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CURRENT AFFAIRS
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1. POLITY AND CONSTITUTION

1.1. NEED FOR SOCIAL AUDIT

Why in News?

Increasingly there is a demand for more transparency and accountability of government in regards to the various policies launched which calls for strengthening social auditing mechanism.

What is Social Audit?

- Social audits refer to a **legally mandated process** where potential and existing beneficiaries evaluate the implementation of a programme by comparing official records with ground realities.
- The beneficiaries, implementing agency and the oversight mechanism come together and discuss at length about the implementation and progress of a particular programme.

CAG and Social Audit

- CAG's audit is an external audit on behalf of the tax payers. The Union and State Legislatures discuss the matters brought out in CAG's audit reports and make recommendations to the executive for appropriate management action. In a broad theoretical sense, therefore, CAG's audit itself is a social audit.
- Yet, CAG audit remains a Government process. However, Social audit seeks to make the audit process more transparent and seeks to take audit findings to a wider public domain of stakeholders, i.e. users of the Government schemes, services and utilities.
- The primary focus of the CAG's performance audits remains, in most cases, processes within Governmental agencies, with the actual verification of outputs and outcomes being only of secondary focus which are primary agendas of social audits.

Importance of SA

> Audit of local self-government institutions is a **States subject** and the primary (external) audit of PRIs and ULBs is with the **State Local Funds Audit Department (LFAD),** or with the designated auditors as specified in the State laws.

- Following the recommendations of **14ᵗʰ Finance Commission** in regards to expansion in the role of **PRIs, ULBs** and other agencies, social audit becomes crucial as the CAG's audit jurisdiction over such entities is nebulous.
- The mechanism is well established providing direct evidence for inputs, processes, financial and physical reporting, compliance, physical verification, assurance against misuse, fraud and misappropriation, and utilisation of resources and assets.
- **Strengthening the democratic process –** People directly observe the implementation of Government programmes in their region making the process participatory. This, in the long run, empowers the people and makes the process of development more inclusive.
- It involves scrutiny of both financial and non-financial used by public agencies for development initiatives.

Limitations of Social Audit

- The scope of social audits is intensive but highly localised and covers only certain selected aspects out of a wide range of audit concerns in the financial, compliance and performance audits.
- The monitoring through social audits is informal and unprocessed with limited follow-up action.
- The institutionalisation on the ground has been inadequate, and it has faced great resistance from the establishment due to the lack of adequate administrative and political will in institutionalising social audit to deter corruption.
- Inadequate access to data and lack of expertise are other obstacles.
- Lack of focused media attention and scrutiny to social audits.
- While formal social audit arrangements have been provided for in NREGA, other programmes like PDS, NRHM etc. have varying arrangements for grass-root level monitoring, limiting their utility.

Recommendations

- Social audit compliments the CAG's audits and therefore it should be mainstreamed into our processes for audit of all social sector programmes.

- Learning from the progress made by the civil society groups and Gram Sabhas in **Andhra Pradesh and Rajasthan** in setting up separate directorates for social audit, other states can also introduce such measures.
- There must be a formal framework of cooperation and coordination for mutual communication of various audit plans and their synchronization.
- Uniformity of social audit at the village level for all social sector programmes can be taken up so that arrangements for community participation are better institutionalised.
- Education and awareness of Gram Sabha should be initiated to enable them to comprehend and understand their rights better.
- NGOs can help in strengthening social audits such as **MKSS** in Rajasthan.

1.2. A CASE FOR LARGER BENCHES

Why in News?

- Setting up of 9-judge bench to hear case of right to privacy has once again renewed the debate on setting up of larger constitutional benches to deal with important cases.

Background

- In the early years, all 8 judges including chief justice sat together to hear the cases.
- With the increase in workload, Parliament increased the number of judges gradually from 8 in 1950 to the present 31 and the constitution of benches also changed and they sat in smaller benches of two and three to dispose of backlogs (currently about 60,000 cases)
- In the 1960s, Supreme Court heard about 100 five-judge or larger benches a year. By the first decade of the 2000s, the court averaged only about 10 constitution benches a year.
- Thus, various important cases are being heard by smaller benches such as RTE act case was decided by three judges, Naz Foundation case by just two judges etc.
- However, focusing more judges on constitution benches also comes with a concern that it could come at the cost of less access to the court for other matters.

Reason for demands for larger benches:

- **Article 145(3) of constitution**: states that any "substantial question of law" relating to the interpretation of the Constitution must be heard by benches of at least five judges
- More judges mean that there will be **more points of view**, greater reflection and more thorough analysis in vital cases. It will also add to **legitimacy** thus, minimizing coming up of same issue frequently. For example - The issue of privacy itself has been debated in eight or more instances
- It is more **difficult to overturn** a five-judge bench than a two- or three-judge bench, meaning the public can have more confidence in the stability of the law
- Stability would also set the **doctrine of precedent** because as of now both High Courts and lower courts are left confused as to which of the various pronouncements they are meant to follow

Way forward

- There needs to be clarity in determining when a case involves a "substantial question" of constitutional law and so requires a larger bench.
- Also, explanation needs to be given to justify why the matter was being heard by less than five judges

1.3. PRISON REFORMS

Why in news?

- The murder of a women life convict in Byculla women's prison over some missing ration in June has brought back focus on prison reforms especially on vulnerability of inmates to custodial violence

Issues related to prisons

- **Overcrowding** - The occupancy rate at all-India level was 117.4 percent, till December 2014.

- **Undertrials** - the number of under-trials constitute 64.7 percent of total inmates with major reasons being lack of money to obtain bail or delay in trial.
- Neglect of **health and hygiene** and giving Insufficient food and inadequate clothing
- **Focus on retribution** rather than reformation and rehabilitation
- **Cumbersome process to conduct research** after new rules have been put in place owing to Nirbhaya documentary incident.
- No policy to monitor and constructively engage the inmates after their release. This hinders their **re-integration in the society**.
- **Prison management is a state subject**. Therefore, there are great variations in Prison manuals among different states.

Solutions

- **Accountability**: The only way to thwart what goes on in these institutions is to make them accountable.
- **Surveillance:** Supreme Court last year ordered to install CCTV cameras in all the prisons in the country.
- **Monitoring:** Prison monitors are mandated to regularly visit jails, listen to prisoners' grievances, identify areas of concern, and seek resolution.
- **Psychological**: Providing counselling to inmates is crucial to deal with the ordeal they undergo in custody.
- **Registering and reporting cases**: File FIR and report all cases of custodial death to the NHRC within 24 hours of their occurrence and giving punishment to the erring prison officials
- **Guidelines**: NHRC has repeatedly issued guidelines to prevent and respond to custodial deaths. It is time for the State governments to start taking these guidelines seriously.
- **Comprehensive anti-torture legislation** - Even Supreme court has told government to consider passing a comprehensive anti-torture legislation
- **Independent investigation** - Establishing an independent mechanism for timely and effective investigation of cases of custodial torture and for the rehabilitation and compensation for victims as investigation by police itself may be biased.
- **Focus on reformation** - The main objective of 'correction' strategy should be to induce positive change in the attitude of criminals. For this, providing them vocational training, employing them meaningfully after release, creating an open prison system for non-hard core criminals etc. should be tried
- **Uniformity** - Central Government along with NGO's and prison administration should take adequate steps for a uniform jail manual throughout the country.
- **Intensive 'After Care'** on completion of the term to overcome their inferior complex and save them from being ridiculed as convicts.
- **Reforms in bail laws-** so that bail remains a norm and jail an exception for all people not just rich and affluent.

Recent steps

- In March 2017, Bombay High court directed government to comprehensively review conditions in prisons following which an empowered committee was set up.
- The National Legal Services Authority (NALSA) in collaboration with the National Informatics Centre (NIC) is working on a national digital database of undertrials.
- Proposals for video-conferencing facilities in recently established Legal Assistance Establishments where undertrials or their kin or legal representatives can view information about their cases.
- Supreme Court ordered to release undertrials who have already completed half of their jail term if they would have been found guilty.
- The **Parivarthana programme** taken up in Andhra Pradesh has proved to be a boon to prisoners to reform themselves and lead a dignified life after their release from jail. Under this, Parivarthana Centres have come up at district jail and sub-jails.

1.4. CEC APPOINTMENT ISSUES

Issues related to Chief Election Commissioner

- The appointment of CEC and other ECs according to the Article 324, shall be done as per the law made by the Parliament in this regard. However, no such law has yet been made which leaves a "gap". Recently, Supreme Court had asked the centre why no enabling law has yet been framed.

- This leaves the appointment of such a crucial post solely to the executives (President on the advice of PM and Council of Ministers).

- The constitution has not prescribed the qualifications (legal, educational, administrative, or judicial) of the members of election commission.

- The constitution has not debarred the retiring Election commissioner from any further appointment by the government.

> **Constitutional Provisions related to EC**
>
> As per the **Article 324** of the constitution, "The Election Commission shall consist of Chief Election Commissioner and such numbers of other Election Commissioners, if any, as the President may from time to time fix and appointment of CEC and other ECs shall, subject to provisions of any law made in that behalf by the Parliament, be made by the President."

- There is also no clarity regarding the power division between the Chief Election Commissioner and other Election Commissioners.

Way forward

- **2ⁿᵈ ARC**, in its fourth report on **'Ethics in Governance',** has said that it would be appropriate to have a collegium headed by the Prime Minister to appoint the chief and members of the EC which has a far reaching importance and critical role in working of the democracy.

- The court acknowledged that the appointments of CEC and ECs till now have been fair and politically neutral. But the **void** in law needs to be filled to ensure "fair and transparent selection".

- A clear set of rules can bring more clarity in the appointment and may avoid such petitions and questions in future.

1.5. LATERAL ENTRY INTO CIVIL SERVICES

Why in News

Recently Department of Personnel & Training (DoPT) has been asked to prepare a proposition on lateral entry into Civil Services.

Background

- The decision has been taken in response to a **Central Government Staffing Policy Paper** in which a shortage of officers in middle ranks was admitted by DoPT. Presently the numbers to be inducted are approximately 40.

- However lateral entry to civil services is not a new phenomenon in India. Domain experts have been brought in from outside to head various committees.

- **1st ARC** as early as in 1965 talked about **need for specialization.** The **10th Report of 2nd ARC** has also recommended an institutionalised transparent process for lateral entry at both central and state levels.

- Other two commitees that followed the suit were **Surinder Nath Committee and Hota committee** in 2003 and 2004 respectively.

Why we Need Lateral Entry

- The **Basawan Committee (2016**) had pointed out that the bigger states like Bihar, MP and Rajasthan have a deficit of over 75 to 100 officers. Lateral induction is, therefore, being seen as a small step towards essential housekeeping in central government staffing.

- Shift from uniformity of centrally planned economic policy to diverse demands of **competitive federalism** requires specialized skills and knowledge for informed policy making.

- Various think-tanks have also explained how the IAS is hamstrung by political interference, out-dated personal procedures and a mixed record on policy implementation. There is no correlation between the postings of the Civil Service Officers and their area of specialization which comes only at a later stage.

Concerns

- Although in theory the step is much needed one, but in practice it would require much more commitment and restructuring. The process has been pushed back from Bureaucrats and sheer institutional inertia of civil services.
- The work profile of a civil servant is that of a higher acumen and responsibility who need to present a well-researched and sourced information in a manner that political executives can understand, weigh and consider options before making equitable and effective policy choices.
- There are also concerns regarding politicization of this process.
- Further, in addressing problem of shortage, lateral entry may also lead to deluge of inductions in administration.

W**ay forward**

- Current recruitment process of civil servants is **career based system** (with tenure security) while the change is expected towards a **position based system** (like in Australia, New Zealand and Britain). Both have their own pros and cons which must be carefully examined.
- This intended restructuring of the induction of private members through a Position Based System if implemented properly can help in **providing much needed expertise** in various fields of administration. However, the job must be entrusted to a body supervised by UPSC which is the only way to ensure merit based, politically neutral civil service.
- Inductions through the competitive examinations must also expand incrementally in keeping with the country's needs.

1.6. FINANCING CITIES

Why in News?

A new credit rating system has been adopted by the government for inviting private investment..

Background

- Government launched various urban development schemes like AMRUT, Smart Cities Mission, HRIDAY, Urban Transport, etc.
- These schemes fund only a fraction of the required investment and cities are tasked with finding other ways to bridge the funding gap.
- Public-private partnerships (PPPs) have been the preferred route for infrastructure creation in India.
- PPPs have not worked as well as they were expected to, owing to the poor rate of return for the private sector and other inefficiencies.

Recommendations for Financing ULBs (Urban Local Bodies)

Ministry of UD wants States and Cities to go beyond taking small steps for rapid urban transformation and in this regard, a group of secretaries early this year have recommended:

- Formulation of **VCF policy**, tools and rules at State level
- Municipal bonds to be raised for the cities that have good rating.
- Enactment of **Land Titling Laws** and their implementation in a specific time frame.
- **Professionalisation of Municipal Cadre**, i.e. establishing cadre with assessment of requirements, formulation of Recruitment Rules
- **Cities will be ranked** based on performance under each reform category for providing reform incentive.
- Higher the rating, higher would be the potential for inviting investment.

Problem

- The financial health of Indian cities is in a pathetic state that the urban local self-governments have to rely on state governments to fund even the basic operational expenditures.

> **Value Capture Financing** seeks to enable States and city governments raise resources by tapping a share of increase in value of land and other properties like buildings resulting from public investments and policy initiatives, in the identified area of influence.
>
> The VCF is constituted of four steps:
> - **Value Creation**- Creating new development opportunities.
> - **Value Capture**- Investment turned into monetary value.
> - **Value Realisation**- Sharing of gains through agreed instruments of VCF
> - **Value Recycling**- Resources thus collected are used for local development projects, thus looping the loop.

- The steps suggested by the government through investment mode are based on rating system which in turn has rated as many as 49% of cities as unworthy of investment.
- Higher the rating, higher would be the investment, which leaves the cities rated below BB, which require comparatively more funds, parched of investment.
- With the banking system heavily stressed with bad debts, urban rejuvenation might not receive the necessary impetus from the private sector in the short term.

Other Suggestions

- Various experts have made a strong case for cities to be able to access a broad portfolio of taxes which are currently appropriated by state governments. This would involve amending the Constitution to have these taxes included in the municipal finance list.
- He also advocates for the inclusion of a city GST (goods and services tax) rate within the state GST rate, a formula-based mechanism to ensure municipalities get their share.
- The next step is a rational user charge scheme for the continued provision of public services like water supply.
- Besides it is not just a question of funds. Funds already allocated for various schemes are many times do not reach their intended destination. There needs to be greater autonomy to the local government.

1.7. THE CITIZENSHIP (AMENDMENT) BILL 2016

Why in News?

The government has recently proposed certain changes in Citizenship Rules through **The Citizenship Amendment Bill**, 2016.

Background

Who is an **illegal migrant**?
Illegal migrant is a foreigner who either: • Enters the country without valid travel documents   • Enters with valid documents but stays beyond the permitted time.

- The original **Citizenship Act, passed in 1955**, defines the concept of Indian citizenship and lists out ways to acquire the same, explicitly denying citizenship to all undocumented migrants.
- As per this law the citizenship can be acquired on following grounds:
  - Being born in the country, or
  - Being born to Indian parents, or
  - Having resided in the country over a period of time.
- The act prohibits illegal migrants from acquiring Indian citizenship.
- Under the Foreigners Act 1946, and Passport Entry into India Act, 1920, illegal migrants may be imprisoned or deported.

Who are Overseas Citizens of India?
OCIs are foreigners who are persons of Indian origin. For example, they may have been former Indian citizens or children of current Indian citizen. They enjoy various rights like to travel to India without visa.

Features of Amendment

- It deals with two categories of people-
  - Illegal immigrants
  - Overseas Cardholders
- It makes illegal migrants who are Hindus, Sikhs, Buddhists, Jains, Parsis and Christians from Afghanistan, Bangladesh and Pakistan, eligible for citizenship.
- Now they cannot be imprisoned or deported on not having valid papers.
- The bill, also, widens the ground for the cancellation of an OCI registration by the Central Government, i.e. if a person violates any law in force in the country.
- The eligibility criteria has been reduced from 12 years to 7 years for citizenship by **naturalisation.**

Article 14- It requires that a law must only treat groups of people differently if there is a reasonable rationale for doing so. The statement of Objects and Reasons of the bill does not provide any such rationale.

Concerns

- The Bill does not take note of the refugees in India from among the Muslim community who have fled due to persecution and singles them out on the basis of religion, thereby being discriminatory. This may violate Article 14 of Indian constitution.
- The Bill allows cancellation of OCI registration for violation of any law. This is a wide ground that may cover a range of violations, including minor offences (e.g. parking in a no parking zone).

Way forward

- The proposed Bill recognises and protects the rights of refugees and represents a welcome change in India's refugee policy. But it would have been appropriate if the Bill had used the term "persecuted minorities" instead of listing out non-Muslim minorities in three countries.
- This may be a well-intended law but leaves out many exploited minorities from our neighbourhood like Rohingyas from Myanmar and Ahmadiyyas from Pakistan.

1.8. DRAFT REGULATIONS FOR ORGANIC FOOD PRODUCTS

Why in News

- FSSAI has notified the Draft Food Safety and Standards (Organic Foods) Regulations, 2017, which is meant to ensure the safety and authenticity of all organic food manufactures, packs and sells, in the country.

Key Features

- Any food which is intended to be offered for sale as organic food must comply with the provisions of any of the following:
  - ✓ National Programme for Organic Production (NPOP)
  - ✓ Participatory Guarantee System for India (PGS-India)
  - ✓ Any other system or standards as may be notified by the FSSAI from time to time.

> **FSSAI**
> - It is a statutory body, set up in August 2011 under the Food Safety and Standard Act, 2006.
> - It comes under the Ministry of Health and Family Welfare.
> - It's aim is to establish a single reference point for all matters relating to food safety and standards.

> **Prevalent Certification Systems for organic food in India**
> - **National Programme for Organic Production [NPOP]**
>   - Also known as **Third Party Certification system**, applicable to individual farmers or farmer groups.
>   - Governed by the **Union Ministry of Commerce and Industry**
>   - Certification is mandatory for exporting organic product.
> - **Participatory Guarantee System for India [PGS-India]**
>   - It is applicable only to farmer groups and works around the collective responsibility of the group.
>   - Governed by the **Union Ministry of Agriculture and Farmers' Welfare.**
>   - Certification is meant only for the domestic market.

- It **mandates** packaging and labeling requirements specified under the Food Safety and Standards (Packaging and Labeling) Regulations, 2011.
- It **exempts** unprocessed organic food sold directly by farmers or farmer organisations to consumers.
- Organic food imports made under bilateral/multilateral agreements would not be required to be re-certified on import to India.

Concerns

- **Low value addition:** Mandatory requirement will force farmer to sell fresh produce directly to consumers at non-competitive price
- **Uncompetitive move:** certification process will makes farmer product more expensive and so uncompetitive.

1.9. GOVERNMENT E-MARKETPLACE

Why in news

- Recently 5 States and a Union Territory (UT) formally adopted the Centre's initiative called the Government e-Marketplace (GeM).

What is GeM

- GeM is an Online Market platform to facilitate procurement of goods and services by various Ministries and agencies of the Government.
- It aims to ensure that public procurement of goods and services in India which is worth more than Rs. 5 lakh crore annually, is carried out through online platform.
- GeM is a completely paperless, cashless and system driven e-market place that enables procurement with minimal human interface.

Significance

- **Transparency:** It will bring greater transparency and efficiency in public procurement. It is a Seamless processes and facilitate online time-bound payment.
- **Efficiency:** Direct purchase on GeM facilitate reasonable price discovery for government and saving on administrative cost for vendor. Thus government can save upto 10-15% on every bulk purchase of good and services through GeM platform.
- **Eliminating corruption:** Online process will reduce corruption from public procurement.
- In future GeM would eventually emerge as the **National Public Procurement Portal**, keeping in tune with the Global best practices.

1.10. INDIA THIRD IN GLOBAL INDEX OF COUNTRIES

Why in News?

- OECD's Government at a Glance report states that 73 per cent Indians have faith in their government which is third highest in the world.

Highlight of report

- It show people **confidence** in their government and faith of people in government ability to effectively deliver public services and protect its citizens from risk.
- Index is topped by Switzerland (80%) while Greece is at the bottom (13%).
- It would further help in improving India's ranking in ease of doing business, as report confirms government stability and reliability.

OECD

- Organisation for Economic Co-operation and Development (OECD), established on Dec. 14, 1960, is a group of 34 member countries that discuss and develop economic and social policy.
- OECD members are mostly highly developed democratic economies, that support free market economies
- OECD maintains a **"black list" of nations** that are considered uncooperative tax havens.
- It publishes ECONOMIC OUTLOOK, twice in a year.

2. INTERNATIONAL/INDIA AND WORLD

2.1. INDIA-ISRAEL

Why in news?

- PM Modi became the first Indian PM to visit Israel. PM visit marks 25 years since India and Israel established diplomatic relations.
- India and Israel signed seven agreements to increase cooperation in key sectors like space, agriculture and water conservation as both sides sought to deepen ties beyond high-priced defence deals. A decision was announced to upgrade ties to **a strategic partnership**.

India-Israel relations background

- India's position on the establishment of the State of Israel was affected by many factors, including India's own partition on religious lines, and India's relationship with other nations.
- To add to that India had a **sizeable Muslim population** that was traditionally opposed to creation of Israel on the Palestinian land.
- India formally recognised Israel post-independence in September 1950. However its Israel policy was driven by the principled stand of **solidarity with the Palestinian cause** and India's international approach on issues as aligned with its domestic needs.
- Domestically, politicians in India feared losing their **votebanks if relations were normalised with Israel.**

#IndiaIsrael: Exploring New Realms of Cooperation

7 Steps

1 MoU for setting up of India-Israel Industrial R&D & Technological Innovation Fund (I4F)
2 MoU for Water Conservation in India
3 MoU on State Water Utility Reform in India
4 India-Israel Development Cooperation – 3 Year Work Program in Agriculture 2018-2020
5 Plan of Cooperation regarding cooperation in Atomic Clocks
6 MoU regarding cooperation in GEO-LEO Optical Link
7 MoU regarding cooperation in Electric Propulsion for Small Satellites

- Additionally, India did not want to jeopardise the large amount of its citizens working in Arab States of the Persian Gulf, who were helping India maintain its foreign-exchange reserves.
- In addition, India was also dependent on the **Arab nations for oil supply to meet its energy needs**.
- Emergence of the **Non-Aligned Movement (NAM) in 1950s**, of which India was a founding member, further drove India away from taking any pro-Israel stand openly.

1992 Establishment of Full Diplomatic Ties

It was in 1992 when India finally established full diplomatic relations with Israel but only after taking Palestinian President Yasser Arafat on board. There were two reasons behind it.

- The first was the **peace process between Israel and Palestine** was in an advanced state at that time.
- The second was the pressure from United States. The version in bureaucratic circles is as India needed now a **global interface for its economy** after it decided to follow **economic liberalization in 1991** as well as new markets for **to meets its defence needs after the USSR collapse.**

Over the past quarter century, the countries have developed close ties in high-tech and defense. The three main components of cooperation between both countries have been:

Defence

India is the world's biggest importer of defence equipment, and Israel has become one of its major suppliers.

- Israeli companies, led by government-owned aerospace giant Israel Aircraft Industries, have signed arms deals with India totaling over $2.6 billion earlier this year.
- By 2000, India was acquiring surface-to-air missiles (Barak 1) and UAVs (**unmanned aerial vehicles**) from Israel. Subsequently, the refurbishing of MiG-21 aircraft employed Israeli avionics.

- With U.S. concurrence, Israel sold India the **Phalcon airborne early warning system** and mounted on the Russian Il-76, provided AWACs capability.
- Subsequent acquisitions have included **Spike anti-tank guided missiles** and the long range surface-to-air missiles in both the naval and land versions.
- Israel was one of the main suppliers for India during the Kargil war with Pakistan. It showed its reputation as a strong, stable supplier, even in times of duress.
- Israel already selling India an average of $1 billion per year in military equipment.

Agriculture

In 2008, Israel launched the **India-Israel Agriculture Project (IIAP)** aimed at setting up specialised agriculture centres across India

- The IIAP is a three-way collaboration between Indian government, the Israel government and a state in India.
- So far of the proposed 26 centres of excellence, 15 have become fully operational, while the remaining are expected to start from early next year.
- Most of the centres are focused on providing top class technical know-how seeds, best farming practices to enable growers of the region improve their yields and in the process increase his income.
- In agriculture, **Israel's drip irrigation** model is popular in many parts of India.

Water

- As a water-challenged state, Israel recycles 90% of its water, and 95% of sewage is processed for agricultural use, making it virtually a closed water cycle. Desalination is one of the main areas for collaboration and sharing of experience and expertise.
- An Israeli company was recently awarded a project to clean a part of river Yamuna.

India-Israel-Palestine

With Prime Minister visit to Israel, India has finally **de-hyphenated its relationship with Israel and Palestine,** engaging with the two arch-rivals separately and on mutually beneficial terms.

- PM visit to Israel indicates that New Delhi is pursuing its relations with the **West Asian nation on its own merit.**
- The assessment is the situation in West Asia has changed over the past few years and India's ties with other countries in the region are much stronger, including forging of strategic partnerships with some countries in the Gulf.
- India has been an old friend of Palestine and supported its cause and people for long. India has been a committed supporter of the two nation theory, with **Palestine being a separate entity**.
- Palestine also sought **"greater role" by India** for its cause, even as it asserted that it was not worried over the growing Indo-Israel ties.

2.2. INDIA AND JAPAN

Why in news?

- The India-Japan Agreement for Cooperation in the Peaceful Uses of Nuclear Energy entered into force.

Nullification clause

- It was a major hurdle in the deal which sought **automatic cancellation** of the agreement if India resorts to nuclear testing in the future.
- It was resolved by annexing a separate memorandum to the treaty which specifies that Japan can suspend cooperation if India **breaches its no-testing pledge to the NSG.**

> - India currently has 5.7 gigawatts (GW) of nuclear power generation capacity.
> - This accounts for **2% of the total power capacity.**
> - India's Department of Atomic Energy's target is to have 63GW of nuclear power capacity by 2032.

- India conceded to Japan on another clause which says that Japan can notify India of the **termination of the pact with one year's notice.**

Significance of deal for India

For India, the deal represents hope that the 2008 waiver it received from the Nuclear Suppliers' Group might finally begin paying off given that so far it has had limited tangible benefits for the country's power industry.

- The pact is a major achievement for India as it is **Japan's first civilian nuclear cooperation** pact with a country that has not signed the nuclear Non-Proliferation Treaty.
- The deal allows Japan to export nuclear technology to India, making it the first non-NPT signatory to have such a deal with Tokyo.
- Japan is a major player in the nuclear energy market and an atomic deal with it will make it easier for US-based nuclear plant makers **Westinghouse Electric Corporation and GE Energy** Inc to set up atomic plants in India as both these conglomerates **have Japanese investments.**
- The deal with Japan is also a necessity for enabling India's bilateral nuclear deals with other countries. Key elements of certain reactors like the **AP 1000 and EPR,** including safety components and domes, are a near-Japanese monopoly.

Significance of deal for Japan

In the aftermath of the **2011 Fukushima nuclear disaster**, the nuclear industry is facing a global crisis. Stricter safety regulations have spiked the costs of constructing plants and 'some countries have become more cautious about new reactors.

- In Japan there has been **no domestic construction on a new reactor** for the past eight years. The deal is likely **to revitalise Japanese nuclear majors** that are yet to recover from the setback of the Fukushima accident.
- Hitachi, Mitsubishi and Toshiba are all focussing on repair and maintenance of existing plants (most of which are idle) rather than on construction of new ones.
- That apart, the deal will bring Japan into the Indian nuclear market where France and Russia have already have a strong presence.

2.3. INVESTMENT FACILITATION MECHANISM WITH EU

- The European Union (EU) and India announced the establishment of an **Investment Facilitation Mechanism (IFM) for EU investments in India.**
- The mechanism will allow for a close coordination between the European Union and the Government of India with an **aim to promote and facilitate EU investment in India.**
- This agreement builds on the Joint Statement of the **13th EU-India Summit held in Brussels** in March 2016, where the EU had welcomed India's readiness to establish such a mechanism.
- As part of the IFM, the EU Delegation to India and the Department of Industrial Policy and Promotion (DIPP) will hold regular high level meetings to assess and facilitate **"ease of doing business"** for EU investors in India by creating a **single-window entry** point.
- **Invest India**, the Indian government's official Investment Promotion and Facilitation Agency, will also be part of the IFM.
- Along with being the first trade partner in goods and services, EU is one of the biggest provider of **foreign investment** in India, with a stock exceeding **$81.52 billion as of March 2017**.

