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Table of Contents

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1. POLITY AND CONSTITUTION

1.1. CENTRE PANEL RECOMMENDATIONS ON HATE SPEECH

Why in News?

The **T. K. Viswanathan committee**, constituted by the Centre, has recommended introducing stringent provisions for hate speech.

Background

- SC had observed that the issue of hate speech deserved deeper consideration for which the Law Commission submitted its report on Hate Speech.
- The T. K. Viswanathan committee was formed to **assist the government** in establishing a legal framework to better deal with cybercrimes related to hate speech and provoking violence, and to examine the Law commission's report on hate speech.

Related Laws in India

- **Article 19 of the Constitution**- Freedom of Speech and Expression is guaranteed to all the citizens of India. However, the right is subjected to reasonable restrictions in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

There are provisions in the Indian Penal Code, restricting the freedom of expression:

- **Section 153(a)**: Whoever, by words, signs or otherwise promotes enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., shall be punished with imprisonment which may extend to three years, or with fine, or with both.
- **Section 295(a):** Whoever, with deliberate and malicious intention of outraging the religious feelings of any class of citizens of India, by words, visible representations or otherwise, insults the religion or the religious beliefs of that class, shall be punished.

Hate Speech
- SC had observed that "hate speech is an effort to marginalise individuals based on their membership in a group. It seeks to delegitimise group members in the eyes of the majority, reducing their social standing and acceptance within society. It, therefore, rises beyond causing distress to individual group members and lays the groundwork for later, broad attacks on vulnerable...."
- Law Commission in its 267th report had observed that "Hate speech generally is an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief. Thus, hate speech is any word written or spoken, signs, visible representations within the hearing or sight of a person with the intention to cause fear or alarm, or incitement to violence."
- The **Human Rights Council's 'Report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression'** expressed that freedom of expression can be restricted on the following grounds:
  - Child pornography (to protect the rights of children),
  - Hate speech (to protect the rights of affected communities)
  - Defamation (to protect the rights and reputation of others against unwarranted attacks)
  - Direct and public incitement to commit genocide (to protect the rights of others)
  - Advocacy of national, racial or religious hatred that constitutes incitement to discrimination, hostility or violence (to protect the rights of others, such as the right to life).

Why these changes are needed?
- Where **speech injures dignity**, it would undermine the "**implicit assurance**" that citizens of a democracy, particularly minorities or vulnerable groups are placed on the same footing as the majority.
- Also in the absence of proper cyber-law framework, women are being targeted with a lot of abuse and other humiliations and hate speech is very rampant.

Observations of the Committee

- It was of the opinion that it was more effective to insert the substantive provisions in the IPC instead of the IT Act, since the IT Act was primarily concerned with e-commerce regulation.
- **Section 78 of the IT Act** primarily 'dealt with capacity building' and needs to be relooked to sensitize the officers and give them support with electronic expertise, computer-forensics and digital-forensics.

- It has **recommended amendments in CrPC** to enable each state to have a **State Cyber Crime Coordinator (Sec 25B)** and a **District Cyber Crime Cell (Sec 25C)**.
- The offensive speech should be "highly disparaging, abusive or inflammatory against any person or group of persons", and should be uttered with the intention to cause "fear of injury or alarm".
- The committee also expressed the desirability of having **guidelines in place to prevent the abuse of provisions by investigation agencies** and to safeguard innocent users of social media.
- Many recommendations were taken from the Law Commission report, which are-
  - Insertion of **Section 153C** to prohibit incitement of hatred through online speech on grounds of religion, caste, community, gender, sexual orientation, tribe, language, place of birth etc.
  - **Section 505A** was proposed to be inserted by the Law Commission to prevent causing of alarm, fear, provocation of violence etc. on grounds of identity.
  - It was clarified that the **need for intent** has to be established.

> **Concerns associated with Committee's recommendations -**
> - The Law Commission identifies the status of the author of the speech, the status of victims of the speech, the potential impact of the speech, in order to qualify something **as Hate Speech**. However, these concerns are apparently **not well reflected in the committee report**.
> - Besides, **extremely broad terms** like, highly disparaging, indecent, abusive, inflammatory, false or grossly offensive information, etc., have been used by the report which takes us back to the ambiguity that the section 66A held.

1.2. INNER PARTY DEMOCRACY

Why in News?

Indian Prime Minister recently spoke about need for inner party democracy in the country.

About Intra-Party Democracy

- Internal democracy in political parties refers to the level and methods of including party members in the **decision making and deliberation** within the party structure.
- Since Independence, the authority in organizational matters has mostly been from the top to the bottom. Thus, leadership in most political parties in India may be democratic in appearance but is **highly oligarchic in reality**.
- Unlike some countries like Germany and Portugal, **India has no legal provision** for enforcing internal democracy in a political party apart from few related provisions in section 29A of RPA & in Election Commission guidelines.

> **Related developments**
> - The **170th report of the Law Commission** (1999) of India on reform of electoral laws focused on "Necessity of providing laws relating to internal democracy within parties.
> - The **ARC's 2008 Ethics and Governance report** talked about corruption due to high centralization.
> - A **committee** headed by the former Chief Justice of India, **M. N. Venkatachaliah,** had drafted a bill to regulate the functioning of political parties.

> **Some opinions against Intra-Party Democracy-**
> - It may **threaten the efficiency of party organisations** by making them vulnerable to internal strife.
> - It is believed that political parties should be allowed to govern their own internal structures and processes. Any form of outside intervention in their functioning may **threaten pluralist party competition**.

Arguments in Favour of Intra-Party Democracy

- It helps party members to **hold leaders accountable** and engage in policy decision processes meaningfully as it would bring in competition, participation and representation inside the party.
- It may lead to **dismantling of nepotism & dynasty politics** (affiliations based on family background, caste, religion etc.).
- It would give **space for dissent** within the party reducing the possibility of formation of number of off shoots of political parties.
- It may promote **transparency in handling party funds**, thereby reducing **influence of money and muscle power.**
- It may cultivate a **sense of ownership for local politicians** in larger issues facing the nation as policy decisions will involve deliberations and debate within party.

Way Forward

- There is a need for a **comprehensive law** that deals specifically with the framework and relevant provisions for inner party democracy.
- The ECI should be enabled to take steps to ensure better implementation of the existing intra-party democracy measures through certain penal provisions against non-compliance by parties.
- Validation of internal elections by an external organisation would provide them more legitimacy and party membership would also be more open to accepting unfavourable results.
- Anti-defection law should be amended as currently it prevents elected members of a legislature from voting against an order of their party. This impinges upon the basic features of Indian democracy, representation and dissent.

1.3. UNDERUTILIZATION OF MPLAD FUNDS

Why in News?

Central Information Commission (CIC) has recently made recommendations regarding MPLADS Funds.

About Members of Parliament Local Area Development (MPLAD) Scheme

- The MPLAD scheme was **introduced in 1993.**
- It is implemented by the **Ministry of Statistics and Programme Implementation** (MoSPI).
- It is a centrally sponsored scheme in which each MP has the choice to **suggest to the District administration (DA)** for works to the tune of **Rs.5 Crores per annum, non-lapsable** in nature, to be taken up in the constituency.
- Further, out of the total amount, 15% and 7.5% funds must be entitled to areas with **SC and ST population** respectively.
- In case of insufficient tribal population in the area, the MP may recommend this amount for the creation of community assets in **tribal areas outside of their constituency**, within their State of election.
- All recommended eligible works should be sanctioned **within 75 days** from the date of receipt of the recommendation, after completing all formalities.
- DA will furnish **Utilization Certificate** every year to the State Government and the Ministry of Statistics and Programme Implementation.

Problems with MPLADS

Various committees and commissions like Standing committee on Finance (1998), 2nd ARC & the National Commission to Review the Working of the Constitution have pointed out various problems regarding MPLADS, like:

- The **issue of corruption & misappropriation-** In a lot of cases, private contractors (which are not permitted) are engaged in works. Also, there have been instances where expenditure has been incurred on works which are prohibited under the scheme.
- **Issue of funding**- There are large amounts of unspent balances rising over the years due to low utilisation of funds and an expenditure bias towards particular sectors.
- **Issues related to Monitoring**- The DA failing to inspect the required number of sanctioned works as well as in sending regular monitoring reports.
- **Affecting the Separation of Power-** The MPs are entrusted upon with implementation of developmental work, which is the prime function of executives. However, the SC, in 2010, ruled that the actual work is done by the executive organs like municipality & Panchayat.
- **Lack of constituent participation**- Due to absence of people's participation, MPs lack information causing funds getting distributed disproportionately, regardless of the needs of the regions.

> **Recommendations by CIC**
> - **Ensure** "100 per cent proper utilisation" of MPLAD funds by each of their MPs.
> - The parties should voluntarily appoint a PIO (Public Information Officer) and FAA (First Appellate Authority) to answer about **RTI queries on MPLADs**, utilisation and non-utilisation of funds, and criteria for recommendation of works, as soon as possible.
> - Every political party should introduce **financial transparency** regarding their sources of income.

Other Measures that can be taken

- For better assessment of the needs of the constituents, **surveys can be conducted** across the constituency with the help of NGOs and local community.
- Local community should be involved in the maintenance of public assets.
- For better understanding, an **impact assessment study** should be undertaken at the constituency level annually.
- To tackle the issue of large accumulated unspent balances that are rising over the years, **fund can be made lapsable.** Thus, making the unused funds available for other uses.
- It is time to locate MPLADS in the broader context of district-level planned development, which requires a more systematic approach.

1.4. RAJASHTAN'S BILL TO SHIELD PUBLIC SERVANTS

Why in news?

Rajasthan government recently introduced Criminal Laws (Rajasthan Amendment) Bill granting immunity to public servants, judges and magistrates from investigation without prior sanction.

> **CrPC- Section 156** deals with Police officer's power to investigate cognizable case.
> **Section 190** deals with cognizance of offences by Magistrates.
> **Section 197** deals with Prosecution of Judges and public servants.

More about the news

- The bill amends Sections 156 and 190 of the Criminal Procedure Code (CrPC) and bars magistrates from ordering investigation or investigation being conducted against public officials for acts done "in discharge of official duties" without obtaining prior sanction under section 197 of CrPC, 1973.
- It further lays down that the sanctioning authority may take up to six months for taking a decision otherwise sanction would be deemed to have been issued.
- The bill also prevents media from sharing any information about the accusations or allegations against such officers till the sanctioning authority gives a go-ahead, which is a grave threat to media freedom and the public's right to know.

Debate surrounding the concept of Prior Sanction

Prior sanction is generally mandated to protect public servants from legal harassment for their public action. The issue is whether prior sanction is required before beginning investigation, or before prosecution in court.

- **Government's View** - Prior sanction will protect honest officials from frivolous allegations levelled by vested interests and thus prevent a situation of policy paralysis.
- **Supreme Court's View** - There have been conflicting views of Supreme Court on issue of prior sanction-
  - In MK Aiyappa case, 2013 and Narayana Swamy, 2016 case Supreme Court held that even an investigation cannot be ordered under Section 156(3) CrPC without prior sanction.
  - While in some other cases SC has held opposite view saying that prior sanction for investigation impede an unbiased and efficient investigation.
- **Current Legal Status -** Currently under CrPC prior sanction is required before prosecution in courts. Section 19 of Prevention of Corruption Act also requires prior sanction for prosecution of public servants for offences such as taking a bribe or criminal misconduct.
- **Other similar legislations -** The prior sanctions before investigation were also incorporated in Maharashtra legislation also but in that case sanction was to be given within 3 months and it did not prohibit publication of names of accused public officials.

Way forward

- While invalidating **Section 6A of the Delhi Special Police Establishment Act**, Supreme Court had observed that provision of prior sanction destroys the objective of anti-corruption legislation, thwarts independent investigation, forewarns corrupt officers and violates the spirit of article 14. The above judgement should be the touchstone for judging the constitutionality of the pre-investigation sanction requirements.
- Further there is need to operationalize **Lokpal Act** to put a check on corruption in higher echelons of public offices.

1.5. LAW PANEL ON TRIBUNALS

Why in News?

Law Commission of India (LCI), in its 272nd report, has laid out a detailed procedure for improving the working of the tribunal system in the country.

Tribunals in India

- On recommendation of **Swaran Singh Committee**, the 42nd Amendment Act of 1976 provided for the insertion of **Articles 323-A and 323-B** in the Constitution.
  - o **Article 323A** deals with administrative tribunals.
  - o **Article 323B** deals with tribunals for other matters.
- The **Administrative Tribunals Act, 1985-** An Act to provide for the adjudication by Administrative Tribunals of disputes with respect to recruitment and conditions of service of persons appointed to public services.

> **What are Tribunals?**
>
> - 'Tribunal' is an **administrative body** established for the purpose of discharging **quasi-judicial duties**.
> - An **Administrative Tribunal** is neither a Court nor an executive body rather a midway between the two.
> - Tribunals function as an effective mechanism to **ameliorate the burden** of the judiciary.
> - The Tribunal has to observe the **principles of natural justice** or act in accordance with the statutory provisions under which the Tribunal is established.

Problems with Tribunals in India

- Tribunals have largely **replaced high courts** for disputes under the various Acts. An aggrieved, by an order of an appellate tribunal, can directly appeal to the SC, side-stepping the HC. This has raised certain institutional concerns.
- Though the disposal rate of the Tribunals in comparison to the filing of cases per year had been remarkable i.e., at the rate of 94%, the **pendency remains high**.
- Tribunals many a times have proved **inefficient in delivering quick justice** which was one of the reasons for their establishment.
- Increasing number of tribunals has affected the whole structure of **separation of power** because it is seen as an encroachment of judicial branch by the government.

Recommendations by Law Commission

- **Qualification of judges** - In case of transfer of jurisdiction of HC (or District Court) to a Tribunal, the members of the newly constituted Tribunal should possess the qualifications akin to the judges of the HC (or District Court).
- **Appointment of Chairman & members of Tribunals**-
  - o It has proposed a common nodal agency, possibly under law ministry to monitor the working of tribunals as well as ensure uniformity in the appointment, tenure and service conditions of all members appointed in the tribunals.
  - o Vacancy arising in the Tribunal should be filled up quickly by initiating the procedure well in time, preferably within six months prior to the occurrence of vacancy.
- **Selection of the members of Tribunals**-

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

  - o The Commission stated that the members' **selection should be impartial** with minimal involvement of government agencies as the government is a party in litigation.
  - o **Separate Selection Committee**, for both judicial and administrative members, must be formed.
- **Tenure** - The Chairman should hold office for 3 years or till he attains the age of 70years, whichever is earlier. Whereas Vice-Chairman and Members should hold the office for 3 years or till they attain the age of 67 years whichever is earlier.

- Any order from a tribunal may be challenged before the Division Bench of the HC having territorial jurisdiction over the Tribunal or its Appellate Forum since judicial review is the basic feature of Indian constitution.
- The Tribunals must have benches in different parts of the country so that people may have easy Access to Justice, ideally where the High Courts are situated.

1.6. SC COLLEGIUM PROCEEDINGS IN PUBLIC DOMAIN

Why in news?

Recently Supreme Court Collegium has decided to put all its recommendations in Public Domain indicating the reasons for which it has decided to recommend or reject names for appointment, transfer or elevation to the High Courts and the Supreme Court.

Background

- Issues in Collegium system:
  - **Opaqueness** in its proceedings
  - **Nepotism**
  - **Lack of Permanent commission** to handle appointments resulting in inefficiencies and large number of vacant positions in courts.
- **National Judicial Appointment Commission Act** which was supposed to replace collegium system was struck down by Supreme court citing concerns that
  - It did "not provide an adequate representation, to the judicial component" and that new provision was insufficient to preserve the primacy of the judiciary in the matter of selection and appointment of Judges"
  - With the inclusion of two "eminent persons" as Members of the NJAC, it also impinged upon the principles of "independence of the judiciary", as well as, the "separation of powers".

> **Some other Measures to boost Transparency in Judicial Appointments**
> - A complete and periodically updated database of potential candidates which is accessible to the public;
> - Applications to be invited by nomination/advertisement in consultation with members of the Bar and Bar organisations
> - Inputs must be sought from the public with regard to shortlisted candidates while providing immunity (from laws of contempt & defamation) and confidentiality to citizens.
> - A complete record of video/audio of collegium deliberations.
> - Supreme Court had also ordered **installation of CCTV cameras** in courtrooms and its premises, without audio recording to boost transparency in judicial premises.

- Further, the executive and judiciary have also been at loggerheads regarding **Memorandum of Procedure (MOP)**.
- Recently, Justice Chelameswar had earlier refused to attend the collegium's meetings citing lack of transparency and effectiveness.

Rationale behind the decision

- **Moral obligation:** The Judiciary fulfilled its moral obligation especially after it struck down NJAC.
- **Right to Information**: The proactive disclosure by the judiciary is a welcome step in spirit of Right to Information act, 2005.
- **Openness in procedure:** It not only means openness in the functioning of the executive arms of the state but also in judicial apparatus including judicial appointments and transfers.
- **Right to know**: The step strengthens democratic processes and fundamental right of freedom of speech as the right to know is an inherent part of it. The secretive collegium system was violating that till now.

Criticism

- **Limited Transparency:** The decisions should be made public on the websites ideally, at the stage when the High Court makes the recommendation not after when the process is complete when nothing can be done.
- **Lack of clear criteria**: Eligibility criteria to judge the performance and suitability must be formulated objectively and must be made public. The reasons for appointment or non- appointment can be only understood well only in the context of that criteria.
- **Personal and Professional Reputation**: Rejection of candidatures on the ground of "unsuitability" may dent their professional and personal reputations as they are either serving judicial officers or eminent lawyers.

1.7. E-SAMIKSHA

Why in news?

Central government departments have been asked to work out specific targets to be achieved by 2022 which will be monitored by PM under **e-Samiksha platform**.

E-Samiksha

- E-Samiksha is an **online monitoring and compliance mechanism** developed by Cabinet secretariat with technical help from National Informatics Centre.
- It is used for **tracking the progress on projects** & policy initiatives and follow up actions of various ministries by cabinet secretary and Prime Minister on a **real-time basis**.
- An **E-Patrachar** facility has been launched which sends meeting notices and agendas, circulars, letters, etc. through e-mail and SMS, thus promoting the maxim of '**Minimum Government and Maximum governance'**.
- E-Samiksha portal is designed to **enhance efficiency, bring transparency, increase accountability, and improve the communication** between Government to Government, Business to Government and vice versa.
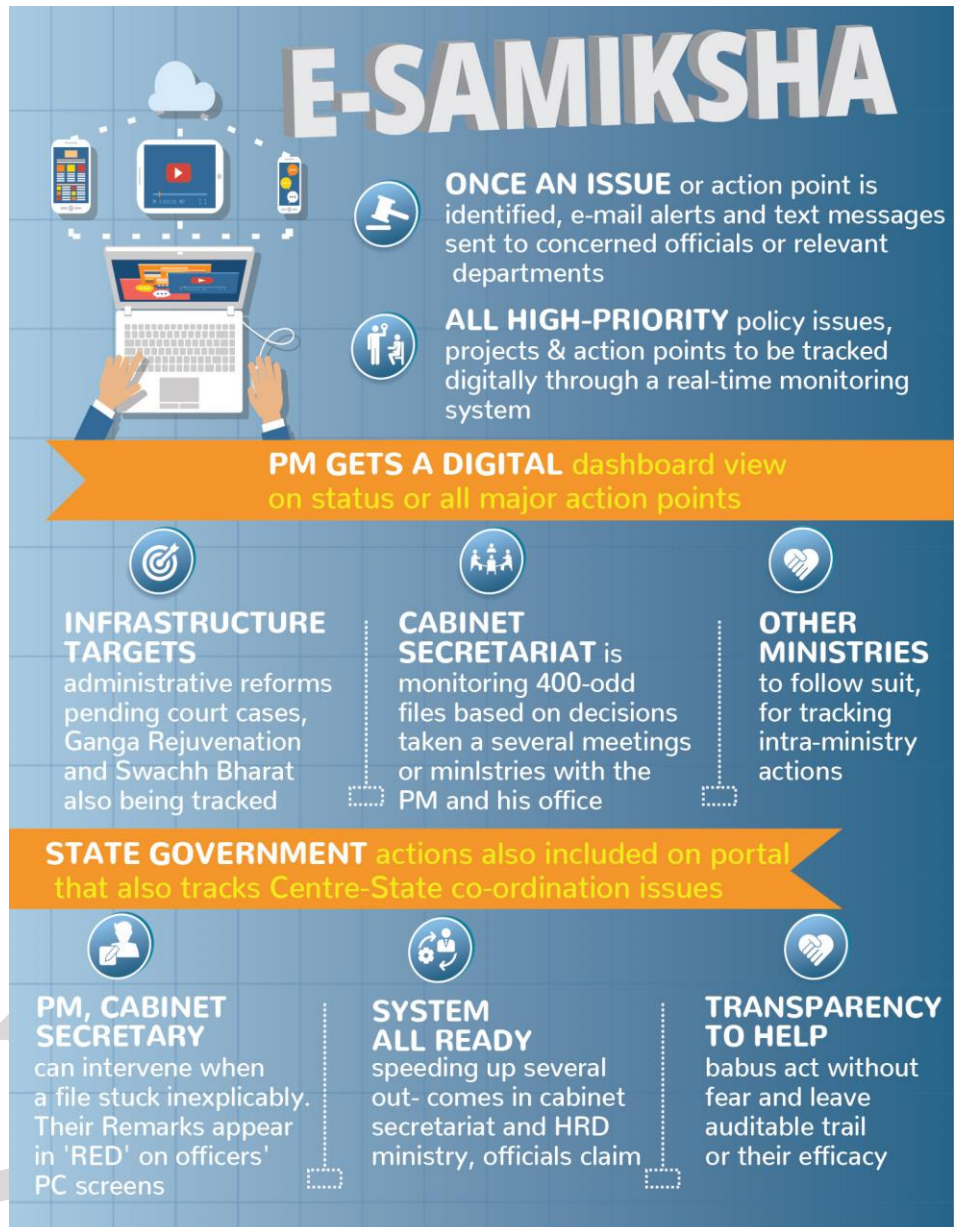
1.8. PUBLIC FINANCE MANAGEMENT SYSTEM

Why in news?

Government has recently made the use of Public Finance Management System (PFMS) mandatory to monitor all Central Sector Schemes.

What is PFMS?

- It is a web-based software application developed and implemented by the Office of **Controller General of Accounts (CGA).**
- Its coverage includes Central Sector and Centrally Sponsored Schemes as well as other expenditures including the Finance Commission Grants.
- It acts as a **financial management platform** for government schemes as well as a payment cum accounting network. It is further integrated with the core banking system and has an interface with 170 Banks across the country including the Reserve Bank of India (RBI).

Advantages of PMFS

- **Better monitoring of funds and transparency:** It establishes a common electronic platform for complete tracking of funds from central government to various agencies by providing real time information on resource availability, flows and actual utilization of funds.
- **Better financial management**: It has the potential to improve financial management by reducing the float in the financial systems by enabling 'just in time' releases of Funds. It can further reduce Government borrowings with direct impact on interest costs to the Government.
- **Adoption of e-governance and good governance**: It would also reduce the paper work involved, promote the use of technology in governance and increased accountability of public funds thus promoting good governance.
- **Address stalling of funds and red-tapism**: It would enable better monitoring and tracking of any unnecessary parked funds by the implementing agencies, minimizing cases of delay and pending payments.

Challenges

- **Immense groundwork required**: Massive preparatory work is required for achieving full PFMS implementation including software/hardware up-gradation, training personnel at every level.
- **Skewed nature of ICT infrastructure** in richer states also acts as a challenge with regard to less technologically developed states.
- Slow pace of adoption of technology in governance.

1.9. LAW COMMISSION PROPOSES ANTI TORTURE LEGISLATION

Why in news?

Law Commission of India has recommended the Centre to ratify the United Nations Convention Against Torture and frame a standalone anti-torture law.

Background

- Though India had signed the U.N. Convention against Torture in 1997 but it is yet to ratify it, making it one among the nine countries across the globe yet to do so.
- Despite **National Human Rights Commission's strong support** for the adoption of Anti-Torture legislation, ever since the **Prevention of Torture Bill 2010 lapsed**, the government has avoided any such legislation.
- The reasons sighted are- lack of consent among states for such a law (since Police and Public Order are State subjects) and

> **UN Convention against Torture (CAT)**
> It is an international human rights instrument aimed to prevent torture and cruel, inhuman degrading treatment or punishment around the world. This convention is in force since 1987.
> **Key Provisions:**
> - **Prohibition on deportation/extradition** of person to another State where there is danger of person being subjected to torture.
> - **Universal Jurisdiction** must be established to try cases of torture where an alleged torturer cannot be extradited.
> - **Criminal liability for torture:** States need to ensure that all acts of torture are offence under their criminal law.
> - **Education and information** for prevention of torture to law enforcement, civil and military, public officials etc.
> - **Procedures** for prompt investigation for allegations or victims of torture must be established. Courts must ban the use of evidence produced by use of torture.
> - **Protection, Compensation and rehabilitation** to victims and witnesses and providing a system of effective remedies.

  that **IPC and the CrPC** were more than sufficient to deal with custodial torture.
- The Supreme Court recently had described custodial torture as an instrument of "human degradation" used by the State while hearing a PIL.
- After this the issue was referred to the Law Commission which recommended **Prevention of Torture Bill 2017** in its 273rd report.

Need of an Anti -torture legislation

- It is important in context of human rights violations, minority rights, use of AFSPA in Jammu-Kashmir and Northeast, misuse of anti-terror laws by Police to torture innocents and human rights in business.
- Further **IPC does not specifically and comprehensively address the various aspects of custodial torture** and is "grossly inadequate in addressing the spiraling situation of custodial violence."
- NHRC highlighted that although Police has to report a custodial death but they need not report custodial violence under current provisions.
- Absence of Anti torture legislation 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.
- The legislation will also strengthen India's **vibrant democratic tradition** and in context of **Article 21** (fundamental right to life and dignity).

Prevention of Torture Bill, 2017

- **Wide Definition of Torture** not confined to physical pain but also includes "inflicting injury, either intentionally or involuntarily, or even an attempt to cause such an injury, which will include physical, mental or psychological".
- **Sovereign Immunity not for agents of the State**- State to own the responsibility for injuries caused by its agents on citizens as the principle of sovereign immunity cannot override the rights assured by the Constitution.
- **Punishment for torture** for public officials inflicting torture.

Other key recommendations of Law Commission

- **Presumption of guilt:** A new **Section 114B** must be inserted in IPC wherein if a person in police custody is found with injuries, it would be "presumed that those injuries have been inflicted by the police." The burden of proof is on the police to explain the injury on the under-trial.

> **Section 357 of IPC**- Whoever assaults or uses criminal force to any person, in attempting wrongfully to confine that person, shall be punished with imprisonment of either description for a term which may extend to one year, or with fine which may extend to one thousand rupees, or with both.

