CSO, which comes under Ministry of Statistics and Programme Implementation (MoSPI), has been questioned.

3.13. NATIONAL PENSION SYSTEM (NPS)

Why in News?

The Union Cabinet recently approved the proposal for streamlining the National Pension System (NPS).

About National Pension System

- It is an initiative by the Government of India which is a **defined contribution scheme** wherein the final corpus depends upon the contribution made by subscribers and the investment returns.
- The new entrants to the central government service (except the armed forces) on or after 01.01.2004 are covered under the National Pension System (NPS).
- It was launched in January 2004 for government employees and was opened to all sections in 2009.
- A subscriber contribute regularly in a pension account during his/her working life, withdraw a part of the corpus in a lumpsum and use the remaining corpus to buy an annuity to secure a regular income after retirement. Employees and employers both contribute to the scheme.
- It is being implemented and regulated by **Pension Fund Regulatory and Development Authority (PFRDA)** in the country.
- Recently cabinet has approved the coveted **EEE** tax status (tax exempt at entry, investment, and maturity) for the NPS (earlier it was **EET**).
- All **Citizens (resident or non-resident)** who are age between 18 & before 60 years of age are eligible.

New Proposals

- Increased contribution by Government:** Enhancement of the mandatory **contribution by the Central Government** for its employees covered under NPS Tier-I from the existing **10% to 14%**.
- Freedom of choice:** Central Government employees are provided **freedom of choice for selection of Pension Funds** and decide pattern of investment.
- Payment of compensation** for non-deposit or delayed deposit of NPS contributions during 2004-2012.
- Tax exemption:** Tax exemption limit for lump sum withdrawal on exit has been enhanced to 60%. With this, the entire withdrawal will now be exempt from income tax. (At present, 40% of the total accumulated corpus utilized for purchase of annuity is already tax exempted. Out of

NPS offers two accounts

- Tier I Account:** This is a non-withdrawable account meant for savings for retirement.
- Tier II Account:** This is simply a voluntary savings facility. The subscriber is free to withdraw savings from this account whenever subscriber wishes. No tax benefit is available on this account.

EEE v/s EET status

- EEE-Exempt Exempt Exempt:**
 - The first exempt means that your investment qualifies for a deduction, i.e., the part of your salary invested in NPS is not taxable.
 - The second exempt implies that the interest earned during the accumulation phase is also exempted from taxation.
 - The third exempt means that the income you generate from this investment would not be taxable at the time of withdrawal.
- EET – Exempt Exempt Taxable:**
 - The first two exempt means the same, i.e., no taxation for amount invested and interest on accumulated amount.
 - However, the lump sum amount you withdraw is taxable.

Impact of new proposal

- Increase in the eventual accumulated corpus of all central government employees** covered under NPS.
- Greater pension payouts** after retirement without any additional burden on the employee.
- Benefit to approximately 18 lakh central government employees** covered under NPS.
- Augmenting old-age security** in a time of rising life expectancy.
- By making NPS more attractive, government will be facilitated in attracting and retaining the best talent.
- The hike in the government's contribution will make **NPS better than the defined pension under the old system** where the pensioner got 50% of his last drawn salary.

Concerns in NPS

- Fiscally expensive reform:** The impact on the exchequer on this account is estimated to be to the tune of around Rs. 2840 crores for the financial year 2019-20, and will be in the nature of a recurring expenditure.
- Unfair:** For one generation, the government is paying contributions to new workers (with a 10 per cent wage hike) and pensions to those hired earlier. The fiscal gains only arise from the deaths of employees hired prior to January 1, 2004. These gains would be spread over the 75 years starting from 2004.
- Off balance sheet Liabilities:** These problems fall in the context of the larger question of off-balance-sheet liabilities of the Indian state. NPS is conceived as a low-cost, no-frills market-linked product.

60% of the accumulated corpus withdrawn by the NPS subscriber at the time of retirement, 40% is tax exempt and balance 20% is taxable.)

- **Tier II Account:** Contribution by the Government employees under **Tier-II of NPS** will now be covered under **Section 80 C** for deduction up to Rs. 1.50 lakh for the purpose of income tax benefits provided that there is a lock-in period of 3 years.
- **Withdrawal for skill development activity:** Apart from partially withdrawing money for exigencies like health, marriage, house and education, subscriber can also withdraw 25 percent of the contributions after three years of joining for skill development activity like startups, new ventures.

4.1. SURVEILLANCE BY STATE AGENCIES

Why in news?

The Ministry of Home Affairs on Thursday issued an order authorizing 10 Central agencies to intercept, monitor, and decrypt "any information generated, transmitted, received or stored in any computer."

More about the order

- The agencies given such authoritative access are: Intelligence Bureau (IB), Narcotics Control Bureau (NCB), Enforcement Directorate (ED), Central Board of Direct Taxes (CBDT), Directorate of Revenue Intelligence (DRI), Central Bureau of Investigation (CBI), National Investigation Agency (NIA), Cabinet Secretariat (R&AW), Directorate of Signal Intelligence (for service areas of Jammu & Kashmir, North-East and Assam only) and Commissioner of Police, Delhi.
- According to it, the subscriber/service provider/ person in charge of the computer resource will be bound to extend all facilities and technical assistance to the agencies and failing to do will invite **7-year imprisonment and fine**.
- The order derives its basis from **Section 69 of the IT Act and its 2009 rules**, which gives power to intercept, monitor, and decrypt "any information" generated, transmitted, received, or stored in "any" computer resource to the central and state governments, or "any of its authorized officers".

Government's stand

- The order is based on the principle that the right to privacy is not absolute. Surveillance is essential to ensure national security and pre-empt terrorist threats and thus, constitutes a 'reasonable restriction' under Article 19(2) of the Constitution.
- It is in the very nature of surveillance that it must take place outside the public eye.
- The above order only nominates the agencies, which on a case-to-case basis and subject to oversight, will obtain orders from designated judicial authorities to intercept. It doesn't intend to provide any blanket powers.

Challenges

- **Lack of oversight:** Decisions about surveillance are taken by the executive branch (including the review process), with no parliamentary or judicial supervision either ex-ante or ex-post, of surveillance measures. Although mandated by the SC, the actual notification itself does not clearly require the Union Home Secretary to pre-approve such surveillance orders.

Surveillance Framework in India

- Telephonic surveillance is sanctioned under the **Section 5 of the Telegraph Act 1885** (and its rules). It allows disclosure of Call Data Records (CDRs) which includes numbers involved, duration, time & date of call.
- Electronic surveillance is authorized under the **Section 69 of Information Technology Act 2000** (and its rules).
- **Section 69 of the IT Act** directs any person or organisation to assist law enforcement agencies to decrypt information, deemed to be in interest of sovereignty/integrity of India, security of the State, friendly relations with foreign countries or public order.
- The procedural requirements were laid down by the Supreme Court in **PUCL v Union of India [1997]**: Surveillance requests must be authorized by an authority at least at the level of a Joint Secretary. The safeguard was inserted in Telegraph Act in 2007 under Rule 419(A).
- **Unlawful Activities Prevention Act 1967** allows the information intercepted under Telegraph Act to be used as evidence.
- **CrPC sections 91 and 92** lay out how courts, police & district magistrates can summon any document or "thing" from any person, postal or telegraph authority for investigations, inquiries and trials.

Possible avenues of surveillance in India

- **Central Monitoring System** is a centralized telephone interception provisioning system. Under CMS, all the data intercepted by Telecom Service Providers (TSPs) is collected & stored in central & regional databases. Law enforcement agencies can get access to intercepted communication on near real time basis.
- **National Intelligence Grid** linking multiple Govt databases (such as banks, airlines, SEBI, railways and telecommunication operators) to aggregate citizen information.
- **NeTrA (Network Traffic Analysis)** is a dragnet electronic surveillance system that monitors internet traffic using dynamic filters based on keywords.
- **DNA Profiling bill**
- **Crime and Criminal Tracking Network System (CCTNS)**
- **Stored biometrics under Aadhaar database**
- **Brain Mapping, Iris Scans, Fingerprinting and bodily scans in investigation**

- **Vague grounds of application:** Under Section 69 of the IT Act, the grounds of surveillance have been simply lifted from Article 19(2) of the Constitution, and pasted into the law. They include very wide phrases such as “friendly relations with foreign States” or “sovereignty and integrity of India”. The Act doesn’t provide does not provide the procedure or the object for such an exercise or the quantum of period for which a person’s private data could be intercepted.
- **Opaque regime:** No information available about the bases on which surveillance decisions are taken, and how the legal standards are applied. E.g. According to a 2014 RTI request, 250 surveillance requests are approved every day on an average.
- **Potential of misuse:** State control of public lives and surveillance excesses as evident in the past cases of privacy breach and snooping. Individual officers responsible for executing automated process may use private information for personal gain in absence of safeguards.
- **Against Privacy:** In its Puttaswamy judgment [2017], SC asserted that the government must carefully balance individual privacy and the legitimate concerns of the state, even if national security was at stake. Any invasion of privacy must satisfy tests on 3 parameters - **need (legitimate state aim), proportionality (least restrictive method to achieve state's goals) and legality (postulated by the law)** – to ensure that fair, just and reasonable procedure is followed without any selective targeting and profiling. A blanket power to wide range of government agencies to access an individual’s encrypted material is a clear violation of the judgement. Moreover, an individual can never know that she is being surveilled means that challenging it before a court is a near-impossibility.
- **Procedural Challenges:** Platforms such as WhatsApp have end to end encryption, which are very difficult to break. Also, Internet communication can be sent using proxy servers with mail encryption which makes it untraceable. Most of the companies don’t have servers in India (in absence of any data localization laws). Law Enforcement Agencies request data through mutual legal assistance agreements, which takes long time to process.
- **No data privacy legislation:** No national privacy legislation is in place which assigns the liability in case of data-theft and can make parties – Government or private - pay damages when they injure the individual by losing their personal data.

Way Forward

- **Parliamentary Oversight:** It must be acknowledged that a system of government surveillance may have a chilling effect upon the right to freedom of expression and privacy. Thus, a **privacy commission** can be appointed to help regulate and oversee surveillance activities, with regular briefings to Parliament.
- **Judicial Oversight:** In Aadhaar case, SC held that allowing disclosure of information in the interest of national security to be in the hands of a joint secretary only is unconstitutional. **Indian Privacy Code, 2018**, is a model Bill that stipulates that all communications surveillance and data access orders require approval by serving high court judges designated to special surveillance review tribunals.
- **Mandatorily specify a probable cause for potential threat:** Any such sweeping power is liable to be misused if the grounds of application remain broad and vaguely worded. Any evidence obtained through unconstitutional surveillance must be statutorily stipulated to be inadmissible in court.
- **Privacy Law:** To achieve the balance between national security and individual privacy, a privacy law on the lines of recommendations of BN Shrikrishna Committee would be a good starting point. Any system of data collection should factor in privacy risks and include procedures and systems to protect citizen information.
- Although the target cannot know of the proposed surveillance, there must exist a lawyer to present the case on behalf of the target of surveillance so that objective decision is made.
- Additionally, there is a need for discussion and explanation of legal measures on surveillance before actual implementation, to build a better trust with civic society.

Case Study-PRISM surveillance program in the US

- In 2013, ex-NSA contractor and whistleblower Edward Snowden revealed the industrial-level surveillance of private communications undertaken by the American government, officially known as the PRISM project.
- One feature of the American surveillance program was “*telephony metadata collection*”, where all the details of phone conversations (numbers involved, duration, time of call etc.) minus the actual content of the call were intercepted and stored in a database maintained by the National Security Agency.
- NSA surveillance was challenged on statutory and constitutional grounds in American Civil Liberties Union vs. James Clapper [2013].
- The appeals court found that out of more than 50 instances where terrorist attacks had been prevented, not even a single successful pre-emption was based on material collected from the NSA’s surveillance regime. It asserted that **collection of ‘staggering amount of metadata’** doesn’t satisfy the reasonability clause of Section 215 of the Patriot Act and has a **chilling effect on an individual’s expression**.

4.2. PERMANENT CHAIRMAN OF THE CHIEFS OF STAFF COMMITTEE

Why in News?

The three services have agreed on the appointment of a Permanent Chairman of the Chiefs of Staff Committee (PCCoSC).

About PCCoSC

- It is proposed to be headed by a **four-star military officer**, who will be equivalent to chiefs of army, airforce and navy.
- He would **look into joint issues of the services** like training of troops, acquisition of weapon systems and joint operations of the services.
- He would also be **in-charge of the tri-services command** at Andaman and Nicobar Islands.
- The post has also been referred to as **Chief of Defence Staff**.
- He will **head the Chiefs of Staff Committee meetings**.
- Various committees such as the **Kargil Review committee** led by K Subramaniam and the **Naresh Chandra committee** of 2011 recommended a permanent chairman.

Current Structure in India

- The Chief of Staff Committee (CoSC) consists of Army, Navy and Air Force chiefs.
- It is headed by the **senior-most** of the three chiefs **in rotation** till the he retires.
- It is a platform where the three service chiefs discuss important military issues.

Arguments in favour of PCCoSC

- **Better Coordination:** It will improve jointness in military command by integration in projects and resource sharing. For example during 1962 and 1965, all three segments of the armed forces face difficulties in coordination.
- **Unfragmented advice:** The PCCoSC is envisaged as a single-point military adviser to the government.
- **Better defence acquisition:** It would also improve capacity of the armed forces on defence acquisition by removing time and cost overruns.
- **Quick Decision-making during War:** Often during war a difficult decision can only be made by a specially selected defence chief and not by a committee like the CoSC that operates on the principle of the least common denominator.

Challenges to setting up PCCoSC

- **Threat to Democratic Process:** It is apprehended that the Defence Services will become too powerful and subvert civilian control over the military with possibilities of a military coup.
- **Status Quo:** The present arrangement of Chief of Staff Committee (CoSC) has served us well over the years and hence there is resistance against “unnecessary change”.
- **Resistance within the armed forces:**
 - There is said to be inhibition amongst Service Chiefs over the years that their position would get undermined if the CDS were to be appointed.
 - The feeling among the smaller Services, particularly the Air Force, of Army dominance in defence policy formulation. Some fear that a CDS may lead to a situation like the one that prevailed before 1947, when the Army was the dominant Service.
- **Resistance within Bureaucracy:** There is said to opposition by the civilian bureaucracy as their control over the higher defence set up would be diminished.
- **Ceremonial Post:** There is also a concern that the post may become a ceremonial post without any clear cut roles and responsibilities.

4.3. INFORMATION FUSION CENTRE - INDIAN OCEAN REGION

Why in news?

The Navy recently inaugurated the Information Fusion Centre for the Indian Ocean Region (IFC-IOR).

Information Fusion Centre

- The Information Fusion Centre (IFC) is a **24/7 regional information sharing centre**.
- The IFC has been established at the Navy's **Information Management and Analysis Centre (IMAC)** in Gurugram. IMAC is the single point centre linking all the coastal radar chains to generate a seamless real-time picture of the coastline of the nation.

What functions will it perform?

- The IFC-IOR is established with the vision of **strengthening maritime security in the region and beyond, by:**
 - building a common coherent maritime situation picture
 - acting as a maritime information hub for the region
 - enabling mutual collaboration
 - understanding the concerns and threats to ensure safety and security
- Through this Centre, information on "**white shipping**", or commercial **non-military** shipping, will be exchanged with countries in the region to improve **maritime domain awareness** in the **Indian Ocean**.
- All countries that have already signed white shipping information exchange agreements with India are IFC partners.
- Subsequently, the IFC-IOR would host liaison officers from foreign countries to enable better interconnection, quicker analysis of information and timely inputs.
- Additionally, the Centre would undertake conduct of exercises and training capsules in maritime information collection and sharing.

Related News

- India has recently signed the ascension agreement to the **Trans Regional Maritime Network (T-RMN)** which facilitates information exchange on the movement of commercial traffic on the high seas.
- The multilateral construct comprises of 30 countries and is steered by Italy.
- It will give the country access to information about ships passing through the Indian Ocean Region, thereby helping to check suspicious and criminal activities and illegal trade across the ocean.

4.4. UN GLOBAL COUNTER-TERRORISM COORDINATION COMPACT

Why in News?

Recently, UN launched a new framework “UN Global Counter-Terrorism Coordination Compact”.

About UN Global Counter-Terrorism Coordination Compact

- It is an agreement between the UN chief, 36 organizational entities, the International Criminal Police Organisation (INTERPOL) and the World Customs Organisation, to better serve the needs of Member States when it comes to tackling the scourge of international terrorism.
- **Objective**
 - To ensure that the United Nations system provides coordinated capacity-building support to Member States, at their request, in implementing the UN Global Counter-Terrorism Strategy and other relevant resolutions.
 - To foster close collaboration between the Security Council mandated bodies and the rest of the United Nations system.
- The UN Global Counter-Terrorism Compact Coordination Committee will oversee and monitor the implementation of the Compact which will be chaired by UN Under-Secretary-General for counter-terrorism.
 - It will replace the Counter-Terrorism Implementation Task Force, which was established in 2005 to strengthen UN system-wide coordination and coherence of counter-terrorism efforts.

Global Counter-Terrorism Strategy

- The United Nations General Assembly (UNGA) adopted it in 2006 and it is a unique global instrument to enhance national, regional and international efforts to counter terrorism.
- UNGA reviews the Strategy every two years, making it a living document attuned to Member States' counter-terrorism priorities.
- The four pillars of the Global Strategy include:
 - Measures to address the conditions conducive to the spread of terrorism.
 - Measures to prevent and combat terrorism.
 - Measures to build states' capacity to prevent and combat terrorism and to strengthen the role of the United Nations system in that regard.
 - Measures to ensure respect for human rights for all and the rule of law as the fundamental basis for the fight against terrorism.

Why there is a need for global compact for counter terrorism?

- **Coordination:** Given the number of players involved, the enormity of the task for Counter terrorism, and the limited resources available, effective coordination is crucial.
- **Porous borders:** In recent years, terrorist networks have evolved, moving away from a dependency on state sponsorship and many of the most dangerous groups and individuals now operate as nonstate actors. Taking advantage of porous borders and interconnected international systems—finance, communications, and transit—terrorist groups can operate from every corner of the globe.
- **Incapacity of countries to control terrorist threats:** Multilateral initiatives bolster state capacity to build institutions and programs that strengthen a range of activities, from policing to counter radicalization programs.
- **Emerging challenges:** Vigilance against misuse of emerging technology such as artificial intelligence, drones and 3D (three-dimensional) printing, as well as against the use of hate-speech and distortion of religious beliefs by extremist and terrorist groups.

Counter-terrorism - India's involvement at UN

- India has prioritised the adoption of an intergovernmental framework to combat terrorism.
- India introduced the Comprehensive Convention on International Terrorism (CCIT) in 1996 that defined terrorism and enhanced "normative processes for the prosecution and extradition of terrorists."
- Active participation in several counter-terrorism discussions, such as drafting a Global Counter-Terrorism Strategy in the General Assembly in 2006, serving as a founding members of the Global Counter-Terrorism Forum (GCTF), and supporting counterterrorism mechanisms established by UN Security Council Resolutions, such as Resolutions 1267, 1988, and 1989 related to sanctions against Al-Qaeda/Taliban, Resolution 1373 establishing the Counter-Terrorism Committee, and Resolution 1540 addressing the non-proliferation of Weapons of Mass Destruction to terrorist organisations.

5.1. KATOWICE COP 24

Why in news?

The 24th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 24) was held in Katowice, Poland.

Agenda of COP 24: The conference focused on three key issues

- Finalization of guidelines/modalities/rules for the implementation of Paris Agreement.
- Conclusion of 2018 Facilitative Talanoa Dialogue (to help countries implement NDC by 2020)
- The stocktake of Pre-2020 actions implementation and ambition

Key outcomes in Katowice

Rulebook Specifics

- **Accounting Guidance Rules to guide the countries for their Climate pledges** ("nationally determined contributions", NDCs), will make it easier to compare pledges and to add them up as a global aggregate.
 - All countries "shall" use the latest emissions accounting guidance from the IPCC, last updated in 2006, but now in the process of being reformed next year.
- **Market mechanisms:** This provides for the trading of carbon credits i.e. overachievement of NDCs (cooperative approaches and internationally transferred mitigation outcomes (ITMOs)), as well as individual projects generating carbon credits for sale. **Following is the status on this front:**
 - **Accounting Rules** to prevent "double counting" of emissions reductions by the buyer and seller of offsets **could not be finalised.**
 - The schemes and methodologies for the implementation of **Sustainable Development Mechanism- SDM would be discussed in COP-25.** The SDM is intended to replace the Kyoto Protocol's "Clean Development Mechanism" (CDM) for carbon offsets.
 - **Overall Mitigation in Global Emissions (OMGE):** It is a central and critical new element under the Paris Agreement, that takes carbon markets beyond the offsetting approaches of the existing markets like the CDM. The primary purpose of OMGE is to deliver on cost-effectively reducing greenhouse gas emissions, rather than creating carbon markets for their own sake.
 - ✓ Small island countries wanted a **mandatory automatic cancellation or discounting** for an OMGE applied to all the activities under market mechanism. However this option was removed from the COP decision and made voluntary.

"Double counting" means counted once by the country of origin when reporting its emissions inventory, and again by the receiving country (or other entity) when justifying emissions above their pledged climate effort, usually via "offsetting" provisions.

Allowing trades to be double counted means that, in actuality, none of the reported emissions reductions are achieved.

