

VISION IAS

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CURRENT AFFAIRS

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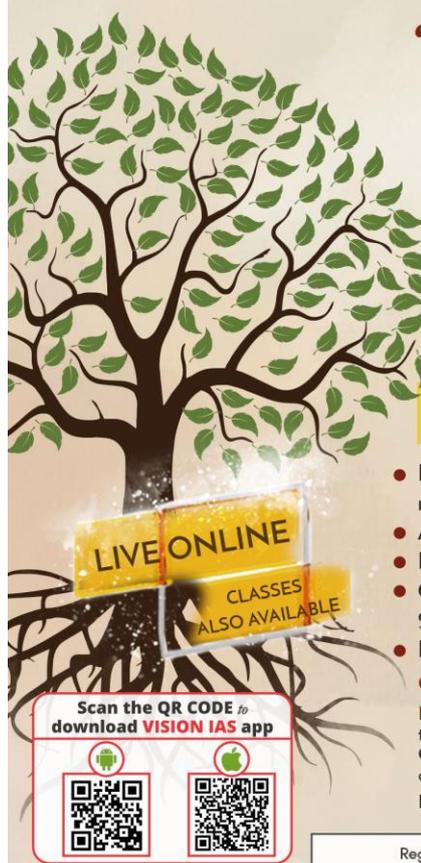
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Regular Batch	Weekend Batch					
11 June 1 PM	25 June 9 AM	11 July 6 PM	6 July 9 AM	18 June 5 PM	15 May	3 June
					15 May	22 June

1. POLITY AND GOVERNANCE

1.1. RESERVATION IN PROMOTIONS

Why in news?

Recently, the Supreme Court upheld 'The Karnataka Extension of Consequential Seniority to Government Servants Promoted on the Basis of Reservation (To the Posts in the Civil Services of the State) Act, 2018', granting a quota in promotions for state government employees from the Scheduled Caste and Scheduled Tribe communities.

Background

- **Reservation** was introduced in the Constitution of India, through **Article 16(4)**, to give **protection to deprived sections of society**, who have been facing discrimination since ages.
- The debate over whether it should be limited to **initial appointments or extended to promotions** has been a bone of contention. Reservation in promotion rests on the principle of **consequential seniority**.
- **Consequential Seniority** means elevation to a senior position consequential to circumstances, and not through normal rules. Illustrating it, suppose there are 100 sanctioned posts in a department, out of which 30 are occupied by unreserved candidates, 15 are occupied by reserved candidates and 55 remain 'vacant'. The reservation is 30%, which implies that 30 posts must be manned by reserved category employees. So, if a reserved category employee is junior to a general category employee, but there is vacancy for reserved category at a senior position, so reserved category employee will be considered senior and promoted above the general category employee.
- In 2002, Karnataka had brought a similar law, but was struck down by the Supreme Court in 2006 in **M. Nagaraj vs. Union of India Case**. The Supreme Court validated the state's decision to extend reservation in promotion for SCs and STs, but gave direction that the state should provide proof on the following three parameters to