- **Compensation and Rehabilitation**: By amending section 357B of IPC a "justiciable compensation" considering the socio-economic background, expenses on medical treatment and rehabilitation of the victim must be provided. CrPC and the Indian Evidence Act, 1872 must also be amended to accommodate provisions regarding compensation and burden of proof.
- **Protection of Victims, Complainants and Witnesses:** An effective mechanism must be put in place in order to protect the victims of torture, the complainants and the witnesses against possible threats, violence or ill treatment.

1.10. BUREAU OF INDIAN STANDARDS ACT, 2016

Why in news?

Recently the Bureau of Indian standards (BIS) Act 2016 was brought into force which repealed the existing Bureau of Indian Standards Act, 1986.

Key Features of the BIS Act 2016

- It establishes Bureau of Indian Standards as **National Standards Body of India** to formulate, implement and certify certain standards of quality for goods, services, articles, processes and systems.
- The act allows the central government to notify certain goods, articles, etc., which will need to compulsorily carry a standard mark in the interest of public interest, safety of the environment, prevention of unfair trade practices, national security etc.
- There is provision for repair or recall, including product liability of the products bearing Standard Mark but not conforming to the relevant Indian Standard.

- It allows multiple types of simplified conformity assessment schemes including self-declaration of conformity against a standard which will give simplified options to manufacturers to adhere to the standards and get certificate of conformity.
- Enabling provisions have also been made for making hallmarking of the precious metal articles mandatory.
- There are also provisions related to penalties in case of improper use of the Indian standard mark and appeals against an order regarding the granting of a license or certificate of conformity.

Significance

- It aims to empower the Centre and BIS to promote a culture of quality of products and services to consumers through mandatory or voluntary compliance with Indian standards.
- It will further help in ease of doing business in the country, give fillip to Make in India campaign.

2. INTERNATIONAL RELATIONS

2.1. INDIA-EU

Why in news?

The 14th annual Summit between India and the European Union (EU) was recently held in New Delhi.

Important Highlights of Joint Statement

- **On Terrorism:** It called for **"decisive and concerted actions"** against Hafiz Saeed, Dawood Ibrahim, Lashkar-e-Taiba and Zaki-ur-Rehman Lakhvi further bolstering India's efforts to call out Pakistan on the issue of sponsoring terror.
- **On multi-polarity:** Commitment to a **"rules-based" international order and a "multipolar" world.** This is significant in the context of the U.S. reversing its stand on several international deals.
- **On UN reform agenda:** Support on the three reform tracks of **peace and security, development and management reform**.
- **On the Iranian nuclear issue:** Support for the continued full implementation of the **Joint Comprehensive Plan of Action (JCPOA)**.
- **On Afghanistan:** While appreciated the positive role being played by India, the two sides called for **Afghan-led and Afghan-owned national peace and reconciliation.**
- **On BTIA:** Unable to set in motion the stalled negotiations, both sides agreed to "re-engage actively towards timely re-launching negotiations for a comprehensive and mutually beneficial India-EU BTIA."

Need to strengthen India-EU Partnership

- With the **U.S. reducing its global footprint** and China moving in to fill the vacuum, it has become crucial for both India and EU to protect their stability and security.
- Rooted in its democratic institutions and open societies, the **Indian and European world views** are quite similar which is increasingly manifested in their converging interests to ensure Eurasian connectivity plans; the protection of international legal principles such as the freedom of navigation, etc.
- Given their **commonly shared values**, both must continue to welcome each other's **leadership role** in the world.

India-EU relations
- India and the EU have been **strategic partners since 2004**.
- The EU is India's largest regional trading partner with bilateral trade in goods at $88 billion in 2016.
- The EU is also the largest destination for Indian exports and a key source of investment and technologies.
- India received around $ 83 billion of FDI from Europe during 2000—17 which constituted approximately 24 per cent of the total FDI inflows into the country during the period.

List of Agreements signed during 14th India-EU Summit
- Implementing Arrangement between the European Commission and the Science and Engineering Research Board (SERB) for Indian Researchers
- Finance Contract of **Bangalore Metro Rail Project Phase-2**-Line.
- Joint Declaration between the Interim Secretariat of **the International Solar Alliance and the European Investment Bank.**

Deadlock in Broad-based Trade and Investment Agreement (BTIA)
- The deadlocked is due to issues including India's pitch for a **'data secure' status** (important for India's IT sector to do more business with EU firms) as well as to ease norms on **temporary movement of skilled workers.**
- There are differences over the EU's demands on elimination of **India's duties on goods such as automobiles and wines and spirits.**
- EU is keen on finalization of an **India-EU Bilateral Investment Treaty (BIT)** before the re-launch of the FTA talks while India wants to **make 'investment protection'** a part of the negotiations on the proposed comprehensive FTA.

2.1.1. INDIA-ITALY

Why in news?

Italian Prime Minister Paolo Gentiloni recently paid official visit to India.

India-Italy relations
- Italy is India's **fifth largest trading partner in the EU** with a bilateral trade of USD 8.79 billion in 2016-17.
- Italy is one of the most important members of the European Union (EU) with "the **third largest presence of Indian community** after the UK and the Netherlands.

Highlights of Joint Statement

- The visit has been described as a **"breakthrough"** that will effectively put to rest more than five years of tensions over the Italian Marines case.
- It was decided to establish a **Joint Defence Committee** to enhance and encourage a "structured dialogue" between Indian and Italian defence firms.
- Italy supported India's **"intensified engagement" with nuclear, missile and dual-use technology** and substances-export control regimes like the Wassenaar Arrangement, the Australia Group, and the Nuclear Suppliers' Group (NSG) which strengthen global non-proliferation efforts.
- The two countries agreed to the connectivity norms based on international norms, good governance, rule of law, etc. which is seen as a challenge to China's OBOR project.

2.2. CHABAHAR PORT

Why in news?

India sent its first consignment of wheat to Afghanistan through the **Chabahar port** in Iran.

More about the Route

- The sea route connects **Gujarat's Kandla port** to Chabahar from where the shipment will be taken to Afghanistan through a **land route**.

Importance of Chabahar Port

- **Bypassing Pakistan's resistance**- India has strategically circumvented Pakistan which has opened up new opportunities for trade and transit from and to Afghanistan and enhance trade and commerce between the three countries.
- **Connectivity with Europe and Central Asia**- When linked to the International North-South Transport Corridor (INSTC), it would connect South Asia and Europe & Central Asia, which would provide Indian business better opportunities to expand in Central Asia.
- **Geostrategic location**- This port is located very close (around 100kms) to Pakistan's **Gwadar Port,** which has been developed by China. Thus, the location is strategic to balance the increasing footprint of China in Asia through the policy of 'String of Pearls'.

GEO-STRATEGIC PUSH
The consignment of wheat is the first of six shipments to be sent to Afghanistan over the next few months via Iran.

The Iranian port of Chabahar will be New Delhi's primary gateway to Afghanistan and Central Asia.

Chabahar will help ramp up trade between India, Afghanistan and Iran in the wake of Pakistan denying transit facilities.

International North – South Transport Corridor (INSTC)

- It is a multimodal transportation established in 2000 by India, Russia and Iran.
- It aims to link Indian Ocean and Persian Gulf to the Caspian Sea via Iran, and onward to northern Europe via St. Petersburg in Russia.
- Later INSTC was expanded to include 10 new members namely Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Ukraine, Belarus, Oman and Syria.

- **Reducing transportation cost**- The distance between India's Kandla Port and Chabahar Port is quite short, thereby reducing the transportation costs of the goods and freight time.
- **Important for the stability of the region-** In the long term, the project is expected to improve the economic conditions of the region with the introduction of newer opportunities.

2.3. INDIA-AFRICA

Why in news?

Indian President recently paid an official visit to Djibouti (first ever by an Indian leader) and Ethiopia (first by an Indian President in 45 years).

- **India- Djibouti**
  - India and Djibouti signed an agreement to establish regular **Foreign Office-level consultations** during President's visit.
  - During the evacuation of Indian nationals from Yemen, Djibouti extended to India all facilities required to move thousands of people by air and sea.
  - Djibouti is strategically located just **off the Gulf of Aden**.
- **India- Ethiopia**
  - India and Ethiopia signed agreements for cooperation in trade and communication sectors to boost bilateral ties.
  - India's bilateral trade with Ethiopia in 2016 was nearly $1 billion. India is among the top three foreign investors in Ethiopia with an approved investment of $4 billion.
  - Most of the Indian investments are in agriculture, engineering and textiles. India has also extended $1 billion in concessional loans to Ethiopia.
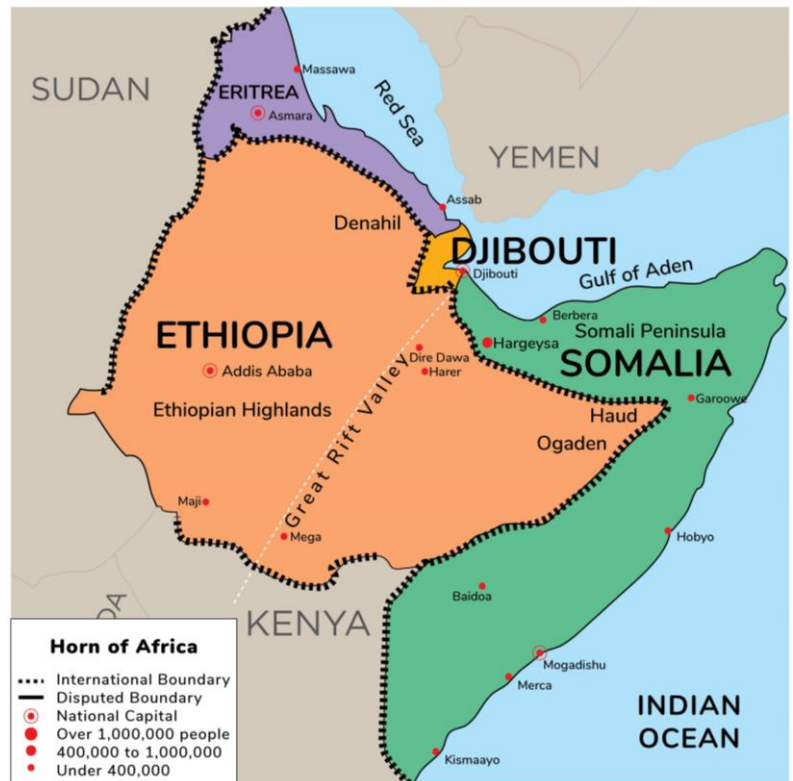
Significance of visit

- The four different states constituting the **Horn — Somalia, Ethiopia, Eritrea and Djibouti** — along with Yemen across the Red Sea have long been described as one of the **world's pivotal regions.**
- Many regional powers are now trying to shape the strategic landscape of the Horn through military bases (eg-China in Djibouti) and armed interventions.
- The new reliance on the sea lines of communication for India's economic growth saw the rejuvenation of India's maritime sensibility stretching from the "Aden to Malacca".
- Such visits will facilitate India to take larger responsibility for regional stability and restore the proposition that India is a "net security provider" in the Indian Ocean.

2.4. IRAN NUCLEAR DEAL

Why in news?

US President announced that he is formally **"decertifying" the nuclear deal** with Iran.

Details

- Under U.S. law, the administration has to certify whether Iran is complying with the deal and if it is in the country's national security interest to remain in it, **every 90 days.**
- When the President refuses to certify, the onus is on the U.S Congress to decide the course of action. The Congress will get 60 days to decide **whether or not to reimpose the sanctions on Iran,** lifted as part of the nuclear deal.

What is the Iran nuclear deal?

- An agreement signed **between Iran and the P5+1** (the five permanent members of the U.N.S.C and Germany) in 2015 that removed economic sanctions against the country after it agreed to a **Joint comprehensive plan of action (JCPOA).**
- This plan ensured that Iran will drastically reduce **its uranium enriching capacity and levels, enriched stockpiles and centrifuges,** and will allow for stringent inspection and monitoring by international agencies.
- The IAEA certified in its latest quarterly report on August 31, 2017, that Iran has complied with the JCPOA and that its stock of low-enriched uranium and centrifuges for enrichment are in line with the nuclear pact.

Charges against Iran

- It was alleged that Iran was placing restrictions on the work of the **inspectors of the International Atomic Energy Agency (IAEA).** It was reluctant to give IAEA inspectors access to military installations which were part of Iran's 'clandestine nuclear weapons programme'.

Reactions from other countries

- Other countries part of JCPOA are not keen on breaking the consensus over it.
- Only two countries have applauded this decision — **Saudi Arabia** and **Israel**.

Implications

- Unilateral U.S. sanction undermines **the global non-proliferation regime** and international institutions after the IAEA had observed that Iran had complied with the JCPOA.
- Coming after the rejection of the Trans-Pacific Partnership, the Paris climate change accord and the North American Free Trade Agreement, this decision further **diminishes U.S. credibility**.

> **International Atomic Energy Agency**
> - It is an autonomous international organization that reports annually to the UN General Assembly.
> - It works for the safe, secure and peaceful uses of nuclear science and technology, contributing to international peace and security and the United Nations' Sustainable Development Goals.

2.5. CATALONIA'S INDEPENDENCE REFERENDUM

Why in news?

An independence referendum, recently held in Catalonia was backed by 90 percent of voters supporting the region **breaking away from Spain**.

Background

- It is an **autonomous community of Spain** in the north-east end of the Iberian Peninsula. It has four provinces: **Barcelona, Girona, Lleida, and Tarragona**.
- The capital and largest city is **Barcelona**, which is the second most populated city in Spain.
- Catalonia was historically an autonomous region of the Iberian Peninsula, which encompasses Spain and Portugal.
- The war of Spanish Succession created modern Spain with the defeat of Valencia in 1707, and of Catalonia in 1714.
- The economic crisis with rising unemployment and spiraling inflation, only served to amplify **separatist sentiments as the wealthy Barcelona** region is seen as propping up the poorer provinces.

Implications

- It has put the spotlight on the **many existing secessionist movements** in different parts of Europe.
- Catalonia is one of the wealthiest regions of Spain. It accounts for 20.07% of the Spanish GDP. Secession would therefore **cost Spain almost a fifth of its economic output**.

2.6. THE KURDISH INDEPENDENCE REFERENDUM

Why in news?

Iraq's Kurds voted in a referendum on support for independence.

- The referendum, while non-binding, is a symbolic milestone in the Kurds' decades-long struggle to achieve statehood.

- Kurdistan is a **proto-state** located in the north of Iraq and constitutes the country's only autonomous region.
- The region is officially governed by the **Kurdistan Regional Government (KRG),** with the capital being Erbil.

Who are Kurds?

- The Kurds are widely recognized to be the **largest stateless national group** in the world.
- Kurdistan is home to numerous languages, religions and political factions and is known for its **strong cultural unity**.
- After World War I, Britain and France carved up the Ottoman Empire, leaving the **Kurds scattered** mainly over four countries: Iraq, Iran, Turkey and Syria.
- They suffered persecution and were often denied the right to speak their language.
- After the U.S.-led invasion of Iraq, they managed to get a better deal in the new regime and enhanced their autonomy following Iraq's entanglement in the civil war against the Islamic State (IS).

- Kurds are an important partner for Iraq in the fight against the IS, with the U.S. also treating the **Peshmerga forces** (Iraqi Kurdistan military forces) **as an ally**.

Implications

- Any moves for independence **of "south Kurdistan" in Iraq** have geopolitical ramifications and are severely opposed by Turkey and Iran in particular, as well as Syria as all of these countries have their own Kurdish population that might also get inspired to start such movement.

2.7. US WITHDRAWS FROM UNESCO

Why in news?

The United States has decided to withdraw from the United Nations Scientific and Cultural Organization (UNESCO), accusing the body of **anti-Israel bias**.

Related information

- US earlier withdrew from the organization in 1984 and then rejoined the organization in 2002.
- The US had cancelled its substantial budget contribution to UNESCO in 2011 in protest of its decision to grant the Palestinians full

About UNESCO
- Its aim is "to contribute to the building of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information"
- It was established in 1946 and is based in **Paris**.
- It has 195 member states and ten associate members.
- Its five major programs are:
  - o **Education,**
  - o **Natural sciences,**
  - o **Social/human sciences,**
  - o **Culture**
  - o **Communication/information**.

membership. U.S. laws bar funding to any U.N. agency that recognizes the Palestinian state.
- US will maintain its presence at UNESCO as an observer state.

Need for change in UNESCO

- Due to its **limited financial resources,** it is not able to deliver crucial public goods.
- Other agencies have taken on some of the functions that UNESCO should perform, with resulting confusion, inefficiencies and accusations of bias.
- Since it handles a huge span of work apart from education, unmatched by any other UN specialized agency, it is very difficult for UNESCO to give appropriate attention to any one particular sector.
- UNESCO's particular set of sectors, especially culture and communications, make it more vulnerable to various political posturing and assertion, example- the reason for US withdrawal.

2.8. PALESTINE JOINS INTERPOL

Why in news?

Interpol voted to accept the State of Palestinian as a member during the 86th Interpol General Assembly.

Details

- Israel had contended that Palestine is not a state and that it is ineligible for Interpol membership.
- Under interim Israeli-Palestinian peace deals, a Palestinian Authority was granted limited self-rule in the occupied West Bank and the Gaza Strip.
- In 2012, the U.N. General Assembly upgraded the Palestinian Authority's observer status at the United Nations to **"non-member state" from "entity",** like the Vatican.
- With their new presence in Interpol, the Palestinians can use Interpol to **issue international legal proceedings** against Israeli leaders and IDF (Israel Defense Forces) military officers.

> **About Interpol**
> - The International Criminal Police Organization, more commonly known as Interpol, is an international organization facilitating international police cooperation. It has 192 member countries.
> - Its Headquarter is in **Lyon, France.**

3. ECONOMY

3.1. RECAPITALISATION PLAN FOR BANKING SECTOR

Why in news?

- Centre has announced a Rs. 2.11 lakh crore recapitalisation plan for the Public Sector Banks (PSBs) over the next two years.

Need for Recapitalisation

- **Rising NPA** - Compared to private sector banks, the gross NPA of PSBs have grown exponentially over the last 10 years (from 2.9 per cent in 2013 to 13.8 per cent in 2016).
- With the **resolution process** underway by the **Insolvency and Bankruptcy Code,** banks are likely to take 40-50 percent losses in settlements.
- PSBs need as much as $65 billion by 2019 to meet **Basel III standards.**

> **Recapitalisation Bonds Method**
> - It refers to using equity money in order to restructure an institution's debt.
> - The bonds can be issued either directly by the government or through a holding company.
> - The government will issue bonds to the banks for a share of the bank's Equity.
> - The annual interest on these bonds and the principal on redemption will be paid by the central government.
> - These bonds can be sold off by the banks in the market when in need of capital.

About the Recapitalisation Plan

- The recapitalisation plan is a **three-part package**: Rs. 18000 crore from the budget, Rs. 58000 crore that banks can raise by diluting their equity and Rs. 1.35 lakh crore through issuance of recap bonds.
- A financial influx entirely from the budget can put unnecessary burden on government spending and ultimately the fiscal deficit.
- On the other hand, banks are tied while diluting its equity as they have to maintain 51% government stake
- In comparison to the first two, recap bonds are less risky and therefore logically carries maximum financial aid.

> **Basel III** is a comprehensive set of reform measures, developed by the Basel Committee on Banking Supervision, to strengthen the regulation, supervision and risk management of the banking sector.
>
> **Basel Committee** was established by the **Bureau of International Settlement.**

Implications of Issuance of Recapitalisation Bonds

- Recapitalisation will not only help banks tackle bad loans but can also be used for fresh credit creation that has remained stagnant for a long period.
- It will also improve the Bank's asset-debt ratio thereby improving its equity rating in the stock market which is likely to attract its private shareholders.
- The issuance of recap bonds will result in widening of the fiscal deficit. However, being cash neutral transaction, fiscal deficit will only be impacted by the interest cost on the bonds that the government pays every year.
- Recapitalisation bonds will increase the government's debt liability by 0.8% of GDP (47.5% in FY17). With no extra government borrowing, the issuance of recapitalisation bonds is unlikely to be inflationary in nature.

Benefits of Recapitalization Bonds	Limitation of Recapitalization Bonds
• The government need not to raise immediate tax revenues to fund the mounting bill on bank recapitalisation, which means less burden on the taxpayer. • Borrowing directly from the banking system instead of the markets, the government can avoid crowding out private borrowings or distorting market yields. • Recapitalisation Bonds does not strain the banking finances, because lending to the government is safest for their loan funds. In any case, public sector banks tend to invest well in excess of their Statutory Liquidity Ratio requirements in government securities.	• The method is not the solution for the structural problems in the banking system that have been created by the bad loan menace, poor governance systems, badly judged lending decisions, and the repeated overlooking of doubtful accounts of potential NPAs. The nature of capital infusion shows that it is a kind of bailout offering and not necessarily trying to aid the banks in growth. • The credit demand of loans is weak in the current market, which could have negative impact on banking operation.

3.2. EASE OF DOING BUSINESS: WORLD BANK

Why in news?

- Recently, **World Bank** has released Ease of Doing Business report for 2018, which placed India at 100th rank out of 190 countries.

More on News

- India had ranked poorly on this ranking for past few years. In the previous rankings for 2017, it ranked at 130th position.
- India is among the top 30 nations in three categories — getting electricity, securing credit and protecting minority investors.
- The country improved its ranking on six out of the 10 parameters becoming the only large economy to do so.
- Country is one of the top 10 improvers in this year's assessment.
- However, the World Bank noted that India lagged in areas such as starting a business, enforcing contracts, and dealing with construction permits.

Fast Mover

India's Performance in World Bank's ease of doing business' report

Indicator (Ranking)	2017	2018
Starting a Business	155	156
Dealing with Construction Permits	185	181
Getting Electricity	26	29
Registering Property	138	154
Getting Credit	44	29
Protecting Minority Investors	13	04
Paying Taxes	172	119
Trading across Borders	143	146
Enforcing Contracts	172	164
Resolving Insolvency	136	103
Overall Ranking	**130**	**100**

Factors for improvement in ranking

- **Paying taxes:** In 2016, Income Computation and Disclosure Standards (ICDS), an accounting standard for the purpose of income tax was introduced. It advances some income and postpones some expenses to arrive at the profitability of companies. Hence, data gathering has become automated due to the use of the latest software.

> **Other report**
> **Global Investment Competitiveness report 2017**
> - It is published by World Bank which shows various factors affecting investment decision in a country.
> - Various factors include domestic market size, macroeconomic stability and a favourable exchange rate, labour force talent and skills, physical infrastructure etc.

- **Dealing with construction permits**: India made obtaining a building permit faster by implementing an online single-window system for the approval of building plans.
- **Getting credit:** India has strengthened access to credit by amending the rules on the priority of secured creditors outside reorganization proceedings and adopting a new insolvency and bankruptcy code.
- **Trading across borders:** India reduced border compliance time by improving infrastructure at the Nhava Sheva Port in Mumbai; export and import border compliance costs reduced in Delhi and Mumbai after removal of merchant overtime fees.
- **Resolving insolvency:** The country has regulated the profession of insolvency administrators apart from adopting a new insolvency and bankruptcy code.
- **Starting a business:** India streamlined the business incorporation process by introducing the SPICe form (INC-32) that which combined the application for the Permanent Account Number (PAN) and the Tax Account Number (TAN) into a single submission.

(Note: For detail of NITI Aayog Ease of Doing Business, refer Economy Mains 365 2017.)

3.3. INFORMATION UTILITY

Why in News?

- National e-Governance Services Ltd (NeSL) became India's first information utility (IU) for bankruptcy cases under the Insolvency and Bankruptcy Code 2016. Also, the Insolvency and Bankruptcy Board of India (IBBI) eased ownership norms for information utilities allowing Indian firms listed on stock exchanges to hold 100% in such firms.

What is information utility?

- It is an information network which would store financial data like borrowings, default and security interests etc. of firms.
- It would specialize in procuring, maintaining and providing/supplying financial information to businesses, financial institutions, adjudicating authority, insolvency professionals and other relevant stake holders.
- **Objective** - to provide high-quality, authenticated information about debts and defaults.
- It is mandatory for financial creditors to provide financial information to the information utility. Hence, database and records maintained by them would help lenders in taking informed decisions about credit transactions.
- Information available with the utility can be used as evidence in bankruptcy cases before the National Company Law Tribunal.
- They are governed by the Insolvency and Bankruptcy code 2016 and IBBI (Information Utilities) Regulations 2017 and IBBI overseas aspects such as registration and cancellation of these entities, their shareholding and governance among others.
- **Challenges** - procuring authentic information due to the sensitivity involved; resistance in sharing information; and risk of exposure to data piracy and data theft.

3.4. ECONOMIC ADVISORY COUNCIL TO PRIME MINISTER

Why in news?

Recently first meeting of the Economic Advisory Council to Prime Minister (EAC-PM) was held which stressed on the need for accelerated economic growth and employment.

Background

- It is an independent body constituted by the Prime Minister to give advice on economic and related issues to the Government of India, specifically to the Prime Minister.
- Terms of reference of EAC include:
  - ✓ To analyse any issue, economic or otherwise, referred to it by the prime minister and advising him thereon; to address issues of macroeconomic importance and presenting views thereon to the prime minister.
  - ✓ This could be either suo-motu or on reference from the prime minister or anyone else; to attend to any other task as may be desired by the prime minister from time to time
- It was constituted for the first time in early 1980s when the national income declined and inflation rose under the impact of global oil shock and drought.
- It continued for three decades until it was disbanded in 2014.
- The newly constituted five-member council consists of Dr. Bibek Debroy (Chairman), Dr. Surjit Bhalla, Dr. Rathin Roy, Dr. Ashima Goyal, Ratan Watal.
- It has identified ten themes on which it would prepare reports i.e. Economic Growth; Employment and job creation; informal sector and integration; fiscal framework; monetary policy; public expenditure; institutions of Economic Governance; Agriculture & Animal Husbandry; Patterns of Consumption & Production and Social Sector.
- Another key issue recognized was the need for effective tracking of key economic parameters, through possible mechanisms for instituting an Economy Track Monitor, using lead indicators, based on informed assessment and analysis.

Need for EAC-PM

- There have been growing concerns over the pace of growth in the economy and the slow pace of job creation.
- The 5.7% fiscal first-quarter GDP growth puts the country behind China on the list of world's fastest-growing major economies.
- India's credit growth is stifled, with the banks reeling under the pressure of mounting NPAs.
- The high-interest rates discourage small and medium enterprises to take loans and fund growth. This, in turn, is slowing down employment, and is hurting the investment cycle.
- EAC-PM will push a qualitative shift for advice tender by finance ministry to Prime Minister. Furthermore, PM will have a new source of advice and an opportunity to seek a second opinion within the government system.
- The council also acts as a catalyst for action by developing and enabling action recommendations through different stakeholders.
- It will also be working closely with the Reserve Bank of India on monetary policy and fiscal framework.