Comparing SDM and CDM building blocks

SDM	CDM
Must contribute to overall emission reductions/ net mitigation	Established as a pure offsetting mechanism , shifting, not reducing, emissions
Must account for mitigation targets of all countries under the Paris Agreement , including their progression over time	Based on Kyoto Protocol where developing countries did not have a reduction target and did not take future climate commitments into account
Should promote ambition and encourage implementation of climate friendly policies	Created perverse incentives to continue business as usual practices and in some cases increase emissions beyond business as usual in order to be paid to reduce them
Must reflect and reinforce changing low emission technology and policy landscape	Credited many non-additional projects
Must contribute to real, measurable and long-term mitigation and sustainable development that contributes to overall shift away from fossil fuel lock in	Made questionable contribution to sustainable development, including a lock in of fossil fuels

- **Climate finance reporting:** Developed country Parties shall biennially communicate indicative quantitative and qualitative information on programmes, including projected levels, channels and instruments, as available public financial resources to be provided to developing country Parties. Other Parties providing resources are encouraged to communicate biennially such information on a voluntary basis.
 - The UNFCCC secretariat to establish a dedicated online portal for posting and recording the biennial communications.
- **Global stocktake:** Paris Agreement requires the CMA (Conference of the Parties serving as the meeting of the Parties to the Paris Agreement) to periodically take stock of the implementation of the Paris Agreement and to assess collective progress towards achieving the purpose of the Agreement and its long-term goals. This process is called the global stocktake.
 - The rules set the structure for the stocktake process, which is to be divided into three stages: Information collection, technical assessment and consideration of outputs.
- **Transparency:** The purpose of the transparency framework is to provide a clear understanding of climate change action in the light of the objective of the Paris Convention. This includes clarity and tracking of progress towards achieving Parties' individual NDCs, and Parties' adaptation actions, including good practices and gaps, to inform the global stocktake.
 - Moreover, it provides clarity on support provided and received by relevant individual Parties in the context of climate change actions, and, to the extent possible, to provide a full overview of aggregate financial support provided, to inform the global stocktake.
 - The final rulebook applies a single set of rules to all countries, however with flexibility for "those developing country parties that need it in the light of their capacities", reflecting CBDR-RC principle.
- **Loss and damage:** Loss and damage caused by the unavoidable impacts of climate change was a touchstone issue for vulnerable countries, such as small island developing states. The rulebook mentions this issue, however, in a diluted version.
 - The global stocktake rules do add loss and damage clause. The stocktake rules now say it "may take into account, as appropriate, efforts to avert, minimise and address loss and damage associated with the adverse effects of climate change".
 - The transparency rules also say countries "may, as appropriate" report on loss and damage.
- **Other matters:** Rules were finalised in a number of other areas, including how compliance with the Paris Agreement is to be monitored.
 - COP24 agreed to set up an expert compliance committee that is "facilitative in nature, non-adversarial and non-punitive". It will not impose penalties or sanctions. The committee will be able to investigate countries that fail to submit climate pledges.
 - COP decided that the "adaptation fund" – a financial mechanism set up under the Kyoto Protocol – should continue under the Paris Agreement.
 - **Talanoa Dialogue:** The final text simply "invited" countries to "consider" the outcomes of the Talanoa dialogue in preparing their NDCs and in efforts to enhance pre-2020 ambition.
 - ✓ The text also "welcomes" the 2018 stocktake on pre-2020 implementation and ambition, and reiterates its decision to convene another stocktake next year.
 - **Pre-2020:** With respect to the "pre-2020" commitments – first agreed by developed countries in 2010 in Cancun – the COP called for developed countries to ratify the Doha Amendment so that it can enter into force. This would extend the Kyoto Protocol on developed country emissions till 2020.
 - The COP also "strongly urges" developed countries to increase their financial support in line with the promise to jointly mobilise \$100bn per year in climate finance to poorer countries by 2020. It acknowledges that "the provision of urgent and adequate finance" will help developing countries in order to up their own pre-2020 action.
 - **'Welcoming' the IPCC 1.5°C report:** Despite the majority of countries speaking in favour of the report, four countries – the US, Saudi Arabia, Russia and Kuwait – refused to "welcome" the report. The COP welcome its "timely completion" and "invited" countries to make use of the report in subsequent discussions at the UNFCCC.

Analysis of the outcomes

- **Provision of finance by developed countries:** Rules on financial contributions by developed countries have been diluted making it very difficult to hold them accountable.
 - Now, developed countries have the choice to include all kinds of financial instruments, concessional and non-concessional loans, grants, aids etc, from various public and private sources, to meet their commitments.
 - The rules on ex-ante (forecasted) financial reporting and its review for adequacy has been significantly weakened.
 - Developed countries now have the freedom to decide the amount and the kind of financial resources they want to give to the developing countries and do this without any strong mechanism of accountability.
- **Loss and damage:** The Warsaw International Mechanism, which has to deal with averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, has no financial resources to support vulnerable countries. With **no financial provisions**, the countries are now left on their own to address the impacts of climate change.
- **Global stocktake (GST):**
 - The non-Policy prescriptive rulebook for GST ensures that the process will neither give any recommendation to individual countries or a group of countries, nor will it give any prescriptive policy to everyone. This would result in collection of a lot of technical information without any clear recommendation to increase ambition on mitigation or finance.
 - **Also, equity has been mentioned in the text, but there is no mechanism to operationalize it.**
- **Carbon market Mechanism:**
 - There has virtually been **no progress made on non-market mechanisms** (sub-article 6.8 of Paris Agreement) to reduce emissions and enhance sinks in forests and land.
 - **There is no firm decision on OMGE mechanism.** Also, the rulebook has different rules for different markets, which is non-transparent and makes emissions reductions unverifiable. Trading is allowed for sectors which are not covered in a country's emissions targets, which will dilute the overall mitigation effect.
 - **Countries are on their own:** The Paris Agreement had both bottom-up and top-down elements. Most of the top-down elements have been diluted in the rulebook. The Paris Agreement and its rulebook is now a totally 'self-determined' process. Countries are now on their own to mitigate, to adapt, and to pay the cost of climate impacts.

5.2. SIXTH ANNUAL REPORT TO CBD

Why in News?

Recently, India submitted Sixth National Report (NR6) to the Convention of Biological Diversity (CBD).

More on News

- Submission of national reports is a **mandatory obligation on Parties to international treaties, including CBD.**
- NR6 provides an update of progress in achievement of **12 National Biodiversity Targets (NBT)** developed under the Convention, in line with the **20 global Aichi biodiversity targets.**

Convention on Biological Diversity (CBD)

- It seeks to address all threats to biodiversity and ecosystem services, including threats from climate change.
- It aims to promote the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.
- It's a near universal convention with a participation of 196 member countries.

Protocols adopted under the Convention.

- **Cartagena Protocol on Biosafety:** It seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology.
- **Nagoya Protocol on Access and Benefit Sharing:** It aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies.

Highlight

- **Objective of NR6:** To provide information on measures taken domestically to conserve biodiversity.

CBD strategic goal	Aichi Target	The 12 National Biodiversity targets of India are:
Address underlying causes	<p>1 Improve awareness of biodiversity</p> <p>2 Mainstream biodiversity</p> <p>3 Reform incentives</p> <p>4 Implement plans for sustainability</p>	<p>1 By 2020, a significant proportion of the country's population, especially the youth, is aware of the values of biodiversity and the steps they can take to conserve and use it sustainably (Aichi Target 1).</p> <p>2 By 2020, values of biodiversity are integrated into national and state planning processes, development programmes and poverty alleviation strategies (Aichi Target 2).</p> <p>3 Strategies for reducing the rate of degradation, fragmentation and loss of all natural habitats are finalized and actions put in place by 2020 for environmental amelioration and human well-being (Aichi Target 5 &15).</p>
Reduce pressures and promote sustainable use	<p>5 Reduce habitat loss and degradation</p> <p>6 Fish sustainably</p> <p>7 Make farming and forestry sustainable</p> <p>8 Reduce pollution</p> <p>9 Tackle invasive species</p> <p>10 Minimise climate change impacts</p>	<p>4 By 2020, invasive alien species and pathways are identified and strategies to manage them developed so that populations of prioritized invasive alien species are managed (Aichi Target 9).</p> <p>5 By 2020, measures are adopted for sustainable management of agriculture, forestry and fisheries (Aichi Target 6, 7, 8).</p> <p>6 Ecologically representative areas under terrestrial and inland water, and also coastal and marine zones, especially those of particular importance for species, biodiversity and ecosystem services, are conserved effectively and equitably, based on protected area designation and management and other area-based conservation measures and are integrated into the wider landscapes and seascapes, covering over 20% of the geographic area of the country, by 2020 (Aichi Target 10,11, 12).</p>
Safeguard ecosystems, species and genes	<p>11 Protect and manage critical sites</p> <p>12 Prevent extinctions</p> <p>13 Maintain genetic diversity</p>	<p>7 By 2020, genetic diversity of cultivated plants, farm livestock, and their wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity (Aichi Target 13).</p> <p>8 By 2020, ecosystem services, especially those relating to water, human health, livelihoods and well-being, are enumerated and measures to safeguard them are identified, taking into account the needs of women and local communities, particularly the poor and vulnerable sections (Aichi Target 14).</p>
Enhance benefits from biodiversity and ecosystems	<p>14 Safeguard ecosystem services</p> <p>15 Restore degraded forest</p> <p>16 Implement access and benefit sharing</p>	<p>9 By 2015, Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization as per the Nagoya Protocol are operational, consistent with national legislation (Aichi Target 16).</p> <p>10 By 2020, an effective, participatory and updated national biodiversity action plan is made operational at different levels of governance (Aichi Target 3, 4,17).</p>
Enhance implementation through planning, knowledge management and capacity building	<p>17 Implement NBSAPs</p> <p>18 Protect traditional knowledge</p> <p>19 Share biodiversity knowledge</p> <p>20 Increase conservation finance</p>	<p>11 By 2020, national initiatives using communities' traditional knowledge relating to biodiversity are strengthened, with the view to protecting this knowledge in accordance with national legislation and international obligations (Aichi Target 18).</p> <p>12 By 2020, opportunities to increase the availability of financial, human and technical resources to facilitate effective implementation of the Strategic Plan for Biodiversity 2011-2020 and the national targets are identified and the Strategy for Resource Mobilization is adopted (Aichi Target 19, 20).</p>

- India has achieved two NBTs (6&9), it is on track to achieve 8 NBTs and in respect of the remaining 2 NBTs.
- Threat to Wildlife:** In India has a total of **683** animal species in the International Union for Conservation of Nature's (IUCN) critically endangered, endangered and vulnerable categories, as compared to 646 species in 2014 when the fifth national report was submitted, and 413 in these categories in 2009.

5.3. COASTAL REGULATION ZONE (CRZ) NOTIFICATION 2018

Why in news?

The Union Cabinet has approved the Coastal Regulation Zone (CRZ) Notification, 2018.

Background

- **To conserve and protect the coastal environment**, and to promote sustainable development based on scientific principles Ministry of Environment and Forest and Climate Change (MoEFCC), under the **Environment (Protection) Act, 1986**, notified the CRZ Notification in 1991, subsequently revised in 2011.
- Various Coastal States/UTs, besides other stakeholders, were demanding for a comprehensive review of the CRZ Notification, 2011, particularly related to the management and conservation of marine and coastal eco-systems, development in coastal areas, eco-tourism, livelihood option and sustainable development of coastal communities etc.
- In June 2014, Shailesh Nayak Committee was constituted by the MoEFCC to review the the CRZ Notification, 2011.
- Government in April 2018, released a **draft notification on coastal regulation zone** taking inputs from states/UTs and recommendations of Shailesh Nayak Committee.

Salient Features

- **Easing FSI norms:** This notification freezes the restrictions imposed on Floor Space Index (FSI) or the Floor Area Ratio (FAR) under CRZ, 2011 in accordance to 1991 Development Control Regulation (DCR) levels.
- **No development zone (NDZ) reduced for densely populated areas:** For CRZ-III areas
 - CRZ-III A areas shall have a NDZ of 50 meters from the HTL on the landward side as against 200 meters from the HTL stipulated in the CRZ Notification, 2011.
 - CRZ-III B areas shall continue to have an NDZ of 200 meters from the HTL.
- **Tourism infrastructure for basic amenities to be promoted:** The notification allows for temporary tourism facilities such as shacks, toilet blocks, change rooms, drinking water facilities etc on beaches at a minimum distance of 10 metres from HTL. Such temporary tourism facilities are also now permissible in the NDZ of the CRZ-III areas.
- **CRZ Clearances streamlined:**
 - CRZ clearances are needed only for projects located in CRZ-I and CRZ IV.
 - States to have the powers for clearances w.r.t CRZ-II and III with necessary guidance.

CRZ: The MoEFCC declares the coastal stretches and the water area up to territorial water limit, **excluding the islands of Andaman and Nicobar and Lakshadweep** and the marine areas surrounding these islands, as Coastal Regulation Zone as under:

- Land area from **High Tide Line (HTL)** to 500 mts on the landward side.
- Land area between **HTL to 50 mts or width of the creek** whichever is less on the landward side along the tidal influenced water bodies connected to the sea.
- The **intertidal zone** i.e. land area between the HTL and the Low Tide Line(LTL).
- The water and the bed area **between the LTL to the territorial water limit** (12 Nautical miles (Nm)) in case of sea and the water and the bed area between LTL at the bank to the LTL on the opposite side of the bank of tidal influenced water bodies.

Classification of the CRZ

- CRZ-I areas are environmentally most critical and are classified as under:
 - CRZ-I A: The ecologically sensitive areas and the geomorphological features which play a role in the maintaining the integrity of the coast viz. **Mangroves; Corals and coral reefs; Sand Dunes; Biologically active Mudflats; Salt Marshes; Turtle nesting grounds; protected areas** etc.
 - CRZ-I B: The intertidal zone.
- CRZ-II: The developed land areas up to or close to the shoreline, within the existing municipal limits or in other existing legally designated urban areas.
- CRZ-III: Land areas that are relatively undisturbed (viz **rural areas** etc) and those do not fall under CRZ-II. CRZ-III is further classified as:
 - CRZ-III A: Areas with population density more than 2161 per sq km as per 2011 census.
 - CRZ-III B: areas with population density of less than 2161 per sq km, as per 2011 census.
- CRZ- IV: It constitutes the water area and further classified as:
 - CRZ- IV A: The water area and the sea bed area between the LTL up to 12Nm on the seaward side.
 - CRZ- IV B: the water area and the bed area between LTL at the bank of the tidal influenced water body to the LTL on the opposite side of the bank, extending from the mouth of the water body at the sea up to the influence of tide, i.e., **salinity of five parts per thousand (ppt) during the driest season of the year**.

- NDZ of 20 meters has been stipulated for all Islands:** in the wake of space limitations and unique geography and to bring uniformity in treatment of such regions.
- All Ecologically Sensitive Areas have been accorded special importance:** Through Specific guidelines related to their conservation and management plans.
- Pollution abatement has been accorded special focus:** By permitting construction of treatment facilities in CRZ-I B area subject to necessary safeguards.
- Defence and strategic projects have been accorded necessary dispensation.**

Benefits

- Enhanced activities in the coastal regions thereby promoting economic growth** while also respecting the conservation principles of coastal regions.
 - Boost tourism** in terms of more activities, more infrastructure and more opportunities in creating employment opportunities.
 - greater opportunities for development of densely populated rural areas** in the CRZs.
- CRZ, 2018 is also **in sync** with the thrust being given to **port-led industrialisation** and the Coastal Economic Zones projects.
- Additional opportunities for affordable housing** which will benefit not only the housing sector but the people at large looking for shelter.
- It is expected to **rejuvenate the coastal areas** while reducing their vulnerabilities.

Concerns

The new notification has **done away with or diluted many stringent restrictions** in place at coastal areas. The emphasis of the new CRZ norms is on promotion of tourism facilities, quicker dispensation of defence and strategic projects and liberal licensing for the installation of treatment plants.

- Eco-sensitive regions could see flurry of construction activity** thereby hampering the coastal eco system and biodiversity.
- The notification **violates the balance between ecosystem and development**. The mandatory 50 m buffer zone for mangrove forest in private land with an expanse of more than 1,000 sq m has been done away with.
- The **fishermen are worried** that the entry of the tourism sector will attract the real estate lobbies, who will eventually displace the coastal community and deny them the access to the seas.
- Further, the **reduction of NDZ** is done without taking consideration of sea level rise. The coastline is already vulnerable due to erosion, fresh water crisis and loss of livelihoods. The new changes will only increase this vulnerability and promote commercialisation of the coast.
- The **Hazard Line, mapped by the Survey of India has, however, been de-linked from the CRZ regulatory regime** and will be used only as a tool for disaster management and planning of adaptive and mitigation measures.
- The **treatment facilities, allowed in CRZ-I** to reduce coastal pollution, means several ecologically fragile areas will have sewage treatment plants transferring pollution from land to sea.

CRZ helps in reducing the ecological vulnerability through:

- Regulated activities in ecologically most sensitive areas (CRZ-I A)**
 - Regulate activities such as Eco-tourism subject to approved Coastal Zone Management Plans(CZMPs), exceptional construction of public utilities in the mangrove buffer etc.
 - Construction of roads and roads on stilts, by way of reclamation shall be permitted **only in exceptional cases** for defence, strategic purposes and public utilities, subject to a detailed marine/terrestrial environment impact assessment, to be recommended by the Coastal Zone Management Authority and approved by the MoEFCC.
 - compensatory plantation of mangroves (Minimum three times the mangrove area affected/destroyed/cut).**
- Areas requiring special consideration in the CRZ**
 - Critically Vulnerable Coastal Areas (CVCA):** Sunderban region of West Bengal and other ecologically sensitive areas identified as under Environment (Protection) Act, 1986 such as Gulf of Khambat and Gulf of Kutchchh in Gujarat, Malvan, Achra-Ratnagiri in Maharashtra, Karwar and Coondapur in Karnataka, Vembanad in Kerala, Gulf of Mannar in Tamil Nadu, Bhaitarkanika in Odisha, Coringa, East Godavari and Krishna in Andhra Pradesh shall be treated as CVCA and managed with the involvement of coastal communities including fisher folk who depend on coastal resources for their sustainable livelihood.
 - CRZ for inland Backwater islands and islands along the mainland coast.**
 - CRZ falling within municipal limits of Greater Mumbai.**

- The notification permits activities like reclamation of land for commercial activities, interference with sand dunes, large scale recreation and drawing of ground water within the 200-500 metres from the HTL, which is detrimental to the coastal ecology and that will displace the local communities and affect the biodiversity.

Conclusion

The sustainable management depends on the nature of the social system, comprising political, economic and industrial infrastructure and its linkages, with the knowledge about coastal systems as well as local communities. India need to move from

a purely regulatory approach towards an Integrated Coastal Zone Management (ICZM).

Integrated Coastal Zone Management (ICZM): This concept was born in 1992 during the Earth Summit of Rio de Janeiro. This was a World Bank assisted project with the objective of building national capacity for implementation of comprehensive coastal management approach in the country, and piloting the integrated coastal zone management approach in states of Gujarat, Orissa and West Bengal.

- The project's **multi-sectoral and integrated approach** represents a paradigm shift from the traditional sector-wise management of coastal resources where numerous institutional, legal, economic and planning frameworks worked in isolation, at times with conflicting aims and outputs.
- The project puts equal emphasis on conservation of coastal and marine resources, pollution management, and improving livelihood

5.4. SEA LEVEL RISE IN INDIA

Why in News?

As per the study by Hyderabad-based Indian National Center for Ocean Information Services, Sea levels along the Indian coast are projected to rise between 3.5 inches to 34 inch (2.8 feet) by the end of century due to global warming.

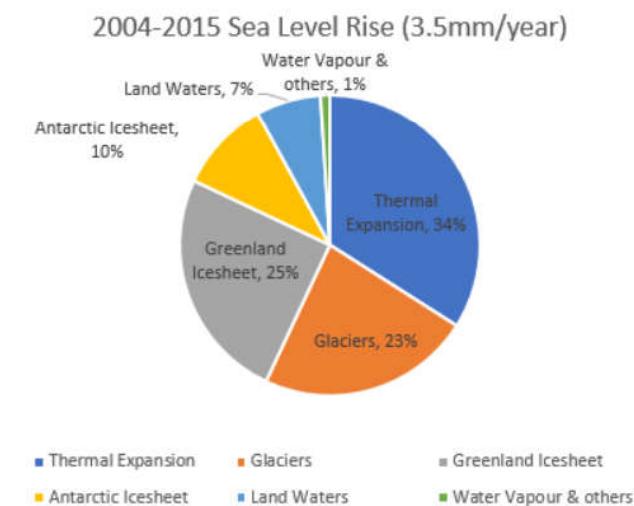
Impact of Sea Level Rise

- **Large-scale displacement:** A large population in the world lives along coastal areas (about 10% of world's population), a sea level rise will force a large population to migrate from coastal areas creating huge economic and social costs.
 - A disruption in socio-economic life and large scale internal and external migration may crate social strife across nations.
- **Reduction in Drinking Water:** Sea Level Rise will increase salinity in underground water in coastal areas, significantly reducing the available drinking water.
- **Impact on Food Security:** Due to flooding and salt water intrusion into the soil, the salinity of agricultural lands near the sea increases, posing problems for crops that are not salt-resistant. Furthermore, salt intrusion in fresh irrigation water poses a second problem for crops that are irrigated. Newly developed salt-resistant crop variants are currently more expensive than the crops they are set to replace.
- **International Conflicts:** Sea Level Rise will change the exclusive economic zones of nations, potentially creating conflicts between neighboring nations.
- **Impact on Island Nations:** Maldives, Tulavu, Marshall Islands and other low lying countries are among the areas that are at highest level of risk. At current rates, Maldives could become uninhabitable by 2100. Five of the Solomon Islands have disappeared due to combined effect of Sea Level Rise and stronger trade winds.

Sea Level Rise

- It is caused primarily by **two factors** related to global warming:
 - the added water from melting ice sheets; and glaciers
 - the expansion of seawater as it warms.
- A report by **World Meteorological Organization (WMO)** says that the **Global Mean Sea Level** from January to July 2018 was around 2 to 3 mm higher than for the same period in 2017
- The **Intergovernmental Panel on Climate Change (IPCC) Special report** said in October this year that there is no safe level of global warming and sea levels would continue to rise for centuries even if we cap warming at 1.5°C above pre-industrial levels, prescribed in the lower limit of the Paris Agreement.

Contribution in Sea Level Rise



- **Impact on India:** Mumbai and other west coast stretches such as Khambat and Kutch in Gujrat, parts of Konkan and South Kerala are most vulnerable to sea-level rise. Deltas of Ganga, Krishna, Godavari, Cauvery and Mahanadi are also threatened. 171 million people live in coastal districts who are at risk due to sea level rise which is about 14.2% of India's Population.

Way forward

- **Arresting Climate Change:** Prime Source of Sea Level Rise is Global Warming caused by excess carbon dioxide in atmosphere. **2015 Paris Climate Agreement** to limit global temperature rise to 1.5° C should be implemented by Nations.
- **Evolving Adaptation Strategies:** All coastal & Island Nations should have comprehensive national adaptation plans involving both hard and soft options to deal with rising sea levels.
- **Acknowledging 'Climate Refugees':** A Global Convention on Climate Refugee should be seriously contemplated by the UN. Recently adopted **Global Compact on Refugees** recognized climate change as one of the possible reason for migration but shied away from calling them 'Climate Refugees' or covering them under UN Convention on Refugees.
- **Limiting Coastal Settlements:** Keeping the future sea level rise in mind, countries should limit and regulate coastal settlements so that number of people at risk doesn't increase further.

Adaptation to Sea Level Rise

- Adaptation options to sea level rise can be broadly classified into retreat, accommodate and protect.
 - **Retreating** is moving people and infrastructure to less exposed areas and preventing further development in areas that are at risk. This type of adaptation is potentially disruptive, as displacement of people might lead to tensions.
 - **Accommodation** options are measurements that make societies more flexible to sea level rise. Examples are the cultivation of food crops that tolerate a high salt content in the soil and making new building standards which require building to be built higher and have less damage in the case a flood does occur.
 - **Protect:** areas can be protected by the construction of dams, dikes and by improving natural defenses.
- These adaptation options can be further divided into **hard and soft**.
 - **Hard adaptation** relies mostly on capital-intensive human-built infrastructure and involves large-scale changes to human societies and ecological systems. Because of its large scale, it is often not flexible.
 - **Soft adaptation** involves strengthening natural defenses and adaptation strategies in local communities and the use of simple and modular technology, which can be locally owned. The two types of adaptation might be complementary or mutually exclusive.

5.5. SEABED 2030

Why in News?

The U.N.-backed project Seabed 2030 is pooling data from the countries and companies to create a map of the entire ocean floor.

About Seabed 2030:

- It aims to bring together all available bathymetric data (measures of depth and shape of the seafloor) to produce the definitive map of the world ocean floor by 2030 and make it available to all.
- It is a collaborative project between the Nippon Foundation and General Bathymetric Chart of the Oceans (GEBCO).
- The project was launched at the United Nations (UN) Ocean Conference in June 2017 and is aligned with the UN's Sustainable Development Goal #14 to conserve and sustainably use the oceans, seas and marine resources.
- Central to the Seabed 2030 strategy is the creation of Regional Data Assembly and Coordination Centres (RDACCs), with each having a defined ocean region of responsibility. A board will be established for each region consisting of local experts to identify existing bathymetric data, and to help coordinate new bathymetric surveys.