2.4. JOINT INTERPRETATIVE NOTES AGREEMENT WITH BANGLADESH

Why in news?

The union cabinet approved signing of the joint interpretative notes (JIN) agreement with Bangladesh to ensure smooth implementation of the **investment promotion and protection pact.**

Significance of JIN

- The JIN would impart clarity to the interpretation of the existing agreement between India and Bangladesh for the Promotion and Protection of Investments.
- Joint Interpretative Statements play an important supplementary role in strengthening the investment treaty regime.

- With increasing Bilateral Investment Treaty (BIT) disputes, issuance of such statements is likely to have strong persuasive value before tribunals. Such **pro-active approach** by States can foster a more predictable and coherent reading of treaty terms by arbitration tribunals.
- The JIN includes interpretative notes to be jointly adopted for many clauses, including, the definition of investor and investment, exclusion of taxation measures, **Fair and Equitable Treatment (FET),** National Treatment (NT) and **Most Favoured Nation (MFN)** treatment, expropriation, essential security interests and settlement of disputes between an investor and a contracting party.

2.5. BRICS

A. Meeting of BRICS Ministers of Education:
- The Beijing meeting discussed reforming education, promoting equity in education, fostering quality education, and organizing student exchanges.
- The '**Beijing Declaration on Education'** reaffirms the commitment of BRICS countries to achieving Sustainable Development Goal **(SDG) 4 (quality education).**
- Reiterate support for **the BRICS Network University (NU)** to collaborate in the fields of education, research and innovation. Encourage universities to participate in the BRICS University League
- Strengthen cooperation in the field of **Technical and Vocational Education and Training (TVET),** share ideas and experiences in the development of vocational educators, and develop projects that are of common interests to BRICS Member States.
- Recognize the importance of **BRICS Think Tanks Council (BTTC), BRICS Network University** as well as other BRICS initiatives, and encourage the streamlining of mechanisms for their closer cooperation to ensure the alignment of their work.

B. BRICS Labour & Employment Ministers' Meet in China
- The meeting concluded with the adoption of **the BRICS Labour and Employment Ministerial Declaration.**
- The Declaration covered a variety of areas that are of critical importance to all BRICS countries including India and called upon strengthening collaboration and cooperation on these through appropriate institutionalization.

2.6. G-20 SUMMIT 2017

Why in news?
- The G-20 summit 2017 was held in Hamburg, Germany. The theme of this year's summit was '**shaping an interconnected world**'.

Background
- The G20 brings together 19 countries plus the EU.
- G20 members account for over 80% of the world's gross domestic product (GDP) and they host almost two-thirds of the world's population.
- The G20 summit was established in 2008 amidst the global financial crisis to increase international economic cooperation. Since then, G20 members have been meeting annually to discuss a wide range of issues related to economic and financial cooperation.
- The members are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the UK, the US, and the European Union.

Outcomes
- **Trade and globalization**
  ✓ Leaders stressed the need to better help people **seize the opportunities and benefits of economic globalization** and **fighting protectionism while recognizing "legitimate trade defence instruments".**
  ✓ They also discussed how to continue building an **open and resilient financial system**, increase **international tax cooperation** and address the issue of **excess steel capacity**.
- **Energy and climate**
  ✓ Leaders took note of the **United States' withdrawal from the Paris Agreement** while stating that the **Paris Agreement is irreversible and endorsed the G20 Hamburg climate and energy**.

- **Migration and refugee crisis**
  - ✓ Leaders agreed to step up coordination and act against people smugglers and traffickers while addressing the **root causes of migration** and supporting countries of origin and transit.
- **Counter-Terrorism cooperation :**
  - ✓ They also adopted an action plan to enhance counter-terrorism cooperation and tackle foreign terrorist fighters.

2.7. SASEC ROAD CONNECTIVITY

Why in news?

The Cabinet Committee on Economic Affairs has given its approval for upgradation and widening of 65 kms of Imphal-Moreh Section of NH-39 in Manipur at a cost of Rs. 1630.29 crores.

- The project is being developed with ADB's loan assistance under the South Asian Sub-Regional Economic Cooperation (SASEC) Road Connectivity Investment Program.
- The project corridor is also a part of the **Asian Highway No. 01 (AH01)** and acts as **India's Gateway to the East**. Thus trade, commerce and tourism in the region will get a boost.

Socio-Economic Development of Manipur

Manipur being a landlocked state with almost 90% of the area under difficult terrain presently has only road transport as a means of mass transport system within the state. Hence development of the road infrastructure is of paramount importance to improve connectivity and progress of the State.

- Besides **socio-economic development** the project will also reduce the average travel time along the project road by nearly 40 per cent.
- The completion of the route is being seen as a big opportunity for the **traditional bamboo and wood based manufacturing units.**
- Government of India has notified an **Integrated Custom Post (ICP) at Moreh**. The development of this project is essential to support the increased traffic volume on account of the development of the ICP.

> **About SASEC Road Connectivity Investment Program:**
> - The SASEC program focuses on road infrastructure to improve regional connectivity between Bangladesh, Bhutan, Nepal and India (BBIN).
> - The seven-member SASEC formed in 2001 comprises India, Bangladesh, Bhutan, Maldives, Nepal, Sri Lanka and Myanmar, and aims to increase economic growth by building cross-border connectivity.

Significance for India's "Act East Policy"

India is expediting South Asian Sub-Regional Economic Cooperation (SASEC) road connectivity program in the backdrop of China's 'One Belt One Road' initiative.

- Once completed, the project will not only help India connect with its neighbouring countries but will also play an important role in the Great Asian Highway.
- Road corridors in Myanmar provide the key links between South Asia and Southeast Asia.
- Ports in Myanmar will provide additional gateways to the landlocked North Eastern region of India.
- Development of multi-modal connectivity between North Eastern region of India, Bangladesh and Myanmar has the potential of unleashing tremendous economic energy in the sub-region.

2.8. NEW NUCLEAR WEAPON PROHIBITION TREATY (NWPT)

Why in news?

- Over 120 countries in the United Nations voted to adopt the first-ever global treaty to ban nuclear weapons.
- The new treaty outlaws the **entire range of activity relating to the production, stockpiling and use of nuclear weapons.**
- The most central provision is Article 1(d) which **categorically prohibits the use of nuclear weapons** or a threat to that effect, under all circumstances.
- The treaty will be open for signature to all States at UN Headquarters in September and enter into **force 90 days after it has been ratified by at least 50 countries**.

- India and other nuclear-armed nations: the United States, Russia, Britain, China, France, Pakistan, North Korea and Israel had not participated in the negotiations.

India's Position

- In its Explanation of Vote (EoV), India had said that it was **"not convinced" that the proposed conference** could address the longstanding expectation of the international community for a comprehensive instrument on nuclear disarmament.
- India also maintained that the **Geneva-based Conference on Disarmament (CD)** is the single multilateral disarmament negotiation forum.
- It had further said that it supports the commencement of negotiations in the Conference on Disarmament on a **Comprehensive Nuclear Weapons Convention, which in addition to prohibition and elimination also includes verification** which current process lacks.

Position of USA and its allies

The Permanent Representatives of the US, UK and France said they "have not taken part in the negotiation of the treaty and do not intend to sign, ratify or ever become party to it".

- This initiative clearly disregards **the realities of the international security environment.**
- Accession to the ban treaty is incompatible with the **policy of nuclear deterrence,** which has been essential to keeping the peace in Europe and North Asia for over 70 years.
- They also criticised the treaty for not providing any solution to the **"grave threat posed by North Korea's nuclear programme".**

Analysis

The preamble of the NWPT explicitly acknowledges **"the ethical imperatives for nuclear disarmament"** and describes a nuclear weapon-free world as **"a global public good of the highest order, serving both national and collective security interests".**

- The nuclear weapons treaty marks the completion of a process to enforce an international ban on all categories of weapons of mass destruction following the prohibition of biological and chemical arms.
- The world's nuclear powers have remained defiant ever since its adoption. Their continued resistance will no doubt jeopardise its effectiveness. But that does not take away from its sound **basis in moral and legal principles.**

2.9. SRI LANKA-CHINA

Why in news?

Sri Lanka signed a $1.1 billion deal to sell a 70% stake of the strategic Hambantota port to China.

- According to the new deal, only **Sri Lankan Navy will be responsible for security of** the deep-sea port, and the port will not be allowed to become a base for any foreign Navy.
- The renegotiated deal **allays concerns in India, Japan and the United States** that the port won't be used by **China for military purposes.**

Significance of Hambantota Port

- China has long been interested in the commercial and strategic potential of Hambantota.
- **Hambantota Port** is right in the middle of vital energy supply lines in the India Ocean connecting the Middle East and East Asia.
- The Hambantota port is part of China's Belt and Road Initiative.

India's concerns

Increasing Chinese activities in Indian Ocean is a cause of concern for India. India has long considered Sri Lanka as within its sphere of influence and sought to push back against China's expanding maritime presence.

- China's enormous investment in CPEC, and port infrastructure in the Indian Ocean, serves much more than trade. It advances **Beijing's "String of Pearls" strategy,** as well as its unofficial agenda **to encircle India**.
- India has also voiced concerns that China could use the deep sea port in the Indian Ocean to dock military vessels.

2.10. CHINESE MILITARY BASE IN DJIBOUTI

Why in news?

China has dispatched People's Liberation Army (PLA) personnel to man its first overseas military base at Djibouti in the strategic Indian Ocean region.

- This will be **China's first overseas** naval base, although Beijing officially describes it as a logistics facility.
- Djibouti is situated in the **"Horn of Africa", a** key hub connecting Asia to Europe through the Red Sea.
- The second base is coming up in Gwadar, Pakistan.
- The naval base is strategically located on the eastern edge of Africa, which means that movement of Chinese ships will increase in the Indian Ocean region.

India's concerns

- This is a cause of concern for India not only from **military and defence** point of view but also in **terms of trade with Africa**, which has become a bone of contention for both India and China.
- Djibouti's position on the northwestern edge of the Indian Ocean has fuelled worry in India that it would become another of China's **"string of pearls"** of military alliances and assets ringing India, including Bangladesh, Myanmar, Pakistan and Sri Lanka.

2.11. MALABAR NAVAL EXERCISE

Why in news?

The 21st edition of the 'MALABAR-2017' naval exercise was held in the Bay of Bengal.

About Malabar

- Malabar is an annual military exercise between the navies of India, Japan and the U.S. held alternately in the Indian and Pacific Oceans.
- It is a platform to improve interoperability between the navies.
- It began in 1992 as a bilateral exercise between India and the U.S.
- Then it got permanently expanded into a trilateral format with the inclusion of Japan in 2015.

Why is China concerned?

- Beijing has been suspicious about the purpose of the Malabar exercises as it feels that the annual war game is an effort **to contain its influence in the Indo-Pacific region** and the fears have been exacerbated with Japan being included and Australia keen to join as well.
- In September 2007, the Navies of **Australia, Japan and Singapore joined India and the U.S**. in the Malabar exercises.
- China had issued a demarche to New Delhi questioning the intent behind the war games, which forced India to abandon the expansion at that time.

Significance of 'MALABAR-2017'

This year Malabar exercise is significant for multiple reasons:

- The exercise between India-Japan-US comes against the backdrop of a **tense face-off with China in Dokalam** at the trijunction of India, Bhutan and China.
- The Malabar is being seen as an opportunity for India to strike **a hard-posture in a place** where it perceives a strategic advantage vis-a-vis China — maritime-South Asia.
- The trilateral naval drill was held at a time when the PLA Navy has been increasing **its presence in the Indian Ocean** – Chinese warships have been regularly visiting Pakistan, Sri Lanka, Bangladesh, and Myanmar.
- This year's Malabar exercise focused on **submarine hunting and anti-submarine warfare** – a fact that assumes importance after recent reports of Chinese submarine being spotted in the Indian Ocean.
- With China's growing military strength and its increasing presence in the Indian Ocean, Malabar has assumed greater importance as it is a platform **to improve interoperability between the navies.**

3. ECONOMY

3.1. GOODS AND SERVICES TAX

Why in news?

- On July 1st the regime of GST has started.
- Before it, GST Council finalized the tax rates for almost all taxable products & services and also brought all states on board and drafted 5 bills related to GST
  - Parliament has passed 4 bills related to GST, to be implemented pan India - The Central GST Bill 2017, The Integrated GST Bill 2017, The Union Territory GST Bill 2017, The GST (Compensation to the States) Bill 2017
  - Draft State GST bill was forwarded to States & all States including Jammu & Kashmir have already passed the state GST bill.

Background

- In 2004, Vijay Kelkar recommended GST to replace indirect tax structure.
- In 2011, a bill was introduced but it was stuck in the tussle over the compensation to states.
- Recently, various issues related to GST caps, compensation, powers & responsibilities of GST Council were resolved.
- Later a **four-slab structure** of GST - 5% (on basic necessities), 12%, 18% and 28% (on luxury goods) was decided.
- Recently government gave a description about **reverse charge mechanism** under GST where liability to pay tax is of recipient of goods & services rather than the supplier when goods or services have been received from an unregistered person. GST Council has specified **12 categories of services for reverse charge** that include radio taxi, services by an individual advocate or firm of advocates etc.

Significance

- GST will merge **the indirect central government levies** like sales tax, service tax, excise duty, Customs duty, surcharges and cesses and **indirect state government levies** like VAT, Entry tax etc.
  - Earlier, **India's indirect tax regime was fragmented** with many taxes at both Centre & State level with varying rates of each in different jurisdictions. This created tariff & non-tariff barriers to trade.
- Encouragement to co-operative federalism
- GST is largely technology driven & so will **reduce the human interface leading to speedy decisions**.
- It would **improve revenue buoyancy by widening the tax base. As of now, out of 120 crores population, only 80 lakhs are registered for paying customs and excise taxes etc.**
- More efficient neutralization of taxes especially for exports thereby making our products more competitive in the international market.

GST implementation machinery

GST council

- It is a constitutional body set up as per Article 279A to decide issues relating to GST
- It consists of following members:
  - Union Finance Minister - Chairperson
  - Union Minister of State, in-charge of Revenue of finance
  - Minister In-charge of finance or taxation or any other Minister nominated by each State Government

GSTN (GST Network)

- It is a not for profit, non-Government, private limited company set up primarily to provide IT infrastructure and services to the Central & State Governments, tax payers & other stakeholders for GST implementation.
- Its 3 major functions include:
  - Registration
  - Tax Payment– 97% paid electronically
  - Filing for returns

Effects on different sectors

Banking and Financial Services Sector: Taxed at 14.5% for services, while GST is expected to be 18 per cent to 20 per cent. Thus, services are likely to get costlier.

Real estate: Disputes due to ambiguity in provisions and multiple taxations would be reduced due to transparency & more efficient transaction-tracking methods. It will also significantly reduce tax evasion

Health Care Sector: The major concern of inverted duty structure adversely affecting domestic manufacturers may be taken care by GST by either removing it or refunding of accumulated credit

Agriculture: Impact would be mixed with some distorting Mandi taxes and other cess getting abolished, reduction in food subsidy bill due to rationalization of tax structure, smooth inter-state movement. While it may also affect the tax revenue of the states negatively and the food processing industry due to higher rates.

Advantages of GST

- **Unified National Market**: It is a step towards "One Country, One Tax, One Market" providing a relatively stable tax regime which will give boost to foreign investment and Make in India.
- **Impact on economy -** It is estimated to increase the GDP growth by 1.5 to 2%. Inflation in general for goods is going to be reduced due to removal of cascading effect as well as lower rates than present regime for most of them.
- **No Cascading effect**: GST prevents cascading of taxes as it is a destination based consumption tax & Input Tax Credit will be available across goods and services at every stage of supply.
- **Ease of doing business**: Harmonization of laws, procedures and rates of tax. It will improve environment of compliance as all returns to be filed online, input credits to be verified online reducing need to deal with different tax authorities. It would also discourage mere 'invoice shopping'.
- **Reduce Tax Evasion**: Uniform SGST and IGST rates will reduce incentive for evasion because of
  - o **Elimination of rate arbitrage** between neighbouring States and that between intra and inter-state sales as integrated GST rate would be applicable
  - o '**Self-policing feature'** of tax being levied on the value added to a good or service.
  - o **Reduction in compliance costs** due to simplification as no multiple record keeping for a variety of taxes because 17 taxes and cesses is merged into one
- **Impact on consumer** - Half the consumer price index basket, including foodgrains, will be attract zero tax rate, thus enabling them to be part of GST chain but without burdening consumers

Challenges

- **Digital infrastructure** - Availability of bandwidth for digital connectivity allover India to conduct electronic transfers and payments properly
- **Data privacy** – 51% of GSTN is privately held. This gives the control of tax and trade data to a private company and without adequate data protection measures; it could hurt India's financial security.
- **Issue of Parliamentary and Legislative autonomy** : GST Council (an executive body) will finalize a vote by a majority of not less than three-fourths of weighted votes of members present and voting (Centre to have 33% and states to have 66% weight of the total votes cast).
- **Federalism**: The states are giving up much of their most important power – 'to impose taxes' autonomously. States will no longer be able to change their tax rates individually. As both Centre and State is vested with power to make law on GST under Art. 246(A) unlike existing regime, both centre and state will have to work together which may create workspace challenge.
- **Urban local bodies** will have to deal with a huge fiscal gap once local body tax, octroi and other entry taxes are scrapped for GST system.
- **List of Exclusions & different rates** – Many exclusions like petroleum products, diesel, petrol, aviation turbine fuel, alcohol etc. & 4 different rates are undermining the principle of One Country, One Tax.
- **Pressure due to increased taxes -** Small companies with a turnover of Rs 10 lakh will have to pay GST as opposed to currently Rs 1.5 crore. Even unorganized sector, biggest job creator, may lose its competitive edge. They may have to raise prices to stay profitable.
- **For consumers** - Benefits from reduced cost due to lower taxes may not be passed on to them. Also, some are seeing GST as a regressive system of taxation as it more or less equalizes taxation across products which mean that rich will pay less tax on luxury goods and services and poor will pay more for basic goods and services

Steps taken to meet the challenges

- **Exemptions to small business** - Businesses in the Northeastern and hill states with annual turnover below Rs.10 lakh would be out of the GST net, while the threshold for the exemption in the rest of India would be an annual turnover of Rs 20 lakh.
- **Anti – profiteering law** – According to Sec 171 – in case merchants etc., are getting input tax credit, commensurate benefit has to pass down to consumer.
- **GST registration numbers** – provisional IDs given and a 90 day window given for accustomisation.

- **Mandatory registration:** Tax can't be evaded now– as every person should be in the GST system if he wants to trade. E-way bill also has been passed where movement of good costing more than 50,000 beyond 10 Km is required to be registered online
- **Communication and awareness programs** - For this, Suvidha Kendras in government offices and various handholding programmes are started.
- **GST suvidha providers (GSP)** - GSTN has selected 34 GSPs to provide innovative and convenient methods to taxpayers and other stakeholders in complying with GST regime. It would smoothen the process of tax administration under GST.

Way Forward

- Having a GST would accrue multiple benefits to the Indian economy. The government should also try to remove the limitations like data privacy and also narrow down the list of exclusions in the long term.
- Progressive and step-by-step change - With multiple tax rates, GST may not be a simple tax and robs much of the benefits from lower administrative, compliance and distortion costs. But still the present regime is far better than the previous one, while the flaws in present regime have to be dealt with quickly.
- The fear of revenue loss has kept the government from taking a gamble on lower or fewer rates. That stance is unlikely to change soon, unless the economy turns around fast. So, the GST council should meet as frequently as possible to review the rates so as to push the country on par with developed nations.
- On priority, the government needs to address capability building among the lesser endowed stakeholders, such as small scale producers and retailers.

Though in the short run there may be some challenges but the benefits in the long run will more than compensate for them. Increased tax compliance is expected to lead to more revenue for the government and more development for the country. With ready availability of real time data, government policies can also be targeted better to produce the desired results.

3.2. RBI'S FINANCIAL STABILITY REPORT

Why in news?

- **Reserve Bank of India** recently released its **biannual Financial Stability Report (FSR).**

Major Highlights of the Report

- **Real gross value added (GVA)** growth has declined from 7.9 percent in 2015-16 to 6.6 percent in 2016-17
- RBI however believes that **implementation of GST, reform in FDI and revival in external demand is likely to push economic growth** scale to 7.3 percent of GVA in 2017-18.
- The **gross non-performing advances (GNPAs) of the banking sector rose** but the **stressed advances ratio declined** between September 2016 and March 2017.
- The central bank has pointed out if the current state of affairs continues then **GNPAs may rise** from 9.6 percent in March 2017 to 10. 2 percent in 2018.
- Overall**, capital to risk-weighted assets ratio (CRAR) improved** from 13.4 per cent to 13.6 per cent between September 2016 and March 2017 mainly due to improvement in capital adequacy of foreign and private banks.
- However, RBI predicts that **CRAR may decline** from 13.3% in March 2017 to 11.2% in March 2018.
- A worsening in macroeconomic conditions can results in banks in breaching the regulatory threshold for GNPAs and CRAR.

Prompt Corrective Action Framework
- Prompt Corrective Action allows the RBI to pose certain restrictions on a bank when certain limits are breached.
- These restrictions may include **halting branch expansion, stopping dividend payments, special audit** and more.
- The risk thresholds that are taken into account are **asset quality, profitability, NPA limit** and the like.
- PCA was first issued by the RBI in May 2014 and has recently been revised in April 2017.

Capital-to-risk weighted Assets Ratio
- Also called **capital adequacy ratio**, it refers to the amount of **capital that a bank must have against its current liabilities and risk-weighted assets (loans).**
- This is mainly to prevent the banks from taking excess leverage and becoming insolvent in the process.
- According to the revised PCA norms, banks are required to maintain a **minimum CRAR of 9 percent.**

Stressed Assets Ratio
- It refers to the ratio of total stressed assets (GNPAs+ restructured loans) to the total assets.

Challenges

- Weak investment demand and increase in GNPAs will make it difficult to handle the **twin-balance sheet problem**.
- **Moving to Ind AS** (international system of audit) would be challenging for banks next year as it would require greater provisioning for NPAs and stressed assets.
- Cyber threats such as the recent **Ransomware attack** are fresh challenges for digital banking.
- Fraudulent bank transactions.

Regulatory Measures Taken By the RBI

- RBI tightened its disclosure and standard assets provisioning requirements, while adopting a more pro-active approach in resolution of stressed assets.
- The Reserve Bank also tightened its supervisory and enforcement frameworks by revising the prompt corrective action (PCA) framework and establishing an **Enforcement Department.**
- RBI has set up an **Inter-disciplinary Standing Committee on Cyber Security.**

Please refer to Vision IAS Current Affairs April 2017 Issue to know more about Ind As.

3.3. REC'S FIRST GREEN BOND

Why in News?

- **Rural Electrification Corporation's** first green bond has opened up for trading at the **London Stock Exchange.**

More about the Bond

- It is a **Climate Bonds Initiative** certified green bond.
- The proceeds of the bond shall be used to fund environment friendly projects in India such as **solar, wind and biomass assets, as well as sustainable water and waste management projects.**
- Through listing at the LSE, the PSU hopes to reach out to a new investor base.

What are Green Bonds?

- According to SEBI, a bond shall be considered green bond if the funds raised through it will be used for **renewable and sustainable energy including wind, solar, bio-energy, other sources of energy which use clean technology.**
- The first ever green bond was issued by multilateral institutions (European Investment Bank and World Bank) in 2007.
- The first green bond in India was issued by Yes Bank in 2015.
- Masala green bonds have also been issued by Indian entities.
- SEBI recently released issuer guidelines for green bonds making it mandatory for issuers to disclose **environmental objectives of issuance of such securities and the projects ear-marked for the same.**

> **Climate Bonds Initiative**
> - It is a **non-profit** international organisation that mobilizes debt capital markets for climate friendly projects and initiatives.
>
> **Rural Electrification Corporation**
> - Established in 1969, it is a **Navratna company** under the **Ministry of Power.**
> - A navratna company is one which can **invest up to Rs. 1000 crore without prior government approval**.
> - It is also the **nodal agency for the implementation of DDUGJY (Deen Dayal Upadhyay Gram Jyoti Yojana) and contributing agency for rolling out UDAY (Ujjwal Discom Assurance Yojana).**

Why are Green Bonds important for India?

- India today is among the **top 10 green bond markets** in the world.
- India can not only **help fulfil its target of achieving 175 GW of renewable energy by 2022** but also **fund other smaller projects like solar roof top.**
- Green bonds can also be used to **fund India's water infrastructure** (**bonds that help fund water infrastructure projects are known as "blue bonds"), waste management and biomass projects.**
- Conclusively, green bonds can anchor India to **reduce carbon emissions (India has pledged to reduce carbon emission intensity by 33-35% by 2030) and adopt a sustainable development framework.**

3.4. RURAL ELECTRIFICATION

Why in News?

- The government plans to roll out a Rs17,000 crore scheme named Sasti Bijli Har Ghar Yojana to provide electricity access to every rural household.

Current facts

- Target of government: 100% electrification by 2022
- At present, around 40 million households are unelectrified and around 304 million Indians live without access to electricity.
- 10% of villages is wrongly noted in government data.
- 28% of electrified villages reported over-charging and ad-hoc billing.

Challenges in rural electrification

- Requirement of large capital investment
- Indifference of rural consumer towards electrification
- Affordability issue
- Reckoning of rural supply as a welfare activity and not a commercial one
- Solar lighting, although effective for household electrification, is not cost effective especially if battery back-up is also provided.
- Duration, quality & reliability of supply.
- Differential resource endowments & economic growth patterns of states.
- Inability of paying bills in one go because of staggered income.
- Lack of an efficient maintenance mechanism- 52% villages face issues with contractors, repairpersons etc.
- Different one time connection charges for different villages
- Geographical terrain- LWE affected areas, forest areas.

Positive impact of scheme

- Electricity access to **households** with meters will create demand which in turn will force the discoms to supply to these villages. At present, they don't want to supply even if the electrification has taken place.
- Ensuring electricity at household level will also cover certain hamlets, not covered in the national sample surveys and the Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY).
- Integrating these citizens into mainstream energy grid would also improve financial health of the energy sector due to increased demand. It would also positively impact education and health in rural India.
- This will help leveraging electricity for induction cooking, thus providing one more alternative to biomass cooking.

Solutions

- Impetus to decentralized electricity production through off-grid solutions like solar etc.
- 100% Metering with innovative billing & metering practices to give consumers an offer to pay bill in a staggered manner
- Power belongs to the concurrent list so even if centre releases funds, states have to implement it efficiently. Thus, states should create and strengthen state nodal agencies (SNAs) so that they can be accountable for results.
- Streamlining electricity production, transmission and distribution such that losses are minimized which will make power more accessible to households. At present, T&D losses in some states go up to even 50%.
- Providing transparency in electrification programme by including inputs from the people in the monitoring and review process so that clear picture on the ground is included in the report.

As per the latest definition, a village would be declared as electrified, if:

- Basic infrastructure such as Distribution Transformer and Distribution lines are provided in the inhabited locality as well as the Dalit Basti hamlet where it exists.
- Electricity is provided to public places like Schools, Panchayat Office, Health Centers, Dispensaries, Community centers etc.
- The number of households electrified should be at least 10% of the total number of households in the village.

According to 2015 plan, 18,452 un-electrified villages were to be electrified by 1 May 2018 out of which only 3,458 villages remain to be electrified, with 966 being uninhabited villages.

3.5. DRAFT NATIONAL ENERGY POLICY

Why in news?

Niti Ayog has come up with a draft national energy policy which builds on the earlier energy policy – the Integrated Energy Policy of mid 2000s.

Why need of a new energy policy?

- To chart way to meet government recent announcements:

- o Electrifying all Census villages by 2018, and achieving universal electrification with 24x7 electricity by 2022. As of now, 304 million Indians live without access to electricity
  - o Increasing share of manufacturing in our GDP from 16% currently to 25%
  - o Target of Ministry of Petroleum to reduce oil imports by 10% from (2014-15 levels) by 2022.
  - o Achieving INDC targets
- To meet energy needs of vast population predicted to go up to 1.6 billion by 2040
  - o 500 million people, still dependent on solid bio-mass for cooking
  - o According to NITI AYOG exercise, the energy demand in India is likely to go up by 2.7-3.2 times between 2012 and 2040 and thus import demand could increase from 31% in 2012 to 36-55% in 2040
- To increase coordination to achieve the goal of energy security as energy is handled by different Ministries with their own sectoral agenda
- To reduce cost due to air pollution – It is estimated to be 3% of its GDP and causes 1.2 million deaths every year.
- To set the new agenda consistent with the emerging developments in the energy world such as
  - o **Changes in the global energy mix** where share of fossil fuel has reduced from 88% to 86% and share of renewable energy has increased from 12.5% to 14% during 2005-2015
  - o **Ascendancy of gas vis-à-vis oil** because of rising production of natural gas, lower prices than oil and 1/3rd lesser carbon emissions
  - o **Over supply of oil and gas markets have led to reduction in prices** which has given fiscal space to countries like India to attempt larger energy policy reforms
  - o **Reduction in price of renewable energy technologies –** Wind and solar prices have reduced by 60% and 52% respectively between 2010 and 2015
  - o **Climate change concerns –** There is enhanced understanding of linkage between energy usage and poor environmental outcomes and awareness about air quality standards

> **Key objectives of Energy Policy**
> - Access at affordable prices considering poverty & deprivation.
> - Improved independence & security by diversifying source of imports or reducing it or increasing domestic production.
> - Greater sustainability due to climate change issue.
> - Economic growth as needed for energy-intensive sectors.