Conflict with NITI Aayog and office of Chief Economic Advisor

- Concerns are being raised about the contribution that the PMEAC can make in the already overcrowded space of providing policy advice to the government which includes NITI Aayog and the office of the chief economic adviser (CEA).
- In addition, the government receives policy-related suggestions from stakeholders such as bureaucrats, industry, consumer groups, think tanks etc.
- However, often each of these stakeholders directly or indirectly represent a specific interest group, such as the Central government, state governments, foreign investors etc. and may not be able to adopt a holistic approach.
- Given its internal expertise, positioning, and direct access to the Prime Minister, the PMEAC is best placed to adopt a systems approach to provide non-partisan policy advice interlinking the interests of different stakeholder groups, including stakeholders who have not been able to effectively communicate their perspectives.
- The CEA reports to the Union finance minister and is tasked with preparing the economic survey, involving rigorous ex-post analysis of economic realities. It lays the ground for predicting forthcoming opportunities and challenges to the economy.
- The NITI Aayog, on the other hand, provides expert advice to different government departments and state governments on policy formulation, monitoring and supervision.
- Armed with data analysis from the CEA, and an understanding of the implementation capabilities of government departments and state governments from NITI Aayog, the PMEAC will be in a position to adopt a whole-of-government approach to provide policy advice to the Prime Minister.

3.5. SEBI PANEL ON CORPORATE GOVERNANCE

Why in News?

- Recently, **Uday Kotak panel** on corporate governance has submitted its report to SEBI, suggesting various changes in corporate governance.

> **Corporate governance** is the system of rules, practices and processes by which a company is directed and controlled.
>
> **It** essentially involves balancing the interests of a company's many stakeholders, such as shareholders, management, customers, suppliers, financiers, government and the community.

Background

- India's corporate sector is currently facing problem of excess debt and boardroom disputes (eg. TATA, Infosys).
- Various committees in the past, such as those led by **Kumar Mangalam Birla (1999) and N.R. Narayana Murthy (2003)**, contributed to the process of improving standards of corporate governance in India.

Recommendations by the Uday Kotak Panel

- **Regarding Audit Committee**- To provide requisite time to address matters beyond quarterly reporting, it recommended at least 5 Audit Committee meetings. Further, the audit committee should-
  o Review the **utilization of funds** of the listed entity infused into unlisted subsidiaries including foreign subsidiaries.
  o Review the use of loans, advances and investment by holding company if it exceeds Rs. 100 crore
- **Regarding Nomination & Remuneration Committee:**
  o In order to ensure the independence of the Committee it shall have at least $2/3^{rd}$ members as Independent Directors.
  o The committee's role includes identifying persons who may be appointed in 'senior management' and recommending to the board of directors their appointment and removal.
- **Quorum for Committee Meetings**: To protect the interest of all stakeholders, the Panel recommended that at least one Independent Director may be made mandatory for attaining quorum for such meetings.

- **For transparent functioning of independent directors :**
  o The companies must list the competencies of every director present on the board.
  o At least half (earlier $1/3^{rd}$) of the board of a listed entity be constituted of independent directors with a **minimum of six independent directors on the board**, and at least **one-woman director** among the independent directors.
  o A **formal induction should be mandatory** for a new independent director, and at least once in five years for the existing directors..
  o The listed firms should also disclose the detailed **reasons for the resignation** of the independent directors, and at the same time these firms not be allowed to appoint a person as an alternate director in the place of any of the independent directors.
  o It provides for minimum compensation for them and calls for more frequent exclusive meetings among them to discuss company affairs.

> **Independent directors (ID)**
> - SEBI brought in the concept of IDs through Clause 49 of the Listing Agreement, 2000, which deals with corporate governance norms for listed companies.
> - An ID is a director on a company's Board other than a managing director, whole-time director or a nominee director.
> - They act as trustees of shareholders, especially minority shareholders. They are expected to take an outsider's view and ensure checks and balances.
> - Under Companies Act, 2013:
>   o An ID should not be a promoter or related to promoter of the company, its subsidiary or associates.
>   o An ID must not have been an employee of the company.
>   o An ID should also not have had any pecuniary relationship with the company in the two preceding financial years or in the current year.

- **On the compliance and regulations front**:
  o The board of directors be updated on regulatory and compliance changes at least once in a year.
  o It has sought frequent interaction between Non-Executive Directors and senior management, at least once a year.
  o The roles of Chairman and MD-CEO of the listed firms shall be separated.
- **For better Risk Management**-
  o Succession planning and risk management must be discussed at least once a year.
  o To protect the interest of independent directors the top 500 companies by market capitalisation must undertake Directors and Officers Insurance for its independent directors.

Conclusion

- The recommendations of the Kotak committee are expected to enhance transparency and effectiveness in the way boards of listed companies function.
- Since some of the proposed changes are structural in nature, it has provided timelines for implementation. The securities market regulator will need to develop capabilities to be able to regulate listed companies more effectively and protect the interests of small shareholders.

3.6. STATE OF COMMODITY DEPENDENCY 2016: UNCTAD

Why in News?

- Recently UNCTAD launched the report **State of Commodity Dependency 2016**.

Highlights of the report

- A country is considered dependent on commodities when its commodity exports account for more than 60 per cent of its total merchandise exports in value terms.
- Where the share exceeds 80 per cent in a particular country, it is considered **"strongly"** dependent on commodity export.

> **UNCTAD (United Nation Conference on Trade and Development)**
> - It is a permanent intergovernmental body established by the United Nations General Assembly in 1964.
> - It is part of the UN Secretariat and the principal body dealing with trade, finance, investment and developmental issues.

- Nine more developing economies became dependent on commodity exports between 2010 and 2015, bringing the total to 91—two-thirds of all the 135 developing countries.
- In India, the total value of commodity exports has increased by 44.3 per cent from $84,861 million in 2009-10 to $122,500 million in 2014-15.

Analysis

- From the perspective of developing countries, especially those whose principal means of foreign exchange earnings come from the exports of primary commodities; such commodity dependence creates macro-economic instabilities and complicates macroeconomic management.
- This is because international commodity prices are notoriously volatile varying by as much as 50 percent in a single year which generates erratic movements in export revenue, causes instability in foreign exchange reserves and are strongly associated with growth volatility.
- It directly affects the incidence of poverty in Low-income countries (LICs) since the vast majority of the poor and dependent on the production of primary commodities for their livelihoods.
- Further, over the longer term, dependence on primary commodities heightens a country's vulnerability. This is because (non-oil) primary commodity prices exhibit a largely declining trend over the long term.
- A continued and sustained decline in commodity prices also jeopardizes the debt sustainability positions of countries, since a drop in commodity prices increases the debt service to export earnings ratio.

Way forward

- There is a need to devise mechanisms to stabilize the prices of primary commodities and provide compensatory finance to commodity producers in the event of extreme price shocks.
- Although attention has been shifting recently to income stabilization measures, measures to diversify away from a dependence on primary commodities will be critical over the longer term.

3.7. EDIBLE OIL IMPORT

Why in News?

- There are concerns that India's dependence on imported edible oil is likely to increase to a record level during the coming year of 2017-18.

Background

- India is among major oilseed growers and edible oil importers. India's vegetable oil economy is world's fourth largest after USA, China and Brazil.
- The oilseed accounts for 13% of the gross cropped area, 3% of the Gross National Product and 10% value of all agricultural commodities.
- Palm oil accounts for more than half of India's total edible oil imports.
- Various government initiatives has been launched to make India self-reliant in oilseed and edible oil production **(See details in BOX)**.

Need of the import

- **Agricultural Conditions**
  - o Production is largely in rain-fed areas. Only one fourth of the oilseed producing area in the country remains under the irrigation.
  - o The continuous drought during the past two years resulted in lower oilseed production and domestic edible oil output.
  - o As for the oil year 2017-18, less sowing and crop damage due to flooding in major growing regions has reduced the soybean crop size thereby affecting the oil extraction.
  - o Acreage under oilseeds also remained lower this kharif season due to falling prices in the spot market throughout last year.
  - o Average yield of various oilseeds crops in India have improved but still it lags significantly behind other major oilseeds producing nations.

- **Processing Industries**
  - o Processing industry prefers to import refined oil for blending directly with the oil for repacking and distribution for local consumption.

- **Global Competition and Domestic Demand**
  - o Existing imported vegetable oil and palm oil is cheaper than other oilseed produced in domestic market.
  - o Country's annual edible oil demand stands at nearly 22 million tonnes and is growing by 3% to 4% per year. India meets only about 40% of its total edible oil demand and rest can be fulfilled by the growing palm oil industry of south-east Asia.

- **Import Policy**
  - o The current import duties on edible oil is based on prolonged fall in price of edible oil in the international market, which further tends to make the import of refined oil more attractive than crude or unprocessed oil.

> **ISOPOM (Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize)**
>
> - Under this, four schemes related to oilseeds, pulses, oil palm and maize have been merged into one Centrally Sponsored ISOPOM.
> - It is being implemented by Department of Agriculture & Cooperation
> - Financial assistance is provided to farmers for purchase of breeder seed, production of foundation seed, production and distribution of certified seed etc.
>
> **National Mission on Oilseeds and Oil Palm (NMOOP)**
>
> - It is implemented under three sub-mission namely; MM I – Oilseeds, MM II – Oil Palm, MM III – TBOs (Tree Based Oil).
> - The mission targets increasing production of oilseeds to 42 mn tonnes by FY2022 from estimated 34 mn tonnes in FY2017
> - The strategy and guideline for NMOOP includes:
>   - ✓ Increasing Seed Replacement Ratio (SRR) with focus on Varietal Replacement;
>   - ✓ Increasing irrigation coverage under oilseeds from 26% to 36%
>   - ✓ Diversification of area from low yielding cereals crops to oilseeds crops; inter-cropping of oilseeds with cereals/ pulses/ sugarcane;
>   - ✓ Use of fallow land after paddy /potato cultivation
>   - ✓ Expansion of cultivation of Oil Palm and tree borne oilseeds in watersheds and wastelands;
>   - ✓ Increasing availability of quality planting material enhancing procurement of oilseeds and collection;
>   - ✓ Processing of tree borne oilseeds.

Way Forward

- To improve oilseeds production following steps should be undertaken:
- Ensuring the availability of quality seeds and better infrastructural facilities.
- The credit and insurance infrastructure for agriculture needs to be expanded and lending and insurance policies must be farmer-friendly.
- Making farmers aware of better techniques and ensuring better price recovery in market.
- Investment in R&D and developing new location-specific high yielding varieties.
- Higher capacity utilization of Indian refineries which is still as low as 35% of installed capacity can yield rich dividends to the farmers and industry.

3.8. BOOSTING SILK PRODUCTION

Why in News?

- Recently government has pumped ₹ 690 crore in 24 districts under **North East Region Textile Promotion Scheme** (NERTPS) for increasing silk production in India.

Silk industry (Sericulture) in India

- India is the second largest producer of silk in the world. It provides employment to over 8.25million people in the country.
- There are four major types of silk produced in India: Mulberry, Tasar, Muga, Eri of which Mulberry accounts for 70% of total raw silk production
- In India, mulberry silk is produced mainly in the states of Karnataka, Andhra Pradesh, Tamil Nadu, Jammu & Kashmir and West Bengal, while the non-mulberry silks are mainly produced in Jharkhand, Chattisgarh, Orissa and north-eastern states.
- Karnataka is the leading producer of silk followed by Andhra Pradesh.
- India's north eastern region has the unique distinction of producing all these commercial varieties of silk contributes about 21 per cent of the total silk production in the country.
- Handlooms account for about 85 per cent of silk consumption in India while powerlooms use the remaining.

Significance of Sericulture

- **Low Gestation & High Returns**; Five crops can be taken in one year under tropical conditions,
- **Women friendly occupation** as currently they consist of more than 60 % of total workforce.
- Ideal Programme for **weaker sections** of the Society, as it less capital intensive industry.
- **Eco-friendly activity:** As a perennial crop with good foliage and root-spread, mulberry contributes to soil conservation and provides green cover. Waste from silkworm rearing can be recycled as inputs to garden.
- **Fulfil equity concerns:** as end-product users are mostly from the higher economic groups, the money flows from high end groups to low end groups.
- **Labour intensive &high income generating** – It generates employment especially in rural sector and is a means to earning foreign exchange.

Challenges faced by industry

- **Low export earnings** – due to global recession and reduced demand in western countries for silk goods. A weaker rupee is also hurting exports. However, the silk exports are finding non-traditional/new markets in UAE, Nigeria, Thailand etc.
- **Selling powerloom in the name of handloom** – leads to inadequate returns on hardwork of handloom workers since powerloom is much cheaper

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North East Region Textile Promotion Scheme (NERTPS)
- It aims to develop and modernise the textile sector in the North East Region by providing the required Government support in terms of raw material, machinery, skill development etc.
- It is being implemented under two broad categories viz., Integrated Sericulture Development Project (ISDP) and Intensive Bivoltine Sericulture Development Project [IBSDP].
- It is an umbrella scheme under Ministry of Textiles for the development of various segments of textiles, i.e. silk, handlooms, handicrafts and apparels & garments.

Facts about Silk
- It is made of proteins secreted in the fluid state by a caterpillar (silkworm).
- Asia is the main producer of silk in the world and produces over 95 % of the total global output.
- China and India are two major producers of silk, followed by Japan, Brazil and Korea.
- Vanya silks refer to non-mulberry varieties of silks wild silkworms that feed on leaves of castor, kesseru,sal etc. These include tasar, eri and muga silk.

Integrated Scheme for the Development of Silk Industry
- It is a central sector scheme implemented by Central Silk Board,
- It consists of following four components:
  o Research & Development, Training, Transfer of Technology and I.T. Initiatives,
  o Seed Organizations,
  o Coordination & Market Development,
  o Quality Certification Systems (QCS)/Export Brand Promotion & Technology Up-gradation
- It focuses on improving production, quality and productivity of domestic silk so as to reduce the country's dependence on imported silk.

Related bodies

Central Silk Board – It is a statutory body under Ministry of Textiles. It is entrusted with the overall responsibility of developing silk industry

The Indian Silk Promotion Council – It has initiated various programmes for growth and development of the silk industry including trade shows and fairs across the world. It also facilitates meetings between exporters and potential customers.

- **Declining inclination of youth towards weaving –** as one can earn the same money working at a powerloom with less stress
- **Competitive pricing** - The blending of cheap imported Chinese silk or artificial/synthetic silk yarns putting the natural silk traders on the verge of distress sales.
- **Decline in area cultivated** - Mulberry silk in the country has seen a steady decline in its area of mulberry cultivation because of rapid urbanization, industrialization and a shortage of agricultural labour.
- Piece meal approach of government in term of banning foreign silk, lack of integrated market and inadequate knowledge of sericulture amongst the traders.

Way forward

- Establishment of close linkage between forward and backward sub-systems for greater efficiency and synergy as sericulture and silk industry is highly scattered and unorganized.
- Adequate thrust on non-traditional uses of silk such as use for artificial skin and other medical applications could create a positive pressure for high value addition.
- Protection to some extent of Indian silk market from Chinese cheap raw silk and fabrics by implementation of anti-dumping duty.
- Identification and promotion of potential clusters for silk production in potential traditional and non-traditional areas.
- Skill up-gradation through structured and specially designed training programme.
- Evolution of appropriate cost-effective technologies through focused research projects for the development of superior and hybrid breeds.

3.9. TELECOM SECTOR

Why in news?

Recent reports about closure of Tata Teleservices have raised the issue about stress of telecom sector in India.

Telecom Sector in India

- India accounted for the 2nd largest telecom network in the world with a subscriber base of nearly 1,210.71 million, as of July 2017.
- Tele-density (defined as the number of telephone connections for every 100 individuals) in India, increased from 17.9 in FY07 to 93.88 in FY18.
- India has the 3rd highest number of internet users in the world and it will emerge as a leading player in the virtual world by having 700 million internet users of the 4.7 billion global users by 2025.
- According to the Ericsson Mobility Report India, smartphone subscriptions in India is expected to increase four-fold to 810 million users by 2021, while the total smartphone traffic is expected to grow seventeen-fold to 4.2 Exabytes (EB) per month by 2021.
- According to Annual Report 2016-17 of the Department of Telecommunications, the mobile industry in India currently contributes 6.5 per cent to the country's

Key features of National Telecom Policy, 2012
- **Licensing:** It aims to simplify licensing framework by establishing a unified license for all telecom services, converting to a single-license system for the entire country and removing roaming charges.
- **Spectrum:** It seeks to liberalise spectrum through a system where spectrum can be pooled, shared and traded.
- **Connectivity:** The policy aims to increase rural tele-density from the current level of approximately 39% to 70% by 2017, and 100% by 2020, enabling broadband access to all village panchayats by 2014 and to all villages by 2020 and recognisiing the 'Right to Broadband'.
- **Promotion of domestic industry:** through preference in procurements that have security implications for India or are for the government's own use.
- **Legislations:** The policy seeks to review the Indian Telegraph Act, 1885 as well as TRAI Act to remove impediments to effective functioning of TRAI.

Importance of telecom sector
- Doubling of data use leads to an increase in GDP per capita growth rate of 0.5 percentage points (Deloitte 2017).
- 10 per cent increase in penetration of increases total factor productivity in the long run by 4.2 percentage points.
- Telecom is the second highest revenue earner for government after income tax.
- It is a top five employment opportunity generator in the country.
- In underbanked India, mobile banking can be a boost for financial inclusion
- Telecom services become the first line of defence in any natural disaster or emergency scenario.

GDP, and employs over four million people directly and indirectly.
- Presently, telecom sector is governed by **National Telecom Policy**, 2012.

Issues Involved

One of the major issues faced by this sector is declining profitability which is further exacerbating the twin balance sheet (TBS) problem. Profitability is being affected by following issues:

- **Low revenues** - Dramatic reduction of prices & coming down of average revenue per user by 22% due to new entrant.
- **High Debt** - Unsustainable spectrum prices and low revenue is also leading to high debt. According to industry sources, telecom companies together carry a debt of approximately Rs 5 lakh crore.
- **High levies** - Government levy on the sector is in the 30 per cent-plus range of international standard. Other South Asian countries such as Pakistan, Bangladesh and Sri Lanka levy in the range of 20s.
- **Expensive spectrum** - The price of spectrum in India is among the highest in the world but telecom firms have to buy it to remain relevant and competitive in the business
- **Competition from over-the-top operators** such as WhatsApp as they don't have to pay taxes or levies to the government.
- **Restrictive government policies** – for example cross-holding norms prevent a telecom company from owning separate stakes in other operators during mergers and acquisition such as RJio or Airtel cannot acquire a stake in Tata Teleservices or Aircel; they can only buy-out 100 per cent of the company so as to create a merged entity.

- **Quality of telecom services** – is disappointing due to issues like call drop etc.
- **Differential pricing for data services** – Although TRAI promotes net neutrality, there are no laws enforcing it.
- Recent reduction in **Interconnected Usages Charges (IUC)** by TRAI has been described by various operators as a huge loss of revenue.

> **Interconnected Usage Charges (IUC)**
> - These charges are paid by a telecom services provider whose subscriber makes a call to the service provider whose subscriber receives the call.
> - It allows subscribers of one network to seamlessly communicate with those of another network
> - It is decided by TRAI & is the main source of income to the telecom companies.

Impact

- Many government programs like Digital India and Smart-cities are dependent on the sector and its sound financial health.
- The rising debt and reducing revenues acts as a disincentive for deployment of new technologies such as **VoLTE (Voice over Long-Term Evolution)**, Internet of Things etc.
- There may be a loss of up to 30,000 jobs in the sector due to business consolidation and cost-cutting.

Various steps taken by government

- **Reforms in spectrum management** through the processes like spectrum sharing, spectrum trading, spectrum harmonization as well as spectrum auction.
- **Bharat Net project** - For deeper digital penetration in rural areas, this project aims to link each of the 2.5 lakh Gram Panchayats of India through Broadband optical fibre network.
- **Planning to auction 5G spectrum** to promote initiatives like Internet of Things (IoT), instant high definition video transfer etc.
- **Phased manufacturing programme** (PMP) – It is aimed at adding more smartphone components under the Make in India initiative and giving a push to the domestic manufacturing of mobile handsets.

Other steps that can be taken

- **Pay off debt** by telecom through the sale of its tower business, sale of fibre, monetising its real estate etc.
- **Innovation** – and investment in future technologies to build sustainable new revenue streams
- **Accepting TRAI recommendations** - such as reducing SUC (spectrum usage charges) fees to 1%, reducing licence fee payment to 3% and adopting revised definition of adjusted gross revenue.
- **Rethinking of floor price** by government while auctioning to ensure that strong players are able to absorb weaker ones without destruction of value and assets created.

- **Expediting the implementation of BharatNet** by engaging private partnership through the PPP model as suggested by Niti Ayog.

3.10. BHARATMALA PROJECT

Why in news?

Recently, Cabinet cleared Bharatmala project for construction of 24,800 Km of highway connecting **western and eastern part** of the country.

Bharatmala Project

- It will undertake programs for improvement in Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement, Border and International connectivity roads, Coastal and Port connectivity roads and Green-field expressways.
- It has been envisaged as an umbrella program that will subsume unfinished parts of NHDP.
- It will undertake development of national highways, state highways and along with some state roads.
- It will start in Gujarat and Rajasthan, followed by Punjab and subsequently traversing the Himalayan belt through Jammu and Kashmir, Himachal Pradesh, Uttarakhand, parts of Uttar Pradesh, Bihar, West Bengal, Sikkim, Assam, Arunachal Pradesh, Manipur and then to Mizoram.
- It will be funded through market borrowings, central road funds, monetizing government-owned road assets, and budgetary allocation.
- The mains agencies that will implement the program are National Highways Authority of India, National Highway and Industrial Development Corporation and state public works departments. For tough terrains assistance will be taken from Border Road Organisation.

Significance of Bharatmala Project

- It will increase **last mile connectivity, boost movement of cargo, increase exports, boost the employment opportunities and fast track the development of roads**.
- The project will provide the required **impetus to manufacturing sector** and schemes such as **Make in India, Start-up India** etc. by reducing the **logistics cost** which is highest in India when compared with other emerging markets.
- It will improve India's ranking in Logistics Performance Index of World Bank (2016 Index ranked India at 35.)

3.11. HYDROPOWER GENERATION IN INDIA CHALLENGES AND PROSPECTS

Why in news?

In a recent presentation to Ministry of Power various challenges leading to stalling up of hydroelectric power plants were highlighted.

More about the news

- India's total generation capacity stands at 330GW, of which 44GW is from hydropower.
- India has hydro potential of 148GW (5th largest in the world) but only 30 per cent of the total potential is harnessed.
- The share of hydropower in the overall energy mix has been falling since 1962-63 when it stood at 51 per cent, against 13 per cent today.

> **Classification of Hydro Projects based on Installed Capacity?**
>
> **Micro:** Up to 100 KW
>
> **Mini:** 101KW to 2 MW
>
> **Small**: 2 MW to 25 MW
>
> **Mega:** Hydro projects with installed capacity >= 500 MW and Thermal Projects with installed capacity >=1500 MW
>
> The projects less than 25MW capacity come under the purview of Ministry of New & Renewable Energy.

- The presentation pointed out while 592 hydro projects of total 145.3 GW capacity have been allotted across the country, only 30.7 per cent of the projects have been completed as yet.

Major Challenges

- **Huge time and cost overruns:** Hydropower projects are getting completed at two or more times the sanctioned cost and in double the sanctioned time. For e.g. Nathpa Jhakri, Tehri, Koldam etc.
- **High upfront cost:** Hydropower projects are capital-intensive and financing them, by finding an optimum balance between bankability and affordability, is often a challenge.
- **Long-drawn process to get clearances**: Some of the major challenges under this have been:
  o Environmental and forest clearances for e.g. Subansiri lower project on border of Assam and Arunachal Pradesh.
  o Land acquisition and other local issues
  o Rehabilitation and resettlement issues
  o Legal and social problems such as social resistance for large hydro projects.
- **Inter- state disputes**: for e.g. Shivasamudram, Mekadatu, Hogenekkal and Rasimanal have been affected due to Cauvery water dispute between Tamil Nadu and Karnataka.
- **Additional cess by state governments:** for e.g. Jammu and Kashmir as well as Uttarakhand charges "Water Cess", which create additional burden on hydro projects.
- **High tariff and reluctance of states to sign power purchase agreements (PPAs)**: The cash flow to repay the loan during initial year is high which results into higher tariff costs and thus making power distribution companies reluctant to buy hydroelectric based electricity.

Suggestions

- **Better Governance framework** including overarching policy framework, specific sector strategies, and clear and transparent processes for accelerating hydropower development needs to be developed.
- **Benefit-Sharing Framework:** Mitigation of social and environmental risks also plays a critical role in the development of hydropower projects. Thus the government and developer must share the benefits with all stakeholders including the locals.
- **Facilitating Private sector Investments:** Private sector participation currently standing at 7 % needs to be increased through optimum risk allocation.
- **Facilitate Market Development** through steps like hydropower purchase obligations, differential tariff structure for peak and off load season, developing market for ancillary services, support across the national grid etc.
- **Technical Capacity Development** including capacity-building of the agencies involved as well as the introduction of modern techniques and technologies.
- **Parliamentary committee on energy** had recommended
  o Declaring all hydro projects as renewable energy sources and introducing **Hydro Power Obligation (HPO)** which will oblige electricity companies to buy hydropower and thus improve investor confidence,
  o Reinstating mega power benefit for hydro projects
  o Providing better financing options (long-term loans by extending project life from 35 to 60 years, introducing tax-free bonds, etc.).

3.12. RO-RO FERRY SERVICE LAUNCHED

Why in news?

- Recently, **Ro-Ro (**'roll-on, roll-off) **Ferry Service** was launched in Gujarat between Ghogha and Dahej.

Ro-Ro Ferry Service

- It refers to vessels used to carry **wheeled cargo** like cars, trucks, semi-trailer trucks, trailers, and railroad cars, that are driven on (rolled on) and off (rolled off) the ferry on their own wheels or using a platform vehicle.
- It has been launched by **Ministry of Shipping** as part of **Sagarmala Project.**

7-8 Hrs Travel Reduced to 1 Hr.
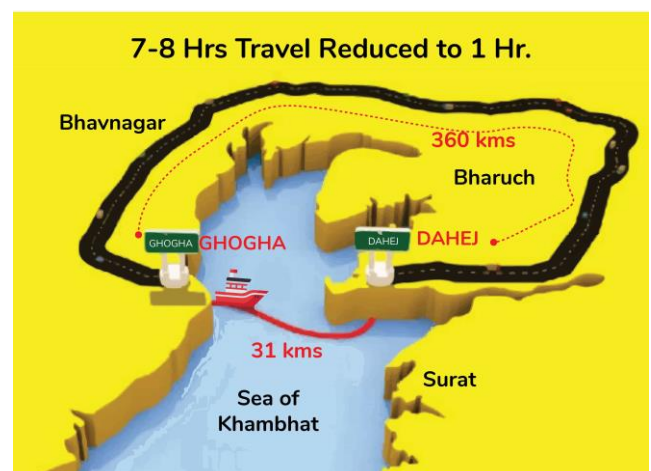
- It funded partly by **Gujarat Government** and partly under **Sagarmala Project**.
- It is also being proposed to be extended to other locations such as Gulf of Khambat and Gulf of Kutch.