About GEBCO

- GEBCO is an international group of mapping experts which aims to provide the most authoritative publicly-available bathymetry of the world's oceans.
- It operates under the joint auspices of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) (of UNESCO).

Significance Sea-bed Mapping

- Bathymetric data from the deep ocean is critical for studying marine geology and geophysics. For example, Bathymetric data obtained in 1950s and '60s led to modern understanding of Plate tectonics.
- The shape of the seabed is a crucial parameter for understanding ocean circulation patterns as well as an important variable for accurately forecasting tsunami wave propagation.
- Bathymetric data illuminates the study of tides, wave action, sediment transport, underwater geo-hazards, cable routing, resource exploration, extension of continental shelf (UN Law of the Sea treaty issues), military and defence applications.
- In coastal regions, bathymetry underpins marine and maritime spatial planning and decision-making, navigation safety, and provides a scientific basis for models of storm surges, while also informing our understanding of marine ecosystems and habitats.
- Detailed knowledge of bathymetry is a fundamental prerequisite for attaining an improved understanding of the subsea processes.

Challenges

- Even using the RDACC model, the goal of mapping the entire world ocean is a significant challenge, and can only be accomplished if new field mapping projects are initiated.
- Crowdsourcing bathymetric data from fishing vessels and recreational small boats etc. represents one approach for gathering information in shallower water regions, but is less efficient in deeper waters due to depth limitations of standard echo sounders.
- Deep water mapping remains a major challenge due to the cost involved and the limited number of available research vessels that are equipped with modern deep, water multibeam sonars.

Way forward

- Reach out to the national and international funding agencies, to get adequate funding to support Seabed 2030 vision.
- Keeping up with technology overtime to make sure that processes, products and services are forward looking and well-positioned to make use of new technologies as they become available.
- Given the sheer size of the ocean the Seabed 2030 goals can only be achieved through international coordination and collaboration with respect to data acquisition, assimilation and compilation.

5.6. GUIDELINES FOR GROUND WATER EXTRACTION

Why in news?

The Central Ground Water Authority (CGWA) notified revised guidelines for ground water (GW) extraction to be effective from 1st June 2019.

Brief Background

- India is the largest user of ground water in the world—about 25% of the global ground water extraction. Out of the total of 6584 assessment units, 1034 have been categorized as 'Over-exploited'; 253 as 'Critical'; 681 as 'Semi-Critical' and 96 assessment units have been classified as 'Saline'.
- The Easement Act, 1882**, provides every landowner with the right to collect and dispose, within his own limits, all water under the land and on the surface. Landowners are not legally liable for any damage caused to water resources as a result of over-extraction.
- In its various orders, the National Green Tribunal (NGT) has asked the CGWA to regulate the GW extraction by various users through system of registrations and No Objection Certificate (NOC) and user fees with a limit on quantum of GW to be extracted.
- In compliance with the NGT orders, the CGWA had circulated the draft guidelines for grant of 'No Objection Certificate' on the 11th October 2017. After considering all the suggestions from various stakeholders, govt now notified the revised guidelines.

Salient features of the revised guidelines: The revised guidelines aim to ensure a more robust ground water regulatory mechanism in the country through system of NOC and user fee.

For Industries

- Introduction of the concept of Water Conservation Fee (WCF)** which varies with the category of the area, type of industry and the quantum of ground water extraction and is designed to progressively increase from safe to over-exploited areas and from low to high water consuming industries as well as with increasing quantum of ground water extraction.
 - ✓ The high rates of WCF are expected to discourage setting up of new industries in over-exploited and critical areas as well as act as a deterrent to large scale ground water extraction by industries, especially in over-exploited and critical areas.
 - ✓ The WCF would also compel industries to adopt measures relating to water use efficiency and discourage the growth of packaged drinking water units, particularly in over-exploited and critical areas.
- NOC to industries shall be granted only for such cases where government agencies are not able to supply the desired quantity of water.
- Encouraging use of recycled and treated sewage water by industries.
- Provision of action against polluting industries, and measures to be adopted to ensure prevention of ground water contamination in premises of polluting

Central Ground Water Authority (CGWA), constituted under the Environment (Protection) Act of 1986 has the mandate of regulating ground water development and management in the country.

CGWA has been regulating ground water development for its sustainable management in the country through measures such as issue of advisories, public notices, grant of No Objection Certificates (NOC) for ground water withdrawal.

80% of India's drinking water needs dependent on groundwater

2/3 of water for irrigation supplied by groundwater

84% of the total addition to irrigation over the last four decades has come from groundwater

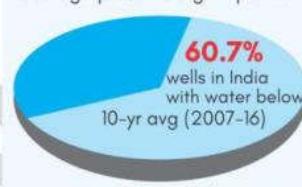
60% of India's districts face groundwater overexploitation and/or serious quality issues

% of wells with water below 10-year avg (2007-16)*

State	Total	<2 m below avg
Tamil Nadu	86.8	51.9
Punjab	84.6	35.5
Andhra	75	21.8
UP	70.6	13.3
Kerala	70.1	8.7
Karnataka	69.3	26.7
Haryana	68.5	31.1
Delhi	64.9	36.2
Chhattisgarh	61.1	16.6
Odisha	60.2	7
Gujarat	59.2	23.9
Jharkhand	58.7	11.5
Maharashtra	56.8	18.1

WELLS IN BAD HEALTH

A comparison of 2017 pre-monsoon water levels with the 10-years average presents a grim picture



17.5% of these below avg by 2m or more

*States covered in a Central Ground Water Board survey

SINKING CITIES?

LUCKNOW: Under threat of massive subsidence (land sinking) from overexploitation of groundwater resources in the next 15 to 20 years

KOLKATA: Estimated avg land subsidence rate of 13.5mm/year. For every 1m drop in groundwater, avg subsidence is 33mm

industries/ projects.

- **Mandatory requirement** of digital flow meters, piezometers and digital water level recorders (with or without telemetry depending upon quantum of extraction).
- **Mandatory water audit** by industries abstracting ground water 500 m³/day or more in safe and semi-critical and 200 m³/day or more in critical and over-exploited assessment units.
- **Mandatory roof top rain water harvesting** except for specified industries.
- The entire process of grant of NOC is done **online through a web based application system** of CGWA. It shall be renewed periodically, subject to compliance of the conditions. The applicant shall apply for renewal of NOC at least 90 days prior to expiry of its validity.

Related News

National Green Tribunal Order (3 January 2019): NGT noted that:

- The guidelines have, rather than laying stricter norms, liberalised **extraction of groundwater** adding to the crisis unmindful of the ground situation and likely impact it will have on environment.
- The water conservation fee **virtually gives licence to harness ground water to any extent** even in OCS areas. There is **no institutional mechanism to monitor removal and replenishment of ground water**. Delegation provision is virtual abdication of authority.
- There was **no check on injection of pollutants** in the ground water in the notification and there is no provision with regard to check on water quality and its remediation, if there is contamination.

Hence NGT stayed the enforcement of the guidelines

The bench further directed the MoEF&CC to **constitute an expert committee** by including representatives from IIT, IIM, Central Pollution Control Board (CPCB), NITI Aayog and any other concerned agency or department. The panel will examine the issue of appropriate policy for conservation of ground water.

- **For Drinking & Domestic use**, -request for NOC shall be considered only in cases where the water supply department / agency concerned is unable to supply adequate amount of water in the area.
- **Flexibility to states:** States may suggest additional conditions/ criteria based on the local hydro geological situations which will be reviewed by CGWA before acceptance.
- **Monitoring:** Monthly water level data shall be submitted to CGWA through the web portal.
- **Exemptions**
 - Exemption from requirement of NOC has been given to agricultural users, users employing non-energised means to extract water, individual households (using less than 1 inch diameter delivery pipe) and Armed Forces Establishments during operational deployment or during mobilization in forward locations.
 - **Other exemptions** (with certain requirements) have been granted to strategic and operational infrastructure projects for Armed Forces, Defence and Paramilitary Forces Establishments and Government water supply agencies in safe and semi critical areas.

Issues with the Policy Guidelines

- Rather than banning extraction of groundwater in areas which have been alarmingly overexploited, the government has made the issue negotiable. Experts say the more one pays, the more they can withdraw water.
- **NGT also, expressed its concern** stating that merely imposing a cost was not enough to curb groundwater extraction.
- The draft rules, which were released in 2017 for public suggestions, had **done away with the mandatory limit of reuse of water extracted by the industries**. This is when the earlier set of rules had very specific limits depending upon the type of area. It ranged from 40 per cent to 100 per cent depending on if the area was safe, semi-critical, critical or over-exploited for groundwater. However, those limits do not exist anymore.
- **Agriculture**, amounting 90% of the annual ground water extraction is **kept out of regulations**. Only an indicative list of demand side measures are provided to minimise the water uses.
- All categories exempted from requirement of NOC shall also be exempted from paying WCF.
- WCF rates are too low to discourage the GW extraction (varying from Rs 1-100 per cubic meters of groundwater based on the nature of areas).
- Textiles industry would be hurt a lot due to its heavy water dependency. It will have impact on overall economy.

5.7. INDIA WATER IMPACT SUMMIT 2018 AND URBAN RIVER MANAGEMENT PLAN

Why in news?

Recently, 3rd India Water Impact Summit 2018 was jointly organized by the National Mission for Clean Ganga (NMCG) and the Centre for Ganga River Basin Management and Studies (C-Ganga).

About India Water Impact Summit

- It is an annual event where stakeholders get together to discuss, debate and develop model solutions for some of the biggest water-related problems in the country.
- Ganga Finance Forum was introduced which brought together financial sector experts to provide various innovative financial instruments e.g. social impact bonds, masala bonds, long-term debt financing, and use of blockchain in the financial sector were proposed.
- It highlighted the need of decentralization and community driven treatment of sewage and decided to set up a working group to build a model Urban River Management Plan.

C-Ganga

- It has been established at Indian Institute of Technology, Kanpur (IITK) as a centre of excellence to further the development of Ganga River Basin.
- It channelizes scientific inputs from international experts and organizations for Ganga River Basin Management Plan.
- It will act in the capacity of a comprehensive think-tank for the Ministry of Water Resources, River Development and Ganga Rejuvenation, in its stated goals and objectives vis-à-vis the Ganga River Basin.

Urban River Management Plan for Ganga River Basin(GRB) - It will have a planning horizon of 25 years and will essentially be a compendium of all 'actions' to be undertaken during this time for comprehensive riverbank management and wastewater management in the town.

- Why URMPs are essential?
 - At the present time, many projects on riverbank and wastewater management in various towns are being sanctioned by various ministries under various programmes with the general objective of improvement of the state of rivers in the GRB. However, in the absence of URMPs, it appears that the micro-level planning that is required for obtaining the optimal benefits from such projects is not in place.
 - Preparation of URMPs thus provides the underlying planning structure that is required for obtaining the optimal benefits from implementation of such projects.
- Salient Features of Proposed URMPs
 - Removal of encroachments and land acquisition for riverbank beautification and related development works.
 - Restriction/banning of certain activities on the riverbank or in the river, viz., open defecation, disposal of solid waste, washing of clothes, etc.
 - Development/restoration of the riverbank area, i.e., construction / restoration of ghats, provision of public baths and toilets, etc.
 - Prevention of the discharge of treated and untreated sewage into the river through construction of sewers and 'nala' diversion works.
 - Disposal of sludge generated due to sewage treatment in an acceptable manner and reuse of sludge and sludge-derived products, i.e., manure, compost, etc. within the town and/or elsewhere.
- URMPs vs Other City-Specific Development Plans
 - City-specific development plans, e.g, city master plans, city development plans, etc. are 'city-centric', i.e., their main objective is the development in the town and not necessarily the prevention and management of adverse impacts to the river bank and the river.
 - In contrast, the proposed URMP is a river-centric plan, whose main purpose is the delineation of a roadmap for prevention and management of adverse impacts on river bank and the river from adjoining urban centers.

5.8. CHARGING INFRASTRUCTURE GUIDELINES

Why in News?

Recently, Government released guideline on Charging Infrastructure for Electric Vehicles.

Background

- Need of charging infrastructure:** It play a pivotal role on Electric Vehicle (EV) deployment, and, in the absence of a proactive plan and schedule, is a major impediment to mass market adoption.
- According to McKinsey's 2016 EV consumer survey of buyers,** not having enough access to efficient charging stations as the third most serious barrier to EV purchase, behind price and driving range.

Highlight of Guidelines

- Objective:** To enable faster adoption of electric vehicles in India, promote an affordable tariff system for EV owners and operators of charging stations, generate employment and income opportunities for small business owners, support the creation of EV charging infrastructure and eventually create a market for this business
- Promoting Private Participation in charging Infrastructure:** They will be permitted to set up charging stations at residences, and distribution companies (DISCOMs) are to facilitate the same.
- Ease of Setting:** No license will be required for setting up a public charging station and any individual or entity is free to set up one if they follow the standards and guidelines
- Location of Public Charging Station:** Charging station must cater to slow as well as fast-charging requirements and it mandates minimum one station in a 9-sq. km area.
- Rollout plan:** Phase I (1-3 years) will cover all mega cities with population above forty lakh, and the associated expressways and highways. Phase II (3-5 years) will cover state and UT capitals.
- Tariff:** The Central or State Electricity Regulatory Commissions will determine the tariff for supply of electricity to the public charging stations. However, such tariff will not be more than the average cost of supply plus 15%. Domestic tariffs will apply for domestic charging of EVs.
- Open access:** Charging station has been allowed to source electricity from any power generation company through open access.

Steps taken by Various Ministries and department for Promoting Charging Infrastructure in India

The infographic illustrates the collaborative efforts of several Indian government bodies to develop charging infrastructure for electric vehicles. It features a central illustration of a city skyline with wind turbines and solar panels, labeled 'CHARGING INFRASTRUCTURE'. Surrounding this are five boxes, each representing a different ministry or department and its role in the development of EV infrastructure.

- Department of Heavy Industry**:
 - Standardization Roadmap for Electric Vehicles (EV's)
 - Standardisation of EV's and charging station based on international practices, as well as, industry expectation.
 - Charging Infrastructure should be vehicle/model agnostic.
- Ministry of Power**:
 - Classifying EV's charging as service under Electricity Act, 2003: It will help charging stations to operate without licence.
 - Grid connectivity, load to charging stations.
 - Regulation for power redistribution.
 - Push electricity distribution company to create charging infrastructure.
- NITI Aayog**:
 - Work as central agency to bring all stakeholders together.
 - Responsible for preparing budget estimate to promote electric vehicles & capacity building.
- Ministry of Road Transport & Highways**:
 - Introducing electric buses, e-taxis & e-autorickshaw across India.
 - Funding to state road bus undertakings, metro system, fleet companies (or individual owners) to buy e-taxis / e-autorickshaws.
- Ministry of Housing and Urban Affairs**:
 - Space availability for charging infrastructure and battery swapping.
 - Guidelines for the charging stations & should give funding for the setting up charging infrastructure.

5.9. ASIATIC LION CONSERVATION PROJECT

Why in News?

The Ministry of Environment, Forest and Climate Change launched the “**Asiatic Lion Conservation Project**” with an aim to protect and conserve the world’s last ranging free population of Asiatic Lion and its associated ecosystem.

Background

- Asiatic lions that once ranged from Persia (Iran) to Palamau in Eastern India were almost driven to extinction by indiscriminate hunting and habitat loss.
- A single population of less than 50 lions persisted in the Gir forests of Gujarat by late 1890's. With timely and stringent protection offered by the State Government and the Center Government, Asiatic lions have increased to the current population of over 500 numbers.
- Recently 23 Lions died in short period of 20 days, due to **Canine Distemper Virus (CDV)** and tick-bore **Babesiosis**, again raising a concern for their conservation.

Asiatic Lion

- Asiatic Lion, **Panthera Leo Persica** is listed in **Schedule 1 of Wildlife Protect Act, 1972** and in **Appendix-I of CITES**, while IUCN lists it in **endangered category**.
- The lion is one of **five pantherine cats** inhabiting India, along with the **Bengal tiger, Indian leopard, snow leopard and clouded leopard**.
- Their population is limited to only five protected areas in Gujarat – **Gir National Park, Gir Sanctuary, Pania Sanctuary, Mitiyala Sanctuary and Girnar Sanctuary**.
- This remains the only home for the lions even five years after India's top court ordered the translocation of Asiatic lions. The single habitat is akin to keeping “all eggs in one basket”, which increases risks for the lion population.

Asiatic vs African Lions

- **Size:** Asiatic lions tend to be smaller than their African cousins. Adult Asiatic Lion males typically weigh between 350 and 420 pounds While African Adult males average between 330 and 500 pounds in weight, with most weighing around 410 pounds.
- **Mane:** Compared to the African lion, the male Asiatic lion has a relatively short, sparse mane. As a result, the male Asiatic lion's ears tend to remain visible at all times. In addition to being less well-developed, the mane is generally darker than that of African lions.
- **Skin Fold:** The most distinguishing characteristic of the Asiatic lion is a longitudinal fold of skin that runs along the belly. This trait is found in all Asiatic lions. While it is absent in African Lions.
- **Pride Size:** Just like African lions, Asiatic lions are highly sociable and live in social units called prides. However, Asiatic prides tend to be smaller than their African counterparts.

About the Project

- It will be funded from the Centrally Sponsored Scheme- Development of Wildlife Habitat (CSS-DWH) with the contributing ratio being 60:40 of Central and State share.
- The project activities is envisaged in a manner to cause habitat improvement, scientific interventions, disease control and veterinary care supplemented with adequate eco development works for the fringe population in order to ensure a stable and viable Lion population in the Country.

5.10. TIGER CONSERVATION

Why in news?

- Recently a new study by World Wide Fund for Nature (WWF) found that under optimal conditions, tiger numbers can triple in 18 sites across the world, including eight in India.
- Another study by researchers has found Royal Bengal Tiger in the snow-capped regions of the Eastern Himalaya at an altitude of more than 4,000m in Dibang valley of Arunachal Pradesh.

Important Facts

- Indian Tiger or Royal Bengal Tiger (*Panthera tigris*) is the sub species found in India.
- Conservation status of Tiger**
 - IUCN Red List: Endangered
 - Wild life protection Act : Schedule 1
 - CITES: Appendix 1
- The tiger reserves are constituted on a core/buffer strategy. The core areas have the legal status of a national park or a sanctuary. The buffer or peripheral areas are a mix of forest and non-forest land, managed as a multiple use area.
- India is home to 70 per cent of global tiger population.
- The tigers are an "umbrella" species as by rescuing them, we save everything beneath their ecological umbrella - everything connected to them.
- Highest number of tigers are in Karnataka followed by Uttarakhand.

More on News

- This new assessment could guide planning for tiger recovery globally and help inform more effective, integrated approaches to tiger conservation.
- The presence of the big cats in Dibang valley which is not even a tiger reserve is a tribute to the ways the people there have been coexisting with the animals.

Threats to Tiger Population in India

- Habitat loss:**
 - Industrial Development has led to increased pressure on their natural habitat due to increased deforestation.
 - Forest fires and floods leading to habitat loss also continue to pose a threat to their survival.
 - National Highways often run through the tiger reserves which in turn lead to habitat fragmentation.
- Poaching:** Tigers have been illegally hunted due to their demand in traditional Chinese medicines, decorative works, etc.
- Man-Animal conflict:** Growing incidents of human-tiger conflict protected also pose significant challenge.
- Inbreeding of the tiger species** is also a major concern as inbred animals are prone to acquiring crippling defects, lack of capacity to adapt and psychological issues.



Conservation Efforts in India

- Project Tiger:** The Government of India launched the centrally Sponsored Scheme the 'Project Tiger' in 1973 for in-situ conservation of wild tigers in designated tiger reserves. The Project Tiger coverage has increased to 50 tiger reserves at present.
- The National Tiger Conservation Authority (NTCA):** It is a statutory body established in 2006 under MoEFCC performing functions as provided in the Wildlife (Protection) Act, 1972. Presently It implements major tiger conservation initiatives like project tiger, Tiger conservation plan etc.
- Monitoring System for Tigers – Intensive Protection and Ecological Status (M-STIPES):** It is a software-based monitoring system launched across Indian tiger reserves by the NTCA.

Global Conservation Efforts

- **The Global Tiger Initiative (GTI):** It was launched in 2008 as a global alliance of governments, international organizations, civil society, the conservation and scientific communities and the private sector and includes organization like the **World Bank**, the Global Environment Facility (**GEF**), etc. It aims to work together to save wild tigers from extinction. In 2013, the scope was broadened to include **Snow Leopards**. The initiative is led by **the 13 tiger range countries** (Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand, and Vietnam).
- **The Global Tiger Forum (GTF)** is the only inter- governmental international body established with members from willing countries to embark on a global campaign to protect the Tiger.
- **TX2:** In 2010, the St. Petersburg Declaration on Tiger Conservation was adopted under the GTI and the Global Tiger Recovery Programme or TX2 was endorsed. Its goal was **to double** the number of wild tigers across their geographical areas. The WWF is implementing the programme in 13 tiger range countries.
- **Conservation Assured Tiger Standards CA|TS:** It is a new tool for tiger conservation management. It is a set of criteria which allows tiger sites to check if their management will lead to successful tiger conservation. It is an important part of Tx2 programme.

Way Forward

- **Awareness:** Awareness about tiger conservation through discussions, exhibitions and local campaigns, etc should be spread.
- **Strengthening monitoring activities** by authorities is a crucial element in tiger conservation. Improving the intelligence and information sharing mechanism is a major aspect in this regard. Drones can also be widely used for monitoring.
- **Stopping Illegal trade:** Items prepared from tiger killed must be tackled as it effectively fuels the poaching process.
- **Involving Local communities:** Peaceful coexistence with voluntarily participation of the local communities is a must. For example villagers must be instantaneously compensated for their cattle loss or crop damage due to tiger and other wildlife activities.
- **Relocation of tigers:** It should be done in a well-planned manner else there is a high chance of losing the animal. This can also help to prevent inbreeding of the tiger species and thus increase the viability of the tiger population.

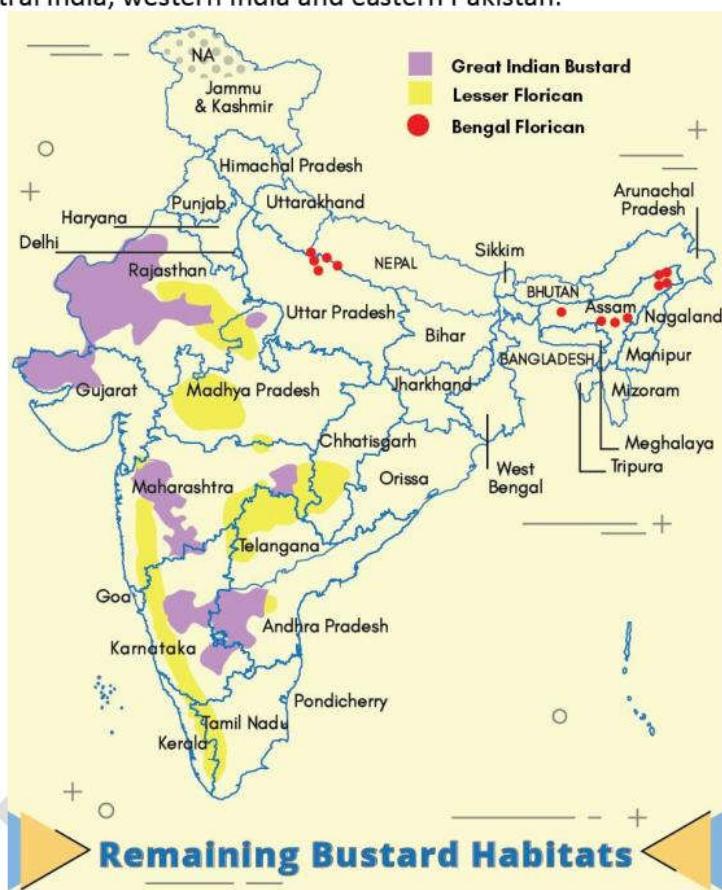
5.11. GREAT INDIAN BUSTARD

Why in News?