Key provisions to achieve objectives

- **To ensure sustainability**
  - o Adopting **energy conservation building code** for all new commercial construction to bring down energy use by 50%
  - o **Cutting fossil fuel consumption** through **energy efficiency** –
    - ▪ Bureau of Energy Efficiency (BEE) would conduct a study to establish a robust data base so that energy efficiency programmes can be evaluated against set targets.
    - ▪ Shifting towards rail-based mass transport systems and electric & hybrid vehicles in transport sector to reduce pressure on exchequer as well as reducing pollution
    - ▪ All key appliances, equipment and vehicles should be covered by mandatory standards and labelling programmes by 2020
    - ▪ Establishment of an index of states by Niti Aayog to rate them across a range of energy efficiency related parameters. This will motivate them to create & strengthen state nodal agencies (SNA) and perform better.
    - ▪ Taking up focused financing initiative such as offering line of credit to Energy Efficiency Services Limited or other agencies, making energy efficiency as a priority lending sector, partial risk sharing of Energy Efficiency programs etc.
    - ▪ Setting specific goals for major energy consuming sectors such as revising AC standards, domestic efficiency lighting program (DELP) for AC, fans, pumps etc., standards for high duty vehicles and revising standards periodically for low duty vehicles
    - ▪ Expansion of the PAT (Perform Achieve and Trade) program to cover 80% of all industrial consumption, including the unorganised sector, by 2020
    - ▪ Adoption of BAT (Best Available Techniques) to reduce the industrial energy consumption
  - o **Promoting renewable energy –** Relying on nuclear energy as according to draft, it is the only green energy which can be used for baseload requirements. It also calls for linking price of coal, other fuels and

electricity on market principles to prevent wasteful use of resources and also allow a level playing field for clean energy alternatives. This will incentivize private sector to enter into energy fields.

- o **Removing subsidies on electricity** - The eventual goal should be to bring down the cross-subsidy from industry, placing the burden directly on the budget. This would contribute to making electricity-intensive businesses more competitive.
- o **Higher tax on big cars**, SUVs and promotion of mass transport system like metro rails to improve air quality
- o **Improving air quality** - Geographic concentration of power plants so that they do not damage air quality in human habitations and water supply to these ought to be priced as per its scarcity value.
- **For independence and security**
  - o **Fostering Cross Border Trade** of Petroleum Products and Electricity especially with neighbouring countries to enhance our energy security.
  - o **Setting up statutory regulatory authority (SRA)** for coal, power and petroleum for issuing swifter regulation and enhance coordination. This will ensure swifter response from industry leading to supply security
  - o **Overseas engagement across stakeholders** – Encouraging Indian companies to seize a larger share of overseas energy business considering our increasing import dependence for commercial primary energy supplies.
  - o **Expansion of energy infrastructure** and increasing strategic reserves as insurance against imported supplies.
- **For affordability**
  - o **Corporatizing CIL** - by converting 7 subsidiaries of coal India Limited into independent companies and be allowed to compete against each other for better production, distribution and pricing. At present monopoly disincentivises attempts to contain costs
  - o **Compensation to customers through direct benefit transfer** in event of price rise
  - o **Technology development not just deployment –** Technological roadmap should be laid down for different energy sub-sectors through industry-academia alliance, collaboration of government departments and private sector, tapping Indian diaspora for guidance.
- **For economic growth in general and energy intensive sector**
  - o **Privatizing coal production** – to push for higher production from private coal miners. Thus, coal blocks need to be allocated on commercial lines to independent firms specialised in coal mining.
  - o **Doubling of coal-fired capacity** by 2040 from current 195GW to anywhere between 330 to 441 GW
  - o **Promoting investment in energy sector**
    - encourage adoption of imaginative tools to de-risk energy infrastructure projects such as extended debt tenure, VGF (viability gap funding), tolling, dollar denominated returns to attract private capital
    - Conceiving suitable hedging mechanisms for ECBs
    - Pursuing emerging sectors such as clean coal technology, battery storage etc.
- **Some provisions related to consumers**
  - o Innovative billing and metering practices will be offered to them to be able to pay in a staggered manner.
  - o Awards and tax rebates for facility and enterprise energy efficiency are an effective way to create awareness and promote competition between consumers

Issues

- **Not in sync with draft National Electricity Plan:** as it estimated that no new coal power plants would be required in India over the next decade till 2027, apart from the ones already under construction. Forecasts of our coal industry emerging as an exporter of coal seem to be out of touch with the shocking drop in demand for coal from most industrialised economies. Reliance on fossil fuels even in 2040 is in direct conflict with twin goals of sustainability and security at a time when solar and wind tariffs appear to be reaching historic new lows.
- **Capital crunch:** $150 billion capital investment is needed in energy sector on an annual basis until 2040 without impacting availability of capital in other sectors.

- **Rural-Urban inequality:** only 4% of the urban households did not use electricity as the primary source of lighting, while more than 26% of rural households are in this state which shows an inclination towards kerosene-based lighting solutions.
- **Public health concerns:** draft policy again falls short of expectations In terms of public health as it briefly touched upon public health in terms of exposure to indoor air pollutants only. This is relevant only to the semi-urban and rural regions. It ignores millions of inhabitants in cities who have to grapple with pollution caused by dirty thermal power stations.
- **Relying on nuclear power:** as only green energy available for baseload power may not hold true in next few decades given rapid maturing of energy storage technology. Also, it is highly cost-intensive in construction as well as upgradation. It has inherent risk of disaster even if India has an enviable record. Also, countries like Germany & Switzerland have voted emphatically to not build any new nuclear power stations.
- **Impact on international relations:** from expanding on thermal power as various countries including our neighbours Bangladesh and Maldives are at risk of going under from sea level rise.

Way forward

- **Ensuring coverage of households as opposed to only villages**: There is also a need to redefine the concept of 'electrification', as occurs in the DDUGJY to include stages of electrification in a village, with the village being deemed completely electrified if and only if all households of a village have a power connection, which witnesses reliable supply at least for a set number of hours.
- **Improving Governance:** by empowering BEE to enable it to implement the Energy conservation Act more effectively
- **Awareness creation**, an essential component of the renewed energy efficiency programme, to instill reasonable degree of confidence of the long term benefits in lieu of an upfront cost.

3.6. HYDROCARBONS EXPLORATION AND LICENSING POLICY (HELP)

Why in news?

- The Government of India recently launched the **Hydrocarbons Exploration and Licensing Policy** which will govern the exploration of oil and gas resources in the country replacing the existing **New Exploration Licensing Policy (NELP)**.

Need for the Policy

- India's domestic crude oil production of 36.95 million tons in 2015-16 barely met 20 per cent of its oil needs. Natural gas output at 32.249 billion cubic metres meets less than half of its needs
- Separate policies regimes for conventional oil and gas, coal-bed methane, shale oil and gas and gas hydrates have led to **inefficiency in exploration**.
- The previous policy regime had a **profit sharing model** which resulted in delays and disputes.
- NELP does not distinguish between shallow water fields (where costs and risks are lower) and deep/ultra-deep water fields where risks and costs are much higher for fixing royalties.
- Currently, the producer price of gas is fixed administratively by the Government. This has led to loss of revenue, a large number of disputes, arbitrations and court cases.

Objectives of the Policy

- To make India **business and investor friendly** by reducing regulatory restrictions.
- **Double India's existing oil production** from current 80 million metric tons to about 150-155 million metric tons by 2022.
- **Identification of areas** where exploration of different hydrocarbons can be made possible.

Main Features of the Policy

- **Uniform Licensing** – It provides one single license for different types of hydrocarbons such as oil, gas, coal bed methane etc.

National Data Repository
- Along with HELP, the government has also introduced a database of geological and hydrocarbon information that would be open for all.
- Having an NDR for India will **enhance prospects of petroleum exploration and facilitate the Bidding Rounds by improving the availability of quality data.**

- **Open Acreage Policy** – Explorers can now identify suitable area for exploration throughout the year. The government will then open the area for bidding.
- **Revenue Sharing** - The govt. will receive a share of the gross revenue. Bidders are required to quote the revenue shares in their bids.
- **Marketing and Pricing Freedom -** The policy provides marketing and pricing freedom subject to a ceiling price limit.
- **Exploration Phase -** Exploration phase for the onshore areas have been increased from 7 to 8 years and offshore areas from 8 to 10 years.

HELP vs. NELP

Policy category	HELP	Pre-HELP
Types of hydrocarbon	Covers all conventional and unconventional oil and gas	NELP covered only conventional oil and gas; Coal Bed Methane Policy covered coal bed methane
License	A single license for exploration and extraction of all types of oil and gas	Separate license required for conventional oil and gas, coal bed methane, shale oil and gas, and gas hydrates
Revenue model	Revenue-sharing model under which revenue will be shared with the government in the ratio submitted by bidders	Production/profit-sharing model under which government received a share in the profits
Coverage	Open acreage policy under which exploration companies can apply to explore any block not under exploration	Exploration was restricted to blocks opened for bidding by the government
Oil and gas pricing	Companies have the freedom to sell their production domestically without government intervention	Crude oil price was based on import parity; gas price was fixed by the government
Royalty	Concessional royalty for deep water (5 percent) and ultra-deep water (2 percent) areas, which are difficult to explore, and reduction of royalty in shallow waters (from 10 percent to 7.5 percent)	12.5 percent for the onshore areas and 10 percent for offshore areas; 10 percent for coal bed methane

Significance

- Such a policy can help **boost hydrocarbon exploration** thereby paving the way for **energy sufficiency** in the country.
- Domestic production of oil and natural gas can help reduce dependency on imports.
- It will help attract **foreign direct investment (FDI).**

3.7. SOVEREIGN GOLD BOND SCHEME

Why in news?

- The government released the next series of sovereign gold bond.

What are Sovereign Gold Bonds?

- Sovereign Gold Bonds are government securities denominated in physical gold.
- It was first launched under the **gold monetization scheme of 2015** with the objective of luring tonnes of physical gold in the Indian household into the banking system and reducing demand through imports and in the process reduce India's current account deficit.
- It is **issued by the RBI on behalf of the Government of India**
- These bonds carry **sovereign guarantee both on the capital invested and the interest.**
- They carry a **fixed interest rate of 2.50% per annum.**
- Only resident Indians can invest in SGBs for a minimum of 1 g and maximum of 500 grams per year.
- Gold bonds are tradable on the stock exchange and can be held in both physical or demat form.
- Investments in such bonds by banks will be counted in calculation in **SLR (Statutory Liquidity Ratio).**

Why it is better than physical gold?

- One of the biggest advantages of gold bond is that they are not entirely exposed to the fluctuations in price of physical gold as they carry a fixed interest on the initial bond price.
- They are eligible to be used as **collateral for loans** from banks.
- The **capital gains tax arising on redemption has been exempted**.

3.8. TIME AND COST OVER-RUNS OF INFRASTRUCTURE PROJECTS

Why in News?

- Cost over-runs by central infrastructure projects have come down sharply by the end of FY17 from over 20 percent in 2015.

Background

- Cost and time over-runs has been a major impediment in government scheme and implementation.
- It can be attributed to **increasing land acquisition costs, high cost of environmental safeguards and rehabilitation measures, changes in scope of projects, monopolistic price vendors, of equipment services and time overrun**.

Major Implications of Stalled Projects

- It upsets **future planning and fiscal management.**
- It delays the benefits that the common man is supposed to get from a public good such as railway lines, roads, bridges etc.
- It affects job-creation.
- It **increases the amount of non-performing assets** thereby **contributing to the twin-balance sheet problem.**

Steps Taken By the Government

The government has also taken many measures to revive stalled projects and fight red tape culture such as faster clearances, periodic monitoring and review. Some of which include -

- **Pro-Active Governance And Timely Implementation (PRAGATI):** One of its major roles was to monitor and review important programmes and projects of the Government of India.
- **Roping in PSU to Revive Thermal Power Projects:** The government is roping in state PSUs to revive under-construction stalled thermal power projects.
- **Hydropower Policy**: A policy is underway which aims to provide Rs 16,709 crore support to revive 40 stalled hydel power projects which can add 11,639 megawatt (MW) capacity. The policy will make the incentives currently available to small project to big projects as well.

3.9. DRAFT TEMPLATE FOR STAR RATING OF MINOR MINERALS

Why in news?

- The **draft evaluation template for the star rating of minor minerals** has been formulated by **the Ministry of Mines.**

What is it?

- The star rating evaluation template for minor minerals like sand and clay has been formulated on the lines of the star rating system of major minerals that was launched in 2016.
- There are **six different categories** for assessment. Under each category further differentiation has been done as well.

Criteria for Assessment	Total points
Systematic and sustainable mining	28 points
Protection of environment	15 points
Conservation of water and use of renewable	10 points

- **Minerals** have been classified into **major and minor** according to the **Mines and Minerals (Development and Regulation) Act, 1957.**
- According to the act, **minor minerals are building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes as well as any other minerals notified as minor minerals through Gazette of India notification by the government.**
- There has been no clear classification of major minerals under the act, therefore **any mineral not classified as minor is considered a major mineral**.

energy resources	
Health and safety of workers	20 points
Welfare measures and community engagement	13 points
Statutory compliance	14 points

- If the lease area scores **more than 75 points in its evaluation, it would be given 5-star rating. If it scores anywhere from 60-75, it would be given 4-star rating while score in between 50-60 would fetch 3-star rating.**

Significance

- It can help the government achieve **Sustainable Development Framework (SDF)** for the mining sector.
- Comprehensive mitigation of environmental impacts on land, air and water by mining activities.
- Availability of the information on mining as well as the conservation activities in public domain to enable **greater transparency** and speedy resolution of conflicts.

Star Rating of Major Minerals

- A star rating system for major minerals was instituted by the Ministry **of Mines through Indian Bureau of Mines (IBM)** in May 2016
- A **web-portal** has been developed for online filing of the evaluation template for Star Rating of Mines.
- The self- certification is to be evaluated and validated by the IBM. Based on the performance of the mining lease, a star rating of 1-5 is to be awarded.
- The star rating will be based on the following parameters:
  o Scientific and systematic mining to mitigate environmental impact.
  o Addressing social impacts of resettlement and rehabilitation of mining affected people.
  o Local community engagements and welfare programmes for socio-economic development of local community.
  o Progressive and final mine closure to ensure for restoration of mined out land in better conditions than original.
  o Adoption of international standards for mining operations and reporting.

3.10. SUB-MISSION ON AGRICULTURAL MECHANIZATION

Background

- **Sub-Mission on Agricultural Mechanisation (SMAM) was launched in the year 2014-15 under National Mission on Agricultural Extension and Technology.**
- It was launched with an objective to promote **agricultural mechanisation** among small and marginal farmers and in the areas where the level of mechanisation and availability of power is very low.
- During the current year 2017-18, the allocation for SMAM has been increased more than two times as compared to the previous year (Rs. 577 crore).
- Apart from SMAM, farm mechanisation is also promoted through various other schemes and programmes of the ministry such as **RKVY, NFSM, NHM, NMOOP** etc.

Components of SMAM

- **Promotion and Strengthening of Agricultural Mechanization through Training, Testing and Demonstration:** Aims to ensure performance testing of agricultural machinery and equipment, capacity building of farmers and end users and promoting farm mechanization through demonstrations.
- **Demonstration, Training and Distribution of Post-Harvest Technology and Management (PHTM):** Aims at popularizing technology for primary processing, value addition, low cost scientific storage/transport and the crop by-product management.
- **Financial Assistance for Procurement of Agriculture Machinery and Equipment:** Promotes ownership of various agricultural machinery & equipments as per norms of assistance.
- **Establish Farm Machinery Banks for Custom Hiring:** Provides suitable financial assistance to establish Farm Machinery Banks for Custom Hiring for appropriate locations and crops.

Advantages of Farm Mechanization

- **Increases production and yield per unit of land** - Farm mechanization can improve both the speed and quality of work done on a farm thereby positively affecting production and yield per unit of land.

- **Brings in other improvements in agricultural techniques –** use of machinery improves irrigation, land reclamation and prevents soil erosion.
- It results in a shift from subsistence farming to commercial agriculture.
- It also has other advantages such as better use of land, increase in farm income, solves the problem of labour shortage and releases the farmers for other work.

Disadvantages of Farm Mechanization

- **Not fruitful for small farm –** For proper and efficient utilization of agricultural machinery, large farm holdings are essential.
- **Surplus Workers** –a surplus unemployed workforce may emerge as machines can work more efficiently
- It has also been associated with the problem of stubble burning in areas of Punjab and Haryana.

Way forward

- Farm mechanization in India must cater to areas where manual labour is not much fruitful such as **reclamation of land infested with weeds or levelling of land with the help of tractors.**
- Farmers aren't educated or skilled to use the machinery appropriately. **Awareness campaigns must be held** in order to educate the farmers about the advantages of farm mechanization.

3.11. INDIA SET TO BE A PART OF GFXC

Why in news?

- India will soon get a seat in the newly constituted **Global Foreign Exchange Committee (GFXC).**

Global Foreign Exchange Committee

- It is **forum of central bankers** and experts working towards promotion of a robust and transparent **forex market.**
- It has been established under the aegis of **BIS.**
- The committee comprises of public and private sector representatives from the foreign exchange committees of 16 international forex trading centres.
- One of the major tasks of the committee is to **maintain and update the "Global Code of Conduct for the Foreign Exchange Markets".**

> **Bank of International Settlements (BIS)**
> - It is the bank to central banks and aims to support global financial and monetary stability.
> - It is owned by 60 member central banks representing countries from around the world.
> - It was founded in 1930 and is world's oldest financial organisation.
> - It is headquartered in Basel, Switzerland.

3.12. TRADEMARK ACT

Why in news?

Recently the Taj Mahal Palace Hotel of Mumbai has received the trademark making it the first structure in India to get this status.

Background

- Trademark refers to **graphical representation of goods or services** to make it distinguishable from the others. Trademark can be words, symbols, sound, colours, shape of goods, graphics representation or packaging etc.
- In India, trademarks are governed under **Trademarks Act, 1999,** under aegis of **DIPP.**
- The implementing body is the **Controller General of Patents, Designs and Trademarks.**
- Recently government has also issued the **Trademark rules, 2017** to make the process of obtaining Trademark easier and hassle free.

Limitations of Trademark Act

Though the Trademarks Act protects the owner against unfair competition, prevents damage to reputation of the owner and consumer welfare. It has certain limitations.

- The **'fair usage'** of certain trademarks for the purpose of education, research etc. is not available under the Trademarks Act. Therefore the third party is required to seek permission from the owner every time. Thus leading to waste of precious time.

- Certain trademarks impact the **rights of the public to Cultural Heritage**. The Trademarks Act does not expressively prohibit the registration of unconventional marks. Thus leaving loopholes for its exploitation.
- The Act doesn't provide for provisions to allow Indians or foreign nationals to apply for the trademark simultaneously in other countries. Thus infringing the **Madrid Protocol**.

Way Forward

- It becomes imperative that the Trademark Act 1999 is amended to ensure that the interest of the owners and general public is ensured. The amendment Bill pending in the Parliament provides for the-
  - o **Simultaneous registration of trademarks in India** as well as other countries
  - o It also increases the **duration of the trademark registration** to 18 months and the time **period for notice of opposition** to 4 months.
- The **'Fair use' provision of the Copyright Law** could be incorporated into the Trademark Act, so the use of trademarked entity is neither harmed nor is the consumer.

> **Trademarks Around the world**
>
> Other structures in the world that have received the trademarks
>
> - Empire State Building, New York, USA
> - Eiffel Tower, Paris, France
> - Opera House, Sydney, Australia
>
> Other Trademarks obtained in the world – Sound trademark (Tarzan Yell), Colour Patent (Cadbury, Tiffany etc), Signature celebration Pose (Usain Bolt).

3.13. GOVERNMENT SAVED OVER 5700CR THROUGH DBT

- **Direct Benefits Transfer** is a government scheme which aims to transfer subsidies directly to beneficiary's bank account to **better target the beneficiaries and plug the unnecessary loop holes**.
- Schemes under DBT include MGNREGA, PAHAL, Dhanlakshmi Scheme, Janani Suraksha Yojana etc.

Benefits of DBT

- The DBT has ensured that the funds are allotted to beneficiaries on a **real time basis** in accordance with their spending. E.g. DBT in LPG
- It **increases efficiency, reducing cost to exchequer and reducing leakages**. It also helps to reduce the price distortion in the physical market, diversion of supplies and profiteering in the black market. Eg. MSP, PDS
- Reduced the **manual workload** and **eliminated the human error** in processing the benefits.

Limitations

- **Infrastructure:** The JAM trinity – Jan Dhan, Aadhaar and Mobile are essential infrastructural requirement for the government to implement the scheme. However, present the infrastructural penetration is inadequate.
  - o **Jan Dhan –** At present the penetration of financial inclusion is not adequate and the unbanked regions continue to exist. The banks in the rural areas are understaffed and are often reported to be unprofitable thus creating the problem of last mile connectivity.
  - o **Aadhaar –** There still remains certain groups of people who do not have Aadhaar number and also its linkage to bank account also pose a challenge. Thus creating a roadblock.
  - o **Mobile -** In India mobile penetration is only 65-75%, however a smooth implementation of the scheme the mobile penetration in India needs to be increased.
- **Identification of Beneficiaries –** It is a challenge as the accuracy and legitimacy of the beneficiary database is hampered by the administrative and political discretion. E.**g** erroneous beneficiaries in LPG subsidies

3.14. STATE INVESTMENT POTENTIAL INDEX

Why in News?

- Gujarat has retained the top position in the list of 21 states and UTs, according to a report by economic think-tank NCAER which ranks states on their competitiveness in business and their investment climate.

About NCAER and the index

- Established in 1956, National Council of Applied Economic Research (NCAER) is India's oldest and largest independent, non-profit, economic policy research institute.
- It is based on six pillars -- labour, infrastructure, economic climate, governance and political stability,

- perceptions and land -- and 51 sub-indicators.
- As per the report, "corruption" followed by "Getting approvals for starting a business" continue to be the top two constraints faced by businesses.

3.15. PRADHAN MANTRI VAYA VANDANA YOJANA

Why in News?

- Recently government launched Senior citizens' pension scheme called the Pradhan Mantri Vaya Vandana Yojana (PMVVY) for senior citizens aged 60 or above. It is solely operated by Life Insurance Corporation (LIC)

Benefits under the scheme

- Assured annual return of 8% for 10 years with government subsidizing LIC for any shortfall in actual return.
- The ceiling of maximum pension is for entire family including pensioner, his/her spouse and dependants.
- Pension is payable at the end of each period, during the policy term of 10 years, as per the frequency of monthly/ quarterly/ half-yearly/ yearly as chosen at the time of purchase.
- Premature withdrawal is possible if required for the treatment of terminal or critical illness of the person or spouse. In this case, 98 per cent of the amount invested will be refunded.
- In order to meet liquidity, loan up to 75% of purchase price can be availed after 3 policy years. Interest on loan can be paid from the pension installments.

3.16. CAG REPORT OF THE CROP INSURANCE SCHEMES

Why in News?

- The CAG audit report of the Centre's crop insurance schemes has highlighted gaps in the implementation that compromise its purpose of providing financial assistance to farmers.
- CAG looked into the performance of two schemes—Modified National Agricultural Insurance Scheme (MNAIS) and the National Crop Insurance Programme (NCIP).

Report Findings

- **Delayed payments:** Delay at the state level caused obstruction in providing financial aid to farmers.
- Current agricultural crop insurance schemes act "more as loan insurance than as crop insurance" schemes. Almost 97 per cent of farmers in India who took crop insurance between 2012-13 and 2015-16 opted to insure a sum equal to only the loan availed of from banks.
- Agriculture Insurance Company, government-owned implementing agency for the schemes failed to exercise due diligence in verification of claims by private insurance companies before releasing funds to them.
- **Low public awareness:** It found that only 37 per cent of the farmers were aware of crop insurance schemes.
- **Grievances redressal systems and monitoring mechanisms** for speedy settlement of farmers' complaints at the central and state level were not adequate.
- **Small farmers not covered:** Small and marginal farmers constitute 85 per cent of the total farmers in the country. Yet, their share in the coverage did not exceed 13.32 per cent under the NAIS scheme.
- **Records missing:** Whether the money reached the beneficiaries cannot be ensured as the database of beneficiaries was not maintained. Thus making government dependent on information provided by loan disbursing banks, financial institutions and insurance agencies.

Recommendations

- It recommended introduction of a mechanism to ensure that state governments' shares are received in time.
- Central government should maintain comprehensive database of beneficiary farmers.
- Government should take efforts to bring farmers, especially non-loanees, under the insurance schemes.
- Introduction of technology for more accurate assessment of crop yields and efforts to reduce liabilities of the government without reducing the coverage.

3.17. GOVERNMENT TO DOUBLE THE INCOME OF JUTE FARMERS: JUTE-ICARE

Why in News?

- Central Research Institute for Jute and Allied Fibres (CRIJAF) developed a microbial called **SONA** under **Jute-ICARE** project.

Highlights

- Microbial will enhance the quantity of fibre yield by 20% as well as its quality in terms of grade by at least 1 ½ grades.
- Supply of Seed drills and Nail weeders is undertaken for demonstration purpose.
- Regular SMSs are sent in regional languages on improved practices in jute cultivation, to registered farmers.

Jute-ICARE project

- Launched in 2015, by National Jute Board for better agronomic practices through;
  - o Distribution of quality certified seeds at 50% subsidy.
  - o line sowing of jute using seed drill to increase yield by 10-15%;
  - o Reducing the cost of weeding by wheel hoeing/nail weeder instead of hand weeding.
- In 2017, project was extended through State Agriculture extension machinery in which following actions were taken:
  - o Jute ICARE programme under Rashtriya Krishi Vikas Yojana (RKVY).
  - o Supply farm implements under the Sub-mission in Agricultural Mission (SMAM)
  - o Construct retting tanks under **MGNREGS**.
  - o Krishi Melas are being held to support farmer.
- There has been increased in farmer engagement and jute production to 147 % and 169% since last 2 years.

Other Initiatives

- The **Jute Packaging Material (Compulsory Use in Packaging Commodities) Act, 1987** (JPM Act) has been extended up-to a minimum percentages of total production of commodity.
- **Jute Raw Material Bank (JRMB) scheme:** to make jute raw material available to the small and tiny artisans, entrepreneurs locally at mill gate price, suiting to the present requirement.
- **Jute Design Cell**: under Innovative Centre for Natural Fibres (ICNF) of National Institute of Design (NID), Ahmedabad.
- **Common Facility Centres (CFCs)**: providing support to Women Self Help Groups (WSHGs) on training, infrastructure, machinery and marketing to artisans in development of Jute Diversified Products.

Jute Cultivation in India

- Natural Fibre crop known as golden fibre. 95% of world jute is grown in India and Bangladesh.
- Cultivated extensively in Eastern and North East India
- Under National Food Security Mission- Commercial Crops (NFSM-CC).

Condition: Grow in March-May season with hot and humid Climate, **Temperature**: 24°C to 35°C, **Rainfall:** 120 to 150 cm, **Soil:** loamy and sandy loam.

Processing: Both biological and chemical retting processes. Biological method is more prevalent.

Applicability:

- Raw material for textile, paper, building and automotive industries,
- Use as decorative and furnishing materials.
- low thermal conductivity,
- Good insulating and antistatic properties,
- separation, filtration and drainage in civil engineering work,
- Rural road pavement construction and agro plant mulching.

Environment benefits:

- bio-degradable and recyclable,
- use as soil saver,
- not generate toxic gases when burnt
- Fitted in different crop rotations (less environment cost of cultivation)

Socio-economic factors

- Traditional practice of north-east people
- More than 60% of total farmers are small and marginal farmers.
- Labour is readily available (cultivated in areas of high population density).
- Less mechanical, low need of fertilizers and pesticides.

Challenges

- Growing demand of synthetic **nylon fibre**.
- Obsolete mills and machinery
- Irregular supply of raw material and production.
- Lesser knowledge about the jute benefits.