Other Ro-Ro services that have been proposed

- **Jharkhand** – multimodal terminal at Sahibganj on Ganga River
- **Assam** – Ro- Ro service terminal at Dhubri on Brahmaputra River (NW-2) connecting Dhubri with Hatsingimari along the Meghalaya border
- **Bihar- West Bengal** – proposed to join Kalughat Terminal in West Bengal with Gaighat in Bihar under Jal Marg Vikas Project.

Ro- Ro and Lo- Lo Service

Ro- Ro Service – Roll on and Roll off Service a vessel which is used to transport wheeled cargo.

Lo-Lo Service – Lift on – Lift off service is a vessel which is used to transport cargo which is loaded and discharged over the top of the vessel using cranes.

Sagar Mala Project
- It aims to promote port-led direct and indirect development and to provide infrastructure to transport goods to and from ports quickly, efficiently and cost-effectively.
- It is based on three key deliverables, **Port Modernization**, Efficient Evacuation to and from hinterland, and Coastal Economic Development.

3.13. SANKALP & STRIVE SCHEMES: SKILL INDIA MISSION

Why in News?

- The Cabinet Committee on Economic Affairs has approved two new World Bank supported schemes - Skills Acquisition and Knowledge Awareness for Livelihood Promotion (**SANKALP**) and Skill Strengthening for Industrial Value Enhancement (**STRIVE**).

Highlights of the Schemes

- These are **outcome focused projects** marking a shift in government's implementation strategy in vocational education and training from inputs to results.
- SANKALP, a centrally sponsored scheme (funded directly by Central Ministries and implemented by States or their agencies), addresses this need by **setting up national bodies for accreditation and certification**. The bodies shall regulate assessment and certification in both long and short term vocational education and training (VET).
- STRIVE, a central sector scheme (funded and implemented by the Central Government machinery), aims to modernize 500+ ITIs through outcomes and reform linked funding.
- The architecture shall help to **converge the efforts** of various central, state and private sector institutions thereby avoiding duplication of activities and bringing about uniformity in vocational training.
- The schemes aim to strengthen institutions such as **State Skill Development Missions (SSDMs), National Skill Development Corporation (NSDC), Sector Skill Councils (SSCs), ITIs and National Skill Development Agency (NSDA)** etc. and ensure greater decentralization in skill planning.
- They support **universalization of National Skills Qualification Framework (NSQF)** including National Quality Assurance Framework (NQAF) across the skill development schemes of central and state output.

Note: For more information on Skill Development and Vocational Training, refer Mains 365-Economy 2017.

3.14. SAMPOORNA BIMA GRAM YOJANA

Why in news

- Recently, Ministry of Communications launched **Sampoorna Bima Gram Yojana (SBG) yojana** and also expanded the coverage of **Postal Life Insurance.**

SBG yojana

- **Aim**: To provide **affordable life insurance services** to people living in rural areas of the country through the postal network.

Saansad Adarsh Gram Yojana (SAANJHI)
- It was launched for the development of **model villages.**
- Under it, Members of Parliament (MPs) will be responsible for developing the socio-economic and physical infrastructure of three villages each by 2019, and a total of eight villages each by 2024.
- Funds will be utilized from existing schemes such as MPLAD, NGNREGA etc.

- **Feature:**
  - To identify at least **one village** (having a minimum of 100 households) in each of the revenue districts of the country and cover all households with a minimum of one RPLI (Rural Postal Life Insurance) policy in that village.
  - **Coverage:** All villages under **the Saansad Adarsh Gram Yojana** will be covered under it.

Rural Postal Life Insurance (RPLI), 1995
- Introduced on the recommendations of **Official Committee for Reforms in the Insurance Sector (Malhotra Committee).** - It provides insurance cover to people residing in rural areas, especially weaker sections and women living in rural areas. - It is operated by Department of Posts, Ministry of Communications.

Postal Life Insurance (PLI)

- It was introduced in 1884 for the benefit of Postal employees.
- It is the oldest life insurer in this country.
- Apart from Government and semi-Government employees, benefits of PLI have now been expanded to professionals such as Doctors, Engineers, Lawyers, Bankers etc. and to employees of listed companies of National Stock Exchange and Bombay Stock Exchange.

3.15. PANEL ON MARKET INFRASTRUCTURE INSTITUTIONS

Why in News?

- Recently, SEBI constituted a committee under former RBI deputy governor **R. Gandhi** to review the norms for **Market Infrastructure Institutions (MII)**.

Market Infrastructure Institutions (MII)
- These institutions are systemically important for the country's financial development and serve as the infrastructure necessary for the securities market. - They include stock exchanges, depositories and clearing corporations.

Background

- The review is in line with the recommendation of the Bimal Jalan committee, 2012 which had asked the regulator to conduct a review of Market Infrastructure Institutions every five years.
- It recommended:
  - Only anchor institutional investors such as adequately capitalised public financial institutions and banks should be eligible to own up to 15-24 per cent of stock exchanges.
  - Depositories and clearing corporations should not own other classes of MIIs;
  - MIIs should not be listed on stock exchanges;

Highlight

- Committee will take overall assessment of the existing MIIs' framework and identifying areas for review in the SECC (Stock Exchanges and Clearing Corporations) norms, depository participants regulations and identify areas for improvement of systems, procedures and practices.
- SEBI's review is significant in the wake of Multi-Commodity Exchange Ltd and BSE Ltd getting listed and National Stock Exchange of India Ltd preparing for an initial public offering (IPO).

3.16. BHARAT NET PROJECT

Why in news?

Recently, Government has announced that the first phase of Bharat Net Project will be completed by December 2017.

Bharat Net Project

- In 2011, **National Optical Fibre Network (now called Bharat Net Project)** was launched to provide broadband connectivity to **2.5 lakh Gram Panchayats** with an affordable broadband connectivity of 2 Mbps to 20 Mbps.

Universal Service Obligation Fund:
- It aims to provide non-discriminatory access to quality ICT services at affordable prices to people in rural and remote areas through subsidy support to incentivizing telecom service providers to venture forth and provide services to such target beneficiaries. - It was envisaged in National Telecom Policy, 1999 and was given statutory status through Indian Telegraph (Amendment) Act, 2003. - The resources are raised through a 'Universal Access Levy (UAL)', which would be a percentage of the revenue earned by the operators under various licenses.

- It is being implemented by a **special purpose vehicle (SPV)** named **Bharat Broadband Network Ltd (BBNL)** set up under Companies Act.
- It is funded through **Universal Service Obligation Fund (USOF)**
- Bharat Net Project is also significant for generation of as much as 5 lakh jobs during the installation of Wi-Fi hot spots.
- Till now **Optical Fibre Cable** connectivity has been achieved in 1,03,275 Gram Panchayats (GPs) by laying fibre for 2,38,677 km.

Challenges

- **High usage of internet through mobile phone** - Approximately, 77% of urban users and 97% of rural population believe that the primary source to access internet is through mobile phone.
- **Security** – Issues related to data protection, cyber security etc. pose a challenge to provide secure cyber space to users.
- **High cost** – Affordability of internet remains an issue which restricts rural population to adopt the services.
- **Low internet education** – Internet knowledge and familiarity with applications such as e-mail still remain a challenge.

Way Forward

- Increase awareness regarding broadband usage and improve computer knowledge among population.
- A better revenue model should be adopted to reduce the prices of the internet.
- Low priced laptops and Personnel Computers should be developed to increase the usage as done by the mobile phone manufacturers.
- It is imperative to create a fibre first programme where the government as well as private sector, can join hands to double the reach of the telecom fibre network in the country by 2020.
- Efforts must be made to improve cyber security and address the issues related to privacy.

3.17. GOLD OPTIONS ON MULTI COMMODITY EXCHANGE

Why in news?

- Recently, **gold options were launched for the first time** in India on **Multi Commodity Exchange (MCX).**

Background

- The launch of gold options is in line with the government's announcement of including new commodities in the derivatives markets.
- This is the first commodity that the Securities and Exchange Board of India (SEBI) has approved for options trading in 14 years.
- The launch is also in consonance with the earlier initiatives taken up by the government for easing trade in gold such as the **Gold Monetisation Scheme launched in 2015 and the Sovereign Gold Bonds launched in 2016.**
- The options allow trading in 1 kg of gold.
- The gold options would allow **investors to hedge any volatility in the price of the metal.**

> **Multi Commodity Exchange**
> - Similar to the BSE and the NSE, **MCX is an exchange where commodities are traded.**
> - It was formed in 2003. It **falls under the regulatory purview of SEBI**.
> - Four types of commodities are traded on the MCX – bullion, base metals, energy and agro commodities.

> **Difference between Options and Futures**
> - Under both futures and options, an investor enters into a contract to buy (or sell) an asset at a pre-determined price within a certain time frame.
> - However, under a future, an investor is obligated to buy or sell (as the case maybe) within the time frame while under options, he has the option not to.

3.18. PRICE CAPPING OF MEDICAL DEVICES

Why in news?

- US firms have approached the **United States Trade Representative (USTR)** against the price capping of medical devices by India.

Issue

- India had earlier capped the prices of medical devices (first coronary stents and then knee replacement implants).
- It later also denied the request of some foreign firms to withdraw their products from the Indian markets.
- The profit margins of certain stents with higher production cost have fallen due to price capping.
- Consequently, the US firms approached the USTR with a request to either suspend or withdraw India's benefits under **Generalised System of Preferences (GSP)**.
- There were also concerns raised that India's price model might be used by other countries in the region grappling with health care costs thereby affecting fair trade.
- Studies have also shown that the benefits of price capping are not reaching the end patient.

> **Generalised System of Preferences**
> - It is a preferential tariff system extended by developed countries (also known as donor countries) to developing countries (also known as beneficiary countries).
> - It involves reduced MFN tariffs or duty free entry of exported products of beneficiary country into the donor country.

Impact

- India might stand to lose its benefits as a beneficiary of the US under GSP.
- It can also start tariff war between India and the US ultimately harming the end consumer.
- It can also result in limited or no access to the Indian patients of the most advanced medical devices in the world.

Way Forward

- India must discuss the matter at hand with USTR and apply a moderate approach in pricing of medical devices.
- It must also work on improving the inefficiencies of the healthcare system in order to accommodate high priced stents.
- It must also encourage and take up R&D in such fields in order to become self-reliant.

Please refer to Science and Technology Mains 365 material to know more about price capping of medical devices in India

3.19. LINKING BANK LENDING RATES TO EXTERNAL BENCHMARK

Why in news?

- A five member panel of RBI headed by Dr. Janak Raj has recommended **linking the bank lending rates to a market benchmark in order to hasten the monetary policy transmission**.

Background

- Currently, the banking lending rates are determined by the **MCLR or marginal cost of funds lending rate introduced in 2016.**
- MCLR replaced the base rate system (introduced in 2010).
- Both the base rate and the MCLR were internally determined by the banks themselves. However, the major difference between the two was that calculation of base rate was done as the bank saw fit while MCLR was to be calculated through a set formula.

> **MCLR:** It refers to the minimum interest rate of a bank below which it cannot lend. It is calculated on the basis of marginal cost of arranging one more rupee to the prospective borrower.
>
> **Base Rate:** It is the minimum interest rate at which a bank can lend. It is calculated according to the RBI guidelines. It differs from one bank to another.
>
> **Spread:** It is difference between base rate and the rate charged to the customer on loans and advances.

> **Treasury Bills:** These are government securities (debt instruments) used by the government to raise money for a shorter period of time i.e less than a year. Therefore, they are categorized as money market instruments.
>
> T-bills do not pay interest but are rather sold at a discounted rate and can be redeemed at the face value at maturity.
>
> **Certificate of Deposits**: It is a money market instrument issued in demat form or as promissory notes by banks against funds deposited at the banks. they can either be offered at a discounted rate or with a floating rate (to be determined by the market forces).
>
> **Repo rate:** it is the rate at which banks borrow money from the RBI against the pledge of government securities.

Major Findings of the Panel

- The study noted that banks indulged in malpractices which include **violation of RBI guidelines, inflating of base rate and arbitrary adjustment of spreads.**
- Also, despite 18 months, since the launch of MCLR, only 40 percent of the corporate portfolio and one-fourth of the retail portfolio are under it.
- One of main reasons was that banks charged a onetime fee to switch over to MCLR. Also, there was no proper information handout by the banks for switching over MCLR.

Recommendations of the Panel

- The panel advised that all interest rates for loans be linked to one of the three external benchmarks: Treasury bill rates, Certificate of deposit rates or repo rate.
- The lending rates must be reset every quarter compared to the current practice of resetting of once a year.
- Banks migrate all existing borrowers to the new proposed regime without any charges or fees.
- The decision of the spread over the external benchmark should be left to the commercial judgement of banks.

Pros

- Linking lending rates to an external benchmark would decrease the discretion of a bank and reduce the arbitrariness with which banks calculate the base rate and MCLR.
- Interest rate resetting in a quarter is more likely to result faster monetary policy transmission.
- The panel's recommendation that banks be allowed to link deposits to external benchmark as well will help in avoiding asset-liability mismatch.

Cons

- Linking lending rate to the market rate might make the lending rates volatile.
- T-bills being government securities are the funding cost of the government and not the banks. And therefore it seems unfair to link bank lending rates to T-bills.
- With lesser buyers (also called shallow or thin market), T-bills and CDs rate may not work in favour of the banks.
- RBI's repo rate on the other hand brings back the question of calculation of tenor and premium resulting in the problem of spreads.

3.20. PEER TO PEER (P2P) LENDING

Why in news?

- After classifying **peer to peer lending as non-banking financial companies (NBFCs)**, the RBI recently introduced rules and mechanism for them to follow.

Background

- Peer to peer lending **refers to a crowd-funding platform (mostly online)** where people looking to invest and people in need of borrowing come together.

A **Non-Banking Financial Company (NBFC)** is a company registered under the Companies Act, 1956 engaged in the business of loans and advances, acquisition of shares/stocks/bonds /debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business.

Difference between Banks and NBFCs

- NBFC cannot accept demand deposits
- They are not part of the payment and the settlement system and thus cannot issue cheques drawn on itself.
- Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs.

- Till now, P2P companies were registered under the Companies Act.
- Once the lender and borrower registers themselves on a P2P platform, due diligence is carried out by the platform and those found to be acceptable are allowed to participate.
- Such companies follow a reverse auction process that lenders bid for borrower's proposal and the borrower is free to choose whether or not to borrow.

Major Takeaways from RBI Regulation

- Being classified as an NBFC, P2P lending will get access to credit bureaus and will have to share loan related data with credit bureaus.
- Consequently, P2P platforms will also have to mandatorily share the borrower's credit information with the lenders which will help them make an informed decision.
- Also, sharing credit information of borrower with credit bureaus will make it difficult for defaulters to take loans from other banks and NBFCs.
- Fund transfers across the platform are to be done through escrow account mechanism.
- The RBI has also increased the maximum loan amount up to 10 lakhs across all platforms. It will largely benefit small enterprises and start-ups.
- The RBI has also capped a particular investor's exposure to a single borrower to Rs 50, 000. This dilutes the risk in case of a default.
- Contrary to the case earlier when courts rejected the cases of defaults stating lack of locus standi, P2P platforms (being NBFCs) can now pursue cheque bounce (P2P loan recovery works through post-dated cheques) cases in court.
- In case of delay of repayments, the platforms need to follow RBI guidelines for recovery bringing relief to borrowers with genuine delays.
- P2P platforms also need to put a proper grievance mechanism in place and appoint a nodal officer. In case of no satisfactory reply, lenders or borrowers can approach the RBI.

3.21. LAND BANK FOR INDUSTRIAL ALLOCATION

Why in News?

State government of Odisha is creating a 1.2 lakh acre land bank across the state for allocation to the industrial sector.

What is Land Bank?

- Land bank is a pool of land which allows government to offer land to investors without waiting for the process of land acquisition.
- It is conceived to do away with regulatory process and avoid any land acquisition related issues.

CONFLICT	DISTRICT	STATE	FAMILIES AFFECTED	AREA AFFECTED (hectares)
Odisha Govt. has put forest land in their land bank which earlier belonged to the POSCO Project	Jagatsinghpur	Odisha	700	1200
Chatisgarh govt. has locked away a chunk of land which was acquired from people to build a steel plant	Bastar	Chattisgarh	2000	1700
Jharkhand govt. has sealed a chunk of forest land-where a firing range of India army was proposed - in their land bank	Latehar	Jharkhand	50000	32
Jharkhand govt. has earmarked gram sabha's common land in their land bank. This land was a part of Koel-karo dam project, which could not come up due to people's protest	Khunti	Jharkhand	100	61

Significance of Land Bank

- **Improving Ease of doing business**: State government is acquiring land for industrial use and proposes to offer it with all facilities in place.
- **Attracting investment**: Creation of the land bank helps in attracting investment (FDI/local investment) in various sectors and has the potential of generating new Employment opportunity in the region.
- **Preventing distress sales of land by farmers** as farmer can sell their land to government whenever they required and there will also be no forcible land acquisition**.**

Land Bank and different law regarding it in India
- **Forest Conservation Act of 1980:** Under it, government is required to get forest 'clearance' or approval from the central environment ministry to use forest land for a non-forest purpose. However, there is no provision to obtain forest clearance for a 'land bank' under the Act.
- **Forest Rights Act of 2006**: Under it, government cannot change the use of forest land without recognizing the land and

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forest rights of people living or dependent on it since generations.
- **PESA [Panchayat Extension to Scheduled Areas Act]:** It empowers village councils of scheduled areas to approve, reject or change the government programmes proposed in their regions.
- **Land Acquisition, Rehabilitation and Resettlement Act (LARRA) of 2013**: Under it, If land acquired under this law is unutilized for more than five years, the state government can put it in its land bank or give it back to the people it was acquired from.

3.22. PROJECT CHAMAN

Why in News?

Recently Agriculture and farmer's welfare ministry reviewed project CHAMAN.

Coordinated Horticulture Assessment and Management using geo-informatics (CHAMAN)

- It uses Geographical Information System tools along with remote sensing data for generating action plans for horticultural development.
- It also aims to carry out research activities on horticultural crop condition studies, diseases assessment and precision farming.
- It was launched in 2014 by Ministry of Agriculture under the Mission of Integrated Horticulture Development.
- It is being implemented by New Delhi based Mahalanobis National Crop Forecast Centre (MNCFC).

Significance of CHAMAN

Horticulture sector in India
- India is the second largest producer of fruits and vegetables in the world, and a top producer of crops like banana, mango and lemons.
- Horticulture accounts for 30% of India's agricultural GDP from 8.5% of cropped area.
- Production of horticulture crops (fruits, vegetables and spices) in 2017 has overtaken the production of food grains for the fifth year in a row.
- In comparison to food grains, most horticulture crops are grown with assured irrigation and, therefore, are more immune to monsoon deficits.
- The resource-poor farmers benefit the most from the growth in horticulture sector as fruits and vegetables are mostly grown by marginal and small farmers (with less than 2 hectare of land).
- However, India's share in the global market accounts for just 1.7% of the global trade in vegetables and 0.5% in fruits.
- The horticulture farmers need better access to markets, facilities like warehouses and cold storages, and credit to help them better manage price risks and avoid distress

- **Development in the North East-** The waste land/ jhum land areas identified for one crop in one district each of North Eastern States would be taken up for development on priority by state governments.
- **Post-Harvest damages**- It can help in identifying areas of high Post harvest losses which can be reduced by creation of desired Post Harvest Infrastructures like cold storages.
- **Doubling Farmers' Income-**Geo-Spatial Studies like crop intensification, orchard rejuvenation and aqua-horticulture would further help the farmers to grow their crops in a profitable manner thus doubling their income.
- **Scaling benefits-**The Geo-Spatial Studies would be conducted in all major states of the country and remote sensing technology would be extended to other horticulture crops in future, giving a boost to horticulture in India.
- **Boost to agricultural GDP**- It can be one of the major drivers of growth in agriculture sector at large and increase its share in overall GDP.
- **Improves food security-** It can help horticulture sector provide nutrient rich crops to the people and thus ensuring food and nutritional security to all people.
- **Creation of Employment opportunities** in the primary, secondary and tertiary sectors. Thus it has gained significant prominence in the recent years.

HARVESTING HI-TECH

India looks to satellite-based computing, cutting-edge remote sensing and a growing rural smartphone user base to renew a fading green revolution

BHUVAN

It's a multi-purpose end-user satellite application platform powered by the Indian Space Research Organisation

How it works: Act like a clearing house for satellite data. Essentially a humongous software that integrates and processes ground inputs with satellite data for diverse needs. All state governments use it. Offers nearly 3,6 lakh products, 10 million data points, 800 GB of transactions and 60 million user hits a month

CHAMAN (Coordinated programme on Horticulture Assessment and Management using geoinformatics)

Satellite mapping of area and output of 7 horticultural corps in 12 states

Outcomes
▶ Digital inventory of all horticulture zones in the country
▶ Will help decide cold-storage hubs
▶ Help manage inflation through accurate data of food stocks

FASAL (Forecasting Agricultural output using Space, Agro-meteorology and Land based obseravations)

Monitoring health of 8 crops using optical and microwave tech of RISAT-1 MRS & Landsat 8 satellites

Drones
▶ In a first, drones being used to directly study crop locations

NADAMS (National Agricultural Drought Assessment and Monitoring System)

Remote sensing-based real-time information on current or developing droughts at state, district and subdistrict level

Outcomes
▶ Currently covers 14 states at district level, which are predominantly drought-prone, such as Andhra, Bihar, Gujarat, Jharkhand, Karnataka, Madhya Pradesh
▶ Drought scan at sub-district level available for 5 states

APP, APP AND AWAY

Android apps are the new tools in the hands of officials, farmers

CCE Agri: Revenue officials now use this android app to estimate crop damageand yield loss at 1,100 location points in 12 states
Ground Truth: Tablet-based app to monitor crop health being used by 18 stategovts
Bhuvan Hailstorm App: Currently being use to capture hailstorm losses in states such as Madhya Pradesh
mKisan: Nearly 90 million farmers now enrolled for farm advisories, such as weather and pest updates, on their phones

3.23. NOBEL PRIZE IN ECONOMICS

Why in News?

- US economist, Richard Thaler won the 2017 Nobel Economics Prize for his contributions in the field of behavioural economics.

More on News

- Richard Thaler describes various psychological experiments for economics research such as;
  - **Nudge Economics/Nudging**: It is an economic action in which small stimuli are provided to influence people's behaviour. Nudges work at an individual level, but they are also used by companies.
  - Thaler asserted that short-term temptations to spend/consumption disrupt people's plans to save for their old age, or live a healthier lifestyle.

- He developed the theory of **mental accounting**, explaining how people simplify financial decision-making by creating separate accounts in their minds, focusing on the narrow impact of each individual decision rather than its overall effect.

Significance

- His contributions have built a bridge between the economic and psychological analyses of individual decision-making and challenges the traditional economic analysis based on the assumption that people are rational actors.
- Findings will be utilised in better policy formulation such as; Digital India, Swatch Bharat Abhiyan, National Pension System etc.
- The findings and its various models help in effective formulation of financial engineering and ease-out the foreseen threat thereof, by placing human being at core of economic action.

3.24. ABU DHABI TO INVEST IN NIIF'S MASTER FUND

Why in news

- Recently, India's National Investment and Infrastructure Fund (NIIF) signed an investment agreement worth $1 billion with Abu Dhabi Investment Authority (ADIA).

Highlight

- ADIA will become the **first institutional investor in NIIF's Master Fund** and a shareholder in National Investment and Infrastructure Ltd, the NIIF's investment management company.
- Fund will play an important role in facilitating the flow of foreign capital into India's infrastructure sector.

About NIIF
- NIIF was set up in 2015 and registered as a **category II alternative investment fund** with the SEBI.
- The **corpus of the fund** is proposed to be around Rs. 40, 000 crore, with the government investing 49% and the rest to be raised from third-party investors such as sovereign wealth funds, insurance and pension funds.
- A **governing council** under the chairmanship of the **Finance Minister** act as an advisory council to NIIF.
- It will invest in areas such as energy, transportation, housing, water, waste management and other commercially viable **greenfield, brownfield and stalled projects** in the infrastructure sector.

3.25. START-UP SANGAM INITIATIVE

Why in news?

- Recently, Start-up Sangam initiative was launched by Ministry of Petroleum and Natural Gas.

Start-up Sangam Initiative

- It was launched for bringing in **innovations and disruptions in the technology** in heavy oil and gas industry.
- Under the initiative a **corpus of 320 crore** has been put together by contribution of various PSUs like - India Oil Corporation, ONGC, Engineers India etc.
- It will be used to fund more than 30 start ups for the next three years.
- The selected start-ups will work in various energy fields such as converting **waste plastics to petroleum fuels**, **solar stove, multipurpose fuel from agricultural waste biomass** and **leak detectors for liquefied natural gas (LNG) cylinders** etc.
- It is expected to **reduce fuel import dependence** through innovations in alternative fuels.

3.26. SAATHI SCHEME

Why in news?

- Recently, Sustainable and Accelerated Adoption of Efficient Textile Technology to Help Small Industries (SAATHI) scheme has been jointly launched by Ministry of Power and Ministry of Textile.

Energy Efficient Services Limited (EESL)
- It is a joint venture of four National Public Sector Undertakings – NTPC Limited, Power Finance Corporation Limited, Rural Electrification Corporation Limited and POWERGRID Corporation of India Limited.
- It has been set up under Ministry of Power, Government of India.
- It implements Street Lighting National Programme (SLNP) and Unnat Jyoti by Affordable LEDs for All(UJALA)
- It also leads the market-related activities of the National Mission for Enhanced Energy Efficiency.

About SAATHI

- Under this initiative, Energy Efficiency Services Limited (EESL), would procure energy efficient Powerlooms, motors and Rapier kits in bulk and provide them to the small and medium Powerloom units at no upfront cost.
- The initiative will be jointly implemented by **Energy Efficient Services Limited (EESL)** and the office of the Textile Commissioner on a pan-India basis.

4. SECURITY

4.1. URBAN TERROR

Why in News?

Recently, one of the deadliest shoot-outs in modern US history took place in Las Vegas.

Why increase in such attacks?

> **What is Urban Terrorism?**
> - **Urban terrorism** is the threat of terrorists applied to the urban environment which seeks to unsettle and disrupt urban infrastructure and life.
> - It is mainly of 2 types-
>   - When this threat is directed at people i.e. mass killings
>   - When directed at urban infrastructure.