A recent study suggests that, Great Indian Bustard population has been falling continuously, from around 1,260 in 1969 to less than 200 in 2018.

About Great Indian bustard (*Ardeotis Nigriceps*)

- It's among the heaviest bird with a horizontal body and long bare legs giving it an ostrich like appearance.
- **Habitat:** Arid and semi-arid grasslands, open country with thorn scrub, tall grass interspersed with cultivation. It avoids irrigated areas.
- It is endemic to Indian Sub-continent, found in central India, western India and eastern Pakistan.
- Currently, it is found in only six states in the country — Madhya Pradesh, Gujarat, Maharashtra, Andhra Pradesh, Rajasthan and Karnataka.
- **Protection:** Listed in Schedule I of the Wildlife (Protection) Act, 1972 and Critically Endangered on the IUCN Red List
- It is also listed in Appendix I of CITES and covered under CMS or Bonn Convention.
- **Bustard Species Found In India:** Great Indian Bustard, the Lesser Florican and the Bengal Florican; Houbara also belong to Bustard family but it's a migratory species.
- **Importance to Ecosystem:** GIB is an indicator species for grassland habitats and its gradual disappearance from such environments shows their deterioration.
 - Once the species is lost, there will be no other species to replace it, and that will destabilise the ecosystem of the grassland and affect critical bio-diversities, as well as blackbucks and wolves, who share their habitat with the GIB.
- **Threat:** Hunting, poaching, habitat erosion, 'greening' projects that transform arid grasslands to wooded areas, change of land use from grassland to farmland, collisions with high tension electric wires, fast moving vehicles and free-ranging dogs in villages
- **Conservation Steps:** Great Indian Bustard, popularly known as 'Godawan', is Rajasthan's state bird. The state government has started "Project Godawan" for its conservation at Desert National Park (DNP) in Jaisalmer. It's one of the Species for The Recovery Programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment and Forests.



Integrated Development of Wildlife Habitats

- It is a Centrally Sponsored Scheme where GoI provides financial and technical assistance to the State/UT Governments for activities aimed at wildlife conservation. The scheme has three components viz- **Support to Protected Areas** (National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves), **Protection of Wildlife Outside Protected Area** and **Recovery programmes** for saving critically endangered species and habitats.

Bustard Recovery Programme

- It recommends linking local livelihoods with bustard conservation
- A profitable and equitable mechanism to share revenues generated from eco-tourism with local communities should be developed
- For effective conservation, the guidelines direct state governments to identify the core breeding areas for bustards and keep them inviolate from human disturbances
- The guidelines suggest restriction on infrastructure development and land use diversion for roads, high tension electric poles, intensive agriculture, wind power generators and construction
- Only low intensity, traditional pastoral activities should be allowed, that too, not during the breeding season, say the guidelines

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

- It is the only convention under UNEP which provides a global platform for the conservation and sustainable use of migratory animals and their habitats (and their migration routes). India is a member of the convention.
- Migratory species threatened with extinction are listed on Appendix I of the Convention.

5.12. GANGETIC DOLPHIN

Why in news?

Recently, study showed that rising salinity in Sunderbans region of India is causing a decrease in population of the Ganges River Dolphins.

About Gangetic dolphins

- It inhabits the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh.
- It is among the **four freshwater dolphins found** in the world – the other three are found in the Yangtze River (China), the ‘bhulan’ of the Indus (Pakistan) and the ‘boto’ of the Amazon River (Latin America).
- It is **fluvial (riverine) in habitat**, it may also be found in brackish water. It never enters the sea.
- A long thin snout, rounded belly and large flippers are its characteristics.
- It is a **mammal and cannot breathe in the water** and must surface every 30-120 seconds.
- Because of the sound it produces when breathing, the animal is popularly referred to as the 'Susu'.

Conservation Status

- It is the **national aquatic animal** and had been granted **non-human personhood status** by government in 2017.
- It is also protected under the **Schedule I of the Wildlife Protection Act (1972)**.
- **Vikramshila Gangetic Dolphin Sanctuary (VGDS)** in Bihar is India's **only sanctuary** for the Gangetic dolphin.
- It has been categorised as **endangered** on the Red List of Threatened Species by the IUCN.
- It is listed under the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** Appendix I (See Box).
- The presence of Dolphins in a river system **signals a healthy ecosystem**. Since the river dolphin is at the apex of the aquatic food chain, its presence in adequate numbers symbolizes greater biodiversity in the river system and helps keep the ecosystem in balance.

What is CITES?

- It is an **International agreement** between governments, drafted as a result of a resolution adopted in 1963 at a meeting of members of **International Union for Conservation of Nature (IUCN)**.
- It ensures that **international trade** in the specimens of wild animals and plants does not threaten their survival.
- CITES regulates international trade in species by including species on one of the three Appendices.
 - **Appendix I** - includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances e.g. Tiger, Himalayan brown bear, elephant, and Tibetan antelope.
 - **Appendix II** - includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival e.g. Hippopotamus, bigleaf mahogany, and the gray wolf.
 - **Appendix III** - a species included at the request of a country which then needs the cooperation of other countries to help prevent illegal exploitation, e.g. walrus, Hoffmann's two-toed sloth, and the red-breasted toucan.

Reasons mentioned in study for decreasing population

- The **hyper-saline zone** in Sunderbans, caused by the rising temperature and sea-level.
- **Hydrological modifications** like water diversion, deepening, widening and straightening waterways and commission of large barrages upstream.
- **Other reasons include** pollution(water and noise), deliberate killing for dolphin oil, bycatch in gillnets and line hooks etc.

Conservation Efforts

- A **Conservation Action Plan for the Gangetic Dolphin 2010-2020** has been formulated by the Ministry of Environment, Forest and Climate Change. It provides following recommendations:
 - **Potential sites for intense dolphin conservation** should be demarcated and States with Gangetic Dolphin populations should have a **regional Dolphin Conservation Centre**.
 - The **use of nylon monofilament fishing gillnets** should be banned and **Critical water flow and minimum depths** for all river dolphin habitats should be determined.
 - **Trans-boundary Protected Areas** between India, Nepal and Bangladesh
- **National Mission for Clean Ganga (NMCG):** In its efforts of biodiversity conservation in Ganga River basin, it has been working further on the Ganges River Dolphin Conservation Action Plan and has taken up steps to coordinate with various institutions for capacity building, generated awareness, involvement of stakeholders for Ganga River Dolphin Conservation and Management.

5.13. RAT-HOLE MINING

Why in News?

Recently, the collapse of a coal mine in Meghalaya's East Jaintia Hills in which 15 workers were trapped, has thrown the spotlight on a procedure known as "rat-hole mining".

About rat-hole mining

- It involves **digging of very small tunnels**, usually only 3-4 feet high, **without any pillars** to prevent collapse, in which workers (often children) enter and **extract coal**.
- The National Green Tribunal (NGT) banned it in 2014 on grounds of it being **unscientific and unsafe** for workers. However, the state government appealed the order in the Supreme Court.
- Even after ban, it remains the **prevailing procedure for coal mining in Meghalaya** as no other method would be **economically viable in Meghalaya**, where the coal seam is extremely thin.

Negative impacts of Rat Hole Mining

- **Environmental Degradation:** It has caused the water in the Kopili river (flows through Meghalaya and Assam) to turn acidic.
- **Pollution:** Roadsides used for piling of coal leads to air, water and soil pollution.
- **Exploitation of workers:** Maximum mining in Meghalaya is from rat hole mining where workers put their lives in danger but benefits are cornered by few private individuals.
- **Risk to Lives:** Rat-holes mines without adequate safety measures pose high risk to miner's lives. According to one estimate, one miner dies in these rat-holes mines every 10 days.
- **Fueling illegal activities:** Illegal money earned from these unlawful mines also end up fueling insurgency in the state.
- **Encouraging Child Labor:** According to a Shillong based NGO, rat-hole mining employs 70,000 child laborers.

Advantages of Rat-hole mining

- **Less Capital Intensive:** This type of mining when done in a scientific way, with suitable equipment is less capital intensive.
- **Less Polluting:** Unlike big mine fields which leave the nearby area nearly uninhabitable, rat-hole mines are less polluting to soil, air and water.
- **Easy self-employment:** rat-hole mining provides easy self-employment to people.

Why does it continue?

- **Political Influence:** Maximum politicians are either owners of mines or have stakes in the largely unregulated coal mining and transportation industry.
- **Populism:** Directly and indirectly about 2.5 lakh people are dependent on rat-hole mining economy, having influence on 16 out of 60 assembly seats.
- **Lack of Adequate Policy:** The NGT finds The Meghalaya Mines and Mineral Policy, 2012 inadequate. The policy does not address rat-hole mining and instead states: "Small and traditional system of mining by local people in their own land shall not be unnecessarily disturbed".
- **Use of Violence by Mining Mafia:** Anyone who reports on these illegal mining activities is met with violence.
- **Lack of alternative Employment opportunities:** It forces people to work in these dangerous mines.

Coal Mine Safety in India

- In India, the operations in Coalmines are regulated by the **Mines Act 1952**, **Mine Rules – 1955**, **Coal Mine Regulation-1957** and several other statutes framed thereafter.
- **Directorate-General of Mines Safety (DGMS)** under the Union Ministry of Labour & Employment (MOL&E) is entrusted to administer these statutes.
- One of the reasons why the **Coal Mines (Nationalization) Act** was enacted in **1973**, taking over private sector mines, was their poor safety records. Yet, work at public sector mines remains highly dangerous.
- The frequency of incidents has increased in the recent years, as flagged by the **National Human Rights Commission (NHRC)** in its 2014 report titled '**Views on Mine Safety in India**', while official statistics show otherwise.
- However, in a bid to attract private players, the Coking Coal Mines (Nationalization) Act, 1972 and the Coal Mines (Nationalization) Act, 1973 were repealed on 8 January 2018.
- When it comes to coal mining accidents, India has a higher proportion of deaths resulting from strata fall than from the use of explosives, which account for the bulk of the accidents in countries such as China and the US.

- **Lack of Monitoring:** Mining activities are spread across too vast an area spreading over four districts.
- **Legal Framework:** Mining activities are a state subject, but safety of mine workers is a central subject which creates problems in implementation of safety policies.
- **Misuse of Sixth Schedule Provisions:** The 6th Schedule of the Constitution intends to protect the community's ownership over its land and the community's autonomy and consent over its nature of use. Coal mining currently underway in Meghalaya was a corruption of this Constitutional Provision wherein private individuals having private interests in earning monetary benefits from minerals vested under the land are engaging in coal mining.

6.1. CYBER-PHYSICAL SYSTEMS

Why in News?

Recently cabinet approved the launching of **National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS)** which is to be implemented by **Department of Science & Technology** for a period of five years.

What is Cyber-physical system (CPS)?

- CPS is an **interdisciplinary field** that deals with the deployment of computer-based systems that do things in the physical world. It integrates sensing, computation, control and networking into physical objects and infrastructure, connecting them to the Internet and to each other.
- **Examples of cyber physical systems** are Smart Grid Networks, Smart Transportation System, Enterprise Cloud Infrastructure, Utility Service Infrastructure for Smart Cities, etc.
- **CPS and its associated technologies**, like Artificial Intelligence (AI), Internet of Things (IoT), Machine Learning (ML), Deep Learning (DP), Big Data Analytics, Robotics, Quantum Computing, Quantum Communication, Quantum encryption (Quantum Key Distribution), Data Science & Predictive analytics, Cyber Security for physical infrastructure and other infrastructure plays a transformative role in almost every field of human endeavor in all sectors.

Advantages of CPS technologies

- **Enhanced security capabilities:** It can play role in expediting design and delivery of trustworthy, adaptable and affordable systems, operations in cyberspace and autonomous systems to augment security operations.
- **Disaster Management:** CPS technologies including next generation public safety communications, sensor networks, and response robotics can dramatically increase the situational awareness of emergency responders and enable optimized response through all phases of disaster events.
- **Energy:** They are essential for the creation of energy infrastructure, optimization and management of resources and facilities and allowing consumers to control and manage their energy consumption patterns like smart meters.
- **Healthcare:** CPS correct-by-construction design methodologies are needed to design cost-effective, easy-to-certify, and safe products.
- **Transportation:** They can (potentially) eliminate accidents caused by human error, Congestion control, traffic-based grid jams.
- **Agriculture:** They will play a key role in helping to increase efficiency throughout the value chain, improving environmental footprint and creating opportunities for a skilled and semi-skilled workforce.

About National Mission on Interdisciplinary Cyber-Physical Systems

- It is a comprehensive mission which would address technology development, application development, human resource development, skill enhancement, entrepreneurship and start-up development in CPS and associated technologies.
- **Implementation:**
 - It aims at establishment of 15 numbers of **Technology Innovation Hubs**, six numbers of Application Innovation Hubs and four numbers of **Technology Translation Research Parks (TTRP)**.
 - These Hubs & TTRPs will connect to Academics, Industry, Central Ministries and State Government in developing solutions at reputed academic, R&D and other organizations across the country in a hub and spoke model.
 - They mainly **focus on four areas**: Technology Development, HRD & Skill Development, Innovation, Entrepreneurship & Start-ups Ecosystem Development and International Collaborations.
- **Significance of Mission**
 - It will support other missions of the government, provide industrial and economic competitiveness.
 - It would act as an **engine of growth** that would benefit national initiatives in health, education, energy, environment, agriculture, strategic cum security, and industrial sectors, Industry 4.0, SMART Cities, Sustainable Development Goals (SDGs) etc.
 - It will bring a paradigm shift in entire skill sets requirement and job opportunities.
 - It is aimed to give impetus to advanced research in CPS, technology development and higher education in science, technology and engineering disciplines, and place India at par with other advanced countries and derive several direct and indirect benefits.

Challenges in CPS

- **Privacy issues:** CPS technologies that enhance privacy and enable the appropriate use of sensitive and personal information while protecting personal privacy are needed.
- **Computational Abstractions:** Physical properties such as laws of physics and chemistry, safety, resources, real time power constrained etc. must be captured by programming abstractions.
- **Collaborations, Innovation and Entrepreneurship:** Addressing the R&D gaps will require close collaborations between industry, R&D systems/Academics/ University and Government.
- **Data related challenges:** It allows flexible control and resource use; provides conduits for information leakage; prone to mis-configurations and deliberate attacks by outsiders and insiders.
- **Infrastructural bottlenecks:** This system requires a Sensor and mobile networks hence essential requirement to increase system autonomy in practice requires self-organization of mobile and Adhoc CPS networks.
- **Human Interaction:** Human interaction with CPSs often encounter a critical challenge when interpreting the human-machine behavior and designing appropriate models that consider the current situational measurements and environmental changes which are crucial in the decision-making processes, particularly in systems such as air traffic systems and military systems.
- **Technical barrier:** One of the biggest problems that such integrations face is the lack of consistent language and terminology that need to exist to describe cyber-physical interactions.
- **Consistency:** There are challenges in maintaining the same required level of accuracy, reliability, and performance of all system parts.

CPS	Internet of things
<ul style="list-style-type: none">• They are physical and engineered systems whose operations are monitored, coordinated, controlled and integrated by a computing and communication core.• CPS engineering has a strong emphasis on the relationship between computation and the physical world.• They are not necessarily connected with internet.• Ex: It may be individual system which integrates the physical and cyber technology like smart electricity meters.	<ul style="list-style-type: none">• It is the network of devices such as vehicles, and home appliances that contain electronics, software, actuators, and connectivity which allows these things to connect, interact and exchange data.• IoT has a strong emphasis on uniquely identifiable and internet-connected devices and embedded systems.• They are connected to internet.• The Internet of Things (IoT) forms a foundation for this cyber-physical systems revolution.• Ex: Smart Home in which all appliances are connected to each other through internet like TV is connected to mobile, lights are connected to mobile etc.

6.2. BULLSEQUANA SUPERCOMPUTER

Why in news?

France-based company Atos signed agreement with Centre for Development of Advanced Computing (C-DAC) for designing, building and installing BullSequana – the supercomputer in India.

About BullSequana

- Atos will supply BullSequana XH200 super computer to India to create a **network of over 70 high-performance supercomputing facilities** with a cumulative computing power of **more than 10 petaflops**, for various academic and research institutions across India.
- BullSequana will be set up in India under the **National Supercomputing Mission (NSM)**.

Challenges to Supercomputing in India:

- **Limited funding:** Limited investments and delayed release of funds have held India back. Even after launching NSM, only 10 per cent of its total budget has been released at the end of three years.
- **Hardware development:** India's stronghold is in software development, it **has to depend on imports to procure the hardware components required for building supercomputers**. Cutting edge technology in hardware components is difficult to procure as supercomputing is a niche field. Even a large part of BullSequana will only be assembled in India.
- **Brain Drain:** Large Multi-National Corporations (like Google) have also entered the supercomputing field. Competing with such MNCs to retain talent for developing and maintaining supercomputers proves difficult for Government.

• Actual chip design and manufacturing is difficult to achieve (due to many factors like high initial investment needed, limited availability of rare earth metals). However, India has software skills and personnel base which can be effectively leveraged to propel innovation on the software components of supercomputer technology. Also, Exascale system, which is now used in supercomputers, may reach its speed barrier soon. Thus, India could focus its **research on new approaches** like Quantum Computing and Optical Computing.

Some facts

- **China is global leader in supercomputing** with more than 225 out of top 500 supercomputers in world.
- Currently **India's fastest** and 39th fastest supercomputer in the world, **Pratyush** is installed in Pune's Indian Institute of Tropical Meteorology. It is used for simulating and predicting ocean and atmospheric systems.
- India has become the only country worldwide to have an **Ensemble Prediction System (EPS)**, running weather models at a 12-km resolution due to Pratyush.

About C-DAC

- C-DAC was setup in 1988 under **Ministry of Electronics and Information Technology**, for indigenous development of Supercomputers.
- **C-DAC developed India's first supercomputer - Param 8000.**
- It was established after denial of import of Cray Supercomputer (dual use technology which could be used for nuclear weapon simulation), due to arms embargo.

National Supercomputing Mission

- NSM was launched in **2015** with following objectives:
 - To make India one of the world leaders in Supercomputing capability.
 - To empower our scientists and researchers with state-of-the-art supercomputing facilities.
 - To minimize redundancies and duplication of efforts, and optimize investments in supercomputing
 - To attain global competitiveness and ensure self-reliance in supercomputing technology
- It is spearheaded by Department of S&T and Department of Electronics and IT.
- Under NSM, **70 supercomputers** will be installed in India. These machines will be part of the **National Supercomputing grid over the National Knowledge Network**, aimed at establishing a strong network for secured & reliable connectivity between institutions.

6.3. GSAT-11

Why in News?

GSAT-11, the **heaviest satellite** built by ISRO was launched from **French Guiana** by Ariane 5 Rocket of European Space Agency.

About GSAT-11

- It weighs around 5855 Kg, **double** the size of biggest satellite built by ISRO till now. ISRO's most powerful launcher **GSLV-Mk III** can launch satellite weighing up to 4000 kg only.
- It is part of ISRO's new family of **high-throughput communication satellite (HTS)** fleet that will drive the country's **Internet Broadband** from space to untouched areas. It is built to provide throughput data rate of **16 gbps**.
 - The broadband domain is currently ruled by underground fiber and covers partial and convenient locations.
- It carries 40 transponders in **Ku (32)/ Ka (8) Band**. For the First time use of **Ka-Band** is introduced in India through GSAT-11.
- It will be placed in a **circular geo-stationary orbit** almost 36,000 Km. away and settle at **74° E** in India.

Ku vs Ka Band

- Ku band ranges between 12-18 GHz while Ka Band ranges from 26.5-40 GHz.
- Ka-band has data transmission rates that are hundreds of times faster.
- Most satellites today use Ku Band Transponders because it is difficult to build hardware and software for Ka Band Transponders.
- Allocation and regulation of electromagnetic spectrum into different frequency bands is done by the **International Telecommunication Union (ITU)**.

6.4. VISIONS-2 MISSION

Why in news?

NASA has launched Visualizing Ion Outflow via Neutral Atom Sensing-2 (VISIONS-2).

More about VISIONS-2

- It is a sounding rocket mission to get a closer look at the how the Earth's atmosphere is slowly leaking into space.
- The Earth is losing weight as observations show that several hundred tons of atmosphere is getting "leaked" into space every day.
- The aurora borealis is of keen interest to the VISIONS-2 team as they are fundamental drivers in the process of atmospheric escape.
- Scientists had long thought that oxygen was too heavy to escape Earth's gravity. But near-Earth space has much more Earth-borne oxygen than anyone had expected. This is as a result of processes that energize the oxygen enough to escape. The aurora is one such process.
- It is the first of nine sounding rockets launching over the next 14 months as part of the **Grand Challenge Initiative - cusp**, an international collaboration to explore the unusual portal between Earth and space.
- **Importance:** Understanding atmospheric escape on Earth has applications all over the Universe – from predicting which far off planets might be habitable, to understanding how Mars became a desolate and exposed landscape.

Sounding Rocket (Probe Rockets)

- It makes brief, targeted flights into space before falling back to Earth just a few minutes later which is designed to probe atmospheric conditions and structure at heights (80–160 km) during its sub optimal flight.

Aurora Borealis

- The auroras are formed when energetic electrons, accelerated in the electric and magnetic fields from sun in near-Earth space, crash into and excite atmospheric gases, which emit bright hues of red, green, and yellow as they relax back to a lower energy state.
- The lights are seen above the magnetic poles of the northern and southern hemispheres. They are known as 'Aurora borealis' in the north and 'Aurora Australis' in the south.

Polar Cusps

- At almost any location near the surface of the magnetopause, the Earth's magnetic field provides a natural barrier to the solar wind particles. However, there are two regions, located above each pole, where solar wind particles have a direct access to the Earth's ionosphere. These regions are known as the polar cusp.

6.5. SOYUZ

Why in News?

Recently, a Soyuz Rocket carrying astronauts from Russia, USA and Canada was successfully launched into orbit since a failed launch in October.

About Soyuz

- The Soyuz is a Russian spacecraft which carries people and supplies to and from the space station.
- It has room for three people to ride in it. The spacecraft also brings food and water to the space station.
- It is like a lifeboat. At least one Soyuz is always attached to the space station. If there were an emergency on the space station, the crew could use the Soyuz to leave the space station and return to Earth.
- Currently only this Russian spacecraft carry people to ISS after USA retired its space shuttle in 2011.

International Space Station (ISS)

- ISS is a space station, or a habitable artificial satellite, in low Earth orbit.
- Its first component was launched into orbit in 1998, with the first long-term residents arriving in November 2000. The Station is expected to operate till 2030.
- It is the largest human-made body in low Earth orbit and can often be seen with the naked eye from Earth.
- It serves as a microgravity and space environment research laboratory.
- It is a joint project among five participating space agencies: NASA (USA), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada).
- China launched its first experimental space station, Tiangong 1, in September 2011.