Institution: National Jute Board

- Ministry of Textiles, governed by National Jute Board Act-2008,
- Engages in research and human resource development programmes.
- Dissemination of newer technologies.

- **Incentive Scheme for Acquisition of Plant and Machinery' (ISAPM), Scholarship scheme for educational support** by National Jute Board (NJB) for modernisation and up-gradation of technologies.
- **Retail Outlet scheme** implemented by NJB which supports supply chain and bulk supply of JDPs for selective and mass consumption.

Conclusion

- Jute is termed as future fibre of the world by Food and Agriculture Organisation (FAO). Being a tropical crop and its labour intensive nature India have the high potential of becoming the Jute production house of the world.

National Jute Policy 2005
- Under, National Common Minimum Programme (NCMP) of the Government.
- Establishment of Jute technology Mission with market based intervention.
- Promotion of Diversified and Composite Jute Products and Jute Handicrafts.
- Sectorial initiative through agricultural extension, marketing, research and development.

4. SECURITY

4.1. EVIDENCE BASED POLICING (EBP): POLICE REFORM

Why in news?

- The recent international conference organised by the Institute of Criminology at Cambridge University heightened the need of **Evidence Based Policing.**

Background

- Policing in India based on archaic British control and suffers from political interference.
- The research on policing is in dismal state due to indifferent attitude of law makers.
- Government emphasizes solely on the mechanical use of police resources rather than an intelligent application of available skills.

Why EBP is needed?

- The twin problems of maintaining public order and combating conventional crime is difficult to be tackled by traditional approach of **targeting testing and tracking.**
- Changing nature of crime in society (Cyber Crime) demands a shift from traditional based approach of policing toward more robust **research based approach**.
- EBP allows the police agencies to move beyond a reactive, response-driven approach and moves away from **post-mortem** approach of crime.

> **Evidence Based Policing (EBP)**
> - A method of making decisions about what works in policing, which practices and strategies accomplish police missions most cost-effectively.
> - It involves systematic ranking and comparison of levels of harm associated with various places, times, people, and situations that policing can lawfully address.
>
> **Theoretical Model of Evidence Based Policing**
>
>

- The strategy is one of identifying '**hot spots**' of crime and spotting problematic individuals in a community.
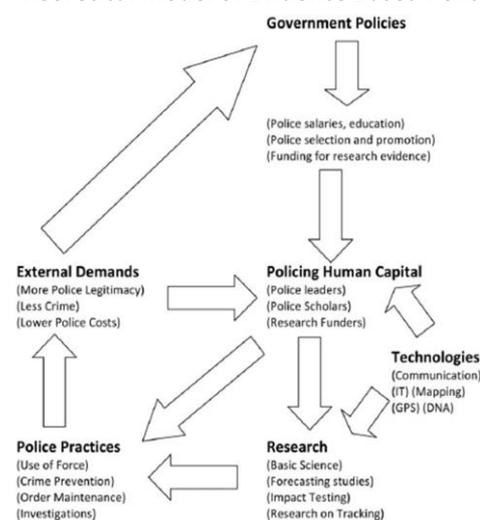
4.2. CAG ON AMMUNITION CAPACITY

Why in News?

- The recent report of CAG highlighted the inadequacy of stockholding of ammunition and missile deployment in eastern air command.

Background

- China border in Eastern Air Command was changed from 'Dissuasive' to 'Deterrence' by building large scale military infrastructure.
- Recent stand-off with neighbour countries (Pakistan and China) has raised question regarding the ammunition capability of armed force and air force.

Highlights of the report

- Stockholding of 55% types of ammunition was below the MARL.
- Around 50% of types of ammunition available was for less than 10 days of war fighting.
- As of September 2016, 40% types of ammunition was still in critical level.
- Shortfall in meeting the production target by OFB

> **Ordinance Factory Board (OFB)**
> - HQ: Kolkata, Ministry of Defence.
> - Total 41 factories all over India
> - Engaged in: Production, testing, logistics, research, development and marketing
> - Indigenous production of defence hardware and equipment.
> - Primary objective of self-reliance in equipping the armed forces.
>
> **War Wastage Reserve (WWR)**
> - Reserve of ammunition for meeting the requirements of 40 days of **intense war**
>
> **Minimum Accepted Risk Level (MARL)**
> - A bottom line requirement of 20 days of war fighting.
> - It is minimum inescapable requirement of the ammunition all times to meet operational preparedness.

continued and majority of the procurement during 2009-13 were pending.

- Strategic missile systems of the Indian Air Force (IAF) for the China border have not been inducted till now.
- Missiles supplied by Bharat Electronics Limited (BEL) were low in quality such as ;
  - lower than required velocity.
  - moisture ingress in 71 missiles.
  - reduced warranty periods due to their non-induction.
- The missile system was not yet inducted at any of the six locations in Eastern Air Command due to delay in creation of infrastructure at the sites.

Issue Involved

- **Huge size of army makes** procurement policy difficult.
- Defence observers say that **red-tapism** and **archaic bureaucratic** practices hampered defence over the years.

4.3. CROSS-LOC TRADE IS USED FOR TERRORIST FUNDING: NIA

Why in News?

- National Investigation Agency (NIA) contended that the active trade on LoC is the source of terrorist funding.

More on News

- NIA find out that there is flow of money from Pakistan-based terror groups to Kashmiri separatists (Hurriyat leader Syed Ali Shah Geelani).
- Money is coming from Pakistan via Dubai with the help of **hawala traders** to fund stone pelting and other terror activities in the Valley.
- Large-scale **under-invoicing and over-invoicing** of products like California almonds, shawls, pulses etc.
- It is not just hurting the business of other traders but also giving a window for moving money illegally.
- Moreover, terrorists are exploiting the barter system in vogue at the trans-border trade to pump funds for terrorist activities.

> **What is terrorist funding?**
> - Funds (both monetary and non-monetary) for terrorist activity
> - Raised from both legitimate and illegitimate sources.
>
> **International Efforts**
> - International Convention for the Suppression of the Financing of Terrorism (1999),
> - Security Council resolution 1373 (2001),
> - The Financial Action Task Force (FATF)

India's Efforts

- **National Intelligence Grid (NATGRID)**: link data bases for collecting actionable intelligence to combat terrorism funding and internal security threats
- **Amendments to the Unlawful** Activities (Prevention) Act, 1967 in 2008 and 2012 have been done to strengthen the punitive measures.
- **Amendments to the Prevention of Money Laundering Act in 2009**, include certain offences as predicate offence.
- **FEMA and FCRA act** intended to keep a tight vigil on cross boarder terror funding.
- **G-20** platform and acceptance of **21-point joint declaration** on curbing the source of funding for terror.

4.4. INSURANCE COVER FOR DIGITAL TRANSACTION FRAUDS

Why in News?

- Government is examining the possibility of providing **insurance cover** for digital transaction.

Why insurance is needed?

- Economy is going cashless with the population of 1.3 billion and more than 50 percent of total users are going to plastic money for the first time.
- RBI data shows that nearly fifteen thousand cases related to ATM, credit, debit card and net banking **fraud were reported** in 2014-15 and 2015-16.
- **No single institutional mechanism** to tackle and compensate the digital transaction fraud.
- **The Banking Codes and Standards Board of India** prescribed **certain threshold** amount with **one time compensation** in case of fraud.

- Banking infrastructure is not robust to cop-up with rising digital crime, for instance, 75 % of total Credit/Debit card are based on magnetic strip which are easy to be cloned.
- **Chandrababu Naidu Committee** pointed out that the apprehension about digital transaction among people can be curtailed by providing insurance coverage.

Type of risk

- **Device related risk:** loss of mobile phone could compromise the e-wallet security.
- **Risk from rights access:** Connecting the e-wallets or other fin-tech apps with other apps like social networks could pose a risk of data leakage or a consumer unknowingly sharing information.
- **Negligence** in sharing passwords or OTP (one time passwords) with others especially when using these modes publicly.

4.5. SINO-INDIA BORDER INFRASTRUCTURE

Why in News?

- Under the present government,border infrastructure development has moved forward but still pace of development at indo-china border is slow.

Background

- According to several military and intelligence sources, India is at least a decade away from matching the infrastructure on the Chinese side, where most posts have direct road access.
- Across Tibet, massive infrastructure projects have come up providing easy access to the border for the Chinese military.

Issues at Sino-India border

- Sporadic aggression on Sino-border e.g. 1962 war
- Cross border safe houses for insurgent in north eastern neighbours
- Land boundary disputes in Arunachal Pradesh
- Lack of critical infrastructure for eg delay in border roads development, absence of single force command and integrated check posts etc.
- The major reasons for the delay are limited working season combined with logistic issues due to very high altitude and mountainous, rugged and difficult terrain, natural calamities, delay in forest and wildlife clearances, land acquisition and so on.

Guarding the border

India has been trying to catch up with China on border infrastructure. All along its China has developed an impressive infrastructure and military capabilities

Roads: Total of 73 roads to be developed under the India-China border roads project at a cost of ₹41,059 crore.

Completed: 21 roads

Original Deadline: 2012

Revised Deadline: 2020

Troop Deployment
- Army is raising a dedicated Mountain Strike Corps of 60,000 troops for China border.
- Army is also in the process of deploying one BrahMos cruise missile regiment in Arunachal Pradesh at a cost of ₹4,300 crore.

Advanced Landing Grounds
- India has been activating airstrips, abandoned after Second World War or the 1962 war.
- In 2009, the IAF began to upgrade eight advanced landing grounds
- Air Force has also deployed its Su-30MKI fighter jet at Tezpur and Chhabua facing China as well as in Leh.

Way forward

- India is also constructing some critical bridges in the northeast which will cut down time for troop movement. The recently inaugurated 9.2-km Dhola-Sadiya bridge will cut down the distance between Assam and Arunachal Pradesh by 165 km.
- In addition, a steering committee has been set up under the chairmanship of the Secretary (Border Management) in the Home Ministry to review and monitor the progress of construction of these roads.

4.6. CYBER-SECURITY INDEX

Why in news?

- India is ranked a high 23rd out of 165 nations in **The Global Cybersecurity Index (GCI)**.

Background

- The second Global Cybersecurity Index (GCI), released by the International Telecommunication Union (ITU), said only about half of all countries have a cybersecurity strategy or are in the process of developing one and urged more countries to consider national policies to protect against cybercrime.
- The top 3 most committed countries to cybersecurity are Singapore United States and Malaysia.
- **India is ranked 23rd on the index with a score of 0.683 and has been listed in the "maturing" category, which refers to 77 countries that have developed complex commitments to cybersecurity and engage in cybersecurity programmes and initiatives.**

About ITU
- ITU, based in Geneva, Switzerland, is the leading UN agency for ICT.
- As the global focal point for governments and the private sector, ITU's role in helping the world communicate spans 3 core sectors: radio communication, standardization and development.

ITU also organizes TELECOM events and was the lead organizing agency of the World Summit on the Information Society.

4.7. ADVANCED MRSAM

Why in news?

- The Indian Army has signed a MoU with the Defence Research and Development Organisation (DRDO) to raise one regiment of the advanced Medium Range Surface to Air Missiles (MRSAM)

About MRSAM

- **It is an advanced, all weather, mobile, land-based air defence system.**
- It is capable of engaging multiple aerial targets at ranges of more than 50 km.
- The system will be jointly developed by Israel Aerospace Industries (IAI) and DRDO with the involvement of private sectors and DPSUs. The system will have majority indigenous content, giving boost to the Make-in-India initiative.
- **The MRSAM is a land-based variant of the long-range surface-to-air missile (LRSAM) or Barak-8 naval air defence system, which is designed to operate from naval vessels.**

5. ENVIRONMENT

5.1. BIODIVERSITY AROUND THE DEEP SEA VENTS

Background

- Deep sea vents are found on the sea floor through which the **geo-thermally heated water, minerals and gas** comes out. The hydro-thermal vents are formed near the **oceanic ridges** where the two tectonic plates intersect e.g. **Sister Peak and Turtle Pit in Mid Oceanic Ridge, Atlantic Ocean.**
- The water is heated through **contact of molten crust**, thus increasing the temperature of the area up to 400 degree centigrade. These vents also form a feature known as **black smokers**.
- It was found by the scientists while studying the oceanic temperature that there existed **a diverse and vibrant benthic community** of deep sea organism near the hydro-thermal vents.
- Hydrothermal also have huge potential for **mineral exploration** as the vents are rich in **Poly Metallic Nodules** which include metals such as **cobalt, gold, copper and rare earth minerals** essential for electronic components.
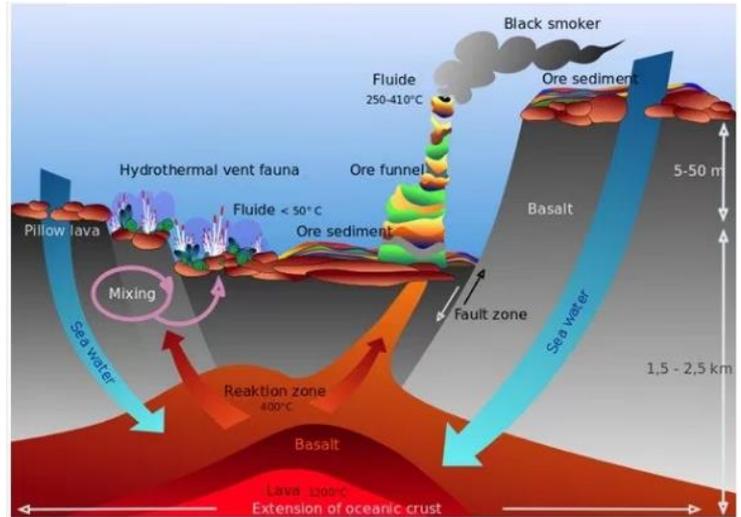
Benthic Organism in Hydro-thermal Vents

- Usually the life on the earth is driven by the light energy from the Sun. However the benthic organisms in the hydrothermal vents depend on the **chemosynthetic bacteria** for food.
- The water in the hydrothermal vents is rich in **dissolved minerals** and forms **the energy base** for the chemosynthetic bacteria. The benthic organisms found in these vents are host to the chemosynthetic bacteria found in their bodies, thus living in **symbiotic relationship**.
- These bacteria oxidise the sulphides or elemental sulphur to derive energy.

Benthic organisms found in vents are:

- **Vent Shrimps:** They have photoreceptor eyes adapted to detect radioactive particles.
- **Giant Tubeworm:** Their haemoglobin binds not only with oxygen but also sulphide which is usually toxic to other organisms on the Earth.
- **Siboglinid Tubeworms:** They have no mouth or digestive tract, thus absorbs the nutrients like parasitic worms.

5.2. SUNDERBANS STEADILY LOSING ITS FAMED MANGROVES

Why in News?

- Study conducted by School of Oceanographic Studies, Jadavpur University, reveals that from 1986 to 2012, 124.418 sq. km. mangrove forest cover has been lost.

More on News

- Study conducted by Using Remote Sensing and GIS technology.
- The loss in the mangrove forest in the Indian Sunderbans is about 5.5 % of total area since 1986.
- There rising mean seas level is driving factor for coastal erosion, coastal flooding, and an increase in the number of tidal creeks.
- Jambudwip, one of the smallest uninhabited islands at the mouth of the sea, also has reduced forest cover from 6.095 sq. km. in 1986 to 5.003 sq. km. in 2012, or about 10%.

Climate Change Impact

- Sea level rise exceed the fresh water flow and sediment supply thereby loss of mangroves land.
- In the absence of freshwater inflow, there is a change in mangrove succession, and freshwater loving species of mangroves are replaced by salt-water loving ones.
- It will add hardship to fishing community, where commercially sought after fish species will be replaced by fish that does not have as much market value.

Anthropogenic Impact

- **Commercialisation** of **Golpata tree** in order to produce oil and alcohol for human consumption.
- **Logging** of Sundri trees for timber and pulp.
- **Artificial Plantation** is being done for aesthetic purposes, especially at the tourist spots. These plants can be competitive and pose a threat to the mangrove.
- **Shrimp culture** has grievously threatened the mangroves.
- **Oil Spillage** One of the major man-made causes of mangrove degradation.

Mangrove for Future

- A regional initiative, being coordinated by United Nations Development Programme (UNDP) and International Union for the Conservation of Nature (IUCN).
- It aims at promoting coastal ecosystem conservation in six tsunami-hit countries including India.
- Mangrove for the Future (MFF) programme in India provides focus on promoting conservation and management of coastal and marine biodiversity, while mangrove ecosystems are at centre-stage, on three important aspects:
  1. Coastal restoration;
  2. coastal livelihoods; and
  3. Integrated coastal zone management

Bird's-eye view

The areas in yellow indicate the inhabited islands and hinterland

Dampier Hodges Line passing through the map denotes the extent of the nothernmost limit of the Sundarban mangrove forests in 1830. William Dampier and Lt. Alexander Hodges were two surveyors who mapped the area in 1829-1830

The green area demarcated in the map shows the extent of mangrove forests at present

The areas marked in red indicate the loss of forest cover over the years

Feature of Sunderbans

- It is classified as a moist tropical forest.
- It is a UNESCO world heritage site.
- Recognised under Ramsar wetland site
- Dominated by " Sundri tree"
- Largest single block of halophytic mangrove forest in the world.
- It has common features of the both estuarine and mangrove ecosystem.
- Agent of carbon Sequestration
- It area lies both in India and Bangladesh (Largest in Bangladesh).
- It acts as shelter belt to protect the people from storms, cyclones, tidal surges, sea water seepage and intrusion.
- Livelihoods for millions of people such as wood-cutters, fisherman, honey gatherers, leaves and grass gatherers.

5.3. ANTARCTICA'S ICE-FREE ISLANDS SET TO GROW

Why in News?

- In July 2017 paper published in weekly journal of natural science (Nature) contended that Antarctica's ice-free areas to increase by up to a quarter by 2100.

Highlights of study

- If greenhouse gas emissions aren't reduced, ice-free areas are expected to surge by as much as 17,000 square kilometres (a 25% increase).

Impact of Invasive species

Invasive Species → Absence of predator leads to increase in their population → Competition for Food → Less competitive native Species will extinct. → Change the ecological Balance of region
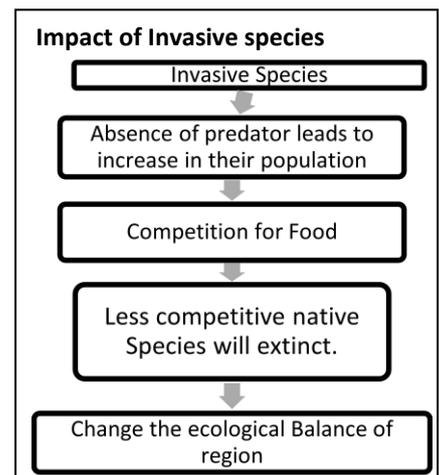
- Ice-free areas on Antarctica are isolated from one another they have acted like islands in the ocean, with the life existing in each one forming distinct groups.
- As those areas expand in the future, they will become closer to one another, with many coalescing, allowing the distinct groups to mix and **potentially homogenise.**
- About 85% of the new ice-free areas will emerge in the Antarctic Peninsula, which extends out into the Southern Ocean towards Chile.
- Moreover, invasive species might invade the new island thereby destabilising the ecology of region.

5.4. AEROSOLS CAUSES SHRINKING OF INDIA'S MONSOON

Why in News?

- Climatologist from Indian Institute of Tropical Meteorology contended that aerosols(particulate matter) is the major cause of weakening of the monsoon.

More on news

- Upgraded study model suggests that that aerosols may be a far more important factor than GHGs on impact on monsoon.
- A mix of GHGs, aerosols and changes in forest and agricultural cover was affecting the strength of the monsoon, which was known to be weakening over the last 50 years.
- A good monsoon, which is produced by the difference in temperature between land and sea, is thus weakened by aerosol accumulation.
- The study model will help in preparing **India's first home-grown** forecast of climate change from global warming.

> **What is Aerosols?**
> - Suspension of particles in the atmosphere via both human-made and natural sources. E.g. Volcanic and desert dust, sulphate from coal.
> - **Impact cloud formations because** water condenses on aerosol particles.
> - **Offset warming from greenhouse gases because** it send some of the sun's radiant energy back to space and exerting a cooling influence on Earth's climate.

5.5. NINE MORE BIRD, BIODIVERSITY AREAS IN KERALA

Why in News?

- In July 2017, Bird life International has identified nine more birds and biodiversity region as Important Bird and Biodiversity Areas (IBAs).

More on News

- Newly identified IBAs of Kerala:
  - Achencoil Forest Division;
  - Anamudi Shola National Park;
  - Camel's Hump Mountain,
  - Wayanad; Kurinjimala Wildlife Sanctuary;
  - Malayattoor Reserve Forest;
  - Mankulam Forest Division;
  - Mathikettan Shola National Park;
  - Muthikulam-Siruvani;
  - Pampadum Shola National Park
- Kerala IBAs are home to **three critically endangered species (IUCN status)**
  - White-rumped Vulture
  - Indian Vulture
  - Red-headed Vulture
- **Cause of decline in Bird population**
  - Tea garden and plantation
  - Habitat fragmentation in high altitude areas
  - Colonisation by invasive plant species
  - Decline in insects population
  - Trade and poaching of exotic birds.

> **Bird Life International**
> - UK based, environment conservation, Non-Profit Organisation.
> - It has nine Global Programmes
>   ✓ Climate Change
>   ✓ Forest of Hope
>   ✓ Sites and Habitat (**Key Biodiversity area** and **Important Bird and Biodiversity area**)
>   ✓ Invasive alien Species
>   ✓ Migratory bird
>   ✓ Marine biodiversity
>   ✓ Prevent Extinction
>   ✓ Local engagement
>   ✓ Capacity Building
> - **Key Biodiversity Area (KBA):** are sites that contribute to the global persistence of biodiversity, including vital habitat for threatened plant and animal species in terrestrial, freshwater and marine ecosystems.
> - **Important Bird and Biodiversity area (IBA):** are those KBAs which are identified for birds using internationally agreed criteria applied locally by BirdLife Partners and experts**.**
> - **Relation between IBA and KBA:** IBAs form the largest subset of KBAs, identified using birds as qualifying species. It is expected that many IBAs will also qualify as KBAs for other species groups, as well as for ecosystems of concern, under the KBA Standard.

5.6. STEP TOWARDS MORE EFFICIENT BIOFUEL: FAT FROM ALGAE

Why in News?

- Research published in Nature Biotechnology claimed to develop more efficient bio-fuel (**Third generation Fuel)**

More on News

- Algae uses CO_2 to generate fat and thereby produce energy but Genomics research team modified an algae strain to enhance the algae's fat content from 20 percent to more than 40 percent.
- Fatty algae make the strain more fit to eventually produce biofuels at an industrial scale.
- Moreover limiting availability of nutrients such as nitrogen is one way to increase oil production in algae, but it can also dramatically inhibit or even stop photosynthesis, stunting algae growth and ultimately the volume of fat produced.

Are fat algae the **fuel of the future?**

ExxonMobil and research partner Synthetic Genomics have developed a strain of algae, which can convert carbon into a record-amount of energy-rich lipids. While there is still a lot of research to be done, we've put together a simple equation to explain this breakthrough.

Algae lipids

Algae produce energy-rich fat that can be refined into clean and reliable biodiesel.

Boosting lipid production

By tweaking the algae genome SGI and ExxonMobil researchers more than doubled the fat content of conventional algae to more than 40%.

More energy

Fat algae are a major achievement because they hold more lipids that can be refined into clean biodiesel.

Benefits of algae fat

- The fuel emits fewer greenhouse gases than most conventional energy sources.
- No stress on food production and requirement of arable land and freshwater, unlike other biofuel feedstock, such as corn.
- It would have lasting impacts on fields like pharmaceuticals, vaccines and nutritionals.

5.7. SARDAR SAROVAR PROJECT (SSP) OFFICIALLY COMPLETE

Why in News?

The Narmada Control Authority (NCA) has given the final go ahead to the Gujarat government to close the Sardar Sarovar Dam (SSD) gates.

Benefits of SSP

- **Irrigation:** Facilities to 18.45 lac ha. In three states.
- **Drinking water: Present** population of 28 million and prospective population of over 40 million by the year 2021.
- Power: River bed power house and canal head power house with an installed capacity of 1200 MW and 250 MW respectively.
- The power would be shared among three states - Madhya Pradesh (57 per cent) Maharashtra (27 per cent) and Gujarat (16 per cent).
- Flood Protection: To riverine reaches measuring 30,000 ha.
- Wild Life : Shoolpaneshewar wild life sanctuary, Wild Ass Sanctuary in little Rann of Kachchh, Black Buck National Park at Velavadar, Great Indian Bustard Sanctuary in Kachchh, Nal Sarovar Bird Sanctuary and Alia Bet at the mouth of River.

Developmental Displacement

- Project will submerge one town and at least 176 villages, displace close to 20,000 families.
- There are detailed documentation that brings into doubt the claims of water provisioning, economic growth and safety made by the project.

- **Siltation** biggest challenges to the long-term success of this dam. For example:
  - Reduce the capacity to generate hydropower,
  - Directly reducing water storage capacity and
  - Also decreases water capacity due to increased evaporation loss.
- **Inadequate Compensation**:
  - Land unsuitable for farming or living, located either on riverbeds at the risk of flooding, or in rocky areas which cannot be ploughed.
  - Resettlement sites lack basic facilities: no wells, drinking water pipelines, or grazing land for cattle, let alone schools or road facilities.

Environment degradation

- The dams along the Narmada have changed the normal water flow, leading to downstream habitat change and impacting biodiversity.
- Narmada estuary, where the river meets the sea, has become increasingly saline because of the decrease in fresh water flow after the dams came up.
- Fish catch of some species has now declined by as much as 75%, signalling the almost complete collapse of the once famous fishing industry.

Sardar Sarovar Project (SSP)
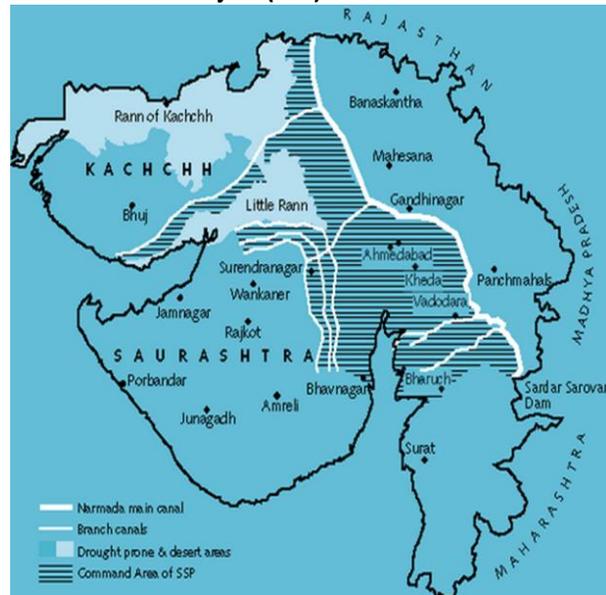
- Started on 5th April, 1961.
- Water sharing dispute between Gujarat, Madhya Pradesh, Rajasthan and Maharashtra
- Narmada Control Authority (NCA) has been setup under the final orders and decision of the Narmada Water Disputes Tribunal (NWDT).
- Issue: Narmada Bachao Andoland by Medha Patkar and Baba Amte.

5.8. DEEP SEA TRAWLING

Why in news?

Sri Lankan Parliament passed amendment to Fisheries and Aquatic Resources Act, which will ban trawling in Palk Bay and imposes a fine of 50,000 Sri Lankan Rupees for violations.

Background

- **Deep sea trawling** refers to a practice in which fishing nets are **trawled or dragged along the sea floor** specifically to catch the seafloor animals such as shrimps, cod, sole and flounder.
- This practice is mainly used for **commercial fishing** to maximise the fish catch in temperate regions.
- India which has a coastline of about **7517 kms** has huge potential to develop its fishing industry. However, due to heavy population pressure and continuous exploitation of marine resources the marine ecosystem is under severe threat.

Challenges and threats due to Deep Sea Trawling

- **Bottom Trawling** or Deep Sea Trawling is unselective and severely damages the seafloor ecosystem.
- It is harmful to **marine diversity in Tropical waters** where the species diversity is high as compared to number of each species i.e. their population.
- It also result in **conflicts and disputes** between countries. E.g. Indonesia - China; India – Sri Lanka etc.
- Deep Sea Trawling also increases the plastic debris due to wear and tear of the nets, buoys and other equipment.

Implication of Sri Lankan Fisheries Bill

- The amendment to the **Fisheries and Aquatic Resources Act** is being seen as a welcome step towards protection of marine ecosystem as this will promote the sustainable fishing methods.