- **Easy Targets**- Density of built environment in urban agglomerations and urban mass transport infrastructure result in mass gathering making them easy targets to maximize the impact of terrorist attacks.
- **Scope for Anonymity**- Unlike in rural areas, inhabitants in cities and towns are more heterogeneous, which provides more scope for anonymity. This makes Improvised Explosive Device (IED) attacks and suicide bombings extremely difficult to detect or prevent in time.
- **Availability of facilities**- For terrorists, logistical support like arms, medicines, public transport food, and lodging are readily available in an average urban area.
- **Easier Recruitment**- In urban areas, a terrorist group may find it easier to recruit prospective terrorists in a predictable manner, for it is the city that nurtures dissidence in general.
- **Attacking credibility of the government-** By attacking high profile symbolic targets, the terrorists wish to make a point that if a government fails to protect high value targets, it is obvious that it may not be in a position to protect the normal ones.
- **Protection from indiscriminate counter terrorism operations-** This also gives an added advantage to terrorists to prevent any kind of indiscriminate counter-terrorist operation by the state that could maximise collateral damage. For the same reason, the use of aerial bombardment against terrorists becomes difficult. The **presence of hostages** further complicates military or police operations.
- **Less demanding operations**- Urban operations for terrorists also often demand less in the way of brute physical strength and endurance than do operations in mountainous or rural terrain. And they do not need sophisticated long-range weapons to inflict the desired damage.
- **Easy spread of fear**- Since terrorism is '**propaganda by the deed'**, the attention-seeking goal of terrorists is well served in the urban environment where the immediate audience is greatest and where representatives of the print and electronic media are readily available and quite eager to report. Such coverage also **magnifies the fear-generating capabilities** of terrorist acts.
- **Other kinds of Vulnerabilities**-The new kinds of crisis that may result from the major environmental disasters will further breed conflict.
- **Vulnerabilities due to internet:** Increasing availability of personal data has made individuals vulnerable to terrorism. Such information can be used for the **purpose of radicalisation** or **targeting for the acts of violence.** Internet has increased the reach of the terrorists further due to enhanced GPS and other services. Terrorism has acquired trans-national characteristics.

What needs to be done?

- **Intelligence Agencies**- There is a need for cooperation among centre, state and international intelligence agencies.
- **Proper Surveillance**- It is of critical importance to penetrate the networks and sleeper cells of the terrorist organizations to gain actionable intelligence.
- **Technology to detect and alert** for suspicious activity such as loitering by an individual or vehicle should be made use of.
- Security personnel should be sensitized to **spotting and segregating suspicious objects** that are left behind.
- **Trained Armed Forces**-
  - Police, must be effectively trained to deal with this new phenomenon of urban terror.
  - Every state should have a NSG-type of commando force to counter lethal terror strikes.

- o **Rehearsals** should be periodically undertaken for search-and-rescue operations after large-scale terrorist strikes and **different contingencies** should be simulated and practiced.
- A comprehensive approach should be adopted to counter urban terrorism involving all stake holders of society. This includes creating societal awareness to keep a steady eye on errant behaviour in the neighbourhood and sharing of information of suspicious movements with intelligence agencies.

4.2. COMPREHENSIVE INTEGRATED BORDER MANAGEMENT SYSTEM (CIBMS)

Why in News?

- Recently Border Security Force (BSF) personnel detected a fifth (since 2012) cross-border tunnel in the forest area of Jammu which has intensified the demand for CIBMS.

Background

- In 2014, the BSF submitted a detailed report on CIBMS to the MHA, but no decision was taken to implement the system until January 2016.
- The trigger for implementing the CIBMS was the **Pathankot terrorist attack** followed by warning by the Punjab and

What is CIBMS?

• It is a **robust and integrated system** that is capable of addressing the gaps in the present system of border security by seamlessly integrating human resources, weapons, and high-tech surveillance equipment.
• It has three main components:
  o **New high-tech surveillance devices** such as sensors, detectors, cameras, etc. as well as existing equipment **for round-the-clock surveillance** of the international border.
  o An **efficient and dedicated communication network** including fiber optic cables and **satellite communication** for transmitting data gathered; and
  o A **command and control centre** to which the data will be transmitted providing a composite picture of the international border.

Haryana High Court. Following this the MHA sanctioned the implementation of CIBMS through two pilot projects (stretches in Jammu sector of India-Pakistan Border).

- Further a committee under **Madhukar Gupta (2016)**, was explicitly tasked to recommend technological solutions to secure the international border.

Need for CIBMS

- Being manpower intensive, the system was not effective in providing rest and relief to BSF troops.
- The high-tech equipment being

SECURITY UPGRADE

PLANNED
- Any person trying to enter India from Gujarat to J&K can be tracked by **multiple technologies like CCTV cameras, thermal image devices, night vision devices, surveillance radar, underground monitoring sensors & laser barriers**
- All **unfenced 130 riverine sections** on 2,900-km-long border will be covered using **laser barriers**
- The project will cost govt **Rs 1cr**

per km. Two **pilot projects in Jammu & Punjab are already on**
- The entire border will be covered with **hi-tech systems in two years** and 50-60 private companies are expected to take up projects
- A control room will be set up after every 5-6 km where any activity will be noticed and BSF men will be alerted, If one device is not working, other will alert jawans

PRESENT STATUS
- Though CCTV cameras, night thermal imgers and sensors are used in sensitive areas, **Technology used is not superior.** More than **150,000 flood lights have been installed on 50,000** poles by govt on border to track movement using binoculars
- There were **222 infiltration attempts** from Pakistan in **2014; 100 in 2015**
- At any given time, **70 battalions of BSF** are posted on the border from kutch to Kashmir. 1/3rd of them not on border

used did not provide all-round security and did not work in adverse climatic conditions.

- Many significant gaps remained at rivers and nullahs running along the fences.
- It is not an integrated system and therefore failed to provide a common operating picture at all level.
- CIBMS may help to avoid further terror attacks—like the one in Pathankot—as well as infiltration and smuggling.

4.3. DIGITAL POLICE PORTAL UNDER CCTNS

Why in news?

Recently Home Minister launched a digital police portal under the CCTNS project.

Background

- CCTNS has originally aimed at maintenance of crime and criminal records of individuals through a national database, and delivery of web based police related services to all citizens.
- Now continuing the push for digitalisation of Police related services Digital Police portal has been launched.

Features of Digital Police Portal

It is a **SMART** (S-Strict and sensitive, M-Modern and mobile, A-Alert and accountable, R- Reliable and Responsive; T- Trained and Techno-savvy) policing initiative of government. It aims to

- Provides **Services to Citizens** at a National level
  - Report a Crime
  - Request for person verification
  - Links to State Citizen Portal
- The access to authorized persons to use National Database of crime records will help in investigation, policy making, data analytics, research and providing citizen services. The access has been restricted only to authorized officials to protect Privacy of individual and concerns of National security.
- The portal also generates various **thematic reports of trends of incidence of crime** across the country to facilitate policy analysis and undertaking targeted interventions.

> **Crime and Criminal Tracking Network and Systems (CCTNS)**
>
> It is a project of MHA launched in 2009 which aims to:
>
> - Provide Citizen Centric Police Services via a web portal.
> - Pan India search on National database of Crime & Criminal records.
> - Crime and Criminal reports at State and Centre.
> - Computerization of Police Processes.

> **Inter-operable Criminal Justice System (ICJS)**
> - It is a component of CCTNS
> - ICJS aims to integrate the CCTNS project with the **e-courts and e-prisons databases** initially and later to all components of criminal justice system.
> - Thus it will help in providing speedy justice through access of CCTNS to the Judiciary, Police and Prisons to facilitate expeditious and informed decisions and aid investigations.

4.4. FREE MOVEMENT REGIME WITH MYANMAR

Why in news?

Recently government has taken steps to review free movement regime between Indian and Myanmarese citizens.

What is Free Movement Regime (FMR)?

- The tribal communities, particularly Nagas, Singhpos, Kukis, Mizos etc. claim that the boundary between India and Myanmar is inconsistent with the traditional limits of the region they inhabited and they still continue to have trans-border linkages with their kiths and kins.
- The FMR is thus an arrangement to alleviate insecurity of tribals living along India and Myanmar border.
- It permits tribes residing along the border to travel 16 km across the boundary without visa restrictions.
- While India allows Myanmarese nationals to stay 72 hours without visa, Myanmar allows stay of only 24 hours. To resolve this parallel discussions between the two governments have been going on.

Need for reviewing FMR

- **Illegal activities in guise of FMR**: Intelligence Agencies have raised concerns that FMR is being misused by militants and criminals for infiltration, smuggling of weapons, narcotics etc.
- **Differing Protocols between bordering states:** The bordering states had been following different protocols for FMR which may result into a security threat and thus need was being felt to strengthen border security measures between the two countries. Recently government has agreed to devise common standard operating procedures (SOP) regarding FMR for all four states bordering Myanmar.
- **Safe Havens for militants groups** such as the NSCN-K, NSCN-IM, ULFA, PLA, (UNLF-M), have thrived in western Burmese hills partly due to their mobile bases and efficient information network.

- **Complicated nature of terrain:** Transverse mountains, inhospitable terrain, surging rivers and dense forest canopy makes movement of people and development of the region difficult. Thus FMR needs to be reviewed to accommodate development of tribals's interests without creating a security concern for India.
- **Exodus of Rohingyas**: There has been an exodus of Rohingya Muslims in India due to turmoil in Rakhine province of Myanmar. In this context a government panel has also been constituted to examine the present rules and regulations adopted by Border States for implementation of Free movement regime and emerging security issues.

4.5. CREATION OF SPACE, CYBER AND SPECIAL OPERATIONS COMMANDS

Why in news?

Recently, three new formations under Defence Ministry namely Defence Cyber Agency, Defence Space Agency and a Special Operations Division have been proposed.

Background

- The initiative is based on the recommendations of **Chiefs of Staff Committee** (in 2012) which had recommended creation of three joint commands- in the areas of cyber, space and special operations — due to their increased relevance in modern warfare.
- **Joint military Doctrine of the Indian armed forces, 2017** had also underscored the need to prepare the defence forces for the **"emerging triad"** of space, cyberspace and special operations.

Details

- The three organisations will be developed as **Tri-service organisations** to promote integration and jointness among military, air-force and navy in respective domains.
- **Defence Cyber Agency (DCA)** will work in close co-ordination with the National Cyber Security Advisor. Its experts will be distributed to various formations of the Army, Navy and IAF, and will focus on non-civilian cyber issues, including safeguarding critical infrastructure.
- **Defence Space Agency (DSA)** will work closely with ISRO and DRDO for better utilisation and

SUPER SPECIAL OPS

India will we be creating a Defence Cyber Agency, a Defence Space Agency and a Special Operations Division to handle the rapidly-expanding challenges in these crucial spaces in a synergised manner.

SPACE
- There are 300 military satellites around the earth. The US owns 50% of them, followed by Russia and China
- India's first dedicated military satellite, Rukmini (GSAT-7), was launched in 2013
- The GSAT-6 with an 'S' Band for communications, launched for 3 Services in August

CYBER SPACE
- Countries have cyber weapons to cripple strategic, financial and energy networks
- 3 Services have separate cyber cells but they are restricted to cyber-security
- No advanced cyber warfare capabilities

SPECIAL OPERATIONS
- Several nations have dedicated commands for clandestine warfare
- The army has 9 Para-SF &5 Para (airborne) battalions used more as tacticaltroops than as strategic assets

integration of space resources including information from surveillance satellites.

- **Special Operations Division (SOD)** will have central pool of personnel from the Special Forces of the Army (Para commandoes), Navy (Marcos) and IAF (Garud's). They will be equipped and trained together for unconventional warfare capabilities.
- The agencies will be headed by officers of the rank of Major General and equivalent in the Navy and Indian Air Force.
- These commands were recommended to be set up by the Naresh Chandra Task Force, 2012.

Significance

- **Cyberspace as Fifth Dimension of warfare:** Cyberspace applications today include surveillance, intelligence and actual conduct of military operations - both defensive and offensive. Attacks on critical ICT networks can provide significantly higher military advantages than physical attacks.
- **International Comparisons:** China has demonstrated potent military space and cyberspace capabilities, ranging from advanced ASAT (anti-satellite), directed-energy laser weapons and cyber-weapons. Thus it is indispensable that India also develops it's in house capabilities in cyber, space and special operations domain.
- **Special Operations**: India had launched surgical strikes against Pakistan last year but they were mainly military led operations. The new agencies in cyber and space give us the capability to 'plan' and assist the Special Forces to 'conduct' special operations.

4.6. INTEGRATED CHECK POSTS

Why in news?

Cabinet recently proposed to set up 13 new Integrated Check Posts (ICPs) to encourage India's engagement with SAARC countries along with Thailand and Myanmar.

About ICP's

- They help in securing the country's borders against

> **Land Ports Authority of India (LPAI)**
> - It is a **statutory body** under the, Department Of Border Management, **Ministry of Home Affairs**.
> - It aims to develop, sanitize and manage the facilities for cross-border movement of passengers and goods at designated points along the international borders of India.

hostile elements and putting in place systems that are able to interdict such elements while facilitating legitimate trade and commerce.
- They provide all facilities like warehouses, parking lots, banks, hotels etc. in a single integrated complex to complement existing infrastructure available with Customs, Immigration and other regulatory agencies.
- These Integrated Check Posts (ICPs) would house all regulatory agencies like Immigration, Customs, border security, etc.
- They are managed by **Land Ports Authority of India (LPAI).**
- **13 proposed ICP's are**

Location	State	Border
Petrapole	West Bengal	Ind-Bangladesh
Hili	West Bengal	Ind-Bangladesh
Chandrabangha	West Bengal	Ind-Bangladesh
Sutarkhandi	Assam	Ind-Bangladesh
Dawki	Meghalaya	Ind-Bangladesh
Akhaura	Tripura	Ind-Bangladesh
Kawarpuchiah	Mizoram	Ind-Bangladesh
Raxaul	Bihar	Ind-Nepal
Jogbani	Bihar	Ind-Nepal
Sunauli	UP	Ind-Nepal
Rupaidiha	UP	Ind-Nepal
Attari	Punjab	Ind-Pakistan
Moreh	Manipur	Ind-Manipur

4.7. INS KILTAN

Why in news?

Recently INS Kiltan (P30), Anti-Submarine Warfare (ASW) stealth corvette was commissioned into the Indian Navy.

Details

- INS Kiltan is third of the four kamorta class anti-submarine warfare corvettes being built under naval modernisation project P-28.
- INS Kamorta and INS Kadmatt which were two ships constructed earlier under the same project. The fourth ship INS kavaratti is still under construction.
- It is India's first major warship to have a superstructure of carbon fibre composite material resulting in improved stealth features, lower top weight and maintenance costs.
- It was designed by Directorate of Naval Design and constructed by Garden Reach Shipbuilders & Engineers Limited, Kolkata.

5. ENVIRONMENT

5.1. PESTICIDE POISONING

Why in News?

Recently, NHRC issued notices to the Centre as well as the Maharashtra government, for death of farmers and after inhaling poisonous pesticide in Yavatmal district.

Issue Involved

- The cotton plants **grew unusually tall** this year, up to 6 feet, and attracted pests, despite being resistant to bollworms. While spraying pesticides above their head, farm workers inhaled some pesticide particles.
- The **unusually humid conditions** and the **high density of cotton crop** also made farmers vulnerable to chemical contact while spraying pesticides.
- Farmers have been practicing the **unscientific mixing of chemicals** to tackle various types of pests. Moreover, farmers often get daily wage labourers without protective gear to spray extensively per day.

Facts about Pesticides
- Pesticide can be termed as substance used to kill, repel, or control certain forms of plant or animal life that are considered to be pests.
- It includes herbicides for destroying weeds and other unwanted vegetation, insecticides for controlling a wide variety of insects, fungicides used to prevent the growth of molds and mildew, disinfectants for preventing the spread of bacteria, and compounds used to control mice and rats.
- WHO classifies pesticides into four toxicity classes: Class I – a: extremely hazardous, Class I – b: highly hazardous, Class II: moderately hazardous, Class III: slightly hazardous.
- There are 18 class I pesticides allowed to be used which is about 30 per cent of total pesticides consumption of India.

Benefits of Pesticides
- Increased food production, increased profits for farmers and the prevention of diseases.
- Reduces the amount of time required to manually remove weeds and pests from fields.

Hazards of pesticides
- Potential risk to humans and other life forms and unwanted side effects to the environment.
- Pollutes both ground and surface water
- It is toxic to a host of other organisms including birds, fish, beneficial insects, and non-target plants thereby, drastically alter the natural balance of the ecosystem.
- It leads to bioaccumulation.

Government Initiatives for pesticide

- **Insecticide Act 1968,** was enacted to regulate imports, manufacture, storage, transport, sale, distribution and use of insecticides with a view to prevent risk to human beings and animals.
- Approval for the use of pesticides and new formulations on crops is given by the **Registration Committee of the Central Insecticide Board**. The health and family welfare ministry monitors and regulates pesticide levels in food, and sets limits for residues in food commodities.
- **Anupam Verma Committee** has recommended a ban on 13 'extremely hazardous' pesticides , phasing out of six 'moderately hazardous' ones by 2020, and review of 27 pesticides in 2018.
- Department of Agriculture, Co-Operation & Farmers Welfare (DAC&FW) has launched a scheme "**Strengthening and Modernization of Pest Management Approach in India**" to promote **Integrated Pest Management (IPM)**.
- **"Grow Safe food"** Campaign has been initiated to create awareness about the safe and judicious use of pesticides among the various stakeholders.

Integrated Pest Management (IPM)
- It is an eco-friendly approach which aims at keeping pest population at below economic threshold levels.
- It does that by employing all available alternate pest control methods and techniques such as cultural, mechanical and biological with emphasis on use of bio-pesticides and pesticides of plant-origin like Neem formulations.
- The use of chemical pesticides is advised as a measure of last resort when pest population in the crop crosses economic threshold levels (ETL).
- National Policy statement on IPM was made in 1985 and later supported by National policy on Agriculture - 2000 and National policy on Farmers - 2007.

- India is signatory to **United Nations Environment Programme (UNEP) led Stockholm Convention** for persistent organic pollutants and **Rotterdam convention** which promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labeling, include directions on safe handling, and inform purchasers of any known restrictions or bans.

Way Ahead

- Loopholes such as clarity on qualification for manufactures, sellers, stockists and commercial pest-control operators should be effectively fixed by the passing of **Pesticides Management Bill 2017.**
- As International Code of Conduct on Pesticide Management (jointly released by FAO and WHO) suggested that farmers should avoid those pesticides whose handling and application require the use of expensive uncomfortable protective equipment, especially in the case of small-scale users and farm workers in hot climates.

5.2. DISASTER-RELATED DISPLACEMENT IN INDIA

Why in News?

- According to an **UN Office for Disaster Risk Reduction (UNISDR)** report, India has been ranked as the world's most disaster-prone country for displacement of residents.

Highlight

- According to report, on an average **13.9 million people each year** are displaced due to natural disaster with eight of the top ten most disaster prone countries being in South and South-east Asia.
- The study used Global Disaster Displacement Risk Model which studied displacement from the destruction of housing **caused by earthquakes, tsunamis, riverine floods and tropical cyclones** leaving out slow on-set disasters attributed to drought and sea-level rise.
- The model has also been used to calculate estimates of future economic losses from natural hazards.
- The estimation of displaced people in India may be on the lower side as it does not include people evacuated before calamities.
- Report forecast **a continued rise in homelessness** among people in the world's most disaster prone countries unless significant progress is made in managing disaster risk.

10 NATIONS WITH THE HIGHEST DISASTER DISPLACEMENT

Nation	Displacement
India	23L
China	13L
Bangladesh	12L
Vietnam	10L
Philippines	7,20,000
Myanmar	5,70,000
Pakistan	4,60,000
Indonesia	3,80,000
Russia	2,50,000
USA	2,30,000

The data is based on a study of 204 countries and territories by the internal Displacement Monitoring Centre of the Norwegian Refugee Council and the UN Office for Disaster Risk Reduction

About UNISDR
- Established in 1999, as part of the United Nations Secretariat.
- It serves as the focal point for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socio-economic and humanitarian fields.
- Headquarter: Geneva; Report: Global Assesment Report
- It supports the implementation, follow-up and review of the **Sendai Framework for Disaster Risk Reduction**.

Issues involved

- **Humanitarian crisis**: The displaced often experience discrimination in the provision of assistance, as there are limited resources to share.
- **Gender violence**: Sexual abuse and rape of women is unfortunately common among women displaced by both natural disasters and conflict.

- **Breeding ground for extremism**: Displaced people are often more susceptible to recruitment by terrorist organisation.
- **Spatial variation:** Natural disasters in poorer countries have higher casualties than disasters of similar magnitude in wealthier countries.
- **Non recognition**: Those displaced due to disasters are not considered to be refugees under international law, leaving them without any basic rights of rehabilitation and compensation.

Way forward

- **Incorporating DRR in Planning**: Investments in disaster risk reduction and climate resilience as part of overall sustainable development planning will reduce the scale of future displacement associated with disasters.
- **Respecting Human Dignity**: Consider the human rights of those displaced by natural disasters in developing effective humanitarian response by **providing rights-based approach**.

5.3. POLLUTION RELATED DEATH

Why in news

Recently a report on pollution has been released by The **Lancet Commission on Pollution and Health.**

Highlight of Report

- Pollution **was responsible for** 9 million deaths in 2015 worldwide. Mortality due to pollution was more than a high-sodium diet (4.1 million), obesity (4 million), alcohol (2.3 million), road accidents (1.4 million), and child and maternal malnutrition (1.4 million).
- **Increasing Problem in developing countries**: One in six people die due to pollution globally and most of them occur in developing countries like India.
- **Economic loss**: Financial cost from pollution-related death, sickness and welfare is **about 6.2% of the global economy.** Economic loss due to climate-related disasters is far greater is lower-income economies in proportion of their gross domestic product when compared to higher-income countries.
- **Increasing Unemployment:** an average **of 5.3% fall in productivity for rural labour** globally since 2000 **as a result of rising temperatures.** This in 2016 was manifested by effectively **taking out more than 920,000 people globally out of the workforce, with 418,000 of them in India alone.**

> **PM2.5 (particulate matters less than 2.5 micron)-** It is a fine particle that can settle deep in the lungs and be absorbed in the bloodstream, which can lead to respiratory problems, cardiovascular diseases and lung cancer.

- **Indian scenario**:
  - ○ Of the 2.51 million deaths in India, 1.81 were related to air pollution, 0.64 million to water pollution, 0.17 million to occupational exposure and 95,000 linked to lead pollution.
  - ○ **Sources of Pollution**: Particulate matter (2.5 PM) is a major reason behind air pollution in India from different sources like coal power plants, transport, household pollution, waste, shipping, agriculture and others.
  - ○ **Indian cities on radar**: Half of the top 20 polluted cities in the world are in India.

> **Pollution prevention as an economic activity**: Report cited US example where every dollar invested into pollution prevention since 1970, has returned thirty dollars to the economy as a benefit.

Way forward

- Report provided short term, medium term and long term interventions against pollution.
  - ✓ **Short term**: identify sources of pollutants to enable targeted interventions.
  - ✓ **Medium term**: criteria for cleaner vehicles including testing stations control on diesel vehicles, incentives for use of electric and hybrid vehicles, upgrading public transport.
  - ✓ **Long term**: expanding public transport, constructing walk ways and cycle paths, and create mechanisms to discourage vehicle use.

5.4. OUTCOME OF PAT SCHEME

Why in news

Recently, first report card of a government-promoted **PAT scheme** was released.

Background

Government in 2012 set target to save energy in eight energy intensive sectors, under the Energy Conservation Act, 2001.

> **Eight Energy Intensive Sectors**: include Thermal Power plants, Iron & Steel, Cement, Fertilizer, Aluminum, Textile, Pulp & Paper and Chlor-alkali.

Finding of report

- It shows that energy-intensive industries in India have reduced their carbon emissions by 31 million tonne, or 2% of India's total annual emissions and saved over Rs 9,500 crore through more efficient energy use in the three years between 2012 and 2015.
- It also indicates towards **gradual greening of Indian industry**, as 5,635 MW of electricity generation was avoided, accounting to monetary savings of Rs 37,685 crore.

About PAT (perform, achieve & trade) scheme

- It was launched by **Bureau of Energy Efficiency (Ministry of Power)** under the **National Mission for Enhanced Energy Efficiency (NMEEE).**
- It is a **market based mechanism** in which sectors are assigned efficiency targets. Industries which over-achieve target get incentives in the form of **energy saving certificates (ESCert).**
- These certificates are tradable at two energy exchanges viz**. Indian Energy Exchange and Power Exchange India**, where it can be bought by other industries which are unable to achieve their targets.
- **PAT cycle I (2012-13 to 2014-15),** was applicable on **eight energy intensive sectors**. There are about **478 numbers of Designated Consumers in these 8 sectors** which account for about 165 million tonnes oil equivalent of energy consumption annually (**33% of India's primary energy consumption**).

> **National Mission for Enhanced Energy Efficiency (NMEEE)**
> It is one of the eight national missions under the National Action Plan on Climate Change (NAPCC). NMEEE consist of four initiatives to enhance energy efficiency in energy intensive industries which are as follows:
> - **PAT (perform, achieve & trade) scheme:** Improving efficiency in energy intensive sector.
> - **Energy Efficiency Financing Platform (EEFP):** provides a platform to interact with financial institutions and project developers for implementation of energy efficiency projects
> - **Framework for Energy Efficient Economic Development (FEEED):** focuses on developing appropriate fiscal instruments to promote energy efficiency financing
> - **Market transformation for Energy Efficiency (MTEE):** Accelerating shift toward energy efficient appliances.

- **PAT cycle II (2016 2018-19):** includes **8 sectors of PAT I and 3 new sectors** viz, railways, discoms and petroleum refineries.
- **PAT cycle III (2017-20):** Under it, 116 new units have been included and given a reduction target of 1.06 million tonnes of oil equivalent.

5.5. CO2 IN ATMOSPHERE HITS RECORD HIGH: UN

Why in news

According to the **World Meteorological Organization's (WMO) Greenhouse Gas Bulletin**, the concentration of carbon dioxide (CO_2) in the atmosphere has hit a new high.

> **About WMO**
> - It is a specialized agency of the **United Nation.**
> - It studies the behavior of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.
> - **Greenhouse Gas Bulletin** is WMO annual flagship report, which tracks concentrations of gasses in the atmosphere in the post-industrial era (since 1750).
> **Global Atmosphere Watch (GAW) programme of WMO**
> - It provides reliable scientific data and information on the chemical composition of the atmosphere, its natural and anthropogenic change, and helps to improve the understanding of interactions between the atmosphere, the oceans and the biosphere.

- GAW focal areas are aerosols, greenhouse gases, selected reactive gases, ozone, UV radiation and precipitation chemistry (or atmospheric deposition).

Highlight

- Globally average concentrations of CO_2 reached 403.3 parts per million in 2016, up from 400.00 ppm in 2015 because of a **combination of human activities and a strong El Nino event.**
- The findings are based on observations from around the world collected by the **WMO Global Atmosphere Watch Programme.**
- It adviced for a rapid cuts in CO_2 and other greenhouse gas emissions, to achieve the target set **under Paris climate change agreement** and **Sustainable development Goal 13.**

Related information

- According to report, concentrations of CO_2 are now 145% of pre-industrial (before 1750) levels.
- **Atmospheric methane** reached a new high of about 1853 parts per billion (ppb) in 2016 and is now 257% of the pre-industrial level.
- **NO2 atmospheric concentration** in 2016 was 328.9 parts per billion which is 122% of pre-industrial levels.