6.6. SUNSPOT CYCLE

Why in news?

Recently, scientists from Indian Institute of Science Education and Research have developed a way of predicting the intensity of activity in the next solar cycle (approximately from 2020 to 2031).

What is Sun-spot Cycle?

- The amount of magnetic flux that rises up to the Sun's surface varies with time in a cycle called the solar cycle. This cycle lasts 11 years on average. This cycle is referred to as the sunspot cycle.
- They are darker, magnetically strong, cooler areas on the surface of the sun in a region called the photosphere.

Why this is important?

- It will help in understanding of the long-term variations of the Sun and its impact on earth climate which is one of the objectives of India's **first solar probe – 'Aditya L-1 Mission'**.
- The forecast will be also useful for scientific operational planning of the Aditya mission

How does Sunspot Cycle affect the Earth?

- An important reason to understand sunspots is that they affect space weather.
- During extreme events, space weather can affect electronics-driven satellite controls, communications systems, air traffic over polar routes and even power grids.
- Some believe that they are correlated with climate on earth. For instance, during past periods of low sunspot activity, some parts of Europe and North America experienced lower-than-average temperatures.

6.7. TELEROBOTIC SURGERY

Why in news?

India became the world's first to successfully perform a telerobotic coronary intervention.

What is telerobotic coronary intervention?

- It is a **robotic method of performing heart surgery**. With the help of the **internet and a robotic tower**, a surgeon is able to treat patients from a distance.
- This technology is especially **important for high emergency situations of heart attacks and stroke**, where ideal treatment must be received within 90 minutes or 24 hours.
- This platform has the potential to **improve patient access** in rural & under-served populations and reduce treatment time, benefitting those groups, who have **geographical barriers and low socio-economic status**.
- It will also **reduce the variability in operator skills** and **improve clinical outcomes**.

Tele-robotics Applications

- **Space:** Most space exploration has been conducted with telerobotic space probes.
- **Telepresence and videoconferencing:** The prevalence of high-quality video conferencing has enabled a drastic growth in telepresence robots to help give a better sense of remote physical presence for communication.
- **Marine applications:** Marine remotely operated vehicles (ROVs) are widely used to work in water too deep or too dangerous for divers. They repair offshore oil platforms and attach cables to sunken ships to hoist them. They are usually attached by a tether to a control center on a surface ship.

6.8. NATIONAL MEDICAL DEVICES PROMOTION COUNCIL

Why in News?

To give a fillip to the medical device sector, a National Medical Devices Promotion Council will be set up under the Department of Industrial Policy and Promotion (DIPP).

About National Medical Devices Promotion Council

- The Council will be headed by **Secretary, DIPP**. Apart from the concerned departments of Government of India, it will also have **representatives from health care industry and quality control institutions**.
- It will act as a facilitating and promotion & developmental body for the Indian Medical Devices Industry (MDI). It will give a **boost to domestic manufacturing and for exports**.
- It will identify redundant processes and render **technical assistance to the agencies and departments concerned to simplify the approval processes** involved in medical device industry.
- It will **enable entry of emerging interventions** and support certifications for manufacturers to reach levels of **global trade norms** and lead India to an export driven market in the sector.
- Drive a robust and dynamic Preferential Market Access (PMA) policy, by identifying the strengths of the Indian manufacturers and **discouraging unfair trade practices in imports**.

Medical Devices Industry (MDI) in India

- MDI plays a key role in the healthcare ecosystem and “is indispensable in achieving the goal of **health for all citizens of the country**. However, the medical device **market is dominated by imported products**, which comprise of around 80% of total sales. The domestic companies are largely involved in manufacturing low-end products for local and international consumption.
- **Opportunity:** Given the **higher disposable incomes** in the country, **increasing public spending** in healthcare (higher penetration of health insurance), improving **medical tourism** along with **luxury healthcare markets** and **increasing FDI** in the sector, India presents an important opportunity for medical device industry both domestically and internationally.
- **Challenges:** Along with numerous opportunities, the market faces various challenges in terms of presence of **multiple regulators, archaic laws** (which do not permit manufacturers and importers of medical device to promote their product directly to the customer), **weakening rupee** (making it difficult for some medical device importers to promote their product directly to the consumers), and government's price control (e.g. stent capping).

Medical Devices Rules, 2017

Salient features:

- It allows the **National Pharmaceutical Pricing Authority (NPPA)** to **notify 15 medical devices as drugs**, effectively bringing them automatically under **price control regulation**.
- Medical devices will, under the new Rules, based on associated risks and the manufacturers of medical devices will be required to **meet risk proportionate regulatory requirements**.
- Separate provisions for **regulation of Clinical Investigation (clinical trials) of investigational medical devices** (i.e. new devices) have also been made at par with international practices.
- It will be for the first time that there will be **no requirement of periodic renewal of licences**. Accordingly, manufacturing and import licences will remain valid till these are suspended or cancelled or surrendered.

National Pharmaceutical Pricing Authority [NPPA]

- It is an **independent body** under Department of Pharmaceuticals under **Ministry of Chemicals and Fertilizers**.
- Its functions are:
 - To **fix/revise** the controlled bulk drugs prices and formulations.
 - To enforce prices and availability of the medicines under the **Drugs (Prices Control) Order, 1995/2013**.
 - To recover amounts overcharged by manufacturers for the controlled drugs from the consumers.
 - To **monitor the prices of decontrolled drugs** in order to keep them at reasonable levels.

Central Drugs Standard Control Organization (CDSCO)

- It is the national regulatory body for Indian pharmaceuticals & medical devices under **Ministry of Health & Family Welfare**.

7.1. PATERNITY LEAVE

Why in News?

As per the recent DoPT notification, male personnel in the central government who are single parents to dependent children can now avail of child care leave (CCL) of a total 730 days during their entire period of service, a provision that till now applied only to women employees.

More on News

- **Child Care Leave** was introduced by the **6th Pay Commission**. Since then rules pertaining to CCL have been changed depending on need. Initially it applied only to women employees.
- Current move comes after the recommendation of the **7th Pay Commission**. A single male government employee has been defined as “**an unmarried or widower or divorcee government servant**”.
- During the period of child care leave, a female Government servant and a single male Government servant shall be paid **100% of the salary for the first 365 days**, and at **80% of the salary for the next 365 days**.
- Child care leave may not be granted for a period less than **five days at a time**.
- It shall not ordinarily be granted during the probation period except in case of certain extreme situations where the leave sanctioning authority is satisfied about the need of child care leave to the probationer, provided that the period for which such leave is sanctioned is minimal.
- It shall not be granted for more than three spells in a calendar year

Paternity Leave in India

- **In Government Sector:** The Central Government in 1999, by notification under **Central Civil Services (Leave) Rule 551 (A)** made provisions for paternity leave –
 - for a male Central Government employee (including an apprentice and probationer)
 - with less than two surviving children
 - for a period of 15 days to take care of his wife and new born child.
- **In private sector:** There isn't any such law that mandates private sectors to provide the paternity leaves to its employees. Therefore, paternity leave is open to interpretation by individual companies. Some of the major MNCs have already taken steps through their HR policies such as Microsoft (12 weeks), Infosys (5 days), Facebook (17 weeks), TCS (15 days).
- **Paternity Benefit Bill, 2017** was introduced in Lok Sabha in 2017 as a Private Member Bill:
 - As opposed to the Maternity Benefit Act which is only applicable to women in the formal sector, this Bill aims to extend the paternity benefit to both formal and informal sector, thus covering the entire 32 crore male workforce.

Maternity Benefit (Amendment) Act, 2017

- It provides for full paid absence from work for a period of **26 weeks** (earlier 12 weeks) to take care of the child.
- The Act is applicable to all establishments employing **10 or more women**.
- To be eligible for maternity benefit, a woman must have been **working as an employee in the establishment for a period of at least 80 days in the past 12 months**.
- For women who are expecting after having 2 children, the duration of paid maternity leave shall be **12 weeks**.
- Maternity leave of **12 weeks** to be available to mothers adopting a child below the age of three months from the date of adoption as well as to the “commissioning mothers”.
- The Act makes it **mandatory** for employers to **educate women about the maternity benefits** available to them at the time of their appointment.

Paternity Leave Policies around the World

- **Iceland:** Both the parents have an independent right to parental leave of three months and also have a joint right to three additional months, which may be either taken by one of the parents or equally divided between them.
- **Spain:** Fathers are entitled to 30 days paid leave at 100% of covered pay.
- **UNICEF** had the provision of four weeks paid paternity leaves to its male employees but now it has been extended to **sixteen weeks** across all its offices worldwide.

- The maximum period for which any man with less than two surviving children shall be entitled to paternity benefit shall be **fifteen days**.
- It also talks about providing similar benefits to **adoptive fathers** and those who have had a child through surrogacy.
- The government should constitute a **Parental Benefit Scheme Fund** in which all employees (irrespective of gender), employers and the Central government shall contribute in a pre-defined ratio.

Benefits of Paternal Leave

- **Better Childcare:** It leads to improvements in prenatal & postnatal care, including decrease in infant mortality.
- **Employee Retention:** It will also lead to higher employee retention rate and higher job satisfaction.
- **Life-long positive impact:** Various studies have shown that when fathers are more hands-on with their parenting it can lead to improved cognitive and mental health outcomes for children.
- **Positive Impact on Women career:** When fathers take more paternity leave, mothers can increase their full-time work and it often leads to higher wages for women and has a positive impact on the female labor force.
- **Less burden on women:** When men increase their use of paternity leave, time studies show that the amount of household work fathers and mothers perform may become more gender-balanced over time.

Issues in paternal leave

- **Loss of Productivity:** Frequent Leaves may disrupt work and affect productivity.
- **Lack of legal framework:** Just like there is Maternity Benefit Act in place for women to get adequate time off, there is need of legislation to ensure Fathers too can spend time with Child after birth. Parliament should consider the proposed National Paternity Benefit Bill, 2017.
- **Gender biased perceptions:** Recent order for single parent seems to be “against the spirit of equality” as it is “officially announcing that care giving of children is solely a woman’s responsibility and the men are supposed to do it only if there is no woman in the family”.

7.2. DRAFT CHILD PROTECTION POLICY

Why in News?

Recently, Ministry of Women and Child Development has released Draft Child Protection Policy.

Background

- Increasing Child Abuse:** According to social audit conducted by the MWCD from 2015 to March 2017, 1,575 children were abused and were living in the shelter homes.
- Supreme Court recent judgments:** It said the existing mechanism was "not adequate" to curb incidents of sexual abuse of children and girls at shelter homes and asked the Ministry of Women and Child Development (MWCD) to apprise it on the formulation of a child protection policy.

Highlight of the draft Policy

- It's a first policy dedicated to the protection of children,** which until now was only a part of the broader National Child Policy, 2013.
- Aim:** It aims at providing a safe and conducive environment for all children through the prevention and response to child abuse, exploitation and neglect.
- Framework for institutions:** It provides a framework for all institution, and organization (including corporate and media houses), government or private sector to understand their responsibilities in relation to safeguarding/ protecting children and promoting the welfare of children; individually and collectively and have a zero tolerance of child abuse and exploitation
- Ensure Accountability:** Institutions should designate a staff member to ensure that procedures are in place to ensure the protection of children as well as to report any abuse.
- Complaint Procedure:** Any individual who suspects physical, sexual or emotional abuse must report it to the helpline number 1098, police or a child welfare committee.
- Child Friendly Module:** Institutions and organizations working directly with children must develop age-appropriate modules and materials for orientating children on child abuse, online safety and services available for them.
- Humanistic Orientation:** Organizations who undertake research and collect data on children, directly from children or indirectly from parents/community must ensure that children are not harmed or traumatized in any way during the process. All research staff must be trained on ethical practices and child friendly procedures.
- Deter Child Labour:** Corporate houses and industries must establish and strengthen monitoring mechanisms to ensure that industry/subsidiaries are not using child labour in any form.



- Safety Mechanism:** Child friendly zones must be developed in all places for public dealing and safe spaces for mothers to keep their infants.

Legal Provisions for Safeguarding Children in India

- Juvenile Justice (Care and Protection of Children) Act 2015:** provides for strengthened provisions for both children in need of care and protection and children in conflict with the law.
- The Protection of Children from Sexual Offences Act 2012 (POSCO):** to protect the children against offences like sexual abuse, pornography etc. and provide a child-friendly system for trial against the perpetrators.
- Pre-Conception and Pre-Natal Diagnostic Techniques (PCPNDT) Act 1994:** to prohibit prenatal diagnostic techniques for the determination of the sex of the fetus leading to female feticide.
- The Commission for Protection of Child Rights Act 2005:** provides for the constitution of National & State Commissions for Protection of Child Rights and Children's Courts to provide speedy trial of offences against children.
- The Right of Children to Free and Compulsory Education Act, 2009:** prohibits detention of children till they complete elementary education i.e., class 8.
- Prohibition of Child Marriage Act, 2006:** The Act prohibits solemnization of child marriage.
- Child Labour (Prohibition and Regulation) Amendment Act, 2016:** widened the scope against child labour and provides for stricter punishments for violations.
- National Policy of Children 2013** - It has four priority areas - Survival, health and nutrition; Education and development; Child Protection and; Child Participation
- National Action Plan for Children (NPAC), 2016** – It links the 2013 Policy to actionable strategies under its priority areas.
- United Nations Convention on the Right of the Child:** India is a signatory to this convention.

Gloomy Global Figures

Out of every 5 children between 2 and 14 years face violent discipline at home

4

7

Out of 10 children are victims of emotional violence from parents

Paucity Of Funds

0.5%

of the total union budget, i.e., ₹ 648 crore in 2017–2018 allocated for child welfare in India



A social worker attached to the district protection units is paid between ₹ 8,000 and ₹ 15,000. While a safai karamchari gets ₹ 25,000

Preventive Measures



A 2014 UNICEF report indicates that equipping parents with knowledge on child-rearing strategies and techniques, as well as economic support, helps mitigate physical abuse.

Manifestation Of Child Abuse

- ✓ Child abuse Manifests in many forms
- ✓ It isn't just corporal punishment, physical aggression or pain
- ✓ It is the verbal, psychological, emotional abuse and neglect
- ✓ This kind of treatment often leaves deeper scars

7.3. GLOBAL GENDER GAP REPORT 2018

Why in News?

Recently, World Economic Forum released Global Gender Gap Report, 2018.

Highlight of Report

- **About report:** Global Gender Gap Report benchmarks 149 countries on their progress towards gender parity across four thematic dimensions: Economic Participation and Opportunity, Educational Attainment, Health and Survival, and Political Empowerment.
- **Gender Parity:** World has closed 68 per cent of its gender gap and at the current rate of change, it will take 108 years to close the overall gender gap.
- **Sectoral Performance:** Economic gender gap narrowed in 2018, however, access to health and education, and political empowerment suffered reversals due to limited access to childcare, low self-confidence, outdated skill sets, family biases and lack of women-friendly company policies.
- **South Asia** was the second-lowest ranking region in the index, with only 65 per cent of its gender gap now closed.
- **Gender Gaps in Artificial Intelligence (AI):** Only 22% of AI professionals globally are female, compared to 78% who are male. **Impact of Gender Gap in AI:**
 - It may exacerbate gender gaps in economic participation and opportunity in the future.
 - It implies that AI use across many fields is being developed without diverse talent, limiting its innovative and inclusive capacity.
 - It also indicates a significant missed opportunity in a professional domain where there is already insufficient supply of adequately qualified labour.
- **Performance of India:** India (108th, 66.5%) records improvements in wage equality for similar work and fully closed its tertiary education gap for the first time, but progress lags on health and survival, remaining the world's least improved country on this sub-index over the past decade.
 - **India and AI:** India has the second-largest artificial intelligence (AI) workforce but one of the largest AI gender gaps, with only 22 per cent of roles filled by women. Reason for low performance are:
 - ✓ Low representation in growing areas of employment that require STEM (science, technology, engineering and mathematics) skills and knowledge.
 - ✓ Increasing Automation is having a disproportionate impact on roles traditionally performed by women.

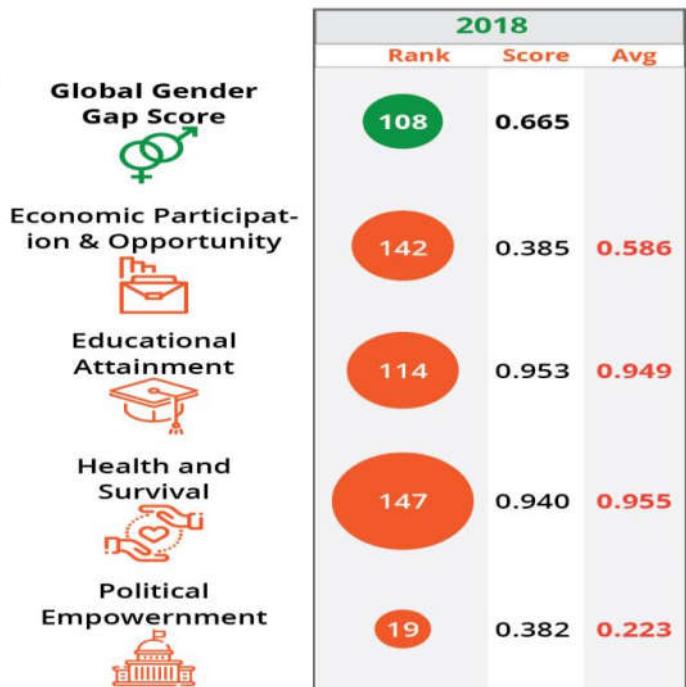
World Economic Forum

- It was established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland.
- It is the International Organization for Public-Private Cooperation and the Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas

Major Reports and Indices by WEF

- Global Competitiveness Report
- Global Gender Gap Report
- Global Human Capital Report
- Inclusive Development Index
- Travel and Tourism Competitiveness Report
- Global Energy architecture performance index report
- Global Risks Report
- Global Enabling Trade Report
- Global Information Technology Report

INDIA'S PERFORMANCE



7.4. TRIBAL EDUCATION IN INDIA

Why in news?

Recently Government approved revamping of 'Eklavya Model Residential Schools' set up for Tribal students.

Status of Tribal Education in India

- Low Literacy Level:** According to census 2011 literacy rate for STs is 59% compared to national average of 73%.
- Interstate disparity:** Wide Interstate disparity exists across the states e.g. in Mizoram and Lakshadweep STs literacy is more than 91% whereas in Andhra Pradesh it is 49.2%. In fact, in most of the north eastern states like Meghalaya, Mizoram and Nagaland, STs are at par with the general population.
- Gender disparity:** Literacy level among ST men is at 68.5% but for women it is still below 50%

Eklavya Model Residential Schools (EMRS)

- Ministry of Tribal Affairs is implementing Eklavya Model Residential Schools (EMRS) in tribal areas for providing education on the pattern of Navodaya Vidyalaya, the Kasturba Gandhi Balika Vidyalayas and the Kendriya Vidyalayas.
- The establishing of EMRSs is based on the demand of the concerned States/UTs with the availability of land as an essential attribute.
- EMRS are set up in States/UTs with grants under Article 275(1) of the Constitution of India.
- Management of each EMRS is under a committee which include, among others, reputed local NGOs involved with education.

Objectives of EMRS

- Provide quality middle and high-level education to Scheduled Tribe (ST) students in remote areas.
- Enable them to avail of reservation in high and professional educational courses and in jobs in government and public and private sectors.
- Construction of infrastructure that provides education, physical, environmental and cultural needs of student life.

Coverage of Scheme

- As per existing guidelines at least one EMRS is to be set up in each Integrated Tribal Development Agency (ITDA)/ Integrated Tribal Development Project (ITDP) having 50% ST population in the area.
- As per the budget 2018-19, every block with more than 50% ST population and at least 20,000 tribal persons, will have an Eklavya Model Residential School by the year 2022.**

Constitutional provisions for Tribal education

- Article 46** of Indian constitution lays down that, the state shall promote, with special care, the educational and economic interests of weaker sections of the people, and in particular, of the scheduled caste and scheduled tribes.
- Article 29(1)** provides distinct languages script or culture. This article has special significance for scheduled tribes.
- Article 154(4)** empowers the state to make any special provision for the advancement of any socially and educationally backward classes of citizen or for SCs or STs.
- Article 275(1)** provides Grants in-Aids to states (having scheduled tribes) covered under fifth and six schedules of the constitution.
- Article 350A** states that state shall provide adequate facilities for instruction in mother-tongue at the primary stage of education.

Challenges to tribal education

- Poor socio-economic condition**
 - Most of the tribal community is **economically backward** and sending their children to school is like a luxury to them. They prefer their children to work to supplement the family income.
 - Illiteracy of parents** and their attitude towards education is indifferent, as well as their community never encourages the education of children.
 - Parents are **not willing to send their daughters** to co-educational institutions due to safety concerns.
- Lack of infrastructure:** Schools in tribal regions lacks in teaching learning materials, study materials, minimum sanitary provisions etc.
- Linguistic barriers:** In most of the states, official/regional languages are used for class room teaching and these are not understood by the tribal children at primary level. Lack of use of mother tongue cause hindrance in initial basic education and learning (despite article 350-A).

- **Teacher related challenges:** Inadequate number of trained teachers is a big problem in imparting education to tribal children. Also, Irregularity of the teachers in school and their different background lead to failure in establishing a communication bridge with tribal students.
- **Apathy of tribal leadership**
 - Tribal leadership generally remains under the outside influences and agencies such as the administration, political parties. Tribal leaders began to exploit their own people politically, socially and economically.
 - Village autonomy and local self-governance has still not properly established. Poor law and order situation and loss of respect for authority is also a hurdle.
- **High illiteracy rate among tribal women:** The disparity in educational levels is even worse as the Scheduled Tribe women have the lowest literacy rates in India.

Suggestions for improving tribal education

- **Infrastructural development:** More EMRSs in remaining tribal regions as well as better infrastructure in other schools such as adequate class rooms, teaching aids, electricity, separate toilets etc. should be furnished.
- **Emphasis on career or job-oriented courses:** E.g. Livelihood College (Dantewada, Bastar) offers nearly 20 courses, in soft and industrial skills, and has created many job opportunities for tribal youth.
- **Local recruitment of teachers:** They understand and respect tribal culture and practices and most importantly are acquainted with the local language. TSR Subramanian committee suggested Bilingual System-combination of local language and mother tongue.
- **Teacher Training:** New teacher training institutes should be opened in tribal sub plan areas to meet the requirement of trained teachers.
- **Student safety:** There must be strong machinery to protect students from abuse, neglect, exploitation, and violence.
- **Establish separate school for girls:** This would reduce hesitation of some parents to send their daughters to co-educational institution.
- **Enhance awareness:** Government should take some specific initiative such as awareness camp, street drama, counseling etc. which can create awareness among the tribals about the importance of education.
- **Regular monitoring by high level officials:** This is necessary for smooth functioning of school administration.

7.5. SDG INDIA INDEX - BASELINE REPORT 2018

Why in news?