- The Contested area i.e. Palk Bay is under pressure due to trawling by Indian and Sri Lankan Fishers. If preventive steps are not taken then the biodiversity in the Palk Bay would have been irredeemable.
- The amendment act may **strain the already stressed India-Sri Lankan Relations**. This is because the amendment came at the time when the **Joint Working Group** was in talks to find solution to the problem of deep sea trawling and illegal fishing in EEZ.
- An alternate to trawling is **"Deep sea Fishing"**. It is an **expensive venture** for the poor fishermen.

Way Forward

- Ban on Trawling is a positive step however the decision should have been discussed with all the **stakeholders** prior to implementation.
- Alternate to deep sea trawling i.e. deep sea fishing should be promoted through government schemes and efforts such as
  - **Deep Sea Fishing Scheme** in Tamil Nadu under which financial assistance would be provided to fishermen to buy new vessels.
  - **Government** is also making efforts to convert the existing 2000 trawlers into deep sea vessels by 2019-20.
- The affected fishermen on both sides should be provided with **alternate employment opportunities** in related sectors such as food processing and packaging.

MAP SHOWING THE MARITIME ZONES OF SRI LANKA
PREPARED BY NATIONAL HYDROGRAPHIC OFFICE
NARA, CROW ISLAND
COLOMBO 15
SRI LANKA
Source : Admiralty charts & Sri Lanka Survey Department

5.9. WHITE TIGER SPOTTED IN THE NILGIRIS

Why in News?

- Wild-Life photographer captured a rare 'white tiger' with pale skin colour has been spotted for the first time in the Nilgiris.

More on News

- Tiger was whitish with golden brown patches and not seems to be albino.
- Genetic mutation among tigers that changes an amino acid responsible for the normal colour being formed, resulting in natural polymorphism.
- Conservationists claim that white Bengal tiger to be born, both parents must carry the unusual gene for white colouring this double recessive allele in the genetic code only turns up naturally about once in 10,000 births.

White Tiger

- Only around 200 of the white tigers left in the world.
- Bandhavgarh (MP) world's first white tiger sanctuary.
- **Conservation status in 2014**: Schedule 1 of Wild Life (Protection) Act 1972.

5.10. SPECIAL PROTECTION FORCE FOR ONE-HORNED RHINOS

Why in news?

The Assam government is going to raise a new Special Protection Force (SPF) for better protection of one-horned rhinos.

Greater One –horned Rhinos (Indian Rhino)

- Known by the scientific name of **Rhinoceros unicornis,** these animals are **mega-herbivores**.
- The Indian rhino was moved from its status of endangered (since 1986) to **vulnerable in 2008** by the **International Union for Conservation of Nature (IUCN).**
- They are mainly spread across **parts of India and Nepal**, with India being home to 2,200 rhinos, or **over 85 per cent of the population.**
- Rhinos in India today are found in **parts of Uttar Pradesh, West Bengal and Assam**.
- According to World Wildlife fund data of 2012, **Assam has 91 percent of total Rhino population of India** which is mainly concentrated in **Kaziranga National Park**, and a few in **Pobitara Wildlife Sanctuary.**
- The Indian rhinoceros is also known to help in seed dispersal, moving large tree seeds from forested areas to grasslands through excreta.
- The Indian Rhino is poached for its horn. Its poaching reached its peak however it has come down due to various efforts by the government and NGOs.

Indian Rhino Vision 2020

- **Launched in 2005, Indian Rhino Vision 2020 is an ambitious effort to attain a wild population of at least 3,000 greater one-horned rhinos spread over seven protected areas in the Indian state of Assam by the year 2020.**
- Indian Rhino Vision aims **to translocate Rhinos from Kaziranga National Park and Pabitora Wildlife Sanctuary to five other protected areas namely Manas, Laokhowa, Buracharpori-Kochmora, Dibrusaikhowa and Orang.**
- Translocations of Rhinos are being done in order to avert the risks associated with having an entire rhino population concentrated in one specific area.

5.11. EL NINO AND CHENNAI FLOODS

Why in News?

- In July 2017, Study links extreme El Nino conditions and warming of Bay of Bengal to very heavy rainfall during the northeast monsoon.

More on News

- The extreme El Nino conditions in 2015 and the warming trend in the Bay of Bengal contributed equally to the unprecedented heavy rainfall witnessed in Chennai in 2015.
- El Nino generally causes less than normal rainfall in the case of the southwest monsoon
- In contrast, it brings about above-normal rainfall during the northeast monsoon.
- This is because of the difference in seasonal wind patterns between the two monsoons.
- Consistent warming of the Bay of Bengal off the coast of Tamil Nadu and Andhra Pradesh also played an important role.

El Niño conditions

- The unusual warming of surface waters in the eastern tropical Pacific Ocean.
- El Niño has an impact on:
  o ocean temperatures,
  o the speed and strength of ocean currents
  o the health of coastal fisheries
- El Niño events occur irregularly at two- to seven-year intervals. However, El Niño is not a regular cycle.
- Recognized by fishers off the coast of Peru as the appearance of unusually warm water.

- A simple linear correlation identified that the Bay of Bengal sea surface temperature positively and significantly correlated with northeast monsoon rainfall
- Whenever the El Nino signal shows up in atmospheric circulation, the local sea surface temperature can also change.

North East Monsoon

- The period October to December is referred to as Northeast Monsoon season/ retreating southwest Monsoon Season.
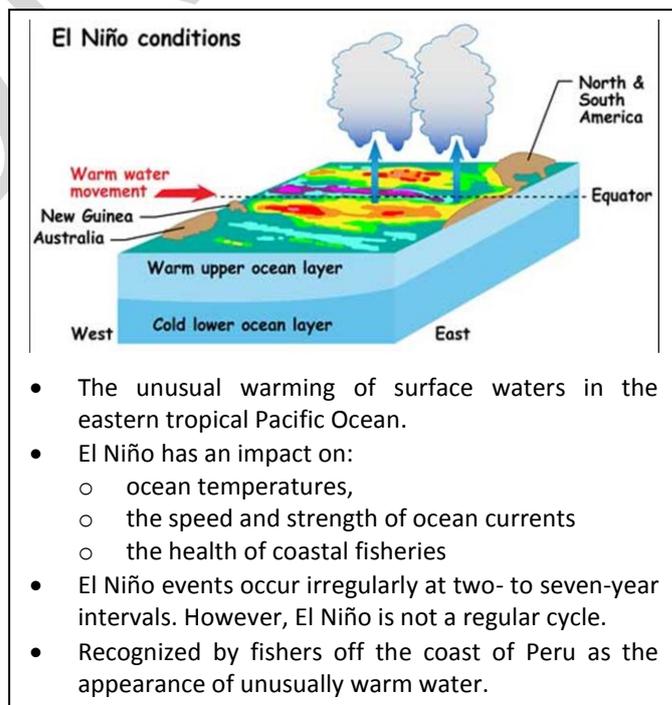
- Rainfall activity over south peninsula, particularly in the eastern half comprising of the meteorological subdivisions of Coastal Andhra Pradesh, Rayalaseema and Tamilnadu-Pondicherry.
- Coastal districts of the State get nearly 60% of the annual rainfall and the interior districts get about 40-50% of the annual rainfall.

5.12. MICROBES TO CLEAN CONTAMINATION

Why in News?

- A recent study revealed that microbes are increasingly being used to clean contaminated sites all over world are good for environment.

Benefits of Microbes

- Applications in cleaning up contaminated soils, industrial wastewater, groundwater, mines, and pesticide accumulated sites and fly ash disposal sites.

Techniques used in the past to clean contaminated sites

- **In-situ (ON SITE) METHOD** - Uses microorganisms to treat contaminated material at the site, as was done in the Exxon-Valdez oil spill in 1989
- **Ex-situ (OFF SITE) METHOD** - Transporting the contaminated material from the site of contamination and using microbes for treatment. Used by the Indian Oil Corporation Limited to clean up the Chennai oil spill this year
- **Bioaugmentation** - Non-indigenous microbial species added to a contaminated site to enhance the breakdown process. Villalba de los Barros, a municipality in Spain, has been using this technique since 2012 to treat wastewater
- **Electro-remediation** - Using microbes to remove nitrates from soil. Trials conducted in South Korea in 2009 to treat nitrate-rich soil
- **Electrokinetic BIOREMEDIATION** - In-situ treatment of soil pollutants known as Hydrophobic Organic Compounds. Denmark used this technique in 2012 to degrade PCE, or Perchloroethylene, a soil contaminant

- Enzymes are molecules present in these microorganisms that do the job of breaking down pollutants into non-toxic compounds, essentially getting rid of them by eating them.
- Use not limited to bacteria but extended to fungi such as Asper-gillus niger, A terreus, Cladosporium oxysporum.
- Fungi as a microbes may affect the chemical state of metal pollutants, as well as being very important in the degradation of xenobiotic compounds.

Bioremediation techniques:
Oilzapper
- It is essentially a cocktail of five different bacterial strains that are immobilized and mixed with a carrier material (powdered or ncob).
- It feeds on hydrocarbon compounds present in crude oil and oily sludge and converts them into harmless CO_2 and water.
Oilivorous-S
- It is a tad different from Oilzapper is an additional bacterial strain that makes the former more effective against sludge and crude oil with high-sulphur content.
- Both Oilzapper and Oilivorous-S can be used in situ, thereby eliminating the need to transfer large quantities of contaminated waste from the site, a process that poses more threats to the environment.

5.13. MAPPING AND PREDICTING POLLUTION IN GODAVARI

Why in News?

- A group of scientist is working on U.S. researchers is working on a system to map undulating pollution trends in the Godavari.

Highlight

- The exercise is part of a Bill and Melinda Gates Foundation project to support the programme of the **Administrative Staff College of India (ASCI)** to provide city-wide sanitation improvements in urban Andhra Pradesh.
- Sensors to monitor river pollution are an emerging technological approach in India.
- It measures parameters such as total dissolved salts, nitrate, pH, temperature, turbidity and electrical conductivity.
- Cost effective forecast system by using a mix of methods such as ;
  o Satellite-monitoring,

- o cloud-based data collection and real-time mapping systems
- o Traversing stretches of the river to collect water samples
- o Using special sensors to measure bacterial and chemical pollution.

Intended Benefits

- Information to state pollution control board about levels of dangerous microbes or effluents in river.
- Monitoring the efficacy of a proposed faecal sludge treatment plant.
- Examine behavioural interventions including incentives or punishments to restrict activities that pollute the river could actually work.

Raising the bar

The region adjoining the Godavari stands to benefit from this first-of-its-kind sensor network installation, which will use a boat-based mobile sensing platform to cull data

AIM
- Detect and anticipate pollutants that enter the Godavari
- Develop an economical river water forecast system
- Access raw data to predict the efficacy of a proposed sludge treatment plant on Godavari's banks
- Assess water quality
- Gauge its impact on the local environment

Tools
- Satellite-monitoring
- Employing remote sensors to measure bacterial and chemical pollution
- Cloud-based data collection
- Real-time mapping systems

About the river
- The 900-mile river is India's second longest, after the Ganga
- 60 million people live on the Godavari River basin

Modelled data · Water quality data · River bed pollution data · Eco system monitoring

5.14. GEOLOGISTS STRIKE SEABED TREASURE IN INDIAN WATERS

Why in news?

- Scientists from the Geological Survey of India (GSI) have discovered the presence of millions of tonnes of precious metals and minerals deep under the waters that surround peninsular India.

More on News

- Objective is to identify potential zones of favourable mineralisation and evaluate marine mineral resources.
- The huge presence of marine resources was first identified off Mangaluru, Chennai, Mannar Basin, Andaman and Nicobar Islands and around Lakshadweep in early 2014.
- Found in the form of: lime mud, phosphate-rich and calcareous sediments, hydrocarbons, metalliferous deposits and micronodules.

Geological Survey of India
- **HQ:** Kolkata, Attached office under **Ministry of Mine.**
- Established in 1851 primarily to find coal deposits for the Railways.
- Functions:
  - ✓ Creation and updating of national geo-scientific information.
  - ✓ Mineral resource assessment.
  - ✓ Through ground surveys, air-borne and marine surveys
  - ✓ Mineral prospecting and investigations
  - ✓ Geo-environmental and natural hazards studies.

TREASURE TROVE ON OCEAN FLOOR

The GSI project
- ➤ **High-resolution seabed mapping** and **natural resource evaluation**
- ➤ **Geologists** explored the waters on three state-of-the-art vessels, **Samudra Ratnakar, Samudra Kaustabh** and **Samudra Saudikama**, to identify **potential zones of favourable mineralization** and **evaluate marine mineral resources**
- ➤ Was carried out in India's **Exclusive Economic Zone**

Micro-manganese nodules from Lakshadweep Sea

Fe-Mn crust from the Andaman sea

Locations and find
- ➤ GSI confirmed presence of **phosphate sediment** off **Karwar, Mangaluru** and **Chennai coasts**, gas hydrate in the **channel-levee system** of **Mannar Basin** off Tamil Nadu coast, cobalt-bearing **ferro-manganese crust** from **Andaman sea** and **micro-manganese nodules** around **Lakshadweep Sea**

5.15. CHANGE IN DEFINITION OF DROUGHT

Why in News?

- In the 'Manual for Drought Management' released by the government in December 2016, the 'moderate' drought category has been deleted.
- IMD replaced the word "drought" to describe poor rainfall with "deficient year" and "large deficient year", while incorporating standard practices from across the world.
- The new norms, which are mandatory in nature, were formulated based on the direction of the Supreme Court.
- Karnataka government has opposed this move to change parameters for drought assessment.

UPDATED NOMENCLATURE

New terminology	Old terminology	
Normal	Normal	Percentage departure of realized rainfall is within ± 10% of the Long Period Average
Below Normal	Below Normal	Percentage departure of realized rainfall is < 10% of the Long Period Average
Above Normal	Above Normal	Percentage departure of realized rainfall is > 10% of the Long Period Average
Deficient Year	All India Drought Year	When the rainfall deficiency is more than 10% and 20-40% area of the country is under drought conditions
Large Deficient Year	All India Severe Drought Year	When the rainfall deficiency is more than 10% and when the spatial coverage of drought is more than 40%

Why is it a Problem?

- The change means drought-hit areas will now be categorised as 'normal' and 'severe'. Only in case of 'severe' drought, a state would be eligible for central assistance from the **National Disaster Relief Fund (NDRF).**
- The states will have to pay for the relief from their own pocket.
- The criteria to prove that the drought is 'severe' has been made stringent.
- Assessment is done based on area under sowing and soil moisture-based indices. To get the drought situation considered as 'severe', the sowing must be below 50 per cent of the normal which is hard to achieve. Even during the hardest droughts the sowing has been above 80%.
- It is a matter of concern for the states because already most of the states lack drought early warning systems.
- It is alleged that the Centre has changed the norms unilaterally without consulting the states.

> **NDRF** is defined in **Section 46 of the Disaster Management Act, 2005,** as a fund managed by the Central Government for meeting the expenses for emergency response, relief and rehabilitation due to any threatening disaster situation or disaster.
>
> NDRF is constituted to supplement the funds of the **State Disaster Response Funds.**

Drought Fact File

- **Drought is a temporary aberration**, unlike aridity or even seasonal aridity, which is a permanent feature of climate. It is a recurrent, yet sporadic feature of climate, known to occur under all climatic regimes and is usually characterized by variability in terms of its spatial expanse, intensity and duration.

> **Institutional Structures for monitoring**
>
> **Central Government-** Central Drought Relief Commissioner (CDRC) & Crop Weather Watch Group.
>
> **State Government-** State Drought Monitoring Centres.

- Drought stems from a deficiency or erratic distribution in rainfall but the spread and intensity of the calamity is contingent on several factors, including the status of surface and ground water resources, agro-climatic features, cropping choices and patterns, socio-economic vulnerabilities of the local population etc.
- According to the National Commission on Agriculture the 3 types of droughts are:
  - **Meteorological drought:** This happens when the actual rainfall in an area is significantly less than the climatological mean of that area.
    - **Excess:** 20 per cent or more above normal
    - **Normal:** 19 per cent above normal - 19 per cent below normal
    - **Deficient:** 20 per cent below normal - 59 per cent below normal
    - **Scanty**: 60 per cent or more below normal
  - **Hydrological drought**: A marked depletion of surface water causing very low stream flow and drying of lakes, rivers and reservoirs.
  - **Agricultural drought**: Inadequate soil moisture resulting in acute crop stress and fall in agricultural productivity.

IMD can define a meteorological drought, but agricultural and hydrological droughts are different and states are better equipped to declare them.

Changes adopted in the new Manual

- The new manual, which adopted standard practices from across the world, gives certain parameters for declaration of drought. These categories of indices are:
  - o Rainfall-related Indices
  - o Remote Sensing-based Vegetation Indices
  - o Crop situation-related indices
  - o Hydrological Indices
  - o Ground verification
- These indices are further elaborated into more than 13 sub-points, making it technically extensive.
- Except rainfall and ground verification, all other indices are considered impact indicators. To come under 'severe' drought category, a state has to prove severity in three out of these four impact indicators.
- The current manual said that more than three weeks of dry spell is possibly detrimental to crop health as against less than three weeks window before.

The manual sets out four important measures that a State government should take at the time of a drought, with the Union government's help.

- It should use the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) to provide immediate employment to drought-affected people.
- The public distribution mechanism should be strengthened to provide food and fodder as a measure to sustain the rural economy.
- The government should initiate actions to recharge the groundwater table by building check dams and providing pipeline water and other irrigation facilities.
- The government should either waive off or defer farmer loans and arrange for crop loss compensation.

5.16. ECO-BRIDGES FOR THE MOVEMENT OF TIGERS

Why in News?

- First of its kind, Telangana State will have eco-friendly bridges over a canal cutting across the tiger corridor linking the Tadoba-Andhari Tiger Reserve.

More on News

- **Tiger corridor linking the Tadoba-Andhari Tiger Reserve (TATR) in the Chandrapur district of Maharashtra with the forests in Telangana's Kumram Bheem Asifabad district.**
- The 'eco-bridges' will be constructed at key spots along the 72 km-long with the laying of fertile soil to grow grass and plants over the structure, so that fragmentation of the reserve forest is camouflaged.
- National Board of Wildlife will be the nodal agency for recommending the size and location of eco-bridge.

Why is eco-Bridge needed?
- Maintain biodiversity conservation and are important for country's ecological security.
- Help in colonising new area thus safeguard themselves from inbreeding.
- Reduce man-animal conflict.
- Fulfill the migratory need of animals.

5.17. EARTH FACING SIXTH MASS EXTINCTION

Why in News?

- In July through various papers National academy of Science has contended that the sixth mass extinction in Earth's history is already underway.

Evidence Data

- On an average, two vertebrate species disappear every year.
- More than 30% of animals with a backbone fish, birds, amphibians, reptiles and mammals are declining in both range and population.
- Forty per cent of them including rhinos, orangutans, gorillas and many big cats are surviving on 20% or less of the land they once roamed.
- Several species of mammals that were relatively safe one or two decades ago are now endangered including cheetahs, lions and giraffes,
- Tropical regions have seen the highest number of declining species.

Intended causes
- Climate change,
- Wildlife habitat loss,
- Overconsumption,
- Pollution,
- Invasive species,
- Disease, as well as poaching in the case of tigers, elephants, rhinos and other large animals prized for their body parts.

Earlier mass extinctions
- 1st: Cambrian Explosion: Early life-forms began to flourish. (540 million years ago)
- 2nd: Ordovician-Silurian Extinction: Small marine organisms died out. (440 mya)
- 3rd: Devonian Extinction: Many tropical marine species went extinct. (365 mya)
- 4th: Permian-Triassic Extinction: The largest mass extinction event in Earth's history affected a range of species, including many vertebrates. (250 mya)
- 5th: Triassic-Jurassic Extinction: The extinction of other vertebrate species on land allowed dinosaurs to flourish. (210 mya)

5.18. THREAT TO SACRED GROVES

Why in News?

- A recent study conducted by Central University of Kerala found out the correlation between rapid urbanisation, invasive species and decreasing sacred groves.

Highlights

- Increasing urbanisation leads to waste generation which attracts various invasive species.
- These invasive species in the vicinity damage the crop, pray on beneficial insects, crabs and native species.
- Maharashtra accounts for highest number of sacred grove followed by Karnataka.
- There is **no specific action programme** for protection of sacred grove.
- Conservation is provided under community reserve under Wild life protection act 1972.

Invasive Species

- Those species that produce fertile offspring in large numbers outside their original habitat.
- Absence of predator for them in food chain (particular habitat) makes the population to grow enormously.
- It generates intensive competition with the native species for food and space.
- Second largest cause of biodiversity loss in the world (IUCN report).

What are Sacred Grove?
- Patches of natural vegetation dedicated to local deities or tree spirits.
- No hunting and logging, protected by local communities (tribes).
- Annual processional festival to re-establish the mystic bonds between the goddess and the people.

Ecological Significance: Conservation of Biodiversity, recharge of aquifer, Soil Conservation, valuable medicinal plants.

Threat: rapid urbanisation, livestock food gathering, invasive species.

Distribution of Sacred Groves in India
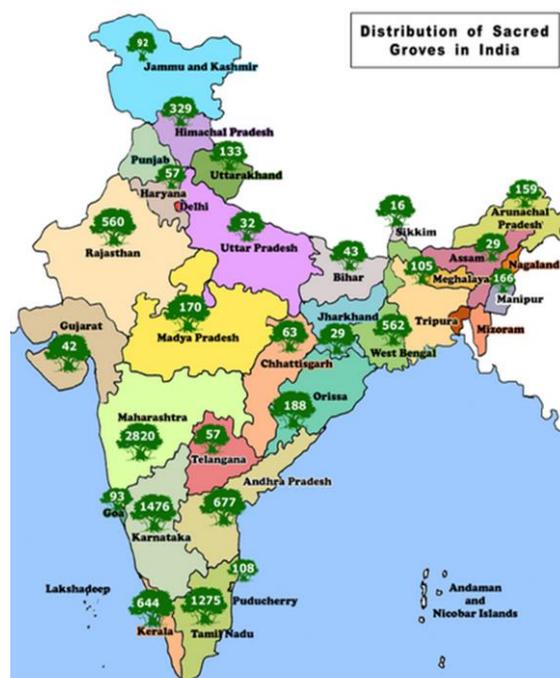
5.19. THERMAL POLLUTION

What is thermal pollution?

- Any practice that affects the equilibrium of an aquatic environment may alter the temperature of that environment and subsequently cause thermal pollution.
- It may come in the form of warm or cold water being dumped into a lake, river, or ocean.

Source of thermal pollution

- Volcanic eruption or geothermal activities below the ocean
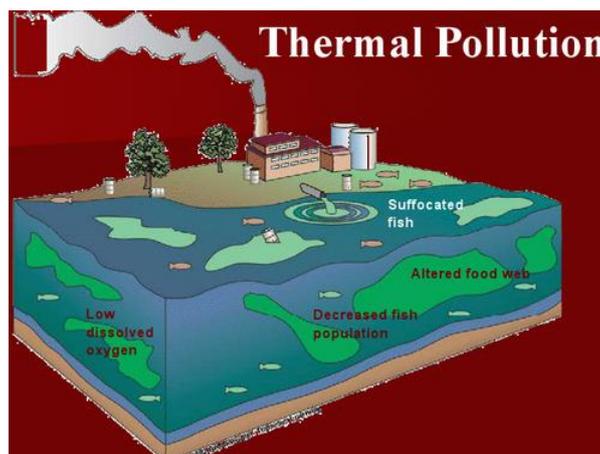
Thermal Pollution

- Heated waste water produce from coal based power plant, textile paper and pulp industry.
- Deforestation and decreasing tree coverage
- Soil erosion

Ecological Impact of thermal Pollution

- Decrease in dissolved oxygen: warmer water increase the rate of decomposition of organic matter, resulting in higher rate of decreasing the depleted oxygen.
- Threat to temperature sensitive organism for instance, stenothermic organism can survive in a narrow range of temperature any variation in temperature is detrimental to their survival.
- It disrupts the stability of food chain and alter the ecology of marine organisms.
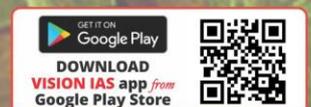
6. SCIENCE AND TECHNOLOGY

6.1. ANTIBODIES IN LAB

- Scientists of Harward and MIT in US have produced human antibodies.
- New technique could produce specific antibodies from B cells isolated from patient blood samples.
- However, producing specific human antibodies requires a second signal.
- This second signal can be provided by short DNA fragments called CpG oligonucleotides, which activate a protein inside B cells named TLR9.
- It could usher the rapid development of new vaccines to treat a wide range of infectious diseases

> **What are Antibodies?**
> - Antibodies are large Y-shaped proteins. They are produced by the immune system to identify and neutralize foreign objects like bacteria and viruses.
> - It binds to specific antigens. This signals the other cells of the immune system to get rid of the invading microbes.

6.2. SAGAR VANI

Why in New?

- Science and Technology and Earth Sciences ministry launched 'Sagar Vani' system.
- ESSO-Indian National Centre for Ocean Information Services (INCOIS) would provide the various facilities under the system.

What is Sagar Vani?

- It is an integrated information dissemination system for the ocean information system using single central server.
- It will use power of television and cable network for alert information dissemination through voice Call / Audio Advisory, Mobile Apps (User / Admin modules), Social Media (Facebook, Twitter, etc.), Email, GTS, Fax, Digital Display Boards, Radio / Television broadcast units, IVRS, Cloud Channels, etc.
- It will serve the coastal community with advisory in regional languages.

> **ESSO-INCOIS**
> - Established as an autonomous body in 1999 under the Ministry of Earth Sciences (MoES) and is a unit of the Earth System Science Organization (ESSO).
> - Service coastal population on tsunamis, storm surges, high waves, etc.
> - Information to fisherman about Potential Fishing Zone.
> - Ocean Observing Systems in the Indian Ocean to collect data on various oceanic parameters to understand the processes in the ocean and to predict their changes.

6.3. PROPOSALS FOR HIGH-TECH PUBLIC TRANSPORT

Why in News?

- NITI Ayog cleared six new proposals for public transportation system of India.
- These technologies include metrino, stadler buses, hyper loop, pod taxis, hybrid buses and freight rail road.

Why new public transportation is needed?

- Present levels of urban mobility are already generating many problems such as; high levels of congestion, environmental pollution, traffic fatalities.
- Present infrastructure for transportation is focused on mobility of vehicle rather than that of people.

> **Metrino**
> - It is fully automatic small pods travel independently suspended over an overhead network
>
> **Pod Taxis**
> - Small automated vehicles cable cars or pod cars equipped to carry a small group of passengers.
>
> **Hyperloop**
> - Pod-like vehicle is propelled through a near-vacuum tube connecting cities at speeds matching that of an aircraft.
>
> **Stadler Bus**
> - Tram like high frequency bus service for end to end connectivity.
>
> **Hybrid Bus**
> - Transport system uses hybrid propulsion systems, consisting diesel and electric ones.
>
> **Freight Rail System**
> - Elevated corridors would be built with rail lines where freight trucks can be placed.
> - It would move on rails at high speed, reducing freight time and increasing freight quantity.

- Nearly, 30 and 60% of a metropolitan area may be devoted to transportation, an outcome of the over-reliance on some forms of urban transportation.
- The scheme would provide a holistic solution for urban transportation problems ranging from parking policy, congestion pricing to **transit oriented development.**

Metrino	Hyper loop	Pod-Taxi
Stadler Bus	**Hybrid Bus**	**Freight Rail System**
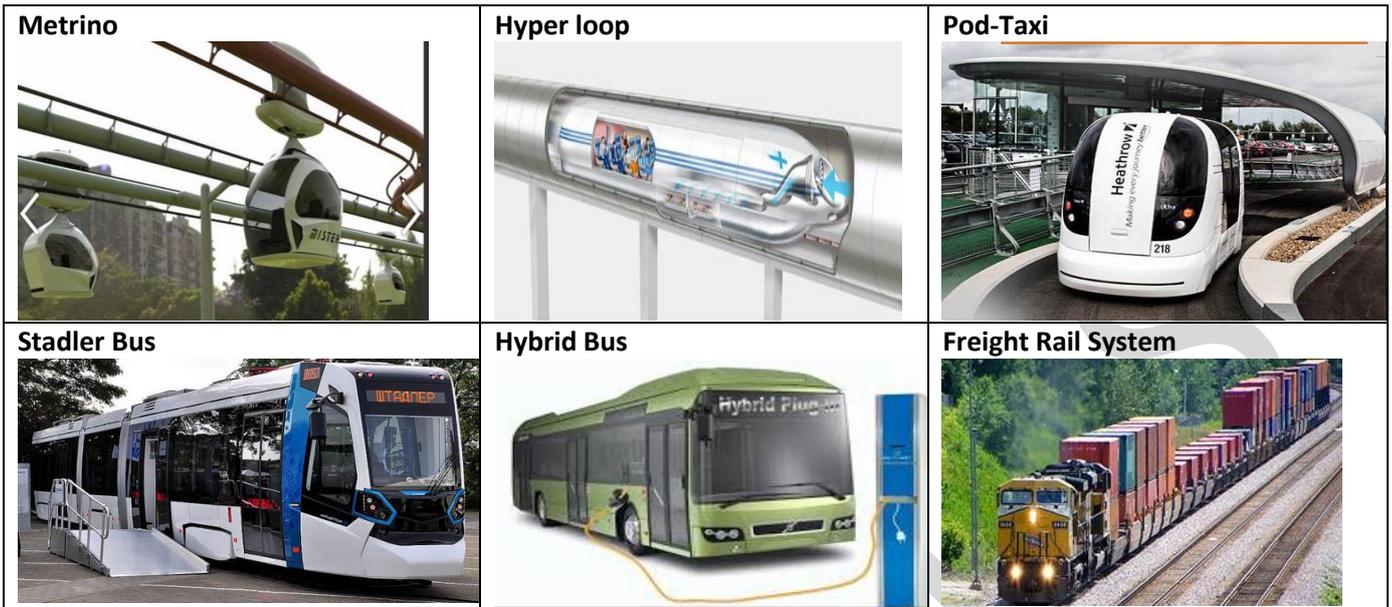
6.4. ANCIENT REMEDY TO FIGHT KALA AZAR

Why in news?