5.6. ILLEGAL SAND MINING

Why in News?

Gujarat government will be deploying drones for surveillance of illegal sand mining in and around the river beds of Sabarmati, Tapi and Narmada.

Sand Mining in India

- Sand is a minor mineral under the **Mines and Minerals (Development and Regulation) Act, 1957** therefore it comes under the state government regulations.
- MMDR Act also empowers state governments to frame rules to prevent illegal mining, transportation and storage of minerals.
- According to Ministry of Mines, in 2015-16, there were over 19,000 cases of illegal mining of minor minerals, which including sand.

IMPACTS ON	DESCRIPTION
BIODIVERSITY	Impacts on related ecosystems (for example; fisheries)
LAND LOSSES	Both inland and coastal through erosion
HYDROLOGICAL FUNCTIONS	Change in water flows, flood regulation and marine currents
WATER SUPPLY	Through lowering of the water table and pollution
INFRASTRUCTURES	Damage To Bridges, River Embankments And Coastal Infrastructures
EXTREME EVENTS	Decline of protection against extreme events (flood, drought, storm surge)
CLIMATE	Directly through transport emissions
LANDSCAPE	Coastal erosion, changes In deltaic structures, quarries, pollution of rivers

- According Indian Bureau of Mines to sand is the fourth most mined minor mineral.
- With increasing urbanization and government's push for growth in infrastructure, the demand of sand will only rise because sand is the main ingredient in making concrete and cement. This could further spike illegal mining activities.

Steps taken to prevent Illegal Sand Mining

- Government has amended the Environment Impact Assessment (EIA) Notification 2006 to make environmental impact clearance mandatory for small-scale sand mines.

- It also provided for the creation of two bodies—a **District-level Expert Appraisal Committee** (DEAC) to assess the environmental impact of mines and **a District Environment Impact Assessment Authority** (DEIAA), to prepare a District Survey Report for tabulating sand mining potential of the district and for granting clearances.
- Ministry of Environment, Forest and Climate Change has issued Sustainable Sand Mining Management

Salient features of the Sustainable Sand Mining Management Guidelines, 2016:
● It allows environment clearances for up to five hectare of mine lease area for sand and minor minerals to be done at the district level by the District Environment Impact Assessment Authority headed by the District Collector.
● States will give clearances for mine lease areas up to 50 hectares, while the Centre would give permissions for areas larger than 50 hectares.
● It calls for use of technology for stringent monitoring of sand mining through tools such as bar coding, remote sensing etc.
● It calls for promotion of manufactured sand, artificial sand, fly ash and alternative technologies in construction materials and processes for reducing the dependence on naturally occurring sand and gravel.
● It also calls for training of architects and engineers, new laws and regulations, and positive incentives to initiate a shift for lowering dependency on sand.

Guidelines, 2016, which addresses the issues relating to regulation of sand mining.
- Ministry of Mines through the Indian Bureau of Mines (IBM, has developed **Mining Surveillance System** to use the space technology to check illegal mining.
- Bureau of Indian Standards evolved alternatives for sand such as slag, waste from steel industry; fly ash, waste from thermal power plants; crushed over-burnt bricks; and tiles, waste from clay brick and the tile industry etc.

5.7. GUIDELINE FOR GROUND WATER USAGES BY INDUSTRY

Why in news?
- Central Ground Water Authority (CGWA) proposed the new guidelines for ground water usages by industry, mining and infrastructure dewatering projects.

Proposed Guidelines of CGWA

The draft guidelines that comes after several orders from the **National Green Tribunal** asking the government to ensure that groundwater withdrawal is in accordance with the law, mooted for-

- Ensuring a **uniform regulatory framework** across the country so that the discriminatory practices in regulation are either mitigated or minimized.
- Need for a **no-objection certificate (NOC)** by all

Legislative and Policy Framework
- **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.
- **Article 21** provides for access to drinking water and on the right to safe drinking water.
- Water falls under the **State List** of the Constitution. However, the central government can legislate on environmental matters including promotion of groundwater protection and promotion of sustainable use.
- **The Environment (Protection) Act, 1986** for the purpose of regulation and control of ground water development and management.
- **The Modal Bill** for Ground Water Management **2011** seeks to implement the **principle of subsidiarity** which involves an aquifer situated entirely within a village will be under the direct control of the **Gram Panchayat**.
- **National Water Policy 2012** suggested key principles relating to demand management, usage efficiencies, and infrastructure and pricing aspects of water.
- Under the Schedule-I of the MGNREGA, the **water conservation and water harvesting structures** to augment **ground water constitute** a special focus area for MGNREGA works.
- According to CGWA there are four categories of areas based on their use of groundwater namely ;
  o **'Safe' areas** which have groundwater potential for development.
  o **'semi-critical' areas** where cautious groundwater development is recommended.
  o **'Critical' and 'over-exploited' areas** are those where there should be intensive monitoring and evaluation and future development be linked with water conservation measures.

Central Ground Water Authority
- Statutory body under Ministry of Water Resources, River Development and Ganga Rejuvenation
- Mandate under **Section 3 (3)** of the Environment (Protection) Act, 1986 to regulate and control development and management of ground water resources in the country.

industries, mining and infrastructure dewatering projects whether existing or new that draw or propose to draw groundwater. However, farmers have been exempted from obtaining NOCs.

> **Ground water Extraction and Usages**
> - 89% of ground water extracted is used in irrigation sector followed by domestic use (9%), industrial use (2%).
> - 50% of urban water requirements and 85% of rural domestic water requirements are also fulfilled by ground water.
> - As per an official assessment of groundwater in India, of the 6,607 assessment units (blocks, mandals, talukas and districts), 1,071 are over-exploited, 217 are critical, 697 are semi-critical, 4,580 are safe and 92 are saline.

- No NOC for extraction of groundwater for **construction activities** in project in critical and over-exploited areas.
- Levying a new **water conservation fee** based on quantum of groundwater extracted per unit area (may vary from ₹1 to ₹ 6 per cubic metre where a cubic metre is 1,000 litres)
- **Exemption** of government infrastructure projects, government water supply agencies and group housing societies/ private housing societies with only basic amenities, from the water conservation fee.
- **Removal of the provisions regarding artificial recharge** and construction of artificial recharge structures by project proponents as stipulated in CGWA Ground water guideline of 2015.

5.8. CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS

Why in News?

- In the 12th session of the Conference of the Parties (CoP) to the CMS, several species of vultures, including four that have India on their migratory routes, were awarded the highest protection.

> **Convention on the Conservation of Migratory Species of Wild Animals (CMS)**
> - It is the only global convention specializing in the conservation of migratory species, their habitats and migration routes
> - It comes under the aegis of the **United Nations Environment Programme**.
> - It provides a global platform for the conservation and sustainable use of migratory animals and their habitats.
> - **Appendix I of the Convention**: It includes Migratory species threatened with extinction
> - **Appendix II of the Convention**: It includes Migratory species that need or would significantly benefit from international co-operation.

Highlight of the conference

- Species of vulture which received highest protection under the convention (Appendix I) **are the red-headed vulture**, **white-rumped vulture, Indian vulture** and **slender-billed vulture**.
- **Threat to vultures:** Vultures are faced with threats such as poisoning, hunting, collision with electricity cables and habitat degradation.

Other important highlights

- **Whale shark,** which inhabits the Indian Ocean, also got global protection which are on the verge of extinction due to over-fishing, vessel strikes etc
- **Caspian seal** has also been identified for conservation. It is the only marine mammal found in the world's largest inland sea, where its migration is prompted by ice formation and foraging.
- It was also decided that **India will host** 13th **CMS COP.**

> **Vulture in India**
> - There are nine species of vultures in India out of which, 3 have been on **critically endangered list of IUCN** and also listed under **Schedule I of the Wild Life (Protection) Act, 1972**. These are:
>   ✓ White-backed Vulture (Gyps bengalensis)
>   ✓ Slender billed Vulture (Gyps tenuirostris)
>   ✓ Indian Vulture/long-billed vulture (Gyps indicus)
>
>   Note: Red-headed vulture is on **critically endangered list of IUCN** but not listed under **Schedule I of the Wild Life (Protection) Act, 1972**
>
> - They are known as **Natural Sanitary Workers**, essential for environmental and ecological balance

Other Conservation step
- **Prohibition on usage of anti-inflammatory Diclonefac**, as it was found that the use of Diclofenac has caused steep decline in the population of vultures in the country.
- **National Action Plan (2006) on Vulture Conservation**: The Action Plan provides for strategies, actions for containing the decline of vulture population through ex-situ, in-situ vulture conservation.
- **Vulture Safe Zones (In-situ conservation initiative):** It is designated as natural habitat of wild vultures and is made free of the presence of the drug diclofenac in animal carcasses. It aims to protect and increase the remaining vulture populations and act as future release sites for the captive-bred vultures.
- **Ramadevarabetta Vulture Sanctuary**: It is India's **only** vulture sanctuary in Karnataka

5.9. NATIONAL WILDLIFE ACTION PLAN AND SECURE HIMALAYA

Why in news?

Recently, India hosted Global Wildlife Program during which India's National Wildlife Action Plan (NWAP) for the period 2017-2031 and Secure Himalaya were released.

Global Wildlife Program
- **"Global Partnership on Wildlife Conservation and Crime Prevention for sustainable development"** program also known as **Global Wildlife Program (GWP)** was launched in response to increasing crime against animals in natural habitat.
- It works towards **wildlife conservation and sustainable development** by fighting against illicit trafficking in wildlife through a holistic comprehensive approach.

Partner Countries of Global Wildlife Program:
- **Africa:** Botswana, Cameroon, Ethiopia, Gabon, Kenya, Malawi, Mali, Mozambique, the Republic of Congo, South Africa, Tanzania, Zambia, and Zimbabwe
- **Asia:** Afghanistan, India, Indonesia, the Philippines, Thailand, and Vietnam

Implementing Agencies: World Bank Group, United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) & Asian Development Bank (ADB).

Other Collaborating Partners: International Consortium to Combat Wildlife Crime (ICCWC), Wildlife Conservation Society (WCS), The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Secretariat, World Wildlife Fund (WWF), International Union for the Conservation of Nature (IUCN), Traffic, WildAid

Priorities of Global Wildlife Program
- Promoting community based resource management, achieve biodiversity goals and tourism development
- Increasing knowledge sharing and enhance collaboration,
- Implement monitoring and evaluation framework
- Promote donor cooperation and ensure proper monitoring of international fund

5.9.1. NATIONAL WILDLIFE ACTION PLAN (NWAP) FOR 2017-2031

- The NWAP was first conceived in 1982 which came into effect from 1983 through 1996.
- The National Wildlife Action Plan 2017-2031 has been drafted by a 12 member committee headed by J. C. Kalra with special emphasis on **people participation**.
- **Important Components of NWAP 2017-2031**
  - strengthening and promoting the **integrated management of wildlife and their habitats**
  - adaptation to **climate change** and promoting integrated sustainable management of **aquatic biodiversity** in India
  - promoting **eco-tourism, nature education and participatory management**
  - strengthening **wildlife research** and monitoring of **development of human resources** in wildlife conservation
  - **enabling policies and resources** for conservation of wildlife in India.
- The plan has adopted the **Landscape approach** rather than the earlier strategies more concentrated on national parks and wildlife sanctuaries.
- **The Landscape approach** is based on the importance of conservation of uncultivated flora and undomesticated fauna that had ecological value irrespective of their place of occurrence.
- Plan also highlights role of **private sector** in the wildlife protection by ensuring adequate fund flow from the **Corporate Social Responsibility (CSR) fund**.

- It also emphasizes upon preservation of **genetic diversity** and sustainable utilization of species and ecosystem.

5.9.2 SECURE HIMALAYA

- The project aims to
  - **Sustain critical ecosystem services** (such as fresh water, erosion reduction, mineral resources, land for food crops, medicinal plants, etc.)
  - **conserve vulnerable snow leopards** and other endangered species by securing community livelihoods, enhancing enforcement, strengthening community institutions,
  - Improving **knowledge, advocacy and information systems** for promoting landscape-based conservation approaches.
- Specific landscapes (Alpine pastures, sub-alpine forest and critical watersheds) under SECURE Himalayas are:
  - Changthang (Jammu and Kashmir)
  - Lahaul – Pangi and Kinnaur (Himachal Pradesh)
  - Gangotri – Govind and Darma – Byans Valley in Pithoragarh (Uttarakhand)
  - Kanchenzonga – Upper Teesta Valley (Sikkim).

5.10. WATER MANAGEMENT COMMITTEE SET UP IN NORTH-EAST

Why in news?

- Government has set up a committee for North- East India in the aftermath of destructive flood in the region to develop a strategy for management of region's water resources. Ministry of Development of North-Eastern Region will be coordination agency and the committee will submit the plan of action by June 2018.

Terms of Reference of the Committee

- Appraisal of existing mechanism and arrangements for management of water resources in NER.
- Identification of gaps in existing mechanisms.
- Suggesting policy mechanism for optimal utilization of resources and accelerating development in the region.
- Developing a Plan of Action for integrating existing schemes and programs of Union and State governments.

Need for water resource management in North East

- Hydropower – at present there is only 7% of potential hydropower generation capacity that has been harnessed. Of the country's total capacity of 145,000 megawatt (MW), north-eastern states account for 58,000MW, with Arunachal Pradesh having a potential of around 50,064MW.
- Agriculture – The region is endowed with perennial water supply and favourable climate for horticulture which could be harnessed through proper crop planning and sowing pattern.
- Bio-diversity and conservation – Being one of the biodiversity hotspots of the world, the region requires special attention towards conservation of flora, fauna and culture.
- Reduce flood damage erosion – Some of the states such as Meghalaya have been badly effected due to heavy down pour and surface run off.
- Inland water transport – River Brahmputra currently facilitates National Waterway 2 from Dhubri to Sadiya. The NER has about 1800km of navigable inland water ways that can be used for transportation.

5.11. RAPID WARMING OF ARABIAN SEA

Why in news?

Recently, it was found that the rapid warming of Arabian Sea is the cause of increase in erratic rainfall in central India.

Findings of the Study

- Researchers from Pune based Indian Institute of Tropical Meteorology, IIT Mumbai and University of Maryland, USA found a trend of rising erratic events between 1950 and 2015 in Central India.

- The reason behind these events were identified as:
  - Warming of Arabian Sea in India and Pakistan region which has led to presence of large amount of moisture in atmosphere
  - Increase in Carbon emission in post industrialization period has led to global warming thus increasing the sea surface temperature of Arabian Sea.
  - Increased El Nino events have raised the temperature of Arabian Sea thus increasing the number of cyclones originating in Arabian Sea also.
  - The impact of these events has not only changed pattern of rainfall but also the duration and amount of rainfall.
- Arabian Sea is more affected as compared to Pacific Ocean and Atlantic Ocean due to its land locked nature which causes the heat to be trapped in its basin area.
- It was earlier believed that depressions formed in Bay Bengal were responsible for heavy rainfall in Central India. However, according to the new study conducted it has been found that Arabian Sea in comparison holds 36% moisture and Bay of Bengal only 26%.
- However, with the continued change in climate and global warming the present trend of warming Arabian Sea and distorting rainfall pattern could further worsen.

5.12. EMISSION NORMS FOR POWER PLANTS IN INDIA

Why in news?

Recently, around 295 coal fired power plants were given deadline extension to meet the new emission norms.

Carbon Emission by Thermal Power Plants

- Ministry of Environment, Forest and Climate Change had notified new environmental norms in December 2015 with respect to suspended particulate matter, sulphur oxide, nitrogen oxide and mercury along with water consumption norms for thermal power stations.
- 90% of the coal fired thermal power plants have still not complied with the norms and around 300 have been given deadline extension even though the deadline for new norms was December 2017.

Gasses emitted by Thermal Power Plants
Sulphur oxides, Nitrogen oxides, mercury carbon dioxide, water vapours and fly ash.
Harmful Effects of sulphur and nitrogen
SOx – Deterioration and corrosion effect on metals, paper, paints, leather, textiles, cements and other building materials, lung diseases specifically affect people with asthama.
NOx – makes children susceptible to breathing problems in winters.
Both the gases together can trigger acid rain.

The reasons for extended deadlines

- High cost to be incurred for retro fitting the existing thermal power plants with flue gas desulfurization systems
- It will increase the cost per unit for the consumers.
- Reluctance on part of private thermal power plants

Other steps taken were

- Installation of continuous emission/effluent monitoring systems (CEMS)
- Revised norms for fly ash utilisation
- Industry specific action plans for critically polluted areas
- Development of green belt in surrounding areas.

5.13. TURTLE SANCTUARY IN ALLAHABAD

- Government has decided to establish Turtle Sanctuary at Allahabad under **Namami Gange programme**.
- It includes setting up of a **Turtle Rearing Centre**, **River Biodiversity Park** at **Sangam** (confluence of the rivers Ganga, Yamuna and mythical Sarasvati) and **awareness campaign** about the importance of river Ganga and imperativeness of its conservation.
- It would contribute to the sustenance of more than 2,000 aquatic species including some of the most endangered fauna like turtles, the National Aquatic Animal — Gangetic dolphin (Platanista gangetica), the Gharial (Gavialis gangeticus) and numerous migratory and resident birds.
- Previously, Turtle sanctuary was set up in Varanasi in 1989 under the Ganga Action Plan-I.

5.14. ICHTHYOSAUR FOSSIL DISCOVERED

Why in news

Scientists in India have discovered a 152 million-year-old fossil of an **Ichthyosaur** - an extinct marine reptile - in the western state of Gujarat.

Highlight

- It looks like a mashup of a dolphin and lizard hence also known as **'fish- lizards' in Greek.**
- Many ichthyosaur fossils have been found in North America and Europe, but this is the **first time** an ichthyosaur fossil has been **discovered in India.**
- The fossil belongs to Jurassic era and was found inside rocks belonging to **Mesozoic Era**.
- Discovery may throw light on whether there was any marine connection between India and South America about 150 million years ago, as the fossil record in the Southern Hemisphere has mostly been limited to South America and Australia.

6. SCIENCE AND TECHNOLOGY

6.1. NOBEL IN CHEMISTRY

Why in News?

- Nobel Prize for Chemistry has been awarded to Jacques Dubochet, Joachim Frank and Richard Henderson for the development of high-resolution cryo-electron microscopy.

More on News

- Cryo-electron microscopy is a method for imaging frozen-hydrated specimens at cryogenic temperatures by electron microscopy.
- Specimens that are to be analysed would remain in their native state without the need for dyes or fixatives, which would allow the study of fine cellular structures, viruses and protein complexes at molecular resolution.
- Contrary to earlier electron micro-scoping, cryo-electron miscroscopy can view solutions (as water would not evaporate under microscope's vacuum).
- This method helps in better imaging 3D structures of biomolecules.
- It helps researchers to freeze biomolecules mid-movement and visualise the processes they have never previously seen.
- It has been used to image the elusive Zika virus and its medicine associated research.
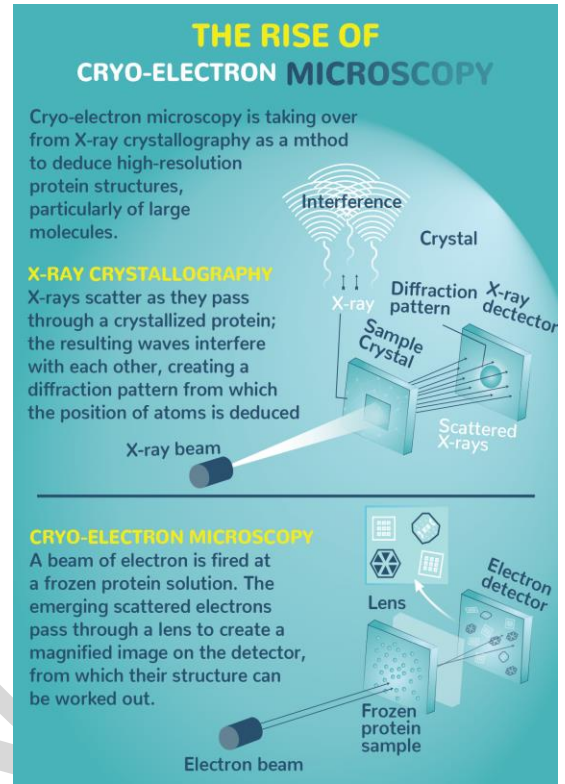
6.2. NOBEL PRIZE IN PHYSICS

Why in News?

- Nobel Prize for Physics has been awarded to Scientists Rainer Weiss, Barry Barish and Kip Thorne for contributions to the **LIGO detector** and the **observation of gravitational waves.**

What are Gravitational Waves and LIGOs?

- Einstein's general theory of relativity predicts that massive accelerating objects would disrupt space time thereby generating waves of distorted space. These are known as gravitational waves.
- The most powerful gravitational waves are created when objects move at very high speeds, when a star explodes asymmetrically (called a supernova), when two big stars orbit each other ,when two black holes orbit each other and merge.
- To detect these waves scientists developed the Laser Interferometer Gravitational-Wave Observatory or LIGO.
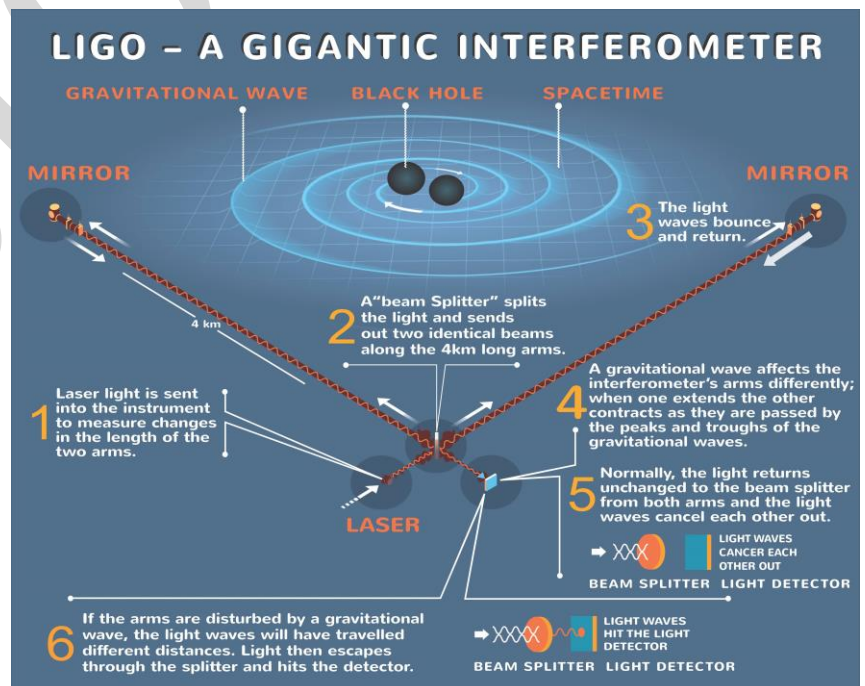
Significance

- It offers a new way to observe the cosmos, helping scientists explore the nature of mysterious objects including black holes and neutron star.
- It helps in solving some big mysteries in astrophysics – including the cause of bright flashes of light known as "gamma ray bursts" and even the origins of heavy elements such as gold.
- Indian contribution played a major role, especially in extracting signal from noise, in detecting the gravitational waves with the engagement of 40 scientists from 13 Indian institutions.

> **Related recent developments-**
> - There was first ever direct observation of gravitational waves emerging from the merger of two neutron stars. Earlier detections were black hole -black hole mergers.
> - The Laser Interferometer Gravitational-wave Observatory (LIGO) lab in India will be built in Maharashtra's Hingoli District.

6.3. NOBEL PRIZE IN MEDICINE

Why in News?

- Nobel Prize in Physiology or Medicine 2017 was awarded to Jeffrey C. Hall, Michael Rosbash and Michael W. Young for their discoveries of molecular mechanisms controlling the **circadian rhythm**.

More on News

Biological clock associated Factors

- The discoveries explain how plants, animals and humans adapt their biological rhythm so that it is synchronised with the Earth's revolutions.
- The scientist use fruit flies to isolate a gene that controls the normal daily biological rhythm and showed how this gene encoded a protein that accumulates in the cell during the night and degrades during the day.

Significance

- It will assist in further medical research by considering Circadian rhythm as potential factor in health.
- The scientist show why disturbed sleep - like in the case of jet lag, or people with insomnia - can have terrifying knock-on consequences, like an increased risk of various diseases.

> **Circadian rhythm**
> - It is a pattern that guides our bodies when to sleep, rise, eat and regulating many physiological processes.
> - Biological clocks produce circadian rhythms and regulate their timing.
> - It is affected by environmental cues, like sunlight and temperature.
> - It regulates the periods of tiredness and wakefulness during the 24-hour cycle.
> - The biological clock is generated by about 20,000 neurons that form a structure called the suprachiasmatic nucleus (SCN), which is found in the hypothalamus in the brain.
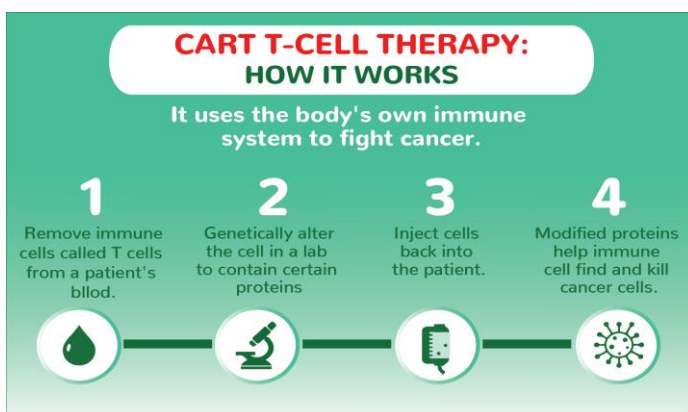
6.4. USFDA APPROVES GENE THERAPY

Why in news?

U.S Food and Drug Administration (USFDA) approved a **Yescarta (axicabtagene ciloleucel) therapy** to treat adults with certain types of large B-Cell lymphoma (blood cancer).

Background

- USFDA in August 2017, approved **Kymriah-cell-based gene therapy**, to treat children and young adults up to age 25, suffering from a form of acute lymphoblastic leukemia (blood cancer).
- Both **Yescarta** and **Kymriah** use **CAR (chimeric antigen receptor) T-cell therapy** for treatment.

CART T-CELL THERAPY: HOW IT WORKS

It uses the body's own immune system to fight cancer.

1 Remove immune cells called T cells from a patient's blood.

2 Genetically alter the cell in a lab to contain certain proteins

3 Inject cells back into the patient.

4 Modified proteins help immune cell find and kill cancer cells.

About Yescarta therapy

- It is a type of gene therapy that turns cells in the patient's body into a "living drug" that targets and kills cancer cells.
- It has been given **Orphan Drug Designation,** under which it will be provided with financial incentives to encourage the development of drugs.