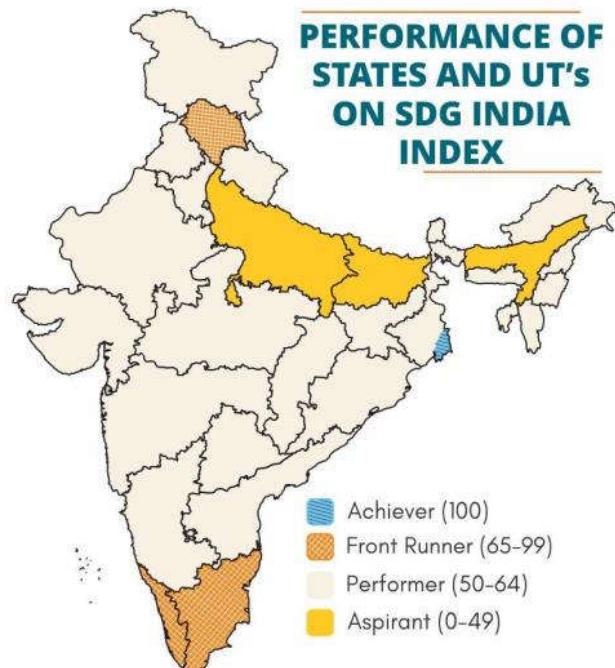
NITI Aayog recently came up with the SDG India Index-Baseline report 2018.

SDG India Index

Global Green Growth Institute (GGGI)

- It is a treaty-based international, inter-governmental organization dedicated to supporting and promoting strong, inclusive and sustainable economic growth in developing countries and emerging economies.
- India is not yet a member country of the GGGI but is recognised as a partner.

- NITI Aayog has developed the SDG India Index in collaboration with the Ministry of Statistics & Programme Implementation (MoSPI), Global Green Growth Institute and United Nations in India.
- The SDG India Index tracks progress of all States and U Ts on 62 Priority Indicators selected by NITI Aayog, which in turn is guided by MoSPI's National Indicator Framework comprising 306 indicators and based on multiple-round consultations with Union Ministries/Departments and States/UTs.
- It measures their progress on the outcomes of the interventions and schemes of the Government of India.
- The SDG India Index is intended to provide a holistic view on the social, economic and environmental status of the country and its States and UTs.
- SDG India Index spans across 13 out of 17 SDGs (excluding Goals 12, 13, 14 and 17).
- A composite score has been computed between the range of 0-100 for each State and UT.
- If a State/UT achieves a score of 100, it signifies that it has achieved the 2030 national targets.
- Classification Criteria based on SDG India Index Score is as follows:
 - Aspirant: 0-49
 - Performer: 50-64
 - Front Runner: 65-99
 - Achiever: 100
- Kerala and Himachal Pradesh are the top performers among states with a score of 69. Chandigarh leads the UTs with a score of 68.
- The index score range for states is 42-69 while for UTs it is 57-68.
- According to the SDG India Index, the nation as a whole has a score of 58, showing the country has reached a little beyond the halfway mark in meeting the sustainable development goals
- The Index can be useful to States/UTs in assessing their starting point on the SDGs in the following ways:
 - Support States/UTs to benchmark their progress against national targets and performance of their peers to understand reasons for differential performance and devise better strategies to achieve the SDGs by 2030.
 - Support States/UTs to identify priority areas in which they need to invest and improve by enabling them to measure incremental progress.
 - Highlight data gaps related across SDGs for India to develop its statistical systems at the national and State levels.



For more details on SDGs refer to the supplement at the end of the document.

SUSTAINABLE DEVELOPMENT GOALS AND INDIA



Goal 1 End Poverty In All Its Forms Everywhere

HIGHLIGHTS

- ★ **Poverty Rate:** Seven States and five UTs have already achieved the national target of reducing the poverty rates to below 10.95% by 2030.
- ★ **Health Insurance Coverage:** 28.7% of households in India have at least one member covered under a health insurance or health scheme. The national target is to cover 100 percent of the households in India by 2030.
- ★ **Maternity Benefits:** 36.4% of the eligible beneficiaries in India receive social protection benefits under the maternity benefits, as per NFHS-4. The country aims to achieve full coverage by 2030.
- ★ **Homelessness:** Almost ten in every ten thousand households in India are homeless. The target is to eliminate homelessness by 2030.

RELEVANT GOVT SCHEMES

- ★ **Anti Poverty & Employment Generation:** MGNREGA and the National Rural Livelihood Mission, Deendayal Upadhyaya Grameen Kaushalya Yojana
- ★ **Social Security Programs:** National Social Assistance Programmes (NSAP)
- ★ **Health Insurance Programme:** Pradhan Mantri Jeevan Jyoti Beema Yojana (PMJJBY) and Pradhan Mantri Jeevan Suraksha Beema Yojana (PMJSBY), Ayushman Bharat.

LEADING STATES

- ★ Goa- 5.09% poverty rate; Andaman & Nicobar- 1% poverty rate
- ★ No state has full health insurance coverage; Andhra Pradesh has highest 74.6% coverage.
- ★ No state/UT has achieved full coverage of maternity benefits. Odisha has the highest coverage in India with 72.6% of eligible beneficiaries receiving maternity benefits.
- ★ The UT of Lakshadweep Islands is the first in India to have achieved zero homelessness. Arunachal Pradesh is close with only 0.23 homeless household per 10,000 households.



Goal 2 Zero Hunger

HIGHLIGHTS

- ★ **Food Subsidy** - Roughly one rural household is covered under the public distribution system (PDS) for every rural household where the monthly income of the highest earning member is less than Rs.5,000, as per Socio-Economic Caste Census, 2011.
- ★ **Stunting** - 38.4% of children under 5 years of age are categorized as stunted in India. The aim is to reduce this to 21.03 percent by 2030.
- ★ **Anaemia Among Women** - Almost half of pregnant women aged between 15 and 49 years are anaemic in India. This rate is much above the national target of 23.57% to be achieved by 2030.
- ★ **Agricultural Productivity** - India currently produces 2,509 kg of agricultural produce of rice, wheat and coarse grains from 1 Ha of land annually. India aims to double this by 2030 to 5,018kg/Ha.

RELEVANT GOVT SCHEMES

- | | |
|--|--|
| ★ National Nutrition Strategy | ★ National Nutrition Mission and POSHAN Abhiyaan |
| ★ Antyodaya Anna Yojana (AAY) | ★ Integrated Child Development Scheme (ICDS) |
| ★ Mid-day Meal scheme | ★ Pradhan Mantri Matru Vandana Yojana (PMMVY) |
| ★ National Mission on Agriculture Extension and Technology | ★ National Mission on Sustainable Agriculture |
| ★ National Food Security Mission | ★ Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) |

LEADING STATES

- ★ Manipur among the States and Delhi among the UTs have recorded best performance for food subsidy indicator at 1.36 and 1.29 respectively.
- ★ Only Kerala and Goa have achieved stunting target. No UT has achieved it. Andaman and Nicobar Islands have the lowest rate of stunting among the UTs at 23.3%.
- ★ Only Kerala has reduced rate anaemic women to below the national target, Sikkim is very near to achieving this target with current rate at 23.6%. Puducherry performed the best among UTs at 26%.
- ★ No State or UT in India has achieved the target of agricultural productivity as yet, the UT of Chandigarh is at 4,600kg/Ha, followed by Punjab with annual productivity of 4,297kg/Ha.



Goal 3 Good Health And Well Being

HIGHLIGHTS

- ★ **Maternal Mortality Ratio:** Maternal Mortality Ratio (MMR) in India stands at 130 per 1 lakh live births. The SDG target is to reduce the MMR to less than 70 per 1 lakh live births by 2030.
- ★ **Immunization Coverage In Children:** 62 percent of children aged 12-23 months are fully immunized. The national target is to increase this rate to 100%.
- ★ **Health Workforce:** There are roughly 221 government physicians, nurses and midwives per 1 lakh of population in India.

RELEVANT GOVT SCHEMES

- | | |
|---|--|
| ★ National Health Mission (NHM) | ★ AYUSHMAN BHARAT – Pradhan Mantri Jan Arogya |
| ★ Yojana (PMJAY) | ★ Mission Indradhanush |
| ★ Revised National Tuberculosis Control Programme (RNTCP) | ★ National Leprosy Eradication Programme |
| ★ Integrated Disease Surveillance Programme (IDSP) | ★ National Mental Health Programme (NMHP) |
| ★ National Programme for control of Blindness | ★ National Programme for Prevention and control of cancer, diabetes, cardiovascular diseases and stroke (NPCDCS) |

LEADING STATES

- ★ Kerala, Maharashtra and Tamil Nadu have achieved this target with MMR of 46, 61 and 66 per 1 lakh live births respectively.
- ★ Highest immunization coverage is observed in Punjab (89%) among the States and Puducherry (91%) among the UTs.
- ★ Kerala at about 762 health workers per 1 lakh population. Delhi is the best performing among the UTs with about 344 health workers per 1 lakh population.



GOAL 4 Quality Education

HIGHLIGHTS

- ★ **Enrolment Ratio:** The Adjusted Net Enrolment Ratio at Elementary and Secondary schools in India is 75.83%. National target is of 100% enrolment.
- ★ **Children out-of-school:** 2.97% of children in the age group 6-13 years are out-of-school in India. Seventeen States/UTs have achieved the national target of reducing this rate to 2%.
- ★ **Professionally qualified teachers:** 81.15% of school teachers in India are professionally qualified for their job. The national target for 2030 is to have all teachers to be professionally qualified.
- ★ **Pupil teacher ratio:** 70.43 % of elementary and secondary schools in India have achieved a Pupil Teacher Ratio of less than or equal to 30. The 2030 national target is to have 100 percent schools providing at least one teacher for 30 students.

RELEVANT GOVT SCHEMES

- ★ Samagra Shiksha has subsumed Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE).
- ★ Digital initiatives like Shala Kosh, Shagun, Shaala Saarthi
- ★

LEADING STATES

- ★ Tripura has the highest enrolment ratio of 94.72%, while Delhi leads the UTs with an enrolment ratio of 92.95%.
- ★ Himachal Pradesh and Puducherry perform the best among States and UTs in reducing the number of children out of school.
- ★ Delhi has already achieved 100% ratio of qualified teachers. Not far are Gujarat, Maharashtra and Puducherry.
- ★ UT of Lakshadweep Islands has already achieved the target of pupil teacher ratio.



GOAL 5 Gender Equality

HIGHLIGHTS

- ★ **Sex Ratio:** Sex Ratio at birth in India is 898 females per 1000 males. The national target is to achieve the natural sex ratio at birth of 954 females for 1000 males.
- ★ **Wage Gap:** Average wages and salaries of females is 70% of that of males for regular wage and salaried employees in the age group 15-59 years in India. The national goal is to achieve equal pay for men and women.
- ★ **Women in Leadership:** 8.7% of seats in the State Legislative Assemblies are held by women. The national target is to have 50% of the seats to be held by men and women each. No State/UT has achieved this target yet.

RELEVANT GOVT SCHEMES

LEADING STATES

- ★ Gender Budget Statement
- ★ Janani Suraksha Yojana
- ★ BetiBachaoBetiPadhao
- ★ Pradhan Mantri Ujjwala Yojana (PMUY)
- ★ Sukanya Samridhi Yojana
- ★ Financial assistance to women entrepreneurs under Mudra yojana
- ★ Chhattisgarh and Kerala have achieved sex ratio target with a sex ratio at birth of 963 and 959 respectively.
- ★ Only in Dadra and Nagar Haveli the female wage rate is higher than that of male and in Andaman and Nicobar islands the female wage rate is equal to that of male.
- ★ Amongst all the legislative assemblies in the country, the legislative assemblies of Rajasthan and West Bengal have the highest representation of women at 14% and 13.95% respectively.



GOAL 6 Clean Water and Sanitation

HIGHLIGHTS

- ★ **Safe and Adequate Drinking Water in rural areas:** national target is to provide safe and adequate drinking water to all, currently only 71.8% of the rural population in India has access to safe and adequate drinking water.
- ★ **Rural Household with Individual Toilets:** 82.72% of rural households had individual household toilets constructed as of March 2018. The target is to have 100% of the rural households with individual toilets.
- ★ **Open Defecation Free Districts:** Approximately 32% of districts in India have been verified to be open defecation free (ODF) as of March 2018. The target for the country is to have all districts to be ODF.
- ★ **Installed Sewage Treatment Capacity:** The installed sewage treatment capacity of urban India as a percent of sewage generated is 37.58%. The 2030 target is to take this ratio to 68.79%.
- ★ **Annual :** About 62% of the net available groundwater in India is withdrawn. The national upper limit is 70% so that the ground water is replenished at a normal rate.

RELEVANT GOVT SCHEMES

- ★ National Rural Drinking Water Programme (NRWDP)
- ★ National Water Quality Sub-Mission
- ★ NamamiGange Swachh Bharat Mission - Gramin

LEADING STATES

- ★ Goa, Gujarat and Madhya Pradesh are close to achieving universal coverage of safe drinking water in rural areas. Uttar Pradesh follows with coverage of about 98%.
- ★ Thirteen States and four UTs had achieved target of individual toilets till March 2018. Andhra Pradesh is the runner up with 99% coverage.
- ★ Seven States and three UTs have achieved the ODF target (they are verified to be ODF under the Swachh Bharat Mission).
- ★ Four States – Gujarat, Himachal Pradesh, Punjab and Sikkim, and the UT of Chandigarh have already achieved target for treatment capacity.
- ★ Haryana, Punjab, Rajasthan and Delhi need to improve groundwater withdrawal ratio which has far surpassed the maximum limit.



GOAL 7 Affordable and Clean Energy

HIGHLIGHTS

- ★ **Household Electrification:** India has shown strong intent and performance towards household electrification. India is soon set to achieve the target of providing access to electricity to every household in the country. By the end of October 2018, nearly 95% of households were electrified.
- ★ **Clean Cooking Fuel:** According to the National Family Health Survey-4, 2015-16, 43.8% of the Indian households use clean cooking fuels. There is a significant divide between rural and urban households, with only 24% of rural households using clean cooking fuels compared to 81% urban households.

RELEVANT GOVT SCHEMES

LEADING STATES

★ **Renewable Energy:** Renewable energy sources are 17.51% of the total installed electricity generating capacity of India. Among the installed electricity sources of utilities, renewables grew at the highest rate during 2006-07 and 2015-16.

- ★ National Solar Mission
- ★ Off-Grid and Decentralized Solar PV Applications Programme
- ★ Pradhan Mantri Sahaj Bijli HarGhar Yojana- Saubhagya
- ★ DeenDayal Upadhyaya Gram Jyoti Yojana
- ★ Six States along with the UT of Puducherry have achieved universal access to electricity.
- ★ Goa at 84.1% and Delhi at 97.7% are the best performing among States and UTs respectively.
- ★ Wind power has the highest share among all renewable power sources. Renewable sources constitute 100% of total installed generating capacity of electricity in three States and four UTs.
- ★ Green Energy Corridor
- ★ National Biogas and Manure Management Programme
- ★ LPG subsidy, under PAHAL
- ★ Pradhan Mantri Ujjwala Yojana

GOAL 8 Decent Work and Economic Growth

HIGHLIGHTS

RELEVANT GOVT SCHEMES

LEADING STATES

★ **GDP Growth:** The Annual growth rate of India's GDP per capita stands at 6.5%. The target is to take this rate to 10%.

★ **Unemployment Rate:** The average unemployment rate per 1000 persons stands at 63.5. The 2030 target is to reduce this figure to 14.83.

★ **Bank Access:** 99.99% households in the country have bank accounts.

★ **ATM Coverage:** 16.84 bank ATMs are available in the country per 1,00,000 population. The 2030 target is to take this figure to 50.95.

- ★ Prime Minister's Employment Generation Programme (PMEGP)
- ★ Start-up India

- ★ Skill India
- ★ Pradhan Mantri Jan Dhan Yojana

★ 16 States and three UTs have annual per capita GDP growth rate more than the national average. Among the States and UTs, the best performance is shown by Jammu and Kashmir and Delhi respectively.

★ Gujarat has the least number of unemployed persons per 1000 (10/1000). Among the UTs, the best performance is shown by Daman and Diu (18/1000).

★ Only 9 States - Assam, Chhattisgarh, Jammu and Kashmir, Karnataka, Manipur, Mizoram, Nagaland, Odisha and Rajasthan fall short of 100% achievement on bank access indicator.

★ Goa is the best performing State with 65.42 ATMs available per one lakh of population. Among the UTs, Chandigarh leads with 45.23 ATMs for the same population.

GOAL 9 Industry, Innovation and Infrastructure

HIGHLIGHTS

RELEVANT GOVT SCHEMES

LEADING STATES

★ **Road Connectivity:** To ensure equitable spread of industrial growth, all regions, including each and every habitation in villages and small towns, must be connected by all-weather roads. At the national level, 47.38% of targeted habitations have been covered.

★ **Internet Density and Mobile Tele-Density:** India aims to achieve the target of providing at least one mobile connection and one internet connection per person by 2030. At the national level, mobile density is roughly 83 per 100 persons. Internet access is significantly lower in comparison to mobile access. There are about 33 internet subscribers per 100 persons nationally.

★ **Bharat Net Coverage:** Currently 42.43% of the Gram Panchayats in India are covered under Bharat Net, as against the national target of 100%.

- ★ Prime Minister's Employment Generation Programme (PMEGP)
- ★ Bharatmala
- ★ Digital India
- ★ Sagarmala
- ★ Aadhaar Programme
- ★ Bharat Net
- ★ Make in India

★ Gujarat is the only State that has achieved 100% connectivity under PMGSY. Rajasthan has achieved the second highest connectivity at 81.88%.

★ The mobile density per 100 persons is more than 100% in six States and one UT. Delhi has the highest internet density in the country, with 126 internet connections per 100 persons.

★ Two States and one UT, namely Karnataka, Kerala and Puducherry have achieved 100% coverage under Bharat net.



GOAL 10 Reduced Inequalities

HIGHLIGHTS

- ★ **Urban Inequality:** In urban India, the top 10% of the households have a monthly consumption expenditure that is 1.41 times the monthly consumption expenditure of the bottom 40%.
- ★ **Rural Inequality:** In rural India, the top 10% spend 0.92 times the bottom 40% households on monthly consumption.
- ★ **Transgender Labour Force Participation:** The 2030 target is to have the labour force participation rate of the transgender population to be equal to the labour force participation rate of the male population. The current ratio of former to latter in India stands lower than the target ratio of 1 at 0.64.
- ★ **Scheduled Caste Fund Utilization:** On an average in the country, 77.67% of the fund allocated for the Scheduled Caste population has been utilized.
- ★ **Scheduled Tribe Fund Utilization:** On an average in the country, 82.98% of the fund allocated towards the Scheduled Tribe population has been utilized.

RELEVANT GOVT SCHEMES

- ★ Pradhan Mantri Jan Dhan Yojana (PMJDY)
- ★ Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
- ★ Prime Minister Employment Generation Programme (PMEGP)
- ★ Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)
- ★ Stand-Up India Scheme

LEADING STATES

- ★ Urban inequality is the lowest in Manipur with the Palma ratio at 0.68, and is the highest in Karnataka and Uttar Pradesh at 1.83. Among the UTs, it is the lowest in Daman and Diu at 0.74 and the highest in Andaman and Nicobar Islands at 1.76.
- ★ Among the States, rural inequality is lowest in Meghalaya with Palma ratio at 0.61 and highest in Arunachal Pradesh at 1.54. Among the UTs, rural inequality is lowest in Delhi and Puducherry at 0.63 and highest in Chandigarh at 1.18.
- ★ Five States in India have surpassed the transgender labour force participation target, namely, Arunachal Pradesh, Himachal Pradesh, Meghalaya, Mizoram, and Telangana.
- ★ Three States and two UT, namely Kerala, Manipur, West Bengal, Chandigarh and Daman & Diu utilized 100% of their Scheduled Caste Sub Plan (SCSP) funds while States of Goa and Uttarakhand utilized less than half.
- ★ Three States and two UTs namely, Karnataka, Kerala, West Bengal, Andaman and Nicobar Island, and Daman & Diu utilized 100% of their Tribal Sub Plan (TSP) funds while Goa and Uttar Pradesh utilized less than half.



GOAL 11 Sustainable Cities and Communities

HIGHLIGHTS

- ★ **Houses Completed under PMAY:** The target is to meet 100% of the housing demand under PMAY, current achievement at 3.52%.
- ★ **Slum Households:** 5.41% of the urban households in India live in slums. Andhra Pradesh has the highest percentage of its urban population living in slums (12.04%).
- ★ **Door to Door Waste Collection:** Across India, 73.58% of the wards are collecting 100% of the waste from door to door.
- ★ **Waste Processed:** The installed capacity of waste treatment in the country is not at par with the amount of waste generated. Only 24.8% of the total waste generated gets treated.

RELEVANT GOVT SCHEMES

- ★ Atal Mission For Rejuvenation And Urban Transformation (AMRUT)
- ★ Smart Cities Mission
- ★ Pradhan Mantri Awas Yojana

LEADING STATES

- ★ Goa has met 35.71% of its housing demand. Dadra and Nagar Haveli leads with 17.48% of its housing demand met.
- ★ The State closest to the target of slum elimination is Kerala.
- ★ Five States and four UTs have achieved the target of 100% door to door waste collection.
- ★ Chhattisgarh processes 74% of its waste. Among the UTs, Delhi leads with processing 55 %of its waste.



GOAL 12 Sustainable Consumption and Production

HIGHLIGHTS

- ★ India, being the second most populous country in the world, is home to about 17.5% of the world population with a meager 2.4% of the world's area. This makes it necessary to have a comprehensive policy framework aimed at achieving resource efficiency, reduction in waste and pollutant activities, and adoption of technologies focusing on renewable resources.

RELEVANT GOVT SCHEMES

- ★ National Policy on Biofuels
- ★ National Clean Energy Fund



GOAL 13 Climate Action

HIGHLIGHTS

- ★ India has great geographic diversity, and a variety of climate regimes and regional and local weather conditions, which are vulnerable to climate change. This is manifested in floods, droughts as well as the risk from tsunamis and cyclones experienced in coastal areas.
- ★ India is vulnerable to climate induced risks; it was one of the three countries most-hit-by-disaster in 2015, with economic losses amounting to \$3.50 billion.
- ★ India's National Action Plan on climate change is an example of the government's commitment to building adaptive capacity to climate-related hazards.

RELEVANT GOVT SCHEMES



GOAL 14 Life Below Water

HIGHLIGHTS

- ★ Maritime sector in India has been the backbone of the country's trade and has grown manifold over the years. The first Maritime Summit was organized in the country in April 2016
- ★ To harness India's 7,500 km long coastline, 14,500 km of potentially navigable waterways and strategic location on key international maritime trade routes, the Government is laying emphasis on promoting Blue Economy through ambitious projects like the Sagarmala.

RELEVANT GOVT SCHEMES

- | | |
|---|------------------------------|
| ★ National Plan for Conservation of Aquatic Eco-systems | ★ Mangrove Forest Management |
| ★ Project SAGARMALA | ★ Marine Protected Areas |



GOAL 15 Life on Land

HIGHLIGHTS

- ★ **Forest Cover:** The total forest cover of India is 7,08,273 sq. km., which is 21.54% of the geographic area of the country. The national target is to have at least 33% of the area covered under forest
- ★ **Change in Water Bodies:** The increase in water bodies within forest areas of the country clearly brings out the positive effects of forests in augmenting water resources.
- ★ **Change in Forest Area:** Between 2015 and 2017, the forest cover increased nationally by 6,778 sq. km. (0.21%) due to an increase in plantation and conservation activities, and improvement in data interpretation.
- ★ **Population of Wild Elephants:** Since elephants have high dietary requirements, their population can be supported only by forests that are under optimal conditions. So, the status of elephants is the best indicator of the status of forests. The population of wild elephants in India is estimated to have risen by 20% over the five-year period between 2012 and 2017. Nagaland has witnessed a 110.38% increase..