Scientists from Indian Institute of Chemical Biology in Kolkata tested ancient remedy described in *Charaka Samhita* to fight drug-resistant kala-azar.

More about the study

- The compound called mahanine, isolated from leaves of curry plant commonly used in Indian kitchens has been found to inhibit the growth of kala-azar parasite.
- The tests were very successful on the laboratory mouse and the group is in consultation with Ministry of AYUSH to have clinical trials on humans.

> **Kala -Azar OR Visceral leishmaniasis**
> - It is a vector borne disease caused by a protozoan parasite of genus *Leishmania.*
> - Post Kala-azar Dermal Leishmaniasis (PKDL) is a condition when *Leishmania donovani (*parasite*)* invades skin cells, and manifests as dermal leisions.
> - Some of the kala-azar cases manifests PKDL after a few years of treatment.

Extent of Kala-Azar in India

- Endemic in eastern States of India namely Bihar, Jharkhand, Uttar Pradesh and West Bengal; sporadic cases are seen from other areas
- Estimated 165.4 million population at risk in above 4 states
- Since 2008, number of cases have come down by nearly 80%

Steps taken by government to eliminate Kala-Azar

- Budget 2017-18 envisages to eradicate the disease by 2017 itself
- National Roadmap for Kala-azar Elimination (2014) has been circulated to states with clear goal, objectives, strategies, timelines with activities and functions at appropriate level**.**
- Govt. of India is closely working with development partners like Bill Melinda Gates Foundation(BMGF);

6.5. BIRD FLU

- India has declared itself free from Bird Flu (highly pathogenic Avian Influenza - H5N1 and H5N8) and notified it to the World Organisation for Animal Health.
- The move will help it resume export of poultry products to the countries which had banned trade in such items early this year.

Avian Influenza

- There are 3 types of influenza viruses: types A, B, and C. Influenza A viruses infect humans and many different animals
- Influenza type A viruses are classified into subtypes according to the combinations of different virus surface proteins haemagglutinin (H) and neuraminidase (N).
- Influenza A viruses can be classified as avian influenza, swine influenza, or other types of animal influenza viruses
- Examples include avian influenza "bird flu" virus subtypes such as A(H5N1) and A(H9N2).

World organization for Animal Health

- It is recognised as a reference organisation by the World Trade Organization (WTO) and in 2017 has a total of 181 Member Countries.
- It maintains permanent relations with 71 other international and regional organisations.
- Ban is lifted after 90 days of the surveillance is done by the organization.

6.6. SARASWATI: A SUPERCLUSTER OF GALAXIES

Why in News?

A team of Indian scientists has reported the discovery of a previously unknown 'supercluster' of galaxies, some four billion light years away from Earth, and named it Saraswati.

What are Superclusters?

- Galaxies are like the building blocks of the universe, they contain a huge number of stars. Galaxy clusters have 3-100 galaxies, and super clusters are the clusters of clusters.
- Within superclusters, clusters are connected by filaments and sheets of dark matter with galaxies embedded in them
- Sarawati has 42 clusters. Significance of Saraswati supercluster lies in the fact that it is 4000 million light years from earth.

6.7. ASTEROID IMPACT AND DEFLECTION ASSESSMENT MISSION

Why in news?

NASA is developing the first-ever mission that will deflect a near-Earth asteroid to protect the planet from potential cosmic body impacts in the future.

How does it work?

- The Asteroid Impact and Deflection Assessment (AIDA) mission is an international collaboration among the European Space Agency (ESA), NASA, Observatoire de la Côte d´Azur (OCA), and the Johns Hopkins University Applied Physics Laboratory (JHU/APL).
- AIDA is a dual-mission concept, involving two independent spacecraft – NASA's Double Asteroid Redirection Test (DART), and ESA's Asteroid Impact Mission (AIM).
- Its target is the binary near-Earth asteroid Didymos, which consists of a primary body approximately 800 meters across, and a secondary body (or "moonlet") whose 150-meter size is more typical of the size of asteroids that could pose a more common hazard to Earth.

The AIM spacecraft, with its extensive array of scientific instruments, will arrive at Didymos before DART's impact, and perform the first-ever close-up study of a binary asteroid, providing high-resolution imagery of the surfaces of the binary system as well as measurements of the masses, densities, and shapes of its two bodies

Why DIDIMOS

- A binary system like Didymos offers two points of reference: Didymos and Didymos B(moonlet), thus providing more information about the effect of the DART impact on that system.
- It will pass close by Earth in 2022 and observations of the DART impact and its aftermath by ground- and space-based assets will provide additional data.

- The DART spacecraft will achieve the kinetic impact by deliberately crashing itself into the moonlet at a speed of approximately 6 km/s to deflect the path of Didymos.

6.8. SOHUM-HEARING SCREENING DEVICE LAUNCHED

Why in News?

SOHUM, an indigenously developed newborn hearing screening device has been launched by the Union Ministry of Science and Technology.

More about Sohum

- It has been developed by School of International Biodesign (SIB)
- It measures auditory brain waves via three electrodes placed on the baby's head. When stimulated, electrodes detect electrical responses generated by the brain's auditory system. If there is no response, it indicates child cannot hear.

> **School of International Biodesign**
> - SIB is a flagship Program of the DBT aimed to develop innovative and affordable medical devices as per India's unmet clinical needs and to train the next generation of medical technology innovators in India.
> - It is implemented jointly at AIIMS and IIT Delhi in collaboration with International partners.

Advantages

- Once it is detected at quite an early age, measures can be taken to prevent other problems such as impaired communication skills and even possible mental illness.
- It is battery operated device and is non-invasive. It doesn't require babies to be sedated, which is risky process at present.

6.9. ISRO APPROVED USE OF LITHION-ION BATTERY

- Indian Space Research Organization (ISRO) has approved commercial use of lithium-ion battery technology.
- The glitch is battery makers will be required to pay Rs 1 crore as a one-time technology transfer fee to ISRO.
- Commercialization of ISRO's technology could save 10-15 per cent of the cost of e-vehicles.
- It is a positive step towards the government's ambitious project - National Electric Mobility Mission Plan 2020.

Advantages of lithium-ion batteries over lead acid batteries

- **Weight**: Lithium-ion batteries are one-third the weight of lead acid batteries.
- **Efficiency**: Lithium-ion batteries are nearly 100% efficient in both charge and discharge while the lead batteries have the 70% efficiency.
- **Discharge**: Lithium-ion batteries are discharged 100% versus less than 80% for lead acid.
- **Cycle Life**: Rechargeable lithium-ion batteries cycle 5000 times or more compared to just 400-500 cycles in lead acid.
- **Voltage**: Lithium-ion batteries maintain their voltage throughout the entire discharge cycle. Lead acid voltage drops consistently throughout the discharge cycle.
- **Cost**: Despite the higher upfront cost of lithium-ion batteries, the true cost of ownership is far less than lead acid when considering life span and performance.
- **Environmental Impact**: Lithium-ion batteries are a much cleaner technology and are safer for the environment.

6.10. JIGYASA INITIATIVE

- "JIGYASA" (means curiosity) is one of the major initiatives taken up by CSIR at national level, during its **Platinum Jubilee Celebration** Year.
- CSIR is widening and deepening its **Scientific Social Responsibility (SSR)** further with the programme.
- It is a **student- scientist connect programme** which will be

> SSR- can be defined as the responsibility of the scientific community towards the society. It reflects on its obligation to act for the benefit of the society at large both in terms of scientific development and awareness creation.

implemented by Council of Scientific and Industrial Research (CSIR) in collaboration with Kendriya Vidyalaya Sangathan (KVS).
- It will connect 1151 KVs with 38 CSIR labs and benefit 1,00,000 students and 1000 teachers.

6.11. FIRST TISC IN INDIA

Why in news?

- The **Department of Industrial Policy and Promotion (DIPP)** has inked agreement with **Punjab State Council of Science and Technology** to establish **India's first TISC (Technology and Innovation Support Center)**.

What is it?

- TISC is WIPO's (World Intellectual Property Organisations) program that provides innovators in developing countries with access to locally based, high quality technology information and related services.
- The program will help innovators **to fully exploit their creative potential and also protect their Intellectual Property Rights (IPRs)**
- **Services offered by TISCs include:**
  - Access to online patent and non-patent (scientific and technical) resources and IP-related publications;
  - Assistance in searching and retrieving technology information;
  - Training in database search;
  - On-demand searches (novelty, state-of-the-art and infringement);
  - Monitoring technology and competitors;
  - Basic information on industrial property laws, management and strategy, and technology commercialization and marketing.
- **CIPAM (Cell for IPR Promotion and Management)** has been designated as the national focal point for the TISC network.
- CIPAM is responsible **to identify host institutions, access their capacities and host them in joining the TISC network**.
- CIPAM will also act as the main intermediary between WIPO and TISC host institutions and coordinate all the activities of the national TISC network.

6.12. SCHEME FOR IPR AWARENESS- CREATIVE INDIA; INNOVATIVE INDIA

- Taking forward the National Intellectual Property Rights (IPR) Policy 2016, a 'Scheme for IPR Awareness – Creative India; Innovative India' has been launched by Cell for IPR Promotion and Management (CIPAM) under the aegis of the Department of Industrial Policy and Promotion.
- Raising IPR awareness amongst students, youth, authors, artists, budding inventors and professionals to inspire them to create, innovate and protect their creations and inventions across India including Tier 1, Tier 2, Tier 3 cities as well as rural areas in the next 3 years.

7. SOCIAL

7.1. CHILDHOOD OBESITY

Why in News?

- Recently, a study was conducted about lifestyle diseases, physical activity, and eating patterns of adolescents.

Key findings

- Indian kids have reasonable knowledge about lifestyle diseases yet it does not translate into preventive action, thus, there is a knowledge-practice gap among teenagers.

Other facts
• China, with 15.3 million obese children, tops the list
• India has the second highest number with 14.4 million children with excess weight.
• The incidence of obesity has doubled since 1980 in over 70 countries of the world
• Childhood obesity has grown at a faster rate than adult obesity in many countries.

- About 82% of the adolescents did not perceive themselves to be at risk for future CVDs and even those who perceived the risk showed poor dietary practices.
- The trend of poor eating habits was visible more in older students and those belonging to affluent families as compared to low or middle-class.
- About 20% of the participants reported a family history of CVDs while a majority had little information about heart disorders.
- Boys tended more to be involved in physical activity (adequate physical activity as one hour every day) along with those who had better knowledge about risk factors.

How to tackle childhood obesity?

- **Awareness** - Promotion of school-based cardiovascular health programs to dispel myths that CVDs are problem of the aged only.
- **Changes in lifestyle –** through inculcating changes in eating habits and physical activity.
- **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 standardised global nutrient labelling on packaged foods may help in promotion of healthy foods and lifestyle
- **High tax** - the imposition of high taxes on sugar-sweetened beverages

Challenges in India to tackle obesity

- Low standards - standard of 5% (by weight) for trans-fats in fat spreads, hydrogenated vegetable oils etc. is high as compared to global best practices as countries are moving towards near zero.
- No regulation on advertisements - Currently there is no regulation for broadcast advertising and celebrity endorsements in India unlike international best practices such as in Norway and Brazil.
- No basic labelling regulations - The current nutrition labelling does not declare salt/sodium, added sugar and saturated fats on a mandatory basis. There is no mandatory provision for nutrient declaration per serve. Rather, it is optional with per 100 gm of product.
- No policy guidelines to reduce obesogenic environments in schools and promoting healthy foods and lifestyle even after 2015 Delhi High Court order to FSSAI to issue guidelines for the same
- With GST tax on sugar- sweetened beverages did increase this year but the actual impact on prices is yet to be seen across the country.

Ending childhood obesity would also contributing to achievement of Sustainable Development Goals, WHO's global action plan for the prevention and control of NCDs (2013-2020), WHO's comprehensive implementation plan for maternal, infant and young child nutrition etc.

7.2. PRIVATISATION OF SELECT SERVICES IN DISTRICT HOSPITALS

Why in News?

Niti Aayog and the Union Ministry for Health and Family Welfare have proposed a model contract to increase the role of private hospitals in treating non-communicable diseases in urban India (especially in tier 2 & 3 cities).

Background

- The **National Health Policy document (2017)** emphasizes the need to encourage private investment in the field of health because responsibility of health lies jointly with the public and private sector.
- The private sector in India has started to play a significant role in the health care delivery system.
- Studies on utilisation pattern reveal that people prefer private health care facilities. The growth of private sector has raised several concerns about quality, cost, equity and efficiency of the health care.

Features Proposed under the Plan

- It allows private hospitals to bid for **30-year leases** over parts of district hospital buildings and land to set up 50- or 100-bed hospitals in towns other than India's eight largest metropolises.
- The scheme also provides for an **escrow account** that would offset the risk to private providers posed by possible delays in reimbursement by the government.
- Under this **Public Private Partnership** (PPP) model, care for only three non-communicable diseases — cardiac disease, pulmonary disease, and cancer care — will be provided.
- Private partner will invest in upgrading building, and equipping the facility; and will be responsible for operational management and service delivery. Government may provide **Viability Gap Funding**.
- Under the principles of financial structure, there will be no reserved beds or **no quota of beds for free services** in these facilities.

Positives

- Shortage of infrastructure and human resources for health has led to 72 percent of the population in rural areas and 79 percent in urban areas to seek healthcare in the private sector. Introduction of PPP model and bringing in the private players in this field can **improve infrastructure.**
- The expansion of care by 50-100 beds will increase the services in a situation where there is already a lack of capacity in most of the hospitals in the country. It will help in improving access at the district level and also decongesting tertiary facilities at the state level.
- It is also helpful in reducing out-of-pocket expenditures on diagnosis, treatment and care for common man.
- The district health administration will ensure referrals for treatment from primary health centres, community health centres, disease screening centres and other government health programmes and ventures are made to these private hospitals.

Problems

- Private providers will be able to **cherry-pick the most lucrative districts** where patients have a higher paying capacity. Thus will concentrate on better-off districts, leaving the poor and remote districts for the public sector to manage. This proposal will further **worsen inequity** in access to healthcare services
- The scheme will expose thousands of patients to **unethical practices by private providers**, compromises in quality and rationality of services and additional 'top-up services'.
- The outsourcing of hospital care to private providers inevitably becomes increasingly **unsustainable** over time as they ratchet up demands on reimbursements and fees.
- The proposal implies that most patients would have to pay for care even in public facilities.
- The policy document has also come under criticism due to government's failure to consult the stakeholders from civil society and academia.
- The NITI Aayog's proposal involves the handing over of public assets to for-profit companies, and may be seen as an act of **abdication of duty by the government**.

Way forward

- The proposal to hive off hospital care to the private sector is justified by the argument that public services are not financed adequately and face an acute shortage of trained human resources.
- The simple remedy could be to significantly enhance investment in public healthcare services, including in the training of health workers.
- The decision is based on the skepticism that the public institutions are inherently inefficient. This skepticism needs to be addressed with.

7.3. NATIONAL STRATEGIC PLAN FOR MALARIA ELIMINATION

Why in News?

Union Minister of Health and Family Welfare launched **the National Strategic Plan for Malaria Elimination (2017-22)**.

Background

- Pathogens travel across continents and new strains continue to emerge, the fight against vector-borne diseases has, once again, become a global public health challenge.

- India that is a breeding ground for at least **six major vector-borne diseases**—malaria, dengue, chikungunya, filariasis, Japanese encephalitis and visceral leishmaniasis.

- India has the third highest malaria burden in the world thus an immediate action plan was long needed.

> **Vector-Borne Diseases**
> - Caused by pathogens in human populations
> - Transmitted by vectors: living organisms that can transmit pathogens between human beings or from animals to humans.
> - Transferring the pathogens received during a blood meal from an infected host into a new host during the next blood meal.

Efforts to eliminate Vector Born Diseases

- The **National Framework for Malaria Elimination** (NFME) last year outlined India's commitment for eliminating malaria by 2030.
- To implement this commitment the National Strategic Plan for Malaria Elimination was launched in July 2017.
- The government would like to eliminate malaria by 2027 and urged the states for active cooperation. It gives strategies for working towards the ultimate goal of elimination of malaria by 2030.
- The strategies involve strengthening malaria surveillance, establishing a mechanism for early detection and prevention of outbreaks of malaria, promoting the prevention of malaria by the use of Long Lasting Impregnated Nets (LLINs), effective indoor residual spray and augmenting the manpower and capacities for effective implementation.
- Intersectoral coordination is the key, we have to work together with the other Ministries and Municipal Corporations to achieve the desired results.

National Strategic Plan for Malaria Elimination (2017-22)

Following are the provisions of NSPME-

- It divides the country into four categories between 0-3, viz, -
    - Category 1 (0)- includes 75 districts where there has been no case of malaria in last 3 years.
    - Category 2 (1)- has as many as 448 districts in which API (Annual Parasite Incidence) in a year is < 1 among every 1000 persons.
    - Category 3 (2)- are the regions where the API is one or above, but <2 per 1000 persons.
    - Category 4 (3)- are the regions where the API is 2 or >2 per 1000 persons.
- The plan aims to eliminate Malaria completely by 2022 in the category 1 and 2 districts, while the other two categories will be brought under pre- elimination or elimination programmes.

> Based on the **WHO recommendations**, following are **the 4 components of the plan**:
> - Diagnosis & case management
> - Surveillance & Epidemic Response
> - Prevention by Integrated Vector Management
> - Cross Cutting interventions including communication, R & D, etc.

- The plan aims at achieving Universal Case Detection and treatment services in the endemic districts to ensure full diagnosis and treatment of all the cases.

Concerns

There are various concerns that plague the efforts to fight such diseases, like:

- A weak and fragmented health system unable to reach all populations at risk is a handicap in the implementation of the programmes to fight vector born diseases.

- There is a poor collaboration across agencies, sectors, and levels of government that calls for an improved inter-sectoral work that can facilitate the adoption of integrated approaches.
- The root causes of the problem, such as genetic changes in pathogens, insecticide and drug resistance, the challenges of poor urban planning, are not given enough attention.
- Lack of funding and underutilization of released funds makes the efforts inaffective. For example, last year, the Central government released only 68% of budgeted funds under the national vector-borne disease control programme, and an even smaller percentage of that was utilized, according to the CSE's State of India's Environment 2017.
- The lack of adequate healthcare workers who can carry out a prevention programme on a war footing is also a challenge. This includes not just field workers but also entomologists who can research all aspects of vector populations and recommend how these can be kept below the "critical mass".
- A weak, inadequate, and in some cases inexistent, surveillance system to monitor cases, risk factors and determinants of VBDs, to provide intelligence for strategic decisions.
- Finally, the prospects for vaccines against vector-borne diseases seem to be poor. A dengue vaccine that is being used in about a dozen other countries is not yet allowed in India.

Way forward

- In India, the challenge is to ensure the implementation of programmes and ensure they universally reach all populations, ensuring action across the central, state and local levels involving all concerned stakeholders.
- The Research & Development facilities in the country must be boosted to find novel ways to fight such diseases.
- Precautions on part of people is one of the crucial factor that can ultimately make the efforts of government fruitful.

7.4. PRADHAN MANTRI MATRU VANDANA YOJANA

Why in News?

- Draft guidelines for implementation of **Pradhan Mantri Matru Vandana Yojana** (PMMVY) have been prepared by the **Ministry of Women and Child Development.**

> **Pradhan Mantri Matritva Vandana Yojana** was previously known as Indira Gandhi Matritva Sahyog Yojana.

Features

- The draft guidelines provide for
  - Aadhaar linkage
  - **Direct Benefit Transfer** of Rs. 5000 in beneficiary's bank/post office account in three instalments
    - o at the stage of early registration of pregnancy
    - o after six months of pregnancy on at least one antenatal check-up and registration of child birth &
    - o first cycle of immunisation of the child.
- The PMMVY is Centrally Sponsored Scheme. The cost sharing ratio between –
  - The Centre and the States & UTs with Legislature is 60:40
  - For North-Eastern States & three Himalayan States, it is 90:10, &
  - 100% Central assistance for Union Territories without Legislature.

About the Scheme

It is a **maternity benefit program** run by the government of India launched in 2010. It aims:

- To provide fixed-day, assured, comprehensive and quality antenatal care universally to all pregnant women on the 9th of every month.
- To identify and follow-up high risk pregnancies.
- These services will be provided in addition to the routine ANC at the health facility/ outreach at identified public health facilities in both urban and rural areas.
- OBGY specialists working in the private sector are encouraged to volunteer for the campaign.

7.5. MISUSE OF ANTI-DOWRY LEGISLATION

Why in News?

Supreme Court has ordered a number of safeguards to prohibit the misuse of the anti-dowry provisions, under section **498a of IPC.**

Background

- While charge-sheets were filed in 96% of the cases regarding dowry only 14.4% resulted in convictions.
- After various judgements witnessing misuse of the anti-dowry provisions by people, in 2015, the government sought to introduce the bill to amend Section 498a of IPC based on the suggestions of **Law commission and Justice Malimath Committee** on Reforms of criminal Justice.

> **Section 498A.** Whoever, being the husband or the relative of the husband of a woman, subjects such woman to cruelty shall be punished with imprisonment for a term which may extend to three years and shall also be liable to fine.
>
> It is *separate from the Anti Dowry Act.*
>
> **Section 304B** relates to Dowry Deaths.

Changes by Supreme Court

- The Supreme Court acknowledged the need to **ensure a "rigorous" mechanism to file complaints** so that "frivolous complaints" can be weeded out.
- It also called for **involvement of civil society and sensitisation of investigation officers**.
- The court ordered setting up **of Family Welfare Committees** in every district to look into complaints of dowry harassment set up by **District Legal Services Authorities.** The committee may comprise of three members.
- The **committee may be reviewed** from time to time and at least once in a year by the District and Sessions Judge of the district who is also the Chairman of the District Legal Services Authority.
- The Committees may be constituted out of para legal volunteers/social workers/retired persons/wives of working officers/other citizens who may be found suitable and willing.
- Complaints police or magistrates receive under 498A must be referred to the panel, which will consider them and submit reports. Until the report of the committee is received, no arrest should normally be effected.
- There must be a **designated officer to investigate** such complaints who should be cautious in matters of bail.
- **Personal appearance of all the family** members should not be a norm unless required. Appearance by a video can be permitted by a trail court.
- After observing the case for six months the National Legal Service Authority may give a report on change if deemed necessary.

> **Anti Dowry Act 1961**
> - It is an Act to prohibit the giving and taking of dowry.
> - It had **consolidated the anti dowry** laws which had been passed in certain states.
> - This legislation provides for a penalty in **section 3** if any person gives, takes or abets giving or receiving of dowry.
> - I**t defined dowry as any property or valuable security given or agreed to be given in connection with the marriage**.
> - It does not apply for the presents given at the time of wedding.

- The court also made it clear that these directions will not apply in offenses in where there is tangible physical injury or death.

Positives

- There has been a surge in the number of false cases regarding dowry harassment. The changes introduced by the Supreme Court were long awaited.
- The dowry harassment cases are prone to misuse by many people starting from the corrupt police officials.

498A: WOMEN SHIELD BECOMES WEAPON?		
Year	Cases filed	Cases false/ in bad law
2011	99,135	10.193
2012	1,06,527	10,235
2013	1,18,866	10,864

Source: NCRB data, 2013

- The very act of arresting is seen as a source of punishment. One cannot punish a person unless the investigation is completed. These guidelines will be effective in avoiding such situations.

Negatives

- The judgment sounds good on paper but not so much in terms of ground realities because already there is a delay and harassment involved in delivering justice even in genuine cases.

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- The constitution of the Family Welfare Committee is vaguely described. Dowry harassment cases are sensitive and thus may be given over only to trained legal personnel or a judicial officer.
- By the way of these guidelines a law much needed to fight a big evil of Indian society is being diluted.

7.6. THE RIGHT OF CHILDREN TO FREE AND COMPULSORY EDUCATION (AMENDMENT) BILL, 2017

Why in news?

Lok Sabha has passed **the Rights of Children to Compulsory Education (Amendment) Bill**, **2017**.

Background

- After the passage of **Right to Education Act,** new schools were established to foster the aim of universal education. The Act also lays down **the Pupil Teacher Ratio**
  o Primary Level – 30:1
  o Upper Primary Level – 35:1
  o Secondary Level – 30:1 (According to Rashtriya Madhyamik Shisksha Abhiyan)
- To meet these targets new teachers were recruited, but due to paucity of well qualified teachers, unqualified teachers were hired.
- At present close to **8.5 lakh unqualified teachers** hold jobs which would now be given a chance to attain the degrees according to the amendment to Compulsory education Act.
- Under the amended Act the deadline to possess the minimum qualification will be relaxed up till **March 31, 2019**.

Provisions of the Right of Children to Free and Compulsory Education (Amendment) Bill, 2017

- The Bill seeks to amend the Right of Children to Free and Compulsory Education Act, 2009 by **extending the deadline for teachers to acquire the prescribed minimum qualifications for appointment**.
- Under the Act the states which did not have adequate teacher training institutes or qualified teachers could **relax the minimum qualification extending till five years** i.e. till **March 2015**.
- The Amendment bill further adds that the teachers, who have not attained the minimum qualification till March 2015, will now be required to attain the qualifications by **March 2019**.

Teacher Training In India

- To improve the quality of education in India the government aims to
  o Prepare teachers for the school system (**pre-service training**)
  o Improve the capacity of existing school teachers **(in-service training)**
- The pre-service training is carried through **National Council of Teacher Education (NCTE)** and in-service teacher training is carried on through government owned **Teacher Training Institutes** (TTIs).
- NCTE has prepared **the National Curriculum Framework of Teacher Education** for teacher education.
- However, it has been observed that the NCTE has been inefficient to address the quality of teacher training, and given rise to completely **dysfunctional and corrupt system**.
- **Subramanium Committee on New Education Policy** also suggested fixing minimum eligibility of **50% marks at graduation level** for entry into B.Ed courses and making **Teacher Entrance Tests compulsory**.
- The Committee also recommended **certification for government and private school teachers** to be renewed after every 10 years.

Way forward

- The regulatory powers and functions of NCTE should be strengthened.
- Recommendations of **Justice Verma Committee** should be implemented.
  o **Increasing investment** to establish teacher education institution
  o Increase **institutional capacity** of teacher preparation in **deficit states**.
  o Develop a **framework on school audit and teacher performance**.
  o **Teacher educators** should be closely engaged and they should be considered as **visiting faculty**.
  o **Pre-entry testing** of the candidates should be strengthened.
- Along with qualified teachers it steps should be taken to **ensure better teacher attendance**.

7.7. MANUAL SCAVENGING AND SWACHH BHARAT ABHIYAN

Why in news?

Recently Madras High Court passed an order asking Centre and Tamil Nadu Government to take stringent measure to enforce **the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013**, after 30 people died employed in manual scavenging.