> **Living Drug -** Genetically modified cells are that are infused back into patients in **CAR T-cell therapy**, continue multiplying to fight disease for months or years. That's why these immunotherapy treatments are called **"living drugs."**
> **Orphan Drug -** A biological product or medicine that is intended to treat diseases so rare that sponsors are reluctant to develop them under usual marketing conditions.

- **Side Effects**: It might **cause Cytokine Release Syndrome (CRS)**, a response to the activation and proliferation of CAR T-cells, which leads to high fever and neurological problems. **Other side effects** include serious infections, low blood cell counts and a weakened immune system.

6.5. EMBRYO TRANSFER TECHNOLOGY

Why in news?

Department of Animal Husbandry launched Embryo Transfer Technology to increase the livestock productivity.

Embryo Transfer Technology (ETT)

- It is a technique of **assisted reproduction** in which the **embryo or zygote** is collected from a donor animal with **higher genetic merit** and transferred to a recipient animal which serves as **surrogate** for rest of the pregnancy.
- Government has undertaken a Mass Embryo Transfer programme in Indigenous Breeds under the scheme, **National Mission on Bovine Productivity**.
- The programme is implemented with the objective of conservation and development of indigenous breeds under Rashtriya Gokul Mission.
- Indigenous Cow Breeds such as **Sahiwal, Gir, Red Sindhi, Ongole, Deoni and Vechur** will be the recipient surrogates under the program.
- **Benefits of ETT**
  o Farmers may get 5-6 times increased number of off springs
  o Calves will be of high genetic merit and born disease free.

7. SOCIAL

7.1. DOUBLE BURDEN OF MALNUTRITION IN INDIA

Why in news?

- Recently, Lancet study raised concern about double burden of malnutrition, that is, underweight as well as obese children in India.
- Also, National Nutrition Monitoring Bureau (NNMB) also released its report recently, covering 16 states, to understand the current nutritional status of urban population in India.

Key facts from Lancet study

- India has the highest number of moderately and **severely underweight children** and adolescents in the world, i.e. approx. 97 million out of 192 million world's moderately or severely underweight children and adolescents lived in India in 2016.
- The prevalence of mild to severe underweight under-20s in India is **22.7% among girls and 30.7% among boys**.
- The Lancet study, published recently in 2017, analyzed that the **number of obese children** and adolescents rose from 11 million in 1975 to 124 million in 2016 globally – **a tenfold increase**.
- If these trends continue, there will be **more obese than underweight** children by 2022.
- **Malnourishment and unhealthy eating habits** are killing one-fifth of the world's population. In India also deaths due to **non-communicable diseases (NCDs)** are rising alarmingly.
- One in 12 deaths can be prevented with 30 minutes of **physical activity** 5 days a week.

Key finding of NNMB report of India

- Rajasthan, Kerala, Gujarat, New Delhi, Tamil Nadu, Puducherry have the highest obesity rates.
- There are also increasing cases of hypertension, high cholesterol levels, diabetes in urban population.
- Kerala has the highest prevalence of hypertension as well as high cholesterol in urban men and women while Puducherry has highest prevalence of diabetes.
- Among children, only 57% of children between the ages of 1-3 years & 68% of those between 4-6 years consumed adequate amounts of proteins and calories.
- 34% of men and 44% of women are overweight in India (but by WHO standard more than half of India's urban adults are overweight).
- 13% of men & 11% of women are underweight in India.
- In urban India, 16% of children were born with low birth weight (LBW) which puts them at risk for infections and even early death.

> **Reasons given by NNMB report**
> - Not taking recommended daily intake (RDI) despite improvement in nutritional status
> - Although cereal consumption has reduced in compared to 3 decades ago but intake of fat, sugar and oil have increased
> - 63% of men and 72% of women work for 8 hours per day but they lead a sedentary life.
> - No proper regime of eating, sleeping & doing physical activity is followed
> - Traditional foods are being replaced with packed & processed foods
> - Only 28% of men & 15% of women exercised in the surveyed states
> - Increasing tobacco & alcohol consumption in men & women.

In the context of the double burden of malnutrition, recently **WHO has also released new guidelines** to help trained professionals access and manage obesity in children as childhood obesity is becoming a **'global epidemic'** affecting even the poorer nations.

7.1.1. CHILDHOOD OBESITY

Current situation

- According to a study published in **The New England Journal of Medicine**, India has the second highest number of obese children in the world after China.
- Recognizing that slow progress in tackling obesity in infants, children and adolescents, the Director-General of WHO established the **Commission on Ending Childhood Obesity in 2014** which submitted report in 2016.

- In 2016, an estimated 42 million children under 5 were affected by overweight or obesity and one half of these lived in Asia and one quarter lived in Africa
- According to a study published in Pediatric Obesity, India will have over 17 million children with excess weight by 2025.

Issues related to child obesity

- **Identification of obesity** – in early years is not done as obese child is often thought as a healthy child by parents.
- **Unawareness** – about the diet patterns, physical activity habits etc. which leads to developing of unhealthy environment around children.
- **Increased income and urbanization** - leads to a rise in the consumption of foods high in fats, sugar and salt and low physical activity.
- **Poor sleep patterns** - It also intensifies the effects of genetic risk for obesity
- **Moderate wasting and stunting** – These are also potential risk factors for children becoming overweight or obese.
- **Major risk of NCDs** – such as cardiovascular disease, diabetes, premature death, as well as physical and psychological consequences in childhood.
- **Economic cost** - The annual cost of treating the consequences of obesity will reach a staggering $13 billion in India and $1.2 trillion globally by 2025.

Key suggestions in WHO guidelines

- **Height-weight measurement** - The weight-for-height and their nutritional status of all infants and children aged less than 5 years at primary health-care facilities should be determined to enable comparing with WHO child growth standards.
- **Counselling** – If identified as overweight, counselling should be provided to parents and caregivers on nutrition, eating habits and physical activity including promotion for breastfeeding.
- **Obesity management plan** - If identified as obese, an appropriate management plan should be developed after further assessment by health worker at primary health-care level or an adequately trained professional at a referral clinic or local hospital.
- **Focus on prevention** – and not on providing formulated supplementary foods on a routine basis to children who are moderately wasted or stunted until there is a more definitive evidence base.
- **Tackle obesogenic environment** - By preventing high energy intake and inactive behavior and change the social norms in relation to food and physical activity.

Other suggestions

- **Improving Public policy formulation** such as Hungary does heavy taxation on high salty foods
- **Regulation of marketing** and promotion of unhealthy foods particularly those targeted at children that are high in salt, sugar and fat
- **Labelling -** the role of positive front of pack and standardized global nutrient labelling on packaged foods may help in promotion of healthy foods and lifestyle

> **Earlier steps by WHO**
> - **Global Action Plan for the Prevention and Control of Non Communicable Diseases(NCD) 2013-2020** – to contribute to progress on 9 global NCD targets to be attained by 2025, including a 25% relative reduction in premature mortality from NCDs by 2025 and a halt in the rise of global obesity to match the rates of 2010
> - "**The Ending Childhood Obesity implementation plan**" to implement the recommendations of the Commission on Ending Childhood Obesity identifies 6 key areas of action.
>
>
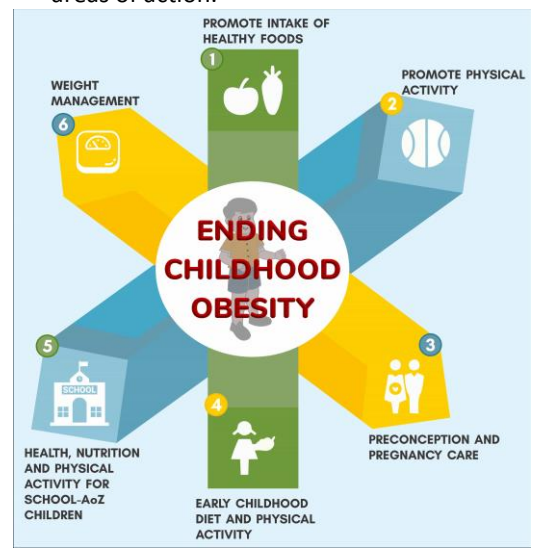
> **SDG 2**- By 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons.

These guidelines will support achieving **the SDGs**, the global targets set by the **Comprehensive implementation plan** on maternal, infant and young child nutrition, and the **Global strategy** for women's, children's and adolescents' health 2016–2030.

7.2. THERAPEUTIC FOOD

Why in news?

Recently, Maharashtra Government stopped implementation of Ready-to-use Therapeutic Food to treat malnourished children after notification from the Centre Government.

What is Ready-to-use Therapeutic Food (RUTF)?

- **RUTF** is a **medical intervention** to cure Severe Acute Malnutrition (**SAM)** among children which includes readymade packed paste made of high energy fortified supplements (peanuts, oils, dried milk etc.) being administered to the child under doctor's supervision.
- The paste is administered to children aged between 6 months and 6 years daily for about a month.
- It is **cost-effective** and **hygienic** as it has **low human contact** as compared to freshly cooked food.
- It is being implemented under the global initiative **Scaling Up Nutrition movement and ICDS** in India, through collaboration with the state governments.

Malnutrition
- **Malnutrition** refers to deficiencies, excesses or imbalances in a person's intake of nutrients.
- It can be further dived into two categories:
  - ✓ **Under-nutrition** – this includes **stunting** (low height for age), **wasting** (low weight for height), underweight (low weight for age)
  - ✓ Other category is of **over-weight, obesity and diet related non-communicable diseases** such as heart diseases, stroke etc.

SUN Movement
- It began in 2009 with the development of Scale Up Nutrition Framework.
- It unites people—from civil society, the United Nations, donors, businesses and researchers—in a collective effort to improve maternal and child nutrition.

Challenges

- RUTF may **negatively alter a child's diet**. It may further blunt the child's taste for natural food as RUTF is administered at a young age.
- It may replace **nutritional best practices** and **family food** that child may normally consume.
- It may alter and undermine the importance of providing **nutrition counselling for improved infant and young child feeding practices.**
- It may also undermine finding **sustainable solutions** for improving **food availability** and **dietary diversity**.
- **Food-drug Confusion –** Child's nutritional needs cannot be confused with medical intervention and administered multi-nutrient food packets fortified with micronutrients to supplement it.

Nutrition Status in India
- According to **National Family Health Survey(2015-16)** appx 35.7% children less than 5 years were underweight and 38.4% were stunted.
- The report also stated the proportion of **underweight children** has **decreased by 7%** and of **stunted children** has **decreased by nearly 10%.**
- Recently released **World Hunger Index report 2017** has also placed India at **100th rank out of 119 countries**.
- Out of total 17 SDGs 12 are relevant to nutrition.
- Government schemes to improve nutrition quality in India - – **Integrated Child Development Scheme (ICDS), National Health Mission (NHM), Mid-day meal scheme, National Food Security Mission, Swachh Bharat Abhiyan, etc.**

- Planning Commission as well as Cabinet Committee on Economic Affairs **rejected RUTF** stating that it could lead to serious health problems for children by exposing them to **excessive micro-nutrients**.
- **Not a viable model** because it may fall prey to corruption, monopolization and lobbying by big corporates in food processing sector.

Way Ahead

- RUTF should not be dismissed completely as unhealthy, however its usage should be integrated along with on-going schemes such as **ICDS and Mid-day Meal**.
- The **quality and quantity of the freshly cooked food** should be improved in regions with high number of SAM children.
- **Healthy habits** such as washing hands before meals and no open defecation should be promoted.

Nutraceutical Industry in India
- **Nutraceuticals** are supplements and foods that aren't drugs but purported to contain ingredients essential to well-being such as obesity pills, diet regimens shakes with exaggerated benefits etc.
- In a 2017 report, the Associated Chambers of Commerce and Industry of India estimated the global nutraceutical industry to be growing by about $15 billion annually. In India alone, it is worth more than $2 billion.
- Recently, a centre was set up under National Institution of Nutrition Hyderabad to regulate nutraceutical industry according to the guidelines by FSSAI last year.

- Nutritional **needs of new and lactating mothers** should also be taken care of as undernourished women often give birth to underweight children.
- **Pre and Post pregnancy counselling** to women should be provided to women about the nutritional needs of infants.
- A more **decentralised approach** should be adopted by government through strengthening panchayati raj institutions.
- Various schemes such as Swachh Bharat Mission, ICDS and NHM should be converged to ensure an **integrated approach** towards resolving issues related to malnutrition.
- Other initiatives such as:
  o Promote breast-feeding.
  o Universal access to infant and child care services.
  o Institutional child birth, lactation management and improved post-natal care.

7.3. ONE MILLION CHILDREN SAVED

Why in News?

- A recent study published by the Lancet has pointed out that India has avoided about 1 million deaths of children under age five since 2005.

Highlight of Study

- It reported that mortality rate in children under the age of five fell from 45.2 in the year 2000 to 19.6 in 2015.
- It illustrates that the conditions prioritized under the **National Health Mission** had the greatest declines and efforts of focusing on low performing States is paying off.
- Report found fewer child deaths in urban areas and in richer states than in rural and poorer states.
- There was a **90 percent drop in neonatal deaths** from **tetanus and measles**, two of the main causes of infant deaths in India.

> - **India's Million Death Study:** implemented by the Registrar General of India, is the first study to directly quantify changes in cause-specific child deaths in India, nationally and sub-nationally, from 2000-15 among randomly selected homes.
> - **Maternal Mortality Rate (MMR)** is the number of mothers dying per 100,000 live births
> - **Infant Mortality Rate** refers to the deaths of infants under age of one year per 1,000 live births.
> - **Child Mortality** refers to death of children below 5 years per 1000 live births.

> **National Health Mission (NHM)**
> - 2 Sub-mission
>   ✓ National Urban Health Mission (NUHM)
>   ✓ National Rural Health Mission (NRHM)
> **The broad objectives of NHM**
> - Reduce MMR to 1/1000 live births
> - Reduce IMR to 25/1000 live births
> - Reduce TFR (Total Fertility Rate) to 2.1
> - Prevention and reduction of anaemia in women aged 15–49 years.
> - Prevent and reduce mortality & morbidity from communicable, non-communicable; injuries and emerging diseases.
> - Reduce household out-of-pocket expenditure on total health care expenditure.
> - Reduce annual incidence and mortality from Tuberculosis by half.
> - Reduce prevalence of Leprosy to <1/10000 population and incidence to zero in all districts.
> - Annual Malaria Incidence to be <1/1000.
> - Less than 1 per cent microfilaria prevalence in all districts.
> - Kala-azar Elimination by 2015, <1 case per 10000 population in all blocks.

- **Mortality rates from pneumonia and diarrhea**, the two leading causes of child deaths in the country, fell more than 60 percent.
- Declines were greater in girls, indicating **girls are getting better** health attention in India.
- This **decline in mortality is attributed to** the introduction of two major national programmes in 2005 – the National Rural Health Mission, which is now the **National Health Mission, and the Janani Suraksha Yojana**.

Issues

- **Health facility gap between states**: Up to three times as

> **Janani Suraksha Yojana (JSY)**
> - It aims to reduce maternal and neonatal mortality by promoting institutional delivery among poor pregnant women.
> - Eligible pregnant women are entitled for cash assistance irrespective of the age of mother and number of children for giving birth in a government or accredited private health facility.

many deaths could have been avoided, had the differences between more developed and poorer states not been there.

- **Rural-Urban gap:** There is an **increase in mortality rates** for premature or low-birth-weight babies in previous 15 years, especially in rural areas.
- **Challenge of tracking Childhood Deaths** because most deaths, especially of children, happen at home and without medical attention.

7.4. GLOBAL HUNGER INDEX

Why in news?

India has ranked 100 among 119 developing countries as per report titled "**2017 global hunger index: The inequalities of hunger".**

Status of Hunger across the world

- The level of hunger across the Globe has declined by 27% since 2000.
- **South Asia and Africa South of the Sahara** have the highest levels of hunger, at 30.9 and 29.4, respectively.
- The hunger level in **East and south-east Asia** has been moderate primarily due to low prevalence of hunger in China,

reflecting widespread inequalities in prevalence of hunger within the regions as well.

- The **Central African Republic** has the worst score and is the only country in extremely 'Alarming' hunger level category in 2017.
- Data also shows not only **Regional Inequality but also Gender Inequality** regarding prevalence of hunger which means that a one-size-fits-all approach to tackling hunger and undernutrition is unlikely to yield the best results.

Performance of India

- With a score of 31.4, India is at the high end of **"serious" hunger problem category** and one of the main factors pushing South Asia to the category of the worst-performing region
- India has seen **low improvement** (i.e. 38.2 in 2000 to 31.4 in 2017) in hunger prevalence despite being world's second largest food producer, and world's fastest growing economy.
- India's poor performance shows country's stubbornly **high proportions of malnourished children**—with about 21% Indian children under five suffer from wasting and 38.4 % from stunting.

Reasons for Poor Performance of India

- **Inadequate nutrition**: Share of children between 6 and 23 months old who receive adequate diet is mere 9.6% for the country.
- **Non-Implementation of National Food Security Act (NFSA):** The NFSA is not implemented in many states because-
  - o identification of beneficiaries is not complete
  - o the **maternity entitlement programme** (part of NFSA) has been notified only recently, that too with lower entitlement than what was enacted.

About the Global Hunger Index

- It has been released by Washington-based **International Food Policy Research Institute (IFPRI)** in association with Concern Worldwide of Ireland and Welthungerhilfe (German non-profit organization)
- It ranks countries on a **100-point scale with 0 representing no hunger**.
- GHI scores are based on four indicators:
  - o **UNDERNOURISHMENT**: the share of the population whose caloric intake is insufficient.
  - o **CHILD WASTING:** the share of children under the age of five who have low weight for their height.
  - o **CHILD STUNTING:** the share of children under the age of five who have low height for their age.
  - o **CHILD MORTALITY:** the mortality rate of children under the age of five (a reflection of the fatal mix of inadequate nutrition and unhealthy environments).
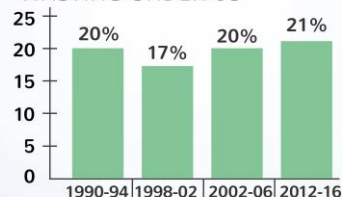
BEHIND MOST NEIGHBOURS

COUNTRY	Rank	GHI
China	29	7.5
Nepal	72	22.0
Myanmar	77	22.6
Sri Lanka	84	25.5
Bangladesh	88	26.5
India	100	31.4
Pakistan	106	32.6
Afghanistan	107	33.3

INDIA INDICATORS

UNDERNOURISHED POPULATION

1991-93	21.7%
1999-01	17.2%
2007-09	16.3%
2014-16	14.5%

WASTING UNDER-5S

1990-94	1998-02	2002-06	2012-16
20%	17%	20%	21%

STUNTING IN UNDER-5S

1990-94	62%
1998-02	54%
2002-06	48%
2012-16	38%

UNDER-5 MORTALITY

1992	11.9%
2000	9.1%
2008	6.6%
2015	4.8%

- **Exclusion Errors:** Push for Aadhaar led biometric identification for ration distribution, Mid-Day Meal scheme etc. has also accentuated issue of hunger in many areas.
- **Poor access to Sanitation:** The households with access to improved sanitation facilities stood only at 48.4% as of 2016 which is very detrimental to child health and nutrition.
- **Failure of government social welfare programmes** such as Integrated Child Development Services (ICDS) and national Health Mission (NHM) to achieve desired outcomes.

Policy Suggestions in report to tackle hunger

- **Foster Democratic Governance of National Food Systems:** Governments must actively include under-represented groups, such as small-scale farmers in the policy-making process.
- **Strengthen Rights and Space for Civil Society:** Civil society organizations have a key role to hold policy makers accountable and ensure the human right to adequate food to all.
- **Protect Citizens and Ensure Standards in Business and Trade:** Governments must safeguard vulnerable groups from the negative impacts of international trade and agriculture agreements and the actions of private firms that could endanger citizens' food and nutrition security.
- **Correcting power inequalities** (gender, ethnic and socio-economic inequalities) which affect different groups in society. For e.g. changing discriminatory gender norms and practices can harm the nutritional status of women and girls.
- **Capacity building of small-scale food producers**, particularly women, by ensuring access to public services such as infrastructure, financial services, information, and training.
- **Advance Equality through Education and Social Safety Nets** so that most vulnerable and marginalized— have income security and can access essential health care.
- **Monitoring progress toward Zero Hunger** and highlighting critical gaps in relation to both hunger and inequality.
- **Invest in the SDGs and Those Left Behind:** Donors should meet internationally agreed targets by contributing 0.7% and 0.15-0.2% of gross national income (GNI) to Official Development Assistant and Least-Developed Countries, respectively.

7.5. PUBLIC HEALTH CADRE

Why in News?

Recent medical mishaps, similar to the one that took place in Gorakhpur, have rekindled the demand for a Public Health Cadre.

Background

- **Bhore Committee, 1946**- The Health Survey and Development Committee offers a comprehensive assessment of the state of public health in India and makes recommendations for the training of the public health workforce.
- **Mudaliar Committee** (1959)- This committee, for the first time, suggested that the personnel dealing with problems of health and welfare should have a comprehensive and wide outlook and rich experience of administration at the state level.
- **Kartar Singh Committee** (1973)- The committee suggested that doctors with no formal training in infectious disease control, surveillance systems, data management, community health related problems, and lacking in leadership and communication skills, etc, were ill-equipped and misfits to work in public facilities.
- The 12th Five Year Plan and the National Health Policy, 2017 have also strongly advocated establishing a public health management cadre to improve the quality of health services by having dedicated, trained and exclusive personnel to run public health facilities.
- Despite the creation of a public health cadre finding mention in various reports, such a service at the all-India level has yet not been formed.

> Based on cadre implementation status, **states** can broadly be grouped in **to four categories:**
> - Those with a well-established cadre, e.g. Tamil Nadu, Maharashtra;
> - Those with some select components of the cadre in place, e.g. West Bengal, Kerala;
> - States actively pursuing cadre formation, e.g. Odisha, MP, Chhattisgarh; and
> - States still in the contemplation phase; e.g. Karnataka, Haryana, some NE states.

Need for such a cadre

The idea is on the lines of the civil service — of having dedicated, professionally trained personnel to address the specific and complex needs of the Indian health-care delivery system.

- **Lack of an apt education model-** The medical education (a concurrent subject) in India is completely based on the western model which does not address the needs of Indian conditions.
- **Lack of managerial & technical skills**- Doctors with clinical qualifications and even with vast experience are unable to handle various challenges like technical expertise, logistics management, and social determinants of health and leadership, thereby hampering the quality of our public health-care system.
- **Varied demands of job**- In the absence of a public health cadre in most States, even an anaesthetist or an ophthalmologist with hardly any public health knowledge and its principles is required to implement reproductive and child health or a malaria control programme.
- **Lack of expertise in public healthcare**- There is a huge gap between planning, execution and follow up of specialized services and generalized services in the government. Both situations urgently need for special breed of administrators that specialize in healthcare, leading to better management and innovation.
- **Lack of regulatory authority to officials**- The absence of a **comprehensive Public Health Act** in most states means that health officials lack the regulatory authority and powers to enforce public health legislation adequately. The lack of a separate public health directorate further compromises their independence, effectiveness, and efficiency.

Advantages

- A Public Health Cadre would mean doctors, who desire to work in Public Health Sector, would go through **proper training in health policy** and work in district level hospitals for a period of time as a pre-qualification for promotions.
- With a public health cadre in place, we will have personnel who can apply the principles of public health management to avoid mistakes such as one that led to the tragedy in Uttar Pradesh as well as deliver quality services. This will definitely **improve the efficiency and effectiveness** of the Indian health system.
- With quality and a scientific implementation of public health programmes, the poor will also stand to benefit as this will **reduce their out-of-pocket expenditure** and dependence on prohibitively expensive private health care.
- In the process, we will also be saving the **precious resources of specialists** from other branches by deploying them in areas where they are definitely needed.
- A dedicated cadre of healthcare professionals can detect **state-specific health hazards** and contain them before they spread.
- The inclusion of professionals from sociology, economics, anthropology, nursing, hospital management and communication, as suggested by the NHP, is a recognition of a multi-disciplinary approach and an acknowledgment that cultural attitudes must be understood if public health strategies are to **gain community acceptance**.
- Filling the higher posts in Ministry from this cadre with similar arrangements at the State level including the posts of mission directors will go a long way in improving planning and providing much-needed public health leadership.

Way Forward

There are many challenges in the creation of such a cadre since health is a state subject 2/3rd of the states have to agree for the proposal to be finally accepted. However, given India's position on the international health indexes and parameters a well-defined Public Health Cadre is the need of the hour.

7.6. INDEX FOR TRACKING PERFORMANCE OF HOSPITALS

Why in news?

Niti Aayog along with the Health ministry has started ranking district hospitals through **'Health of our Hospitals' index.**

Details

- Its aims to provide comprehensive secondary health care services to the people in the district at an acceptable level of quality and to be responsive and sensitive to the needs of people and referring centers.
- The hospitals are assessed on the basis of-
  - Number of functional hospital beds per 1,00,000 population,
  - ratio of doctors, nurses and paramedical staff,
  - stock out rate of essential drugs,
  - blood bank replacement rate and
  - post-surgical infection rate etc.

Significance of the Initiative

- **Focus on Health outcomes**: Despite large amounts of money being allocated to the hospitals there was no comprehensive system to assess their performance. Now, it will help in materializing better healthcare delivery by measuring their outcomes.
- **Fostering competition among government hospitals** & providing incentives for better performing hospitals to uphold higher standards.
- **Reduction in regional inequalities** in access to healthcare once the government hospitals would be nudged towards efficient healthcare delivery.
- **Reduced reliance on private sector** thereby reducing the out-of-pocket expenditures of patients.
- **Improved database of hospitals** which can help policy makers in focusing better on investing in the infrastructure, staffing and funding of various hospitals.
- **Patient's feedback:** The index will capture feedback from patients and a high weightage has been assigned for patient satisfaction thus making them a stakeholder in the public healthcare system.

7.7. PASSIVE EUTHANASIA

Why in News?

Recently, the Centre told the Supreme Court that it was finalising a draft law passive euthanasia called **Management of Patients With Terminal Illness — Withdrawal of Medical Life Support Bill, 2016.**

Background

- The **196th Law Commission of India report** in 2002 advocated passive euthanasia. However, it decided not to make any laws on euthanasia.
- In the **Aruna Shanbaug's case in (2011)**, a major milestone,

> **Euthanasia**, also known as assisted suicide, and more loosely termed mercy killing, means to take a deliberate action with the express intention of ending a life to relieve intractable (persistent, unstoppable) suffering.
>
> In **active euthanasia** a person directly and deliberately causes the patient's death. In **passive euthanasia** they don't directly take the patient's life, they just allow them to die.
>
> India is witnessing a debate on whether right to die is a part of right to life under **Article 21**.

the Supreme Court decided to legalise passive euthanasia by means of withdrawal of life support to patients in a persistent vegetative state (PVS). According to the Court, the decision of the patient must be **an informed decision**.

- The Law Commission, later in its 241st report came out in favour of allowing withdrawal of life support for certain categories of people — like those in persistent vegetative state (PVS), in irreversible coma, or of unsound mind, who lack the mental faculties to take decisions.
- The Supreme Court guidelines form the law of the land regarding euthanasia, till the time. Active euthanasia is still not legal in the country.
- Recently, the Central government, objected to legalising the concept of '**Living Will**' — an advance written directive to physicians for end-of-life medical care.

A **'living will'** is a concept where a patient can give consent that allows withdrawal of life support systems if the individual is reduced to a permanent vegetative state **with no real chance of survival**.

It is a type of **advance directive** that may be used by a person before incapacitation to outline a full range of treatment preferences or, most often, to reject treatment.

When a person is not in a position to give his consent for the keeping or withdrawing the treatment, two cardinal principles

of medical ethics are crucial:

- His wishes expressed in advance in the form of a **living will, or the wishes of surrogates** acting on his behalf (substituted judgment) are to be respected.
- Beneficence is acting in what is the **patient's best** interest and is not influenced by personal convictions, motives or other considerations.

The Mental Healthcare Act, has a provision for mentally ill patients to affect a **living will**.

The US, UK, Germany and Netherlands have **advance medical directive laws** that allow people to create a 'living will'.

The Terminally Ill Patients (Protection of Patients and Medical Practitioners) Bill, 2012 provides that every advance medical directive/living will or medical power of attorney executed by a person shall be taken into consideration in matter of withholding or withdrawing medical treatment but it shall not be binding on any medical practitioner.

The US, UK, Germany and Netherlands have **advance medical directive laws** that allow people to create a 'living will'.

Arguments in favour of Passive Euthanasia

- Some believe that every patient has a right to choose when to die similarly as they have right to life enshrined in the constitution.
- Proponents believe that euthanasia can be safely regulated by government legislation. Passive euthanasia has already been practised in various cases around the world.
- In case of palliative sedation, widely used across the world, many of the sedatives used carry a risk of shortening a person's lifespan. So, it could be argued that palliative sedation is a type of euthanasia.

Arguments against Passive Euthanasia

- **Alternative treatments are available**, such as palliative care and hospices. We do not have to kill the patient to kill the symptoms. Nearly all pain can be relieved.
- There **is no 'right' to be killed**'. Opening the doors to voluntary euthanasia could lead to non-voluntary and involuntary euthanasia, by giving doctors the power to decide when a patient's life is not worth living.
- The assumption that patients should have a right to die would impose on doctors a duty to kill, thus **restricting the autonomy of the doctor**. Also, a 'right to die' for some people might well become a 'duty to die' by others, particularly those who are vulnerable or dependent upon others.

Way Forward

- The debate has opened gates of moral and ethical issues both at the end of the medical practitioners as well as the society.
- However, it is believed that the Right to Life has an implicit component of right to die with dignity as well, which needs to be recognized by the society but with utmost care.

7.8. SEX WITH A MINOR WIFE AMOUNTS TO RAPE

Why in News?

The Supreme Court recently held that sexual intercourse by a man with his wife, who is below 18 years of age, is rape.

Section 375 of the IPC- A man is said to commit "rape" who, except in the case hereinafter excepted, has sexual intercourse with a woman under circumstances falling under any of the six following descriptions:

- Against her will.
- Without her consent.
- With her consent, when her consent has been obtained by putting her or any person in whom she is interested in fear of death or of hurt, etc

Exception- Sexual intercourse by a man with his own wife, the wife not being under fifteen years of age, is not rape.

Section 198(6) of the CrPC- No Court shall take cognizance of an offence under section 376 of the Indian Penal Code (45 of 1860), where such offence consists of sexual inter-course by a man with his own wife, the wife being under fifteen years of age, **if more than one year has** passed.

Background

- **Under the IPC**, it is an offence to have sex with a girl below 18 years of age, regardless of consent. However, an exception to this is made if the girl was the man's wife, provided she was not below 15, thereby **treating rape as permissible in marriage**.
- The **age of consent to marry**, since 1978, had been set at 18 years. The **Law Commission**, in its 84th Report had also recommended that this age for a married female under Section 375 of the IPC be made 18 years.
- The Supreme Court **in Independent Thought v. Union of India**, analysed the various laws prescribing the age of a female in that regard, and pronounced that the age of consent being 15 years for a married female, was inconsistent with existing laws as well as violative of the right to life of the minor under **Article 21** of the Constitution.
- However, **the government** had urged the court **not to tinker with the exception** clause as it was introduced keeping in view the age-old traditions and evolving social norms. Also, according to the government, a concern for the misuse of such law for **threatening the husband** remains a possibility.

> **Child Marriage in India**
>
> According to **Census 2011**, the nine-year period to 2011 saw 15.3 million (approx 20% of all females) girls being married before they reached the age of 18 years.
>
> **Personal Laws**
>
> - Under the Muslim personal law (**Dissolution of Muslim Marriages Act, 1939**), if a minor girl under the age of 15 years is married under Muslim law, she can obtain a decree of dissolution of marriage before she attains the age of 18 years provided that the marriage has not been consummated.
> - According to the **Hindu Marriage Act, 1955** a Hindu girl can file a petition for divorce on the ground that her marriage, whether consummated or not, was solemnised before she attained the age of 15 years and she has refused to accept her marriage after attaining the age of 15 years but before attaining the age of 18 years.

Important points of the Judgement

- The court read down **Exception to Section 375** of the IPC, which allowed the husband of a girl child — between 15 and 18 years of age — blanket liberty to have non-consensual sexual intercourse with her. It creates an artificial distinction between a married girl child and an unmarried girl child.
- The exception had **remained an anomaly** because **Section 375** itself mandated that sex with a girl below 18 years of age, with or without her consent, was statutory rape.
- The court, however, clarified that Section **198(6) of the CrPC** will apply to cases of rape of wives below 18 years, and cognizance can be taken only in accordance with this provision.
- It is also clarified that nothing said in this judgment shall be taken to be an observation one way or the other with regard to the issue of "marital rape".

Impact

- This judgement can be seen as trigger **to declaring child marriage void *ab initio*,** the court ended the decades-old disparity between Exception 2 to Section 375 IPC and other child protection laws.
  - These include **the child marriage Restrain Act, 1929, Prohibition of Child Marriage Act (PCMA) of 2006, Protection of Children from Sexual Offences Act and Juvenile Justice Act**, all which define a "child" as someone who is below 18 years of age.
- It is also likely to **have a bearing on the criminality of marital rape**, an issue which has been widely debated both by Parliament and the courts.

Concerns

- Though child marriage is prohibited, it is not automatically void under India's civil laws. The court criticised the fact that **PCMA makes child marriage only voidable,** that is, the burden is placed on the child bride to approach a court to declare her marriage a nullity. There needs to be changes & amendments in laws to eliminate various anomalies.
- For a minor girl child, good health would mean her right to develop as a healthy woman. This not only requires good physical health but also good mental health which is restricted by child marriage.

7.9. SEX RATIO INCREASE: BETI BACHAO BETI PADHAO (BBBP)

Why in News?

- Recently, The Ministry of Women and Child Development (WCD) had claimed an increase in sex ratio under BBBP scheme.

Details

- The ministry has claimed that there is an increasing **trend in sex ratio** in 104 of the 161 districts taken up under the Beti Bachao Beti Padhao scheme, and a declining trend in the remaining districts.
- Similarly, 119 districts have reported progress in **registration of pregnancies** in the first trimester during 2016-17 as compared to 2015-16.
- During the same period, **Institutional deliveries** against the total reported deliveries have improved in 146 districts in comparison to the previous year.
- Many districts that registered an annual decline in **Sex Ratio at Birth** (SRB) between 2015-16 and 2016-17 show an increase compared to the Child Sex Ratio (CSR) of Census 2011.

> **Sex Ratio at Birth (SRB)**: is the number of girls born per 1,000 boys.
>
> **Child Sex Ratio**: is the number of girls per 1,000 boys between 0-6 years of age.
>
> **Other Initiatives to augment the BBBP outcomes**
>
> - '**Sukanya Samriddhi Account**: is a small deposit scheme for the girl child with a higher interest rate of 9.1 per cent and income-tax benefit.
> - **Selfie with daughter:** An initiative the aim to motivate society to feel proud to be parents of a girl child.
> - **Balika Manch-** under BBBP to encourage girl students' participation and improve awareness related to gender issues.

Beti Bachao Beti Padhao Scheme

- Launched in 2015 at Panipat, Haryana to address the declining Child Sex Ratio (CSR) and related issues of women empowerment over a life-cycle continuum.
- It is a **tri-ministerial effort** of Ministries of Women and Child Development, Health & Family Welfare and Human Resource Development.
- The scheme has **no provision for individual cash transfer** component or Direct Benefit Transfer scheme.
- The efforts include;
  o Enforcement of **Pre-Conception & Pre-Natal Diagnostic Techniques Act, 1994**
  o Nation-wide awareness and advocacy campaign and multi-sectoral action in select districts (low on CSR) in the first phase.
  o Emphasis on mindset change through training, sensitization, awareness raising and community mobilization on ground.
- Help from **grass root participants** like, ANM (Auxiliary Nurse Midwife) and ASHA (Accredited Social Health Activists) is prescribed to 'encourage' the community and its members to promote girls' education, nurture their health, etc.
- It is mandatory to display gender disaggregated data related to birth of girls and boys through the '*Guddi-Gudda*' boards which are to be displayed at prominent public places like Panchayats, Anganwadi Centres, etc.

7.10. EVALUATION OF RASHTRIYA SWASTHYA BIMA YOJANA

Why in news?

The quantitative evaluation of the Rashtriya Swasthya Bima Yojana (RSBY) was carried out eight years after its launch.

Highlights of Evaluation

- It is **unable to reduce out-of-pocket payment** for healthcare for the poor, thus illness remains one of the most prevalent causes of human deprivation in India.
- **No Revision of scheme**: It continues to be capped at Rs 30,000 since 2008 while the costs of

> **Rashtriya Swasthya Bima Yojna (RSBY)**
>
> - It is a tax-financed health insurance that is managed through private insurance companies **for BPL** (below poverty line) families.
> - It was launched for the workers in the **unorganized sector** in 2007-08.
> - It provides for IT-enabled and smart–card-based cashless health insurance, including maternity benefit cover up to Rs. 30,000/- per annum on a family floater basis.
> - **Funding Pattern**: Contribution by Government of India to Sate Government is in ratio of 75:25.
> - It is implemented by **the Ministry of Health and Family Welfare.**

hospitalization have almost doubled and it also does not take into account post-hospitalization costs.

- **Delay in seeking care**: Poor people tend to delay hospitalization until they are more severely ill, due to the fear of losing work days and wages, which is costly both from the perspective of costs and health.
- **Positive Impact**: Due to "virtual income transfer" there has been an increase in non-medical spending by poor after RSBY intervention.

Way Forward

- **Promote private health insurance**: as complete tax revenue financing is not feasible for lower and lower-middle income countries.
- **Strict Monitoring**: and using provider payment methods that incentivize providers to reduce unnecessary prescriptions and tests, and establishing an IT system to audit providers.
- **Inclusion of Outpatient Care(OC) in Scheme:** As OC comprises up to 70% of total healthcare utilization in India and 60% of total health expenditure. This would decrease the instances of delay shown by poor in taking medical care.
- **Achieving Universal Health Care (UHC)** through risk pooling and prepayment.

7.11. ECHO CLINIC

- ECHO (Extension for Community Healthcare Outcomes) is a concept of weekly or fortnightly virtual clinics using teleconferencing by best specialists to reach out to underserved areas.
- ECHO clinics do not provide care directly to patients like in telemedicine. Instead, they **equip primary healthcare clinicians** in remote areas with the knowledge and support to manage complex cases.

Project ECHO **began in 2003 in New Mexico** when a liver disease specialist in US realized that there were thousands of cases of Hepatitis C in New Mexico without access to any treatment. Thus, he brought together local clinicians and specialists through ECHO clinics.

- It helps in bringing specialist care and knowledge to areas where there is none.
- India's first ECHO clinic **began in 2008** as a collaboration between the National Aids Control Organization (NACO) and Maulana Azad Medical College (MAMC) on managing HIV AIDS patients. Since then, ECHO clinics and handling various diseases in the country.

8. CULTURE

8.1. PAIKA REBELLION

Why in news?

Recently the Minister of Human Resource Development announced that Paika Rebellion will be renamed as "First War of Independence".

History of Paika Bidroha

- The Paika rebellion took place in 1817 in **Khurda, Odisha.**
- Paikas were the **peasant militias of the Gajapati rulers of Odisha** who rendered military service to the king during times of war while taking up cultivation during times of peace.
- The armies of the East India Company overran Odisha in 1803 after establishing their sway over Bengal Province and Madras Province. The Raja of Khurda lost his primacy and the power and prestige of the Paikas went on a decline.
- But in 1817 Paikas rebelled against the British under the leadership of **Baxi Jagandhu Bidyadhara,** hereditary chief of militia army to throw off the British yoke.
- It ended with the surrender of Jagandbandhu in 1825.

Arguments for declaring it as first war of Independence

- **Pluralistic people's movement:** The revolt initially was localised to Khurda but it later spread to Ghumusar (part of present day Ganjam and Kandhmal Districts), Kanika, Kujang, Nayagarh and Ghumusar. Further zamindars, tribals village heads and ordinary peasants participated in the movement.
- The Paikas attacked British symbols of power, setting ablaze police stations, administrative offices and the treasury during their march towards Khurda, from where the British fled.

Arguments against

- **Limited Geographical spread**: The Paika rebellion although spectacular, is little known outside Odisha. There was little or no participation by people outside Odisha.
- **Essentially a tribal revolt** led by Jaganbandhu Bidyadhara as traditional rights of tribals and rights to rent free lands were revoked by Britishers.
- **Chronologically not the first:** Even before the Paika rebellion of 1817 there had been Sanyasi revolt in Bengal in early 18th century, Chuar uprisings of Bengal and Bihar from 1766, rebellion by Dewan Velu Thampi of Travancore in 1805 and rebellion of Taluqdars of Aligarh in 1814 to name a few.
- **A localised idea of Independence:** The historians have not named any rebellion before 1857 as war of independence because the rebels did not consciously fight the British to win freedom for India. Their idea of independence was local as they wanted the restoration of the reign of local rulers because their own privileges flowed from them.
- **Comparison with the 1857 revolt:** Paika revolt does not match the scale and impact of 1857 revolt which spread all over North India, as also in parts of Central and Western India.
- **Political interference in history writing:** The gradation or creating a hierarchy of rebellions say Paika or any other due to political reasons undermines the role that other struggle's played in India's independence and sets a very wrong precedent.

8.2. WORLD MONUMENTS FUND NAMES 25 AT-RISK CULTURAL SITES

Why in news?

World Monuments Fund has placed 25 cultural heritage sites spanning 30 countries on its 2018 World Monuments Watch list.

World Monument Fund (WMF)
It is a private nonprofit organization founded in 1965 by individuals concerned about the accelerating destruction of important artistic treasures throughout the world.
Through its programme **World Monuments Watch** it aims to identify imperiled cultural heritage sites and direct financial and technical support for their preservation.

Impact

- Putting the heritage sites on watch list means that they are currently threatened by conflict, climate change, or other dangers.
- The sites include storm-ravaged areas in the Caribbean, the Gulf, and Mexico, and the Souk in Aleppo, Syria, which has been damaged in the country's ongoing civil war.
- From India "Post-Independence Architecture of Delhi" has been identified for preservation.
- It came to light after demolition of **Hall of Nations** building without even waiting for the court hearing for the same. The building was constructed in 1972 by famous architect Raj Rewal.

> **Other major Post Independence architectural Marvels**
> - Urban planning of **Chandigarh** by French architect **Le Corbusier** with hierarchy of roads and many Green belts
> - Mass housing projects of **Laurie Baker** in Kerala using locally available materials and construct buildings so as to merge them with environment.
> - Architectural marvels of **Charles Correa** which includes Mahatma Gandhi Memorial Museum at the Sabarmati Ashram in Ahmedabad, Jawahar Kala Kendra in Jaipur, New Bombay with special emphasis on prevailing resources, energy and climate as major determinants in the ordering of space.

- Post -independence architecture in Delhi comprise government and other public buildings, corporate and institutional offices, hotels, as well as religious shrines, sports facilities, and residential buildings. They are the works of legendary Indian architects, including Achyut Kanvinde, Shivnath Prasad, Charles Correa, Kuldip Singh, and Raj Rewal, as well as foreign-born architects such as Joseph Allen Stein.

8.3. ADOPT A HERITAGE SCHEME

Why in news?

Recently seven companies were chosen for conservation of fourteen monuments under 'Adopt a Heritage Scheme'.

Details of Adopt a heritage Scheme/ Apni Dharohar Apni Pehchan Project

- It is a scheme of **Ministry of Tourism** in collaboration with Ministry of Culture and Archaeological Survey of India (ASI).
- Under this Private Sector Companies, Public Sector Companies and Corporate individuals are invited to adopt the heritage sites.
- They would be called **"Monument Mitras"** and activities taken up by would be counted as a CSR (Corporate Social Responsibility) initiative.
- It envisages **developing monuments, heritage and tourist** sites across India and making them tourist friendly to enhance their tourism potential and cultural importance to make them more sustainable.
- The **scope of activities** included under this are development and maintenance of world-class tourist infrastructure and amenities which includes basic civic amenities and advanced amenities like Cleanliness, Public Conveniences, Ease of access, secure environment, illumination and night viewing facilities for an overall inclusive tourist experience.

8.4. INTERNATIONAL DIALOGUE ON CIVILISATION

Why in news?

Recently, fourth International dialogue on Civilisation was conducted in New Delhi.

About the Dialogue of Civilisation

- Dialogue of Civilisation was initiated by **National Geographic society in 2013** to
  - encourage **scholarly and public discourse** about five ancient, literate civilisations of the world and
  - study the **impact of past on the present and future.**
- Civilisations to be studied were:
  - Mesopotamian Civilisation
  - South Asian Civilisation
  - Chinese Civilisation

o   Mesoamerican Civilisation

Mesopotamian Civilisation

- Formed on the banks of **Tigris and Euphrates** in present day Iran and Kuwait.
- Began during the **Neolithic Period of around 12000BCE**
- Important Mesopotamian civilisation included **Sumerian, Assyrian, Akkadian, and Babylonian civilizations**. According to evidences Civilisation used technology, had established religion, literature, legal codes, philosophy and had external trade relations.

South Asian Civilisation

- Developed on the banks of **river Indus and its tributaries**.
- Began to flourish during the Chalcolithic period.
- Most important South Asian civilisation was **Harappan Civilisation.**
- According to findings the civilisation had
    o   Elaborate **city planning**
    o   A well-established **economy based on trade**
    o   **Advanced agriculture**, pottery making, seal making etc.
    o   They worshipped **Pasupati and mother goddess**
    o   Believed in **life after death** and had elaborate **burial procedure**

Chinese Civilisation

- Developed on the banks of **Yellow river** in 3rd and 2nd millennia BCE and **Yangtze River** before 5000 BCE. (Neolithic Era)
- They **worshipped nature**.

Mesoamerican Civilisation

- Flourished in parts of **Mexico and Central America** in about **21000BCE.**

9. ETHICS

9.1. ETHICS OF DEATH PENALTY

Death penalty is the practice of executing someone as punishment for a specific crime after a proper legal trial and can only be used by a state.

Ethical issues involved

Matter of Justice - Justice demands that courts should impose punishment befitting the crime so that the courts reflect public abhorrence of the crime. Any unfair application of the death penalty should not become the basis for abolishing it. At the same time, death penalty is seen rather as retributive form of justice which some consider as immoral because the death penalty delivers a 'double punishment'; that of the execution and the preceding wait and this is a mismatch to the crime.

Deterrence as a concept – Death penalty acts as a catalyst to promote the law and the fear of law which acts as a deterrent to future offenders. The statistical evidence doesn't confirm that deterrence works (but it doesn't show that deterrence doesn't work either). Also, even if capital punishment did act as a deterrent, there are concerns raised as to whether it would be acceptable for someone to pay for the predicted future crimes of others.

Community acceptance - The very humanistic edifice is constructed on the foundation of 'reverence for life' principle. When a member of the community violates this very principle by killing another member, the society may not feel itself bound by the shackles of this doctrine and therefore does not endorse the humanistic approach reflected in 'death sentence-in-no-case' doctrine.

Socialization as a factor - Crimes are as much about social failure as they are about individual responsibility. This is not to suggest the absolute lack of individual agency in the things we do. Our demands for justice have to be tempered by this reality. Society then cannot demand to take the life of an individual when it has contributed to that process and outcome.

Moral obligation to protect human life – This argument works both ways - Convicts threaten safety and welfare of the society. Only by putting convicts to death can society ensure that they do not kill again. Similarly, on the other hand, given the value we place on life, if a less severe alternative to the death penalty exists which would accomplish the same goal (life-imprisonment); we are duty-bound to reject the death penalty in favor of the less severe alternative.

Conclusion

In India, Supreme Court has laid down the scope of exercise of power to award death sentence and carved the rule of "rarest of the rare cases" to justify the extreme penalty, death, affirming the principle of "life imprisonment" as the rule and death penalty as the exception. It is, therefore, in the fitness of things that India has not so far abolished capital punishment but used it more judiciously.

10. MISCELLANEOUS

10.1. MEENAKSHI TEMPLE GETS 'CLEANEST ICONIC PLACE' TAG

Why in news?

Meenakshi Sundareswarar Temple in Madurai has been adjudged the best 'Swachh Iconic Place' (clean place) in India.

More about the news

- The Swachh Iconic Places is an initiative under the Swachh Bharat Mission.
- The Ministry of Drinking Water and Sanitation will be the coordinating Ministry for this initiative, in association with the Ministry of Urban Development, Ministry of Culture, Ministry of Tourism and the concerned State governments.
- Under **Swachh Iconic place** Initiative government will undertake a special clean-up initiative focused on 100 iconic heritages, spiritual and cultural places in the country.
- All Iconic Sites have designated PSUs for financial and technical support.

> **Meenakshi Sundareshwar Temple, Tamilnadu**
> - The current structure of temple was built in 1623-1655 AD by **Nayaka rulers** of Madurai though its history can be traced to 6th century BC Pandyan rule in ancient city of Madurai.
> - The temple is dedicated to **Parvati**, known as Meenakshi, and her consort, **Shiva**, here named Sundareswarar.
> - The temple is a masterpiece of Dravidian architecture with a **temple tank**, large **Vimana,** 14 **Gopurams** and **Mandapam** with 1000 Pillars.

10.2. PARYATAN PARV

Why in news?

Recently, Ministry of Tourism in collaboration with other Central Ministries, State Governments and Stakeholders organized Paryatan Parv.

About Paryatan Parv

- It was organized from 5th October to 25th October with the objective of drawing focus on the **benefit of tourism**, showcasing **cultural diversity** and reinforcing the principle of **"Tourism for all".**
- The programme focused on encouraging Indians to explore their own country **(Dekho Apna Desh)**. Tourism events such as interactive sessions and workshops on skill development and innovation in the sector would be conducted across all states.

10.3. NOBEL PRIZE IN LITERATURE: KAZUO ISHIGURO

Why in news?

Swedish academy has awarded Nobel Prize in Literature for year 2017 to British author **Kazuo Ishiguro.**

More about the news

- The author was born in Nagasaki, japan in post second world war time and then moved to Britain.
- Both his first novels, 'A Pale View of Hills' and 'An Artist of the Floating World', take place in Nagasaki a few years after World War II.
- He is best known for his novel **'The Remains of the Day'** for which Ishiguro has won Booker prize as well in 1989.

10.4. NOBEL PEACE PRIZE 2017 AWARDED TO ICAN

Why in news?

The Nobel Committee awarded annual peace prize to International Campaign to Abolish Nuclear Weapons.

International Campaign to Abolish Nuclear Weapons (ICAN)

- It is an **international coalition of non-government organizations** running the campaign to advocate United Nations Weapon Ban treaty in about 100 countries.

Nuclear Threat in the World
- At present nine countries of the world – India, Pakistan, China, United Kingdom, United States of America, Russia, Israel and North Korea possess around **16000 nuclear weapons**.
- USA and Russia jointly hold **93% of the world's nuclear arsenal** and they keep around **2000 nuclear weapons on high alert.**
- Regional rivalries such as in Middle East, South Asia, North East Asia etc. pose a danger of nuclear warfare.
- The threat from the **terrorists seeking nuclear weapons** is a cause of concern. It has been noted that around **1800 metric tons of usable nuclear weapon**- highly enriched uranium and plutonium are stored in **around 25 sites with considerably low security measures.**

- It is a **broad based and inclusive campaign** which is committed to work towards drawing attention of global community towards the **humanitarian catastrophic consequence of any use of nuclear weapons.**
- Due to their efforts the **United Nations' Treaty on the Prohibition of Nuclear Weapons** was officially adopted in July 2017 and will come into force after ratification by 50 countries.

Please refer to Vision IAS July 2017 Current Affairs to know more about UN Treaty on Prohibition of Nuclear Weapons.

10.5. CLIMATE CHANGE POLICY

Why in news?

Maharashtra state cabinet recently approved the Favourable Climate change policy focusing on 'Climate proof' village.

Highlights of Policy

Climate Proof Villages
A Climate proof village is one in which sustainable practices are adopted such as zero-till farming, integrated nutrient and water management and proper harvesting and storage.

- It will ensure **perennial flow of rivers** and **recharging the ground water sources**
- Encourage climate change **resilient crops** for sustainable agriculture and preservation of traditional crops
- Setting up of **climate-proof villages**
- Increase **people participation in water conservation**
- Conservation of mangroves and special measures for ecologically vulnerable districts
- Set up a disaster management program

10.6. VALUE ENGINEERING PROGRAMME

Why in News?

The Ministry of Road Transport and Highways has decided to implement a **"Value Engineering Program"** in highways projects either under PPP mode or public funding mode.

About the Programme

- The **objective** of the programme is to use innovative technology, materials and equipment to
  - increase speed of construction
  - reduce construction cost
  - increase asset durability
  - make them more environment friendly
  - improve aesthetics and safety
- The Ministry had also constituted a **National Panel of Experts (NPE)** last year to approve proposals involving new/innovative materials, technologies and equipment in the highway sector.

10.7. DELAMANID- NEW TB DRUG

- In order to combat the increasing burden of Multi-drug-resistant Tuberculosis (MDR-TB), technical group in Ministry of Health has recently approved **Delamanid** drug.
- It is still in its 3rd phase of clinical trials however, global research results have proved to be promising such as in South Africa and Japan.
- Delamanid will be inducted parallel to Bedaquiline under Revised National Tuberculosis Control Program (RNTCP) and not replace it.