RELEVANT GOVT SCHEMES

- | | |
|---|------------------------------------|
| ★ National Environment Policy, 2006 | ★ Green Highways Policy, 2015 |
| ★ National Agroforestry Policy, 2014 | ★ National Afforestation Programme |
| ★ Conservation of Natural Resources and Eco-systems | |

LEADING STATES

- ★ In terms of forest cover with respect to total geographical area, Mizoram leads among the States with 86.27 percent of its area covered with forest, and Lakshadweep among the UTs with 90.53 percent of its area covered with forest. In terms of total area of forest cover, Madhya Pradesh has the largest forest cover spanning across an area of 77,414 sq. km²
- ★ Highest increase in the extent of water bodies within forest areas has been observed in Manipur (81.25%) followed by Mizoram (72%), Tamil Nadu (62%) and Nagaland (59%) (Forest Survey of India, 2017).
- ★ Among the States, major decline in forest cover was observed in Nagaland, followed by Mizoram and Meghalaya. Among the UTs, Puducherry has seen the highest decline in area under forest cover. (Forest Survey of India, 2017)



GOAL 16 Peace, Justice and Strong Institutions

HIGHLIGHTS

- ★ **Murders Reported:** The number of murders reported per lakh population in India is 2.4. There is a need to strengthen under reporting of murders.
- ★ **Crimes Against Children:** The target for 2030 is to eradicate all forms of violence against children. There were 24 cases reported for every one lakh children in 2015-16.
- ★ **Court Density:** At present there are about 15 courts per 10 lakh population in India. India has the highest number of pending court cases in the world. There is a dire need for increasing the number of judicial institutions.
- ★ **Corruption Crime Rate:** For every 1 crore people in India, 34 corruption cases have been reported. It is worth noting that the actual number of cases may differ from the reported number of cases.

RELEVANT GOVT SCHEMES

★ **Births Registered:** While the target is to have 100% births registered, the country's average in 2015 was 88.3% on this indicator.

★ **Aadhaar Coverage:** India is the leading nation in providing universally accepted legal identity to all its citizens.

★ 73rd and 74th Constitutional Amendment Acts

★ Right to Information Act, 2005

★ Panchayati Raj Institutions

★ Gram Nyayalays

★ Aadhaar

★ Pragati platform

★ Lakshadweep reported no murder case in 2015-16.

★ None of the States or UTs in India has achieved the national target of crimes against children.

★ Goa and Chandigarh have the highest court density among States and UTs respectively.

★ Manipur and Meghalaya reported no corruption cases in 2015-16.

★ 15 States/UTs have 100% registered births. Punjab is the runner up at 99.2%, followed by Gujarat and Rajasthan at 98.7%.

★ In 8 States/UTs, 100% of the population is covered under Aadhaar. Overall, about 90% of the country's population is under Aadhaar coverage, as against the 2030 national target of 100%.

LEADING STATES

8.1. PRASAD SCHEME

Why in news?

Recently Gangotri, Yamunotri, Parasnath have been included in the list of sites under PRASAD scheme bringing the number of sites under the scheme to 41 in 25 states.

About the sites

- **Gangotri and Yamunotri, Uttarakhand:** Gangotri is a Hindu pilgrim town on the banks of the river Bhagirathi and origin of River Ganges while Yamunotri is the source of river Yamuna.
- **Amarkantak, Madhya Pradesh:** It is a unique natural heritage area and is the meeting point of the Vindhya and the Satpura Ranges, with the Maikal Hills being the fulcrum. It is a Hindu pilgrim site where the Narmada River, the Son River and Johila River emerge.
- **Parasnath, Jharkhand:** It is the highest mountain peak in the state, the Shikharji temple, an important Jain pilgrimage site, is located here.

Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive (PRASAD) scheme

- It aims at **integrated development** of pilgrimage destinations in planned, prioritised and sustainable manner to provide complete religious tourism experience. It focuses on the development and beautification of the identified pilgrimage destinations. Its objectives include:
 - Harness pilgrimage tourism for its direct and multiplier effect upon employment generation and economic development.
 - Enhance tourist attractiveness while ensuring sustainable development of world class infrastructure at religious destinations.
 - Promotion of local culture, art, handicrafts, cuisine, etc.

8.2. ADOPT A HERITAGE PROJECT

Why in news?

Recently Ministry of Culture informed Parliament that ten monuments have been adopted under 'Adopt a Heritage' (**Apni dharohar Apni pehchan**) project.

About 'Adopt a Heritage' project

- It's a joint collaborative effort of **The Ministry of Tourism, Ministry of Culture, Archeological Survey of India (ASI)** and **State/UTs Governments** to develop the heritage sites/monuments and making them tourist-friendly.
- Under the project private sector companies, public sector companies and individuals with best vision for the heritage site will be selected through a bidding process (**Vision Bidding**). Successful bidders will be tagged as **Monument Mitra**.
- These 'Monument Mitras' are expected to use **Corporate Social Responsibility (CSR)** funds for providing amenities like toilets, drinking water, accessibility for the disabled, signage, audio guides etc. No funds are given by **Ministry of Tourism**.
- As of now government has put up a list of over **93 ASI monuments** under this project.

10 monuments adopted	
Red Fort	Delhi
Gandikota Fort	Andhra Pradesh
Jantar Mantar	Delhi
Hampi (Hazara Rama Temple)	Karnataka
Leh Palace, Leh	Jammu & Kashmir
Ajanta Caves	Maharashtra
Qutub Minar	Delhi
Surajkund	Haryana
Mt. Stok Kangri Trek, Lakakh	Jammu & Kashmir
Area surrounding Gangotri Temple and Trail to Gaumukh	Uttarakhand

8.3. BHASHA SANGAM PROGRAM

Why in News?

The Department of School Education & Literacy under MHRD has initiated Bhasha Sangam Program – As part of ‘Ek Bharat Shrestha Bharat’.

About the Program

- Its objectives are:
 - To enhance linguistic tolerance and respect, and promote national integration.
 - To introduce school students to all the 22 Indian Languages of Schedule VIII of the Constitution of India.
- This will be run by the State/UT Department of School Education.
- This initiative is not mandatory and there would be no formal testing of any kind.

Ek Bharat Shreshtha Bharat

- Launched on 31st Oct, 2015 on 140th Anniversary of Sardar Patel, this program intends to enhance interaction between people of different States/UTs.
- Under this, there is a pairing of States/UTs for one year, during which they will exchange and connect people through culture, tourism, language, education, trade etc.

8.8. INDIA'S FIRST MUSIC MUSEUM

Why in News?

- India's first music museum will be set up in **Thiruvaiyaru, Tamil Nadu**, which is the birth place of Saint Tyagaraja.
- The **Tyagaraja Aaradhana Music Festival** is also held in Thiruvaiyaru which attracts musical talents from all over the world.

Saint Tyagaraja

- Saint Tyagaraja is **one of the Trinity of Carnatic music** (other two are Muthuswami Dikshitar and Syama Sastri) and his compositions are outpourings of love, prayer and appeal. He was the most illustrious composer among the trinity and **bhakti was the keynote of his compositions**.
- He firmly believed that **nadopasana** (the practice of music as an aid to cultivate devotion and contemplation) can lead one to salvation only if it was combined with bhakti.
- He mastered selfless devotion without any desire and it was **Nishkama Bhakthi**. He was an ardent devotee of **Lord Rama** and majority of his kritis are in praise of Rama.
- He set his face against '**narastuti**', **praise of men for profit or benefit** - a philosophy and principle underlying Hindu thought not to debase learning and knowledge. This principle was responsible for the old system of '**gurukulavasa**' - of disciples learning at the feet of the master and the master imparting knowledge but not for money.

8.7. HORNBILL FESTIVAL

Why in news?

The Hornbill festival culminated recently in Nagaland.

About the festival

- The Hornbill Festival is one of the largest celebrations of the indigenous warrior tribes of Nagaland. The aim of the festival is to revive and protect the rich culture of Nagaland and display its extravaganza and traditions.
- The festival is named after Hornbill, one of the most venerated bird species in the state whose importance is reflected in a number of tribal cultural expressions, songs and dances.
- It starts on 1st December which happens to be Nagaland Formation Day and lasts 10 days.

Tribes in Nagaland	Associated Dances/ festivals
Angami Nagas	Melo Phita Dance
Ao tribe	Moatsu festival
Chakhesang tribe	Sekrenyi festival
Chang tribe	Chang Lo Dance
Dimasa tribe	Bushu Jiba festival
Khamniungan tribe	Miu and Tsokum festival
Konyak tribe	Traditional Head hunters
Kuki tribe	Kuki Dance
Lotha tribe	Rukhyo Sharu Dance
Phom tribe	Monyu Aasho Dance
Pochury tribe	Yenshe festival
Rengma tribe	Ngada festival
Sangtam tribe	Amongmong festival
Sumi tribe	Angushu Kighilhe Dance
Yimchunger tribe	Metemneo festival
Zeliang tribe	Zeliang Dance

Species found in India	Conservation status	Areas/ sites
Great Hornbill	Near Threatened (IUCN)/ Schedule I of Wildlife (Protection) Act 1972 (WPA)	Western Ghats, North east India
Rufous-necked Hornbill	Vulnerable (IUCN)/ Schedule I of WPA	North east India
Wreathed Hornbill	Least Concern (IUCN)/ Schedule I of WPA	North east India
Narcondam Hornbill	Endangered (IUCN)/ Schedule I of WPA	Narcondam island (Narcondam Hornbill) at the northern tip of Andaman and Nicobar Island
Malabar Pied Hornbill	Near Threatened (IUCN)/ Schedule I of WPA	Western Ghats and Central India - Madhya Pradesh, Andhra Pradesh and Eastern parts - Bihar, Orissa
Oriental Pied Hornbill	Least Concern (IUCN)/ Schedule I of WPA	North east India
White-throated Brown Hornbill	Near Threatened (IUCN)/ Schedule I of WPA	North east India
Malabar Grey Hornbill	Least Concern (IUCN)/ Schedule I of WPA	Western Ghats
Indian Grey Hornbill	Least Concern (IUCN)/ Schedule I of WPA	Himalayan foothills, North east India and Western Ghats

8.5. SIKH TAKHTS

Why in News?

Recently, a proposal was made for a sixth Sikh takht at Guru Nanak Dev's birth place in **Nankana Sahib in Pakistan**.

About Sikh Takhts

- **Panj Takht:** Panj Takht are 5 important Gurudwaras of Sikhism which have a significant respect and take Religious, Social and Political decisions as required by Sikh community. Takht is a Persian word that means imperial throne.
- **Location:**
 - **Akal Takht(Amritsar)**, set up in 1606 by Guru Hargobind, is the Supreme of Panj takht.
 - **Four Other Takhts:** Takht Keshgarh Sahib (Anandpur Sahib); Takht Damdama Sahib (Talwandi Sabo, Bhatinda); Takht Patna Sahib (Bihar) and Takht Hazur Sahib (Nanded, Maharashtra).
 - ✓ These 4 are linked to **Guru Gobind Singh**, the tenth Guru. It was at Keshgarh Sahib that Guru Gobind Singh raised Khalsa, the initiated Sikh warriors, in 1699
- **Control:** The three takhts in Punjab are directly controlled by the **Shiromani Gurdwara Parbandhak Committee (SGPC)** which appoints the jathedars (who leads Takht) for these while the two takhts outside Punjab have their own trusts and boards.

8.6. SRI SATGURU RAM SINGHJI

Why in News?

Recently Ministry of Culture inaugurated an International Seminar to commemorate the 200th Birth Anniversary of **Sikh philosopher, Sri Satguru Ram Singhji**, also known as Ram Singh Kuka.

About Sri Satguru Ram Singhji

- He was born in 1816 in Ludhiana and was a great spiritual guru, a thinker, a seer, philosopher, social reformer, and a freedom fighter.
- He fought against the caste system among Sikhs and encouraged inter-caste marriages.
- He preached against killing the girl child in infancy, stood firmly against the Sati Pratha and advocated widow remarriage.

Namdhari/ Kuka Movement:

- The movement was founded in 1840 by Bhagat Jawaharmal in Western Punjab.
- Its basic tenets were abolition of caste and similar discriminations among Sikhs, discouraging the eating of meat and taking of alcohol and drugs, and encouraging women to step out of seclusion.
- After the British took the Punjab, the movement transformed from a religious purification campaign to a political one.
- During the Mutiny of 1857, Satguru Ram Singhji formally inaugurated the Namdhari movement, with a set of rituals modelled after Guru Gobind Singh's founding of the Khalsa.
- He strongly opposed to the British rule and started an intense non-cooperation movement against them. Led by him, the people boycotted English education, mill made cloths and other imported goods. The Kuka followers actively propagated the civil disobedience.
- All followers of satguru are distinguished by the white dress, straight and pressed turban and a woolen rosary. They were required to wear the five symbols of Sikhism, with only exception of the Kirpan (sword). However, they were required to keep a Lathi (a bamboo stave) with them.

8.4. PIETERMARITZBURG STATION INCIDENT

Why in news?

India and South Africa jointly issued Postage Stamps on the theme “125th Year of Mahatma Gandhi’s Pietermaritzburg Station Incident”.

The Pietermaritzburg Station Incident

- In May 1893, while Gandhi was on his way to Pretoria, a white man objected to Gandhi's presence in a first-class carriage, and he was ordered to move to the van compartment at the end of the train.
- Gandhi, who had a first-class ticket, refused, and was thrown off the train at Pietermaritzburg. Gandhi made the momentous decision to stay on in South Africa and fight the racial discrimination against Indians there. Out of that struggle emerged his unique version of nonviolent resistance, Satyagraha.

Mahatma Gandhi's experiments in South Africa

- **Indian immigration issue:** When Mahatma Gandhi arrived in 1893, the issue was rampant. Indians, who had initially arrived in the Natal region as indentured labour stayed back for economic reasons. But, their increased population was resented by the white colonists.
 - Mahatma Gandhi setup the **Natal Indian Congress**, which became a driving force behind the **satyagraha** campaigns between 1906 and 1913. Despite the efforts, a law was passed in 1896 disqualifying voters who were not of European origin.
- **Second Anglo-Boer (South African War), 1899:** He advised the Indian community to support the British cause, on the ground that since they claimed their rights as British subjects, it was their duty to defend the Empire when it was threatened.
- **Transvaal British Indian Association (BIA), 1903:** The organization formed by Mahatma Gandhi aimed to prevent proposed evictions of Indians in the Transvaal under British leadership.
- **Asiatic Registration Law (the Black Act):** It required all Indians - young and old, men and women - to get fingerprinted and to keep registration documents on them at all times. Gandhiji officially used **Satyagraha** for the first time in 1907 when he organised opposition to the act.
- **Tolstoy farm:** He built it in 1910 to support the families of jailed passive resisters.
- **March into Transvaal:** It was illegal for Indians to cross the border between Transvaal and Natal without a permit. Gandhiji led a march from Natal Colony into Transvaal to purposefully defy the **Immigrants Regulation Act of 1913** and was arrested.
 - There were about fifty thousand indentured labourers on strike and several thousand other Indians in jail. Reports in India relating the arrest of Gandhi and police brutality caused uproar. Gandhi was released in 1914. The British government was forced to concede to the main Indian demands.

9. ETHICS

9.1. THE SAFETY & ETHICS OF GENE EDITING

Why in news?

Recently, He Jiankui, an independent Chinese researcher, triggered global controversy over claims that his experiments produced the world's first genetically altered babies using CRISPR/Cas9 gene editing technology.

What is Gene Editing?

- It is a type of genetic engineering in which DNA is inserted, deleted or replaced in the genome of an organism using artificially engineered nucleases, or “molecular scissors”.
- These nucleases create site-specific double-strand breaks (DSBs) at desired locations (e.g. where anomalous gene is present). Such breaks are then repaired through recombination or inserting new gene, resulting in targeted mutation.

Safety Concerns

- **Balance Risks & Benefits:** Due to the possibility of **off-target effects** (edits in the wrong place creating properties different from those that were intended) and **Mosaicism** (when some cells carry the edit but others do not, leading to presence of two or more populations of cells), safety is of primary concern.
- **Application of the technique to human germline:** Until now, all therapeutic interventions in humans using genome editing have been performed in somatic cells (i.e. only patient gets affected, no chance of inheriting the altered genes by patient's offspring). Safety concerns have been raised regarding genome editing in human germline, where unpredictable changes can be transmitted to following generations.
- **Ecological impacts:** A ‘gene drive’ can propagate a set of genes with negative traits throughout a population which may lead to disappearance of whole targeted population with severe ecological consequences.
- **Difficulty in regulation:** The precise genetic modifications obtained through CRISPR Cas9 technique makes it more difficult to identify a genetically modified organism once outside the lab and also to regulate such organisms in the market.

The moral question that arises is whether benefits from the use of such unpredictable technology outweigh potential threats.

Ethical Challenges around Gene Editing

- **Concerns over ‘Designer Babies’:** Engineering human embryos raises the prospect of designer babies, where embryos are altered for social rather than medical reasons e.g. to increase height or intelligence.
- **Justice and Equity:** There is concern that genome editing will only be accessible to the wealthy and will increase existing disparities in access to health care and other interventions. Taken to its extreme, germline editing could create classes of individuals defined by quality of their engineered genome (e.g. super-intelligence/extr-ordinary beauty). Thus the use of genetic enhancement would lead to an abhorrent form of social inequality, and that is unjust.
- **Informed consent:** Critics say that it is impossible to obtain informed consent for germline therapy because the patients affected by the edits are the embryo and future generations. Testing new technology on humans which may have inter-generational adverse impact without necessary safeguards amounts to treating humans as means to an end, a violation of **Kantian ethical principle**.

Benefits

Many proponents of gene editing justify its use on the basis of utilitarian principles, that we may have a duty to cure or prevent diseases.

- Human genome editing can be used to treat many human diseases & genetic disorders like HIV/AIDS, haemophilia etc.
- It could substantially bolster disease resistance in humans & increase life span.
- It could form the basis of highly efficient & cost effective next generation antibiotics (based on bacteriophage viruses).
- Gene editing can be used to protect endangered species or bring to life extinct species.
- It can be used to grow healthier food (via fortification) and increasing harvest.
- It has the potential to slow down the spread of diseases by eliminating its means of transmission. E.g. Gene editing can be used to introduce sterile mosquitoes into the environment.

- **Genome-Editing Research Involving Embryos:** Many people have moral and religious objections to the use of human embryos for research. India & Canada doesn't allow genome-editing research on embryos, while US has banned federal aid from being used to support germline gene editing.
- **Regulations for consumers:** Regulation of patents is challenging as many economic interests are involved and may lead to litigations. The case of biotechnological companies patenting human genome sequences for therapeutic use puts too much emphasis on profits, which raises ethical issues.

Moral Analysis

- **Risk Benefit Argument:** There is a common agreement that if gene editing techniques are inherently dangerous, they should not be used on humans as of now. But, scientists think that with enough research, our understanding of genetic manipulations will improve and so will their safety and effectiveness. In that scenario, it would cause good to a large number of people and would be accepted based on utilitarian principles.
- **Principle of Beneficence:** We are morally obligated to do good to others and to refrain from doing them harm. If we have an obligation to help people using conventional medical care, don't we also have a duty to help them using extraordinary means (genetic interventions)?
- **Principle of Autonomy:** Proponents of both gene therapy and enhancement also appeal to the principle of autonomy, the idea that persons have a right of self-determination. Since we have reproductive freedom (right to produce children or not), we also have the right to take pre-emptive measures that could save them from a disease or disability. A counterargument is that the principle of autonomy is not absolute: there are limits to our right of self-determination, and genetic interventions (especially germ-line changes) take it to an extent where society as a whole would be harmed (against utilitarian principles).

Way Forward

- The scientific community must lay down principles to distinguish between 'good' & 'bad' uses of gene editing:
 - **Promoting Wellbeing:** Research must be designed to increase human health and wellbeing. Early stage and uncertain applications must minimize risk.
 - **Transparency:** Researchers must fully disclose information about benefits, risks, and implications to stakeholders.
 - **Due Care:** Clinical research involving human patients must proceed cautiously and conservatively, only upon full evaluation of evidence, and under strict supervision.
 - **Responsible Science:** Research must adhere to the highest experimental and analytical standards.
 - **Respect for Persons:** Research must acknowledge the dignity of all individuals and that all individuals have equal moral value, regardless of their genetic profile.
 - **Equity:** Benefits & burdens of the research must be broadly and equitably accessible.
 - **Transnational Cooperation:** Researchers must commit to international collaboration to harmonize regulation of the application of genome editing technologies.
- Bioethicists & researchers believe that human genome editing for reproductive purposes should not be attempted at this time until more safety and effectiveness research can be done, risks & benefits weighed, and a social consensus reached. All clinical trials proceeding in human germline editing should be permitted only when there are no reasonable alternative forms of disease prevention.
- It is important to have continuing public deliberation to decide whether or not germline editing should be permissible. Till that time, studies that would make gene therapy safe and effective should continue.

10. NEWS IN SHORT

10.1. IGOT

- Recently, Department of Personnel and Training, Ministry of Personnel, Public Grievances & Pensions (DoPT) launched an iGOT (Integrated Government Online Training Programme).
- This online training programme will be targeted to the requirements of officers and training inputs will be available on site and on flexitime basis.
- It would act as a single point of access to the repository of training resources to numerous training institutions.

10.2. INTERNATIONAL PRESS INSTITUTE'S DEATH WATCH

- As per IPI's Death watch, 79 journalists were killed in 2018.
- The Vienna based International Press Institute (IPI) is a global network of editors, journalists and media executives from digital, print and broadcast news, who share a common dedication to quality, independent journalism.
- IPI has been compiling annual data on the killings of journalists since 1997 as part of its press freedom and safety of journalist programmes.
- Mexico and Afghanistan were the deadliest countries for journalists were overall, with 13 deaths each.

10.3. GOOGLE NEWS INITIATIVE

- Recently ten news organizations out of 87 have been selected from India for Google News initiative (GNI).
- GNI provides YouTube innovation funding to newsrooms and publishers to strengthen their online video capabilities and experiment with new formats for video journalism.
- Through GNI, Google is trying to develop an ecosystem where established and trustworthy news organizations are better equipped to create accurate digital content.

10.4. GILETS JAUNES PROTESTS

- Recently France has witnessed a mass movement called Gilets Jaunes (Yellow Vests) Protests which is also spreading to other countries like Belgium, Italy, Bulgaria, Germany, etc.
- A grassroots citizens' protest movement began in early November against a planned rise in the tax on diesel and petrol, which French President insisted would aid the country's transition to green energy.
- The movement was named "gilets jaunes" (yellow vests) because protesters wear the fluorescent yellow high-vis jackets that all motorists must by law carry in their cars.

10.5. U.N. CENTRAL EMERGENCY RESPONSE FUND (CERF)

- The United Nations announced health and nutritional aid for crisis-stricken Venezuela through CERF.
- CERF is a humanitarian fund established by the UN General Assembly in 2006 to enable more timely and reliable humanitarian assistance to those affected by natural disasters and armed conflicts.
- It has 126 UN Member States and observers, and receives support from regional Governments, corporate donors, foundations and individuals. The fund is replenished annually through contributions from these entities.
- CERF objectives:**
 - Promote early action and response to avoid loss of life.
 - Enhance response to time-critical requirements.
 - Strengthen core elements of humanitarian response in underfunded crises.