Background

- Manual Scavenging refers to **unsafe and manual removal of raw and untreated human excreta**. It is a socio-economic problem which has continued for decades despite of technological advancement and increasing sensitivity to human rights.
- According to the data from the **Ministry of Social Justice and Empowerment** the number of manual scavengers stands at 77,0338 with highest in Maharashtra.
- In the **Safai Karamchari Andolan vs. Union of India Case**, the Supreme Court ordered the abolishment of manual scavenging and asked for the implementation of rehabilitation of such workers.
- However, it is being observed that the nationwide campaign, **Swachh Bharat Abhiyan**, to eradicate open defecation is aggravating the rampant existence of manual scavenging at dry latrines, septic tanks and sewers and **nullifying the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.**
- **The National Career Services** also has listed the **manual scavengers under 'unorganised sector'** thus recognising their work. **Indian Railways remain the single largest employer of manual scavengers.**
- The problem also lies in the entrenched belief in caste system which assumes Dalits will readily perform the task of cleaning the latrines.

> **Swachh Bharat Abhiyan**
> - Swachh Bharat Abhiyan was launched on 2 October 2014 and it aims to eradicate open defecation by 2019. It has been conceived as a nationwide campaign and replaces Nirmal Bharat Abhiyan.
> - To eradicate and completely eliminate open defecation construction of public and community toilets is being carried on.

Provisions of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

- The bill provides for prohibition of a person as manual scavenger, the manual cleaning of sewers and septic tanks **without safety equipment and construction of insanitary latrine**.
- It also provides for **rehabilitation of manual scavengers** and alternate employment for them.
- Each **local body** is responsible for conducting surveys of insanitary latrines and also building sanitary community latrines.
- Occupiers of insanitary latrine are responsible for **converting** them. In case they are unable to do so, the **local authority must convert the latrine** and **recover the cost** from him.
- The **District magistrate and local authorities** will be the implementing authorities.
- Offences under the bill will be **cognizable and non-bailable.**

> **National Career Services**
> - It is an ICT based portal launched by the Ministry of Labour and Employment.
> - The portal facilitates registration of job seekers, job providers, skill providers, career counsellors etc.

Limitations of the Bill

- The Bill has not provided for **the financial assistance** either by the centre or the state, thus making the implementation of the bill difficult.
- The **identification** of the insanitary latrines and their conversion has **not been made time bound**.
- Manual Scavengers being **illiterate are less confident** about adopting alternate employments or self-employment.

Way Ahead

- State governments should **demolish and rebuild old facilities** lacking sanitation and also **conduct census** of both latrines and people engaged in cleaning them.
- There should be **clear differentiation** made between **building of new toilets** as mandated in Swachh Bharat Abhiyan and **conversion of insanitary Latrines** as mandated in above bill.
- **Increased fund allocation** should be made towards **rehabilitation of manual scavengers**.

- **Skill training and awareness** should be provided to the manual scavengers so that they can adopt alternate employments.
- **Technological advancement and innovation** should be applied to adopt clean toilets such as **bio-toilets.**

7.8. FOOD WASTAGE IN INDIA

Why in news?

Prime Minister Narendra Modi in his Mann ki Baat program brought out the issue of food wastage and linked it to the people's behaviour.

Background

- According to Food and Agriculture Organisation around **1.3 billion tons** food is wasted in a year globally.
- It also stated that the food is wasted **throughout the supply chain** and leads to wastage of resources used in production as well. E.g. **25% fresh water and nearly 300 million of barrels of oil is used to produce food.**
- **SDG 12.3** has recognised food wastage and goal has been set to **halve per capita global food waste** at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.
- For India which stands at **97th position out of 118 countries in Global Hunger Index** for 2016, food wastage is a major problem.
- Increasing food wastage also leads to **land degradation** by 45% due to **deforestation, unsustainable agricultural practices and excessive groundwater extraction**.
- Decay of food also leads to emission of greenhouse gases. E.g. **3.3 billion tonnes of carbon dioxide** emitted in a year.

Reasons behind Food wastage

- Maximum food wastage occurs at the **early stages of the food value chain** which can be associated with the **lack of support to farmers**, **poor or unscientific harvesting techniques**, **weak infrastructure, storage, cooling and transport facility.**
- According to IIM Calcutta, in India **only 10% of food is covered under cold storage facility** which ultimately results in pre and post-harvest losses to farmer.
- According to a study conducted by Indian Council of Agricultural Research the causes of post-harvest losses lies in **lack of infrastructure for short term storage at farm level.**
- Food wastage in India is also related to the **behavioural aspect** of the people.

Way ahead

- Government should bring in legislations intended to **encourage food donation and grocery products**. E.g. Bill Emerson Good Samaritan Act in USA, France banned supermarkets to destroy unsold food products.
- **Procurement policy** should also be liberalised, in order to ensure minimal wastage of food crops thus procured.
- Initiatives such as **Indian Food Banking Network(IFBN)** should be promoted to highlight the concepts such as **collaborative consumption** involving private sector and civil society.
- Infrastructure development should be taken up in mission mode i.e **cold storage facility, short term storage at farm level, road connectivity, electricity, e-NAM etc.**
- FAO is also developing **Global Food Index** to access food wastage losses so as to create awareness and provide impetus for policy steps and actions.

7.9. INDIAN COMMUNITY WELFARE FUND [ICWF]

Why in news

Recently Union Cabinet has approved revision of the Indian Community Welfare Fund (ICWF) guidelines.

Significance

- It brought a wider range of overseas Indian nationals in **distress and emergencies** under its ambit, thus expanding the scope of welfare measures.
- It is expected to provide Indian Missions and Posts abroad **greater flexibility** in swiftly addressing requests by Overseas Indian nationals.
- It has created a sense of confidence among the migrant workers going overseas about the support they can expect from India during critical times, like evacuation of Indian nationals in conflict zones in Libya, Iraq, Yemen, South Sudan and other challenging situations.
- ICWF effectiveness at the time of emergencies has been **universally appreciated.**

Indian Community Welfare Fund: setup in 2009, aimed at assisting Overseas Indian nationals in situation like:
- Boarding and lodging for distressed overseas Indian workers in household, domestic sectors and unskilled labourers.
- Extending emergency medical care to Indians
- Providing air passage to stranded persons
- Providing initial legal assistance in deserving cases
- Providing expenditure for airlifting the mortal remains to India or local cremation or burial

Funding: Budgetary support from the Ministry, levying a nominal service charge on consular services by Indian mission and through Voluntary contributions from the Indian community.

Other Scheme for diaspora
- **Know India Programme:** To help familiarize Indian Diaspora youth with developments and achievements made by the country and bringing them closer to the land of their ancestors.
- **Pravasi Bharatiya Bima Yojana** It is a compulsory insurance scheme for overseas Indian workers, under which an insurance cover upto Rs.10 lakh will be provided to the nominee/ legal heir in the event of death or permanent disability of any Indian emigrant.

7.10. POLICY ON HAEMOGLOBINOPATHIES

Why in news

Recently government released a policy on the **Prevention and Control of haemoglobinopathies** (Thalassemia, Sickle cell anemia and other variant anemia), a blood disorder in India.

What is Hemoglobinopathies: They are a kind of **genetic defects** that result in abnormal structure of one of the globin chains of the hemoglobin molecule.

Highlight of policy

- **Aim:** To create treatment protocol benchmarks and to improve the quality of life of patients.
- The guidelines provide for screening for variant anaemia in children, pre-marital counselling at college level and pregnant women during antenatal check-up to reduce the incidence of live haemoglobin disorder births (currently pegged at 10,000-15,000 live births a year).
- Policy provides for the creation of a national registry to collect useful data for better future services.
- Policy is supported by the **National Health Mission, Blood Cell** and the Rashtriya Bal Swasthya Karyakram.

THALASSAEMIA
Red blood cell
White blood cell
Deformed red **blood** cell
White blood cell
- Thalassaemia is a genetic blood disorder characterised by
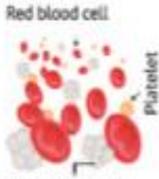
the abnormal production of haemoglobin
- The abnormality leads to improper oxygen transport and deformation of RBC
- It has wide-ranging effects like iron overload and bone deformities. It can even cause heart diseases
- The disease has no cure and patients require regular blood transfusions to prolong life

SICKLE CELL DISEASE
Normal red blood cell
Sickle cell

disorder that requires lifelong management
- The disease gets its name because red blood cells of the patient look like a sickle
- It is caused by a problem in the haemoglobin-beta gene found in chromosome 11
- If both the parents carry the defective gene, their child has a 1 in 4 chance of inheriting it
- Sickle Cell Disease is a inherited haemoglobin

Need for the policy

- Thalassaemia and sickle cell anaemia are the most frequently encountered 'rare blood disorders', which impose a significant economic burden on family as 95% of treatment expenses are borne out by the patients.
- Since there are **35-40 million carriers** in the country, preventive checks will help in eliminating the spread of this disease.

7.11. SEXUAL HARASSMENT ELECTRONIC-BOX (SHE-BOX)

Why in News?

Recently government launched an **online platform**, which enable women employees to file complaints related to **sexual harassment at the workplace.**

Highlight of SHe-box

- It seeks to ensure effective implementation of the **Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 [SHW ACT].**
- Once a complaint is submitted to the portal, it will be directly sent to the ICC of the concerned Ministry or department.
- It will cater effective and speedier remedy to women facing sexual harassment at workplace **as WCD as well as complainant can monitor the progress of inquiry.**

> **SHW Act, 2013**
> - It defines sexual harassmnt at the work place as any unwelcome sexually determined behaviour & demands from males employees at workplace
> - It mandates all the employers to constitute an **Internal Complaints Committee [ICC]** at each office or branch with 10 or more employee and requires 50 per cent members should be women.
> - It requires time bound redressal of complaints which should be confidential.
> - It requires employers to conduct education & sensitisation programmes and provide a safe working environment.

- **Currently,** complaint can be filled by central government employees only which will be later extended to all.
- Under the vision of the **Digital India programme,** it will help in achieving the goal of **gender equality** and **women empowerment.**

Past initiative in India

- **Vishaka Guideline:** Supreme Court in **Vishaka and others Vs. State of Rajasthan case** laid down guidelines for the prevention and redressal of the complaints by women who were sexually harassed at workplace
- **Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 [SHW ACT]:** it was enacted to implement the Vishaka Guidelines and to ensure a safe workplace for woman.
- **Justice Verma committee:** It recommended **Employment Tribunal** comprising two retired judges, two sociologists and a social activist to obviate the need for ICC which was not functioning as it was intended (not considered by government).

7.12. UNAIDS REVEALS THAT HALF OF HIV INFECTED PATIENTS GET TREATMENT NOW

Why in news?

Recently UNAIDS released its report Ending AIDS: Progress towards the 90-90 Target, which states that at about 50% of people infected by HIV get treatment and also the AIDS related deaths have reduced by almost half.

Background

- Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) is a

Persistent problem

A majority of the new HIV/AIDS cases —nearly 95% of them in 2016- were concentrated in 10 countries alone, India being one of them, according to a UNAIDS study

People infected by HIV
36.7 million

19.5 million people are on antiretroviral therapy

1.8 million new HIV infections   **1** million deaths from AIDS-related illnesses

INDIA
2.1 million people living with HIV   **80,000** new infections annually

PEOPLE INJECTING DRUG
41% of HIV+ people know their status

In **83**% of people, treatment is suppressed virally

The toll so far (since 1980s): 76.1 million people have become infected with HIV since the start of the epidemic. 35 million infected people have died

52% of people living with HIV, who know their status, are on treatment

condition in which the infection caused by HIV virus interferes with the immune system of the person thus
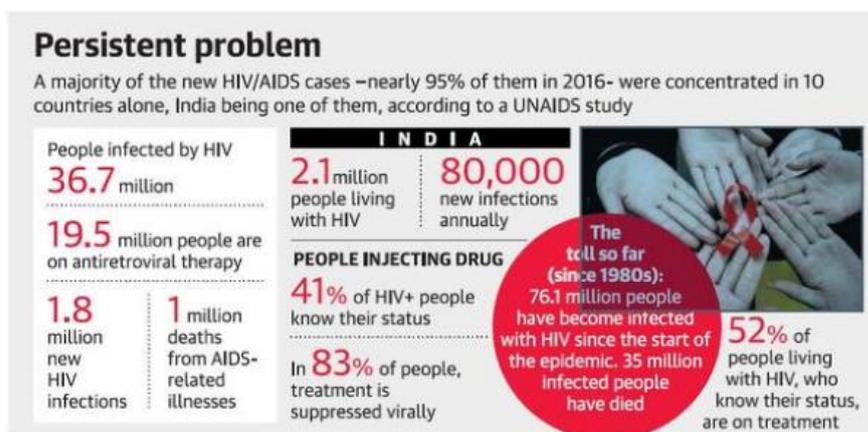
- increasing the risk of common infections such as TB and various tumours which rarely affect unaffected persons
- In total, since 1980s, 76.1 million people have been infected by the virus and around 35 million have died.
- There is **no HIV vaccine** or cure and the infected person have to rely on lifelong **anti-retroviral therapy**, without which person would develop AIDS.
- India has the **third largest HIV endemic** in the world. In India major HIV cases are driven by heterosexual sex, sex workers, drug addicts transgender, migrant workers, truck drivers etc.
- In India, **National Aids Control Organisation** under Ministry of Health and Family welfare is responsible for formulating and implementing policies and programs for prevention and control of AIDS.
- **The National Aids Control Program (NACP)** at present in its 4th phase aims to reduce annual new HIV infections by 50% through the provision of comprehensive HIV treatment, education, care and support for the general population and build on targeted interventions for key affected groups and those at high risk of HIV transmission.

> **Target 90-90-90 Treatment for All**
>
> These are the targets set by UNAIDS program as mentioned below:
>
> 1. By 2020, 90% of all the people living with HIV will know their HIV Status
> 2. By 2020, 90% of all the people with diagnosed HIV infection will receive sustained antiretroviral therapy.
> 3. By 2020, 90% of all the people receiving antiretroviral therapy will have viral suppression.

- Government has also brought out HIV and AIDS (Prevention and Control) Bill, 2017 prevent the discrimination against people living with HIV and provides penal action discrimination. It also safeguards the property rights of people with HIV.

Revelations by the UNAIDS Report

- UNAIDS has met the target to treat **15 million people by 2015** and have now pushed their targets to **30 million by 2030**.
- Till 2016, **19.5 million out of 36.7 million** HIV patients had access to treatment and deaths due to HIV have also reduced from **1.9 million in 2005 to 1 million in 2016**.
- **Indian Pharmaceutical companies** have played a major role to meet the global target for access to medicines as they have supplied over **90% of anti-retroviral medicines** in low and middle income countries in 2015.

Facts about India revealed by the Report

- Nearly 95% of AIDS cases reported were concentrated in majorly 10 countries out of which India is one.
- In the Asia- Pacific region **India accounts for the maximum number of cases**.
- At present there are around 2.1 million people affected with HIV in India with 80,000 new infections annually till 2016.

Way Ahead

- Actions should be taken to provide intersections between **Intellectual property right, innovation and public health**.
- The **generic Pharmaceutical Industry** in India should be further given an impetus to grow at a faster pace.
- As India accounts for high number of new infections, the government should take steps to improve the public **health policy** towards the HIV/AIDS Patients by increasing fund allocation.
- Amend the **HIV and AIDS (Prevention and Control) Bill, 2017** in favour of the people infected with HIV/AIDS to provide free and assured treatment to them.
- The **diagnostic kits and paediatric formulation of Anti-retrovirals (ART)** should be made available without stock-outs.

7.13. DRUG-RESISTANT TB HIGHER AMONG CHILDREN THAN EXPECTED

Why in News?

- A joint study conducted by Foundation for Innovative New Diagnostics (FIND) find the higher prevalence of TB in Child.

Paediatric TB

- Paediatric MDR-TB cases **had not been documented so far**.
- Children are more prone to primary MDR –TB infection as they are in close contact with infected person.
- TB diagnosis in children is complicated due to challenges associated with sample collection and poor sensitivity of tests like the **Acid fast bacilli (AFB) smear**.
- The aim of the project is to provide rapid access to quality TB diagnosis for **all presumptive paediatric TB patients** in the project intervention areas.
- The project was initially started to assess the feasibility of roll out of **GeneXpert MTB/RIF**.
- Government had issued a **specific guideline** for paediatric TB under **Revised National TB Control Program (RNTCP).**
- It contain a specific logarithm and flow chart to be followed by medical practitioner for Child TB treatment.
- TB doses should be in sync with the **weight band of Child.**
- Tablets must be made user-friendly through pastel and mortars (because difficulty in swallowing by child).

Burden of TB in India

- According to WHO's 2016 Global TB report, between 2013 and 2015, India accounted for **34% increase in notifications,** which is by the private sector.
- Various Global studies also highlighted that India accounted for nearly 27% of new tuberculosis (TB) cases in the world, and 29% of the 1.8 million TB deaths globally.
- India heavily rely on smear microscopy as the initial diagnostic test contrary to smear microscopy's ability to diagnose only about 50% of the positive cases.
- India has a huge gap between the estimated and detected cases which is 41% of total TB cases are termed as missing case.
- Moreover, the increasing density of population and growing urban environment facilitates the transmission of TB cutting across all economic strata, which is perpetuating the age-old cycle of transmission and risk.

Findings of the FIND study (India) on MDR-TB:

76,000 Children tested in nine cities

5,500 Children diagnosed with TB

9% Children diagnosed with MDR-TB

Cities where tests were conducted:
Delhi, Chennai, Hyderabad, Kolkata, Nagpur, Surat, Visakhapatnam, Bengaluru and Guwahati

6% The proportion of children among new TB patients in 2016

Drug Resistant TB

MDR-TB

- Is TB that does not respond to at least isoniazid and rifampicin (Second line drug treatment)
- Developed due to
  - ✓ Inappropriate or incorrect use of antimicrobial drugs,
  - ✓ Use of ineffective formulations of drugs (such as use of single drugs, poor quality medicines or bad storage conditions)
  - ✓ Premature treatment interruption.

XDR-TB

- It is resistant to at least four of the core anti-TB drugs such as levofloxacin or moxifloxacin, amikacin, capreomycin or kanamycin.)
- Developed due to same mechanism as MDR-TB.

TDR-TB or XXDR-TB

- TB which is resistant to all the first and second line TB drugs.
- This makes it almost but not totally impossible to treat.

GeneXpert MTB/RIF Test

- **It detects the presence of TB bacteria,** as well as testing for resistance and genetic mutation to the drug Rifampicin.

Stigma of TB

- The overall stigma index associated with TB is the highest in India. Stigma turned in to major psychological complication such as depression and suicidal tendencies
- Drug-induced psychosis is major concern which is ignored in government action to eliminate TB by 2025.

- **Lack of counsellors worsening the problem** because better understanding of TB as a disease condition within the families may improve patient care.

Way forward

- Diagnosis of TB is very challenging in young children, and current tools are inadequate therefore **National Strategic Plan** for TB with **Detect – Treat – Prevent – Build** should be extended to Child TB.
- Under the **'Make in India'** initiative, it is proposed to explore the possibility of developing capacity to produce first-line drugs and **GeneXpert MTB/RI test** methods for public sector.
- Government need to shift from regulatory approach to partnership approach **(Synergy)** with the largely unorganized and **unregulated private sector**.

7.14. NEW FAMILY PLANNING INITIATIVES: MISSION PARIVAR VIKAS

Why in News?

- On the **World Population Day** (July 11, 2017), Minister of Health and Family Welfare launched Mission Parivar Vikas.

Background

- National Family Health Survey (NFHS) IV data, the unmet need of contraceptives is 12.9% and this contributes to undesired fertility.
- Reducing TFR is important because the TFR, is directly proportional to maternal mortality rate (MMR) and infant mortality rate (IMR).

> **National Population Policy 2002**
> - long term objective of achieving a stable population by 2045
> - To address the unmet needs for contraception, health care infrastructure, and health personnel
> - To provide integrated service delivery for basic reproductive and child health care.
> - Maternal Mortality Rate: below 100 per lakh birth.
> - Infant Mortality Rate: 30 per 1000 live birth.
> - **Total Fertility rate: 2.1 (Replacement Level of 2010).**
> - Achieve 80% institutionalized deliveries, to reduce MMR
> - Achieve universal immunization of children.
> - Promote delayed marriage for girls, not earlier than age 18 and preferably after 20 years of age.
> - Compulsory school education, reduce dropout rate.
> - Promote small family norm to achieve replacement levels of TFR.
> - Convergence in implementation of related social sector programs.

Mission Parivar Vikas

- It aims to control Total Fertility Rate of 146 districts in seven states, constitute the 28 of total country population.
- Mission will utilise the **RMNCH+A strategy**, Family Planning Logistics Management Information System (FP-LMIS) and consumer friendly website on family planning.
- Strategic focus on improving access through;
  - **Provision of services**: distribute a kit **(Nayi Pahal)** containing products of family planning and personal hygiene among newly-wed couples.
  - **Commodity security**: it will increase sterilization services, roll out injectable contraceptive at sub-centre level and generate awareness about condoms and pills.

> **Total Fertility Rate (Replacement Level)**
> It is the total fertility rate the average number of children born per woman at which a population exactly replaces itself from one generation to the next, without migration.

> **What is RMNCH+A?**
> - Launched in 2013 Strategic approach to Reproductive Maternal, Newborn, Child and Adolescent health.
> - It will provide continuum of care to ensure equal focus on various life stages.
> - Address the issue of anaemia through **National Iron + initiative**.

  - **Promotional schemes**: Special buses called **'SAARTHI-**Awareness on Wheels' will to generate awareness, sensitize the community and disseminate family planning messages.
  - **Capacity building**: '**SAAS BAHU SAMMELANS'** will be held to bridge the gap in their attitudes and beliefs about reproductive and sexual health.
  - **Enabling environment: ASHA workers** to encourage inter-spousal communication and consensual decision-making on reproductive and sexual health, delaying the birth of the first child and spacing the second.
  - **Intensive monitoring:** find out the causes of high **Fertility rate** and half yearly review of the programme and correlate the achievements with time.

New Trend in Structure of Family

- According to the 2001 census, out of 19.31 crore 9 households, 9.98 crore or 51.7% were nuclear households. In the 2011 census, the share grew to 52.1% i.e. 12.97 crore nuclear out of 24.88 crore households.
- The new trend is contrary to various sociologists' affirmation that the rise of nuclear families is consistent with rapid urbanisation.
- Proportional share of nuclear households has dipped in urban areas, with people choosing to live in extended families.
  - **Reason:** Expensive urban facilities, lack of housing
- In rural areas where there are greater signs of fragmentation of families with nuclear families rising and families declining at a faster pace than in urban areas.
  - **Reason:** Fragmentation of land, migration and economic opportunities in semi-urban areas.

Government Classification of Nuclear Family
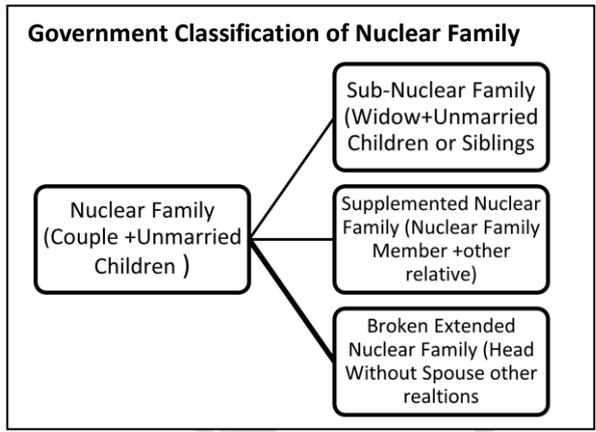
Conclusion

- Population dynamics have a significant influence on sustainable development. The changes in population growth rates and age structures are closely linked to national and global developmental challenges and their solutions.
- Moreover, Family planning through Mission Parivar Vikas is an effort to control population and one of the UN's health goals as part of the Sustainable Development Goals (SDG-3).

7.15. INDIA RANKED 116 OF 157 COUNTRIES: SUSTAINABLE DEVELOPMENT SOLUTION NETWORK

Why in News?

- India rank 116th out of 157 country on SGDs Index and Dashboard report conducted by Sustainable Development Solutions Network (SDSN).

Highlights of Dashboard Report

- India is ranked 116th on the index is behind the countries such as Nepal, Iran, Sri Lanka, Bhutan and China. Pakistan is ranked 122.
- The rising trend of nationalism and imperialism impeding the implementation of goals.
- The **poor performances regarding sustainable consumption and production** are one of the greatest obstacles to achieving the global goals for high-income countries.
- Small developed countries are closest to fulfilling the goals.
- Richest countries are nowhere near achieving the global policy objectives but also deteriorate the implementation process for poorer countries because of negative spill over effects.

Sustainable Development Goals: to be achieved by 2030

- **It comprise of 17 Targets divided in to total 169 Sub- Targets.**

Rank	Country	Score
1	Sweden	85.6
2	Denmark	84.2
3	Finland	84
4	Norway	83.9
5	Czech Republic	81.9
6	Germany	81.7
7	Austria	81.4
8	Switzerland	81.2
9	Slovenia	80.5
116	India	58.1

Source: SDG Index and Dashboards Report

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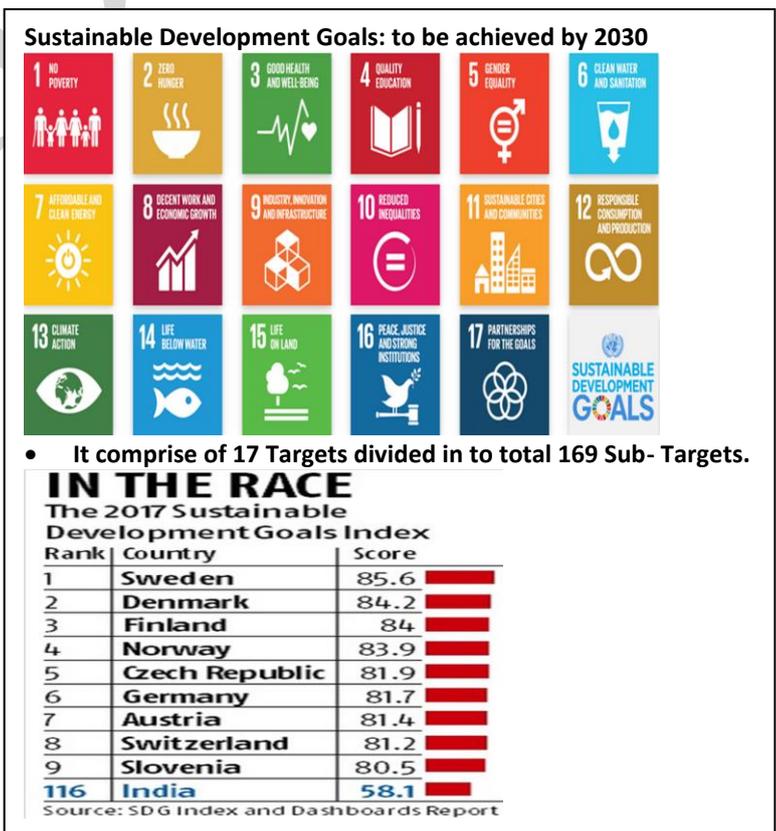
Sustainable Development Solutions Network (SDSN).

- Established in 2012 has been operating under the auspices of the UN Secretary-General.
- An independent global network of research centres, universities and technical institutions.
- It is part of the UN's response to the outcome of the UN Conference on Sustainable Development (UNCSD, or Rio+20).

Functions

- It works closely with United Nations agencies, multilateral financing institutions, the private sector, and civil society.
- To mobilize scientific and technical expertise for problem-solving in relation to sustainable development.
- It provide practical solutions for **SDGs and Pairs Climate Change Agreement.**

7.16. CAG AUDIT REVEALS GAPS IN IMPLEMENTATION OF RTE

Why in news

CAG report on implementation of Right of Children to Free and Compulsory Education Act, 2009, has found several lacunae related to financial management and implementation of the Act.

Highlight of the report

- **Financial lacunae:** CAG noticed mismatch of unspent balances at the end of the year with opening balances of succeeding years.
- **Under-utilization of funds:** State government were not utilising the funds meant for the implementation of the Act. This indicates poor internal control by the concerned authorities in the states/centre.
- **Violating RTE norms:** For instance, five states including Bihar, Punjab, Chhattisgarh, Gujarat and Meghalaya were not providing the pre-school education as mandated in the section 11 of the Act. Similarly, states such as Assam, Rajasthan, Arunachal Pradesh, Kerala, and Sikkim were detaining the students in the same class, which is a violation of the section 16 of the Act.

- Non-adherence to the expenditure norms for release of funds under **13th Finance Commission** by Finance Ministry led to the shortage of funds of about ₹1,909 crore to 15 States, which hindered in the proper implementation of RTE in those states.

- **National Advisory Committee (NAC):** To advice the Central government on implementation of the provisions of the RTE Act, has not been reconstituted after November 2014.

> **Feature of Right to education act, 2009**
> - Free and compulsory education to all children of India in **the 6 to 14 age group.**
> - **25%** reservation for EWS communities in admission from Class I in all private schools is to be done.
> - Financial burden will be shared between the state and the central government.
> - **A fixed student and teacher ratio** is to be maintained.