10.6. POKKALI PADDY

- Various agriculturists raised their concern about the growing threat to local-community driven Pokkali Paddy cultivation.
- Pokkali Paddy is a saltwater-tolerant paddy in the coastal fields of Alappuzha, Ernakulam and Thrissur districts of Kerala.
- Pokkali cultivation is a traditional indigenous method of rice-fish rotational cultivation practiced in the coastal belts.
- This GI-Tagged paddy is a single-season (only one yield in a year) paddy raised in saltwater fields between June and November followed by a season of fish-farming. After the harvest, the paddy stubble in the fields acts as food and shelter for shrimp and small fish.
- It is an example of how new stress tolerant genotypes have evolved under natural selection pressure. To elaborate, in order to survive the tides, the plant adapts itself by growing taller, around 1.5 meters.
- Unscientific and unseasonal prawn culture, high operation cost etc. are some of the threats being faced by this variety.

10.7. INTERNATIONAL RICE RESEARCH INSTITUTE

- The Prime Minister recently inaugurated the 6th International Rice Research Institute South Asia Regional Centre (IRRI SARC) in Varanasi.
- International Rice Research Institute (IRRI) is an independent, nonprofit, research and educational institute, founded in 1960.
- It is the world's premier research organization dedicated to reducing poverty and hunger through

rice science; improving the health and welfare of rice farmers and consumers; and protecting the rice-growing environment for future generations.

- The institute is headquartered in Los Baños, Philippines.
- IRRI is known for its work in developing rice varieties that contributed to the Green Revolution in the 1960s.
- The institute will help farmers of the region to **develop varieties of paddy** which grow in minimum water and have low sugar content and high nutritional value.
- It will help in **utilizing the rich biodiversity** of India to develop special rice varieties.
- It will support in adopting **value chain based production system** in the country. This will reduce wastage, add value and generate higher income for the farmers.
- The **farmers in Eastern India** will benefit in particular, besides those in South Asian and African countries.

10.8. ENSURE PORTAL

- The Ministry of Agriculture & Farmers Welfare has launched an online portal “**ENSURE- National Livestock Mission- Entrepreneurship Development and Employment Generation (EDEG)**” to make subsidy transfer process quicker & faster.
- The **National Livestock Mission**’s component **EDEG**, under which subsidy payment for activities related to poultry, small ruminants, pigs etc. were given through Direct Benefit Transfer (DBT) and goes directly to the beneficiary’s account.
- Now, controlling officer/branch manager of the bank, after scrutinizing & sanctioning of proposal, will upload the subsidy claims in the portal. The **subsidy will be approved within 30 days** from the date of sanction of loan.
- This portal has been developed by **NABARD** and operates under the Department of Animal Husbandry, Dairying & Fisheries.

10.9. RISE 2018

- The latest edition of the Regulatory Indicators for Sustainable Energy (RISE) report finds that in the past decade, number of countries with strong policy frameworks for sustainable energy has more than tripled – from 17 to 59.
- RISE is a global inventory of policies and regulations that support the achievement of **SDG7** (electricity access, energy efficiency, renewable energy, and clean cooking).
- This RISE 2018 report, produced by **World Bank Group**, is the second edition (first in 2016).
- RISE indicators have equal weight for three areas: **universal access, renewable energy, and energy efficiency**.

- Scores are grouped into three categories based on a “**traffic light**” system: green for the highest third of scores (67 – 100), yellow for the middle range (34 – 66) and red for the lowest scores (0 – 33).

10.10. FLOATING NUCLEAR POWER PLANT (FNPP)

- **Akademik Lomonosov** –the world’s first floating nuclear power plant is operational in Russia.
- It is basically a **mobile, low-capacity reactor unit operable in remote areas** isolated from the main power distribution system, or in places hard to access by land.
- They are designed to make it possible to **supply electricity to hard-to-reach areas**, regardless of transport infrastructure, landscape, and cost of fuel delivery.
- For fossil fuel-based electricity generation, up to 40 per cent of the cost is attributed to the price of coal, oil or gas, as well as to the cost of their delivery. This figure is even higher for especially remote locations. The **small size, lightweight, and fixed cost** of the FNPP eliminate many such challenges.
- The small nuclear reactor can **operate non-stop without the need for refuelling** for three to five years, thereby considerably **reducing the cost of electricity generation**.

10.11. SHARE SWAP

- Hindustan Unilever (HUL) announced the merger of Glaxo SmithKline Consumer (GSK Consumer) and this deal has been structured as a **share swap**.
- **Share swap** is when a company pays for an acquisition or merger by issuing its own shares (used as a currency) to the shareholders of the target company.
- The number of shares to be issued in lieu of their existing holdings in the target company called the **swap ratio** and it is determined by valuing the target company after looking into metrics such as its revenues and profits, as well as its market price.
- If the target company is listed, the market value of its shares is often a key consideration to arrive at the right price to be paid. Paying a premium to the market usually indicates healthy prospects and high potential, while a discount could indicate a distress sale.
- Its major benefits include sharing of risks and benefits and cash savings as there is no cash outgo involved for the acquirer.

10.12. SURVEY ON RETAIL PAYMENT HABITS OF INDIVIDUALS (SRPHI)

- The Reserve Bank of India (RBI) will capture payment habits of individuals in six cities via the ‘Survey on Retail Payment Habits of Individuals (SRPHI)’.
- The survey will cover a sample of 6,000 individuals from various socio-economic backgrounds across

Delhi, Mumbai, Kolkata, Chennai, Bengaluru and Guwahati.

- The survey seeks qualitative responses from individuals on their payment habits.

10.13. WORLD CUSTOMS ORGANIZATION

- Recently, 80th Session of the Policy Commission Meeting of the World Customs Organization (WCO) was held in India.
- In July, 2018, India became the Vice-Chair (Regional Head) of the Asia Pacific Region of WCO for a period of two years.
- WCO was established in 1952 as the Customs Co-operation Council (CCC), it's an independent intergovernmental body whose mission is to enhance the effectiveness and efficiency of Customs administrations.
- It's the only global organization which defines global standards and procedures for customs clearances at the border and their implementation.
- Membership: It has a membership of more than 180 countries (India since 1971).

10.14. THE CLIMATE CHANGE PERFORMANCE INDEX 2019

- Recently, India ranked 11th in Climate Change Performance Index (CCPI), improving from the previous 14th as a result of an improved performance in renewable energy, comparatively low levels of per capita emissions and a relatively ambitious mitigation target for 2030.
- Sweden and Morocco were the leading countries with 4th and 5th rank respectively. First three positions were unoccupied, because none of the 56 countries or the EU were clearly on a well below two degrees Celsius pathway in their overall performance.
- Climate Change Performance Index is issued by Germanwatch, the New Climate Institute and the Climate Action Network.
- The report ranks 56 countries and the European Union, which together are responsible for 90% of global greenhouse gas emissions.
- Countries are ranked across four categories — Greenhouse Gas Emissions, Renewable Energy, Energy Use and Climate Policy.

10.15. GLOBAL CLIMATE RISK INDEX 2019

- Recently, Germanwatch launched Global Climate Risk Index 2019 which analyses to what extent countries and regions have been affected by impacts of weather-related loss events (storms, floods, heat waves etc.)
- It may serve as a red flag for already existing vulnerability that may further increase due to climate change.

- For the examination of the CRI, the following indicators were analysed:
 - Number of deaths
 - Number of deaths per 100 000 inhabitants
 - Sum of losses in US\$ in purchasing power parity (PPP)
 - Losses per unit of Gross Domestic Product (GDP)
- Puerto Rico, Sri Lanka and Dominica were at the top of the list of the most affected countries in 2017.
- India moved from 6th rank to 14th rank as a result of efficient cyclone prediction system and gradual improvement in its disaster response system.

10.16. INTERNATIONAL CONFERENCE ON SUSTAINABLE WATER MANAGEMENT

- First International Conference on Sustainable Water Management was organized by Bhakra Beas Management Board under the aegis of National Hydrology Project at Mohali, Himachal Pradesh.
- National Hydrology Project is a central sector scheme under Ministry of Water Resources, River Development and Ganga Rejuvenation with following components
 - In Situ Hydromet Monitoring System and Hydromet Data Acquisition System.
 - Setting up of National Water Informatics Centre (NWIC).
 - Water Resources Operation and Management System
 - Water Resources Institutions and Capacity Building
- It will help in providing real time information on a dynamic basis to the farmers about the ground water position for them to accordingly plan their cropping pattern;
- This will also provide information on quality of water.

10.17. ECO NIVAS SAMHITA, 2018

- Recently Ministry of Power has launched Energy Conservation Building Code for residential buildings named Eco Nivas Samhita, 2018 in order to promote energy efficiency in design and construction of homes and generate awareness towards conservation.
- This new code is applicable to all residential buildings built on a plot area of $\geq 500 \text{ m}^2$. However, states and municipal bodies may reduce the plot area.
- Energy Conservation Building Code is formulated and implemented by Bureau of Energy Efficiency.
- Energy Conservation Building Code for commercial buildings is already in place. Together, Commercial and residential buildings together account for about 30% of the country's total energy consumption.

About Bureau of Energy Efficiency (BEE)

- It was set up in 2002 by Ministry of Power, under Energy Conservation Act, 2001.

- It assists in developing policies and strategies based on self-regulation to reduce energy intensity of the Indian economy.
- **Functions of BEE** includes Conducting energy audit, developing Energy Conservation Building Codes, implementing Standards and Labeling Program.

10.18. INTERNATIONAL WHALING COMMISSION

- Recently Japan announced its withdrawal from **International Whaling Commission (IWC)** to resume commercial whale hunting.
- The IWC was constituted under the **International Convention for the Regulation of Whaling** in 1946 with an aim for orderly development of the whaling industry by putting catch limit, designating whale sanctuaries, coordinating conservation work etc.
- The 1946 Convention does **not define the term 'whale'**. While Some Governments accept IWC competence to regulate catches of **only great whales** (the baleen whales and the sperm whale). Others believe that **all cetaceans** (aquatic mammals which include whales, dolphins, and porpoises) fall within IWC jurisdiction.
- **Currently a complete ban is applied on commercial whaling**, while whaling under the scientific-research and aboriginal-subsistence provisions are allowed.

10.19. PUNGANUR COWS

- The Punganur cow, considered one of the world's smallest breeds of cattle, is said to be on the verge of extinction due to cross-breeding being conducted by farmers.
- The Punganur cow, found in Andhra Pradesh is diminutive, with a height of 70 cm to 90 cm and weighing around 115 to 200 kg.
- It has become a status symbol in recent years as wealthy livestock farmers began buying it, believing it brings good luck.
- 'Country Report on Animal Genetic Resources of India' by the Department of Animal Husbandry and Dairying shows declining trend in its population. Food and Agriculture Organisation (FAO) also recognizes this trend.
- The Livestock Research Station (LRS) at Palamaner in Chittoor district is said to be the last bastion of the breed.

10.20. WOMEN ENTREPRENEURSHIP PLATFORM 2.0

- Government recently launched Women Entrepreneurship Platform 2.0.
- **WEP 2.0:** It seeks to transform the entrepreneurial ecosystem in the country and shall be a one-stop resource centre for future and budding women entrepreneurs.

- It acts as a medium for various stakeholders in the economy to come together and offer integrated services such as Incubation Support, Mentorship, Funding avenues, Compliance, Marketing Assistance etc.
- WEP was launched in 2017, by NITI Aayog to promote and support established as well as aspiring women entrepreneurs in India.
- **WEP Investment Council:** It was also set up to address funding related challenges faced by entrepreneurs.

10.21. PARTNERS' FORUM 2018

- The fourth Partners' Forum was recently held in New Delhi.
- It was hosted by the Government of India, in association with the Partnership for Maternal, Newborn and Child Health (PMNCH).
- The PMNCH is an alliance of more than 1000 organizations in 192 countries from the sexual, reproductive, maternal, newborn, child and adolescent health communities, as well as health influencing sectors.
- It was launched in September 2005 to accelerate efforts to reduce child and maternal mortality, improve adolescent, child, newborn and maternal health.
- Its Secretariat is hosted at the World Health Organization in Geneva, Switzerland.
- The PMNCH Partners' Forum serves as a regular global platform to consolidate and increase members' commitment to the objectives of The Partnership and maintains and reinforces high level political commitment.
- This is the second time India is hosting the Partners' Forum (earlier in 2012).

10.22. NIKSHAY POSHAN YOJANA (NKY)

- **Direct Benefit Transfer Scheme for TB patients –** Nikshay Poshan Yojana rolled out in April 2018 had slow progress with only 26% of the registered patients have received cash transfer so far.
- Ministry of Health and Family Welfare, Government of India announced the scheme for incentives for nutritional support to TB patients.
- All TB patients notified on or after 1st April 2018 including all existing TB patients under treatment are eligible to receive incentives. The patient must be registered\ notified on the NIKSHAY portal.
- **Financial incentive of Rs.500/- per month in cash or Kind** for each notified TB patient for duration for which the patient is on anti-TB treatment is given through DBT in Aadhar-enabled bank account of beneficiary.
- Its implementation is done under the National Health Mission.

10.23. NATIONAL TRUST

- Parliament recently passed the National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities (Amendment) Bill, 2018 amended the tenure of the Chairperson and members of the Board of the National Trust.
- National Trust is a statutory body of the Ministry of Social Justice and Empowerment, Government of India.
- The objectives of the National Trust in particular are:
 - to enable and empower persons with disability to live as independently and as fully as possible within and as close to their community as possible;
 - to facilitate the realisation of equal opportunities, protection of rights and full participation of persons with disability;
 - to extend support to its registered organisations to provide need-based services; and
 - to evolve procedures for appointments of guardians and trustees for persons with disabilities.

10.24. BOGIBEEL BRIDGE

- The Bogibeel Bridge which at 4.94 km long and is **India's longest rail-cum-road bridge** was recently inaugurated.
- It has been built over the Brahmaputra river in the north eastern Indian state of Assam between Dibrugarh district and Dhemaji district.
- The Bogibeel Bridge was a part of Assam Accord 1985 and was sanctioned in 1997-98.
- It is India's only fully welded bridge for which European codes and welding standards were adhered.
- It will reduce travel time between the Assam and Arunachal Pradesh significantly.
- The bridge is part of infrastructure projects to improve logistics along the border in Arunachal Pradesh such as construction of a trans-Arunachal highway on the north bank of the Brahmaputra, and new road and rail links over the river and its major tributaries.
- It will ensure greater integration of the north east region with the country and help in reducing sense of alienation from rest of India.
- The construction of the bridge also assumes strategic importance as it will facilitate the rapid movement of troops along India's nearly 4,000 km border with China. It will also give a boost to the Act East policy.

10.25. INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY

- International Centre for Automotive Technology (ICAT) recently launched Certification with high

security features in order to prevent use of forged certificates.

- This is a first of its kind initiative taken by any **automotive certification agency** in India for enhancing the security of the CMVR (Central Motor Vehicle Rules) certificates which includes Certificates for vehicles, engines and components.
- Some unique features in the certificate include ultraviolet ink, troymark, microprint, pantograph, secure code, print code.
- ICAT is the premier **certification agency** authorized by **Ministry of Road Transport and Highways (MORTH)** for providing testing and certification services to the vehicle and component manufacturers situated within India and abroad.
- ICAT also provides extensive testing services for product development and validation under the aegis of **NATRIP** (National Automotive Testing and R&D Infrastructure Project).

10.26. INDIA'S FIRST RAILWAY UNIVERSITY

- India's first Railway University called **National Rail and Transportation Institute (NRTI)** was dedicated to the Nation recently.
- It was first mentioned in the Union Budget-2014 and is only **third** such in the whole world after Russia and China.
- This year, two under-graduate programmes are being offered by the university - **B.Sc. in Transportation Technology** and a **BBA programme in Transportation Management**.

10.27. TRAIN-18

- Recently, the Indian Railways successfully ran the trial of Train 18 by reaching the speed limit of 180 km/h.
- It is an indigenously developed high-tech, energy-efficient, first self-propelled train (**without locomotive engine**) in India.
- It is scheduled to run between Delhi to Varanasi in 2019.
- It was manufactured by Integrated Coach Factory (ICF), Chennai, under **Make in India** Initiative.
- It is capable of touching 200 kmph, for which the railway track network will need to be upgraded because only 0.3% of India's rail tracks are fit to handle trains running at the speed of up to 160 km per hour.

10.28. SATURN LOSING ITS ICONIC RINGS

- The new NASA research confirms that Saturn is losing its iconic rings at the maximum rate estimated from Voyager 1 & 2 observations made decades ago.
- The rings are being pulled into **Saturn by gravity as a dusty rain of ice particles** under the influence of

- Saturn's magnetic field. At this rate, the Saturn's rings are likely to disappear in the next 100 million years.
- The Cassini-spacecraft measured ring-material detected falling into Saturn's equator and the rings have less than 100 million years to live.
- Saturn's rings are mostly chunks of water ice ranging in size from microscopic dust grains to boulders several metres across. Ring particles are caught in a balancing act between the pull of Saturn's gravity, which wants to draw them back into the planet, and their orbital velocity, which wants to fling them outward into space.

10.29. AVANGARD HYPERSONIC SYSTEM

- Recently, Russia successfully test fired Avangard Missile.
- It's liquid-fueled intercontinental-range ballistic missile (ICBM), with the ability to fly as fast as Mach 20 (more than 15,000 miles per hour), and can carry nuclear and conventional warheads.
- It comes with a manoeuvrable gliding feature, i.e it can adjust both altitude and direction, to avoid most missile defense systems.
- Avangard deployment by 2019 will make it the first operational hypersonic glide vehicle system deployed anywhere in world.
- Subsonic cruise missile** flies at a speed lesser than that of sound. It travels at a speed of around 0.8 Mach.
- Supersonic cruise missile** travels at a speed of around 2-3 Mach i.e. it travels a kilometre approximately in a second. E.g.: BRAHMOS
- Hypersonic cruise missile** travels at a speed of more than 5 Mach. e.g: BRAHMOS-II (in Developing Phase).

10.30. IDEATE FOR INDIA

- Recently, Minister of Electronics & IT launched a National Challenge for Youths, "Ideate for India - Creative Solutions using Technology" with an aim to give school students (class 6-12) an opportunity to become solution creators for the problems.
- The Challenge has been designed by the National e-Governance Division, Ministry of Electronics & IT in collaboration with Intel India, with support from the Department of School Education and Literacy.
- Top 50 students will be declared Tech Creation Champions.

10.31. NATIONAL ACCREDITATION BOARD FOR CERTIFICATION BODIES

- The National Accreditation Board for Certification Bodies' (NABCB) accreditation programme for Occupational Health and Safety Management

Systems Certification Bodies has been accorded the recognition of equivalence in the Asia-Pacific region.

- NABCB has signed the Multilateral Recognition Arrangement (MLA) of the Pacific Accreditation Cooperation (PAC).
- It is the third accreditation body in the Asia-Pacific Region to become internationally equivalent in the region, the other two being the accreditation bodies of Hong Kong and Mexico.
- The immediate beneficiary is the Indian Industry which is exporting products to various countries especially in the Asia Pacific region.
- It is responsible for accreditation of certification and inspection bodies as per the board's criteria in accordance with international standards (under an international system of equivalence) and guidelines.
- It is a constituent Board of the Quality Council of India.
- NABCB is internationally recognized and represents the interests of the Indian industry at international forums through membership and active participation with the objective of becoming a signatory to international Multilateral / Mutual Recognition Arrangements (MLA / MRA).

10.32. RAJKUMAR SHUKLA

- Recently, Government recently released Commemorative Postage Stamp on Rajkumar Shukla.
- Raj Kumar Shukla was an indigo cultivator of Champaran (Bihar), who persuaded Mahatma Gandhi to come there.
- Mahatama Gandhi arrived in Champaran with his team of eminent nationalists Rajendra Prasad, Anugraha Narayan Sinha, Brajkishore Prasad and the Champaran Satyagraha began.
- Stayagraha was against tinkathia system which meant farmers had to cultivate indigo on 3/20th of the total land.

10.33. CLEAN SEA-2018

- Recently Indian Coast Guard conducted the Regional Level Marine Oil Pollution Response Exercise titled 'Clean Sea - 2018' at Port Blair.
- It enhances the capability of Indian Coast Guard and improves coordination and communication with different agencies during oil spill in line with provisions of National Oil Spill Disaster Contingency Plan.
- Andaman & Nicobar is highly vulnerable to oil spills as almost 200 ships cross Great Channel between Nicobar Islands and Northern Sumatra that leads into Malacca Straits making it among busiest sea routes of world.

10.34. RECENT MILITARY EXERCISES

- **SHINYUU Maitri-18:** This is the first air exercise between The Japanese Air Self Defence Force (JASDF) and Indian Air Force, recently conducted in Agra. The theme of the exercise was joint Mobility/Humanitarian Assistance & Disaster Relief (HADR) on Transport aircraft.
- **Exercise Sea Vigil:** The Indian Navy will conduct this large-scale coastal defence exercise to test the robustness of the entire coastal security apparatus. It will involve all stakeholders across mainland and Island territories with participation of all operational ships, submarines and aircraft as well as units of Indian coast guards, Indian Army and the Indian Air Force, Indian Navy.
- **Hand-in-Hand:** India and China recently conducted 7th round of their 'Hand-in-Hand' military drills after a gap of one year as they could not be held last year because of the standoff at Doklam in the Sikkim sector.
- **Indra Navy 2018:** The 10th edition of Indo-Russian maritime exercise Indra Navy 2018 took place in Visakhapatnam.
- **AVIAINDRA:** This is the second in the series of bilateral joint exercise between Indian Air Force and Russian Federation Aerospace Force (RFSAF).

10.35. STATE SCHEMES

One District One Product Scheme

- Recently the President inaugurated the "One District One Product Summit" at Lucknow, Uttar Pradesh.
- It is aimed at creating product-specific traditional industrial hubs across 75 districts of Uttar Pradesh.
- Under the scheme, financial and technical help for workers in that product will be provided.
- It is being implemented by the Department of MSME and Export Promotion of UP Government.

- Some product-specific traditional industrial hubs in UP are: Varanasi (Banarsi Silk Saris), Bhadohi (Carpets), Lucknow (Chikan), Kanpur (leather goods), Agra (leather footwear), Aligarh (locks), Moradabad (brassware), Meerut (Sports goods) and Saharanpur (wooden products).

Smart Project

- Recently Maharashtra government with support from World Bank launched State of Maharashtra's Agribusiness and Rural Transformation (SMART) project.
- Its Major objectives include- Achieve sustainable farming, Facilitate agribusiness investment, Support resilient agriculture production, Expand access to new and organized markets for producers and enhance private sector participation in the agribusiness.

About KALIA (Krushak Assistance for Livelihood and Income Augmentation) scheme

- It was launched recently by Odisha government to provide the financial supports to Small, marginal farmers and also landless agricultural labourers of the state.
- Under KALIA Scheme, the government will provide 5 types of benefits to the beneficiaries through DBT such as Support for Cultivation; Livelihood support; Life insurance; Financial assistance for sustenance of farmers not able to take up cultivation due to old age, disability, disease etc.; Interest free crop loan.

Mukhyamantri Krishi Aashirwad Yojana

- It was launched by Jharkhand government to provide cash assistance of Rs 5,000 per acre to over 22.76 lakh small and marginal farmers across the state.
- This scheme echoes the Rythu Bandhu scheme of Telangana government.