7.17. ST COMMISSION TO TAKE ACTION ON JARAWA VIDEOS

Why in News?

The National Commission for Scheduled Tribes (NCST) has asked YouTube to remove all videos related to the Jarawa tribe

Background

- These videos are posted under tags like 'Jarawa Development' but show them naked or awkward and clumsy
- As per the provisions of the Andaman and Nicobar Island (Protection of Aboriginal Tribes) Regulation, 1956 (PAT), the Andamanese, Jarawas, Onges, Sentinelese, Nicobarese and Shom Pens have been identified as "aboriginal tribes".
- "Whoever enters these areas in contravention of the

> **NCST**
> - NCST was established by amending Article 338 and inserting a new Article 338A in the Constitution through the Constitution (89th Amendment) Act, 2003.
> - The chairperson of the Commission is appointed by President of India for the period of three years. The chairperson has been given the rank of Union cabinet minister.

> **Jarawa tribe**
> - They are Particularly Vulnerable Tribal Groups (PVTGs) and they are restricted to Andaman island numbering less than 400.
> - They are hunters and food gatherers and have kept themselves aloof of the outsiders.

notification under section 7 (which prohibits entry into reserve areas) for taking photographs or making videos shall be punishable with imprisonment up to three years."

7.18. GARIB NAWAZ SKILL DEVELOPMENT CENTRES

- The Minister of State for Minority Affairs & Parliamentary Affairs said that Garib Nawaz Skill Development Centres will be established in 100 districts of the country.
- These centres will effectively ensure employment oriented skill development of youth belonging to Minority communities.
- The courses will be short term(2 to 6 months) in fields such as mobile and laptop repairing, security guard training, house keeping training, etc.

Other skill development schemes for minorities are:
- Seekho aur Kamao
- USTTAD (Upgrading the Skills and Training in Traditional Arts/ Crafts for Development)
- Nai Manzil
- Maulana Azad National Academy for Skills (MANAS)

7.19. RAMAKRISHNA MATH INSTITUTIONS OUT OF EPFO COVERAGE

Why in news?

- Institutions under the Ramakrishna Math and Ramakrishna Mission will continue to remain outside the purview of the Employees' Provident Fund Organisation (EPFO)

Background

- The education institutions and hospitals run under Ramakrishna Math and Ramakrishna Mission have been exempted from the EPFO's coverage since 1982.
- Central government, in September 2015, decided to bring workers in all charitable and religious trusts, employing more than 20 workers, under the social security fold with effect from April 2015.
- The Ramakrishna Mission wrote a letter to Labour and Employment Minister in January, 2017 pleading that the trust's activities were spiritual, "namely service of God in man" and compliance notices from the EPFO for coverage of its workers were a hindrance to its "charitable activities."

EPFO

It has a vision to reposit itself as world class Social Security Organisation. EPFO Vision 2030 includes
- Universal Social Security coverage on mandatory basis.
- Online benefits for all EPFO benefits

At present it maintains more than 15 crore account pertaining to its members.

Employee Provident Fund Scheme
- It is managed under the aegis of EPFO
- It covers every establishment in which 20 or more persons are employed.
- Under EPF scheme, an employee has to pay a certain contribution towards the scheme and an equal contribution is paid by the employer.
- Employees drawing less than Rs 15000 per month have to mandatorily become members of the EPF.

7.20. MAHARASHTRA SOCIAL BOYCOTT BILL GETS PRESIDENTIAL NOD

Why in news?

The Maharashtra government's Prohibition of Social Boycott Act got the assent of President Pranab Mukherjee.

Provisions of the Act

- It provides for prohibition of social boycott of a person or group of persons, by an individual or a group like caste panchayat.
- The provisions of the law define social boycott as a cognisable, but bailable offence, and provide for an imprisonment of up to seven years or Rs. 5 lakh fine or both.
- The case has to be fast tracked within six months from the date of filing the charge sheet.

What is Social Boycott?

If any individual or group tries to prevent or obstruct another member or group from observing any social or religions custom or from taking part in a social or community function, the act amounts to social boycott.

Some of the constitutional provisions
- Article 15- Prohibition of discrimination on grounds religion, race, caste, sex, or birth
- Article 17- Abolition of untochability
- Article 21- Right to Life
- Article 25- Freedom of conscience and free profession, practice and propagation of religion

Significance of the Act

- Maharashtra is the first state in the country to formulate such a law which is against the parallel justice system of the gaviks or jati panchayats. This Act can lead to other states following this step.
- The Act is step in direction to protect various fundamental rights of the citizens.

7.21. INDIA TO BECOME LARGEST PRODUCER OF MILK BY 2026- UN AND OECD

- The OECD-FAO Agricultural Outlook 2017-2026 said that there will be 49% increase in milk production in between 2017 and 2026
- The world's population will increase from 7.3 to 8.2 billion over the course of the next decade with India and Sub-Saharan Africa accounting for 56% of total population growth.
- Global production of wheat is projected to increase by 11% over the outlook period of 2017-2026, while the wheat area increases by only 1.8% owing to the increase in yield.

> **National Dairy Development Board (NDDB)**
> - It was founded in 1965 to replace exploitation with empowerment, tradition with modernity, transforming dairying into an instrument for the development of India's rural people.
> - It was instrumental in implementing 'Operation Flood' to make India milk-surplus country from milk-deficit country.

Reasons behind the growth of India's Dairy Sector

- The most crucial reason is that India has had a successful decades-long programme to source milk from small farmers through cooperatives.
- Improved breeds of cows- India imports a lot of European cows and cross-breeds them with local varieties.
- NDDB is instrumental in implementation of various programmes and schemes such as National Programme for Bovine Breeding and Dairy Development, National Dairy Plan (Phase-I) and Dairy Entrepreneurship Development Scheme.

7.22. DOMESTIC HELP AND NEED OF PROTECTION

Issue Involved

- India became a signatory to the **International Labour Organisation's (ILO)** Convention 189, which mandates decent working conditions for domestic workers, but it has still not ratified it.
- **93% of the workforce** is in the unorganised sector and therefore beyond the purview of most labour laws.
- Moreover, 2011 NSSO data put the number of domestic workers at 3.9 million.
- Paid domestic work **continues to be excluded** the Payment of Wages Act (1936) or the Workmen's Compensation Act (1923) or the Contract Labour (Regulation and Abolition) Act (1970) or the Maternity Benefit Act (1961)
- The Unorganised Workers' Social Security Act, 2008, (UWSSA) and the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 **are only two** initiatives of government which construe domestic help.

> **Draft Domestic Worker Welfare Bill 2016**
> - It guarantees certain rights to the domestic workers in accordance with **international conventions on labour**,
> - Compulsory registration of the employer and the employee with the **District Board** for regulation of domestic workers.
> - Workers' Facilitation Centres for purposes of facilitating the filling and verification of employment agreements
> - Provided that a **minor domestic worker** may be employed if he has completed compulsory elementary education.
> - It mandates the **collection of cess** from the employer for the maintenance of a social security fund.
> - Inclusion of domestic workers under the **Rashtriya Swasthya Bima Yojana (RSBY).**
> - It seeks to regulate multiple work arrangements such as work type, hourly basis, part time work, full time work, and live-in work.

Social, cultural and economic factors

- **Distress migration**: Domestic workers comes from most backward regions and often tribal community. In the absence of any regulation, the young girls are vulnerable to exploitation in urban space.
- **Cultural and economic devaluation of domestic work:** wages are often higher for the workplace outside the household.

- **Sectorial sexual division of labour:** house work is still seen as the domain of the woman. In our culture, it is taken as a matter of common sense that a female domestic worker are more suited to domestic help.

Challenges
- High supply of domestic workers lead to decline of employment opportunities in the agriculture and manufacturing sectors, which took a hit post-2008.
- Their work cooking, cleaning, dish-washing, baby-sitting is not recognised as work by the state legislature.
- The lack of definition and delineation blurs the line between worker and employer, thereby making it a feudal rather than professional relationship.
- The task-based fixing of wage rates calculation is complex as opposed to the usual classification into skilled, semi-skilled, and unskilled.
- Moreover, Wage rate are not set on the basis of demand and supply of domestic labourer while the rising demand of market rates are much higher than the minimum wages provided them.
- Government's reluctance to regulate domestic work on the grounds that the workplace is a private household which should not be encroached upon by the state.

7.23. JOINT MONITORING PROGRAMME 2017

Why in News?
- **In July 2017, WHO and UNICEF** under Joint Monitoring Programme (JMP) released the **report** titled 'Progress on drinking water, sanitation and hygiene 2017 update and Sustainable Development Goal baselines'.

About the Report
- This is the first global assessment of **"safely managed" drinking water and sanitation services".**
- The report focus on;
  o Ending **open defecation** (SDG 6.2)
  o Achieving universal access to **basic services** (SDG 1.4)
  o Progress towards **safely managed services** (SDG targets 6.1 and 6.2).

Joint Monitoring Programme
- The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP)
- Maintains global database and estimates the progress on drinking water, sanitation and hygiene (WASH) since 1990.
- Focuses on further enhancing global monitoring of drinking water, sanitation and hygiene in the context of the new 2030 Agenda for Sustainable Development
- Each sector is dependent on the presence of the other. For example, without toilets, water sources become contaminated; without clean water, basic hygiene practices are not possible.

Highlights of Report
- Every three out of 10 people globally lack access to safe drinking water at home and six in 10 people lack safely managed sanitation.
- Three out of five people with safely managed sanitation services living in urban areas.
- Majority of people using untreated surface water (lakes, rivers or irrigation channels) live in rural areas.
- The report observed that Swachh Bharat (Clean India) Mission recognizes the need to go beyond reporting infrastructure coverage.
- In fact, poor sanitation and contaminated water are linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, and typhoid, which kill 361,000 children under five every year.
- The situation is in sharp contrast to what the new Sustainable Development Goals (SDGs) aim at achieving: "reducing inequalities between and within countries", ending open defecation and ensuring universal access to basic services by 2030.

UN-Water
- United Nations (UN) inter-agency coordination mechanism for freshwater related issues, including sanitation (no single organisation for water related aspect)
- UN-Water launched its 2014-2020 Strategy in support of the 2030 Agenda.

World water Development report (WWDR)
- Published by UN-Water Members and Partners it represents.
- The report production is coordinated by the World Water Assessment Programme and the theme is harmonized with the theme of World Water Day (22 March).

UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS)
- By the World Health Organization (WHO) on behalf of UN-Water.
- It is a substantive input into the activities of Sanitation and Water for All (SWA).

7.24. NEW ONLINE EDUCATION INITIATIVES

Swayam

- A Web portal where Massive Open Online Courses (MOOCs) will be available free of cost on all kinds of subjects with a provision of certificate / credit-transfer.
- It is designed to take the best teaching learning resources to all, including the most disadvantaged.
- It is a tool to educate the masses even in the remotest corner of country.

Swayam Prabha

- It is a group of 32 DTH channels devoted to telecasting of high-quality educational programmes on 24X7 basis using the GSAT-15 satellite.

National Academic Depository (NAD)

- It is a 24X7 online store house of all academic awards viz. certificates, diplomas, degrees, mark-sheets etc. duly digitised and lodged by academic institutions / boards / eligibility assessment bodies.
- It ensures easy access to and retrieval of an academic award and also validates and guarantees its authenticity and safe storage.

Programme 17 for 17

- A 17 point action plan for 2017 – for building digital campuses and high quality education.
- The action plan covers measures like universal adoption of digital education, digital financial transactions in the campuses from the current academic year

Significance

- Help in eliminating the differences in the quality of education in urban and rural areas, between states and in educational institutions within a state.
- It is cheaper, easily accessible, interactive, and offer flexibility for people to learn at their own pace.

8. CULTURE

8.1. AHMEDABAD BECOMES INDIA'S FIRST WORLD HERITAGE CITY

- The 606-year-old walled city of Ahmedabad was declared World Heritage City by UNESCO during the 42nd session of World Heritage Committee (WHC) meeting in Krakow, Poland.
- Modern Ahmedabad was founded by Ahmad Shah in 1411 AD on the ancient sites of Ashaval and Karanavati.
- With a population of 3.75 to 4 lakh, the city's living heritage being the 600 odd 'pols' or neighbourhoods with clusters of centuries-old residences.
- The city boasts of a composite culture and a rich mix of Hindu and Jain temples, Islamic and European architecture.

8.2. LIST OF WORLD HERITAGE IN DANGER

Why in News?

- World Heritage Committee has decided to include 54 properties on the List of World Heritage in danger in accordance with Article 11 (4) of the Unesco's World Heritage Convention.

UNESCO's World Heritage Convention
- The convention defines the kinds of natural or cultural sites that can be included on the World Heritage List.
- Various activities such as "World Heritage City" as well as "World Heritage in danger" come under this convention of UNESCO.

List of World Heritage in danger

- The "in danger" list is designed to tell the international community about the conditions that threaten the very characteristics for which a property was added to the World Heritage List in the first place, and to encourage governments to take action to protect the sites.
- There is no Indian site in this list.

8.3. CHANGES TO THE AMASR ACT

Why in news?

- The government has approved changes to the Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958 to allow "public works" near these structures.

Background

- Encroachments and illegal construction close to monuments were happening on a large-scale and the penal provisions in the AMASR Act were not stringent enough to provide effective deterrence.
- The AMASR Act was substantially amended in 2010. Its main features were the creation of a "prohibited area" and "regulated area" around every national monument which regulated constructions.
- Given the unique nature of each monument, the Act also proposed heritage bye-laws for each monument to be prepared by an expert body.

Why this new amendment?

- The prohibition of new construction within prohibited areas of a protected area or protected monument is adversely affecting various public works and developmental projects of the central government.
- The AMASR Amendment Bill, 2017 also seeks to have a new definition of "public works" under the Act.

Issues with the amendment

- Any construction, whether for a public project or private purpose, will pose risks to a monument and it will be impossible for the National Monuments Authority or the Archaeological Survey of India to ensure that such construction do not pose a threat to a monument.
- "Public works" are generally large infrastructure projects. Allowing these in the vicinity will defeat the entire purpose of the AMASR Act and will be a violation of Article 49 of the Constitution.

8.4. INDIA TO CELEBRATE FALUN GONG

- Falun Gong, the ancient Chinese holistic system that is banned in China, will be celebrated in India on July 15 with a parade and Human Word Formation in the capital.
- Falun Gong (also called Falun Dafa) arose out of the so-called "qigong boom" of the late '80s. Qigong is an umbrella term for a number of practices involving meditation, slow-moving exercises and regulated breathing.
- It differed from most qigong groups in that it combined exercises with moral and spiritual teachings.

8.5. 2011 LANGUAGE DATA STILL NOT PUBLIC

Why in news

- Even as India is nearing its next Census, the language data collected in 2011 have still not been made public.

Background

- From 1971 onwards, the Census decided to disclose names only of those languages which had more than 10,000 speakers. The result was that the list of 1971 had only 108 language names, as against the 1,652 a decade ago.
- The 2001 language data have a mixed list of 22 scheduled languages and a hundred other languages. The list is mixed as several languages are lumped together to produce it. For instance, a good dozen distinct languages are lumped together under the caption 'Bhili'.
- In 1991 and 2001, at least the data were disclosed. The 2011 data are not known even when we are now getting close to the next Census, of 2021.

Why the data should be disclosed?

- It is the state's obligation to secure and protect the community's right to its language.
- UNESCO has been promoting the idea of language as an inalienable cultural right. It has already built it into the charter of sustainable development goals. India is a formal signatory to the charter.

Impact of language loss

- The neglect of a community's language and its language loss are among the most important reasons for induced migration.
- Imparting education to children through the language used in their homes or in their community is scientifically considered to aid full development of their cognitive and emotive faculties.
- It denies citizens of their linguistic citizenship and pauperises India culturally.
- Agitations such as the current one for Gorkhaland in West Bengal can visit other States as well.

9. ETHICS

9.1. ETHICS OF WHISTLEBLOWING

Whistleblowing refers to calling attention to wrongdoing happening in an organisation. There are various ethical issues involved in whistleblowing such as - Being **disloyal** towards organisation v/s sharing knowledge of wrongdoing for the benefit of others and **moral commitment** towards society. He may also gain **mistrust** of its fellow workers. But it has many positive domino effects

- It may also instill such **sense of responsibility** in other members of society as well as organization.
- The combination of business and ethics protects the profit and reputation of an organisation in the long run
- It promotes **rule of law** and in cases such as Snowden's revelation, causes great service to humanity in terms of protecting their privacy and also preserving the true spirit of **democracy**

The values that are shown by whistleblowers are

- **Courage** – It takes moral courage to stand against your organisation and be ready to lose out on stability in one's life
- **Self-sacrifice** – They work for public interest at the cost of themselves.
- **Duty bound and respecting the law** – However, there is a dilemma of breaching the ethics by breaching the contract with organisation as well.

However, the case of whistleblowing by civil servants or use of social media to expose government wrongdoing has more dimensions to it than mentioned above. The recent case of transfer of DIG Roopa who alleged corrupt activities in Bengaluru jail and exposed VIP culture there has started a debate on the ethics of whistleblowing by civil servants. It seems to involve violation of **civil services conduct rules**. The rules have been amended last year to explicitly treat criticism of government policies on social media as a violation which will attract disciplinary action. Such actions against civil servants are not limited to India. They are taken in advanced democracies such as US and UK as well.

Although they violate conduct rules and breach principles of confidentiality expected from a civil servant, whistleblowing by civil servant also uphold certain values such as:

- **Integrity** – By going against the establishment to bring forward wrongdoings, they are upholding integrity by protecting improper use of a public service position by others
- **Public trust & Legitimacy** – It strengthens public trust and legitimacy of government as they are upholding constitution and law
- **Fairness** – It puts forward the message that civil servants are being fair in their actions and respect the rights of citizens
- **Transparency**– They are upholding transparency in governance and being accountable to the public in terms of their actions
- **Accountability** to people rather than political masters of the day

This is not to say that civil servants should not expose wrongdoing. Rather they should criticize constructively in their statement made in public and that too only when they have exhausted internal mechanisms to deal with the same. If done in this manner, it would be professional, in line with the commitment of bureaucrats to serve the country and most importantly its constitution. Thus, whistleblowing can be termed as ethical by a civil servant only when done in a correct manner & for the right and moral reasons.

9.2. ETHICS OF ABORTION

The recent declining of abortion request, by Supreme Court, of a 10-year-old rape survivor who was reportedly 32 weeks pregnant has once again brought into debates & discussions, the ethical dimensions of abortion along with the aptness of Supreme court decisions on a case to case basis.

Ethical issues with respect to women

- **Women health –** A pregnancy impacts physical health of a women but an unwanted pregnancy also affects a women's mental well-being.

- **Women rights and freedom** - need to be considered as her wishes and desires should matter as she will be the caretaker of the child for 9 months and beyond. Also, no woman who voluntarily chose to get pregnant is likely to seek an abortion unless there are compelling circumstances
- **Women bodily autonomy** – Restriction on abortion restricts reproductive choices which ideally they should have. Also, legal restrictions would not result into reduced abortions rather it would lead to illegal and unsafe abortions.

Ethical issues with respect to the fetus
- **Right of a foetus to live** – Abortion amounts to murder of a living being. The question here is of dignity and worth of each foetus.
- **Responsibility of mother** - Taking care of baby should not be seen equivalent to involuntary servitude and a form of slavery rather this is a unique unspoken bond shared between two lives.

Ethical issues with respect to society in general
- **Values of life** - there is also a "compelling state interest" in protecting the life of the prospective child – giving value to life. This promoted the value of **caring** about lives that cannot defend themselves.
- **Changing nature of parental relationship** - as parents now may not ask question that whether they want a child or not rather they take a call on whether they want this particular child or not.
- **Inclusive values –** where all child including all child with disabilities are treated with dignity and not seen something that needs to be eliminated. Abortion should not become a mechanism of social control for avoiding the appearance of difference.
- **Voluntary acceptance of motherhood** - women should not deny the fact that she starts being a mother when the life begins in her womb rather than when a baby is born.
- **Rights of existing children** – At times, mother wants an abortion to be able to give a good life to existing children instead of dividing their meagre resources into more children.

Perhaps the right of a woman to choose what to do with the foetus has to be balanced with the right of the foetus to survive. At best, state can focus on counselling, employment security, social welfare, and financial support to persuade pregnant women to give birth to their children. It should also eliminate legal issues such as arbitrary 20-week cap, checking spread of illegal abortions etc. by passing the Medical Termination of Pregnancy (amendment) bill.

10. MISCELLANEOUS

10.1. LG VS CM IN PUDUCHERRY

Why in News?

There is a power tussle going on between the lieutenant governor and chief minister of Puducherry over its administration. The recent confrontation came in the wake of nomination of 3 leaders into the state assembly by LG

Why CM is Opposing?

- It is against the democratic norms and conventions as it blatantly disregards the democratically elected government.
- Procedural violation by performing sudden oath-taking without intimating media and only speaker has the right to induct members by administering the oath.

What Law Says?

- Article 239(A) allows Parliament to enact a law for the creation of an elected or partly nominated and partly elected body to function as a Legislature for Puducherry.
- As per The Government of Union Territories Act, 1963 that governs Puducherry, its assembly can have three members nominated by the Center. Thus central government has power to nominate by law.
- But the procedure to be followed is unclear in the law as there is no rule or notification. Thus, leaving room for interpretations.

> **Other type of nominations in legislature**
> - **For a community not adequately represented** – 2 members from Anglo-Indian community in Lok Sabha & 2 women members in J&K
> - **For members with expertise in a particular field** such as 12 nominated members in Rajya Sabha with expertise in science, art, literature and social service.

10.2. MERGING OF MINISTRIES

Why in News?

Recently government has merged the Ministry Of Urban Development (MoUD) and Ministry Of Housing And Urban Poverty Alleviation (MoHUPA), and now it will be called as Ministry of Housing and Urban Affairs.

Background

- Merger taken on the recommendation of group of secretaries, which were formed in October 2016.
- MoUD and MoHUPA were one entity before being separated into two independent ministries in 2004.

Significance

> **Group of secretaries**
> - Ten Groups of Secretaries were formed in October 2016 by the central government.
> - They were formed sector specifically like on health, education, urban development etc to raise issue pertaining to every sector and recommend practical remedies to overcame those challenges
> - Term of reference for them were to harness demographic dividend, elimination of poverty, further the '**Maximum governance, Minimum governmen**t' philosophy of government etc.
>
> **Other recommendations:**
> - To corporatize the Central Public Works Department.
> - To bring pharmaceuticals and AYUSH under the health ministry to bring economies of scale.

- It will help in improving planning and better implementation of government schemes.

It would lead to higher efficiency and better coordinated effort, as there are many overlapping function which will be streamlined now like Smart Cities scheme.

10.3. STATE FLAG ISSUE

- Karnataka has constituted a committee to study and submit a report to the government on the possibility of designing a separate flag for Karnataka and providing it a statutory standing.
- Even before it, it has had a red and yellow flag as an unofficial state flag since the mid-1960s which is hoisted every year to commemorate state formation day.
- If demand for separate flag is accepted, Karnataka will be the second state to have its official flag after Jammu and Kashmir, which enjoys a special status under Article 370 of the Constitution.
- Supreme court in **S.R. Bommai v/s Union of India case** said that **federalism** is a basic feature of the Constitution and States are supreme in their sphere. So State flag is not unauthorized. However, the manner in which the State flag is hoisted should not dishonour the national flag.

10.4. IIIT (PPP) BILL, 2017

Why in News

Recently Lok Sabha passed the Indian Institute of **Information Technology Public Private Partnership (IIIT-PPP) Bill 2017** that seeks to allow 15 IIITs established on a **PPP model** to grant degrees and get statutory status.

Highlight

- Bill declares 15 existing Indian Institutes of Information Technology established through public-private partnership as **institutions of national importance**.

Institutions of National Importance
• They are established **by Act of Parliament**.
• They serves as a pivotal player in developing highly skilled personnel within the specified region of the country/state
• They are usually supported by the Government of India or even any other international institutes to **develop centers of excellence** in research, academics, and other such elite schools of education.

- Move will enhance the prospects of the graduating students in the job market.
- It will also enable the Institutes to attract enough students required **to develop a strong research base** in the country in the field of information technology.

10.5. AAYKAR SETU

- **Central Board of Direct Taxes (CBDT),** a department under the **Ministry of Finance** has launched a new app known as **Aaykar Setu.**
- The app is part of the **Digital India** initiative to help users understand the various nuances of direct taxes, file income tax, apply for PAN, check TDS statement, and even share grievances with the right authorities.
It also lets users to link their Aadhaar to their PAN

10.6. INTERNATIONAL RICE RESEARCH INSTITUTE

Why in news?

Union cabinet recently approved establishment of International Rice Research Institute (IRRI), South Asia Regional Center (ISARC) at campus of National Seed Research and Training Center (NSRTC) in Varanasi.

International Rice Research Institute
• IRRI is an international agricultural research and training organisation with Headquarter at Philippines.
• It aims to reduce poverty and hunger, improve the health of rice farmers and consumers, and ensure environmental sustainability of rice farming.

Background

- A Centre of Excellence in Rice Value Addition (CERVA) will be established in Varansi which will include **a modern and sophisticated laboratory** with capacity to determine quality and status of heavy metals in grain and straw.
- This is going to be **the first international Center in the eastern India** and will play a major role in harnessing and sustaining rice production.

10.7. CONCRETE MAY HELP CURB AIR POLLUTION

Why in News?
- Study published in Journal of Chemical Engineering find out the concrete can be used to curb pollution.

More on News
- Concrete surfaces can help tackle air pollution as it absorbs sulphur dioxide, a major pollutant.
- Sulphur dioxide emissions are among the most common pollutants into the air globally emitted from power plants and cement kilns.
- This could be a significant step toward the practice of using waste concrete to minimise air pollution.
- Win-Win situation; reducing the waste generation and decrease the rate of pollution.

10.8. MIZO PEACE ACCORD

Why in news?
- Recently the 31st anniversary of the signing of Mizo Peace Accord was celebrated.

Mizo Peace Accord - Background
- The Mizo Peace Accord was signed between the **Government of India** and **Mizo National Front (MNF)** on June 30, 1986 after 20 years of insurgence and violence in the state of Mizoram.
- In 1959, Mizo hills were devastated by a famine known as **"Mautam".** The Mizo Society (later called as **Mizo National Front**) took lead in demanding relief from the famine and protested against the inaction of the government.
- Post-famine, it became goal of the MNF to demand for sovereign independence of Greater Mizoram, which would be independent of India and would include borderline territories of Tripura, Manipur and Cachar districts of Assam.
- The MNF uprising against the government was followed by years of underground activities. However, the MNF failed to gained administrative control of the Mizo district.
- Although the government of India recaptured all the places seized by MNF in 1966 itself, it was only after the peace talks of 1986 that normalcy was established.

Implications
- Through this accord **statehood** was conferred upon the then **Union Territory of Mizoram**.
- It established a legislative assembly and strengthened democratic activities.
- It is considered to be the turning point of Mizo history. The peace accord spearheaded an era of socio-economic development of Mizoram.
- It improved the relations between the Mizo people and the Government of India.

10.9. IROAF GET GOLDEN PEACOCK AWARD

Why in news?

- **Indian Railways Organization for Alternate Fuel (IROAF)** has been awarded the National level **"Golden Peacock Award for the Year 2017 for Eco-Innovation"**
- IROAF received the award for **substitution of fossil fuels (Diesel) by environment friendly CNG in DEMU passenger train services.**

> - **Golden Peacock Awards** was constituted in 1991 by the **Institute of Directors.**
> - It is regarded as a benchmark for corporate excellence globally.

10.10. DIRECTOR GENERAL OF ANALYTICS AND RISK MANAGEMENT

Why in news?

- The **Central Board of Excise and Customs** has setup **Directorate General of Analytics and Risk Management (DGARM).**

What is it?

- DGARM would provide **intelligence inputs and carry out big data analytics and** use **both external and internal sources for data mining**.
- DGARM has four verticals and will be headed by an official rank of Additional Director General or principal ADG who will report to the Chairman of CBEC.
- The four verticals are namely:
  o **National Targeting Centre -** It is responsible for application of a nationally coordinated approach to risk analysis and targeting of risky goods and passengers crossing the borders of the country.
  o **Centre for Business Intelligence and Analytics** - It will be responsible for identification of information requirements of the CBEC. It will utilise internal data fields to do so.
  o **Risk Management Centre for Goods and Services Tax** - It will institutionalise mechanism to collect necessary inputs, adopt coordinated approach and share the outcome for risk-based identification for the purpose of scrutiny, audit and enforcement functions.
  o **Risk Management Centre for Customs** - It will be responsible for assessment and targeting of risky cargo crossing the borders through sea, air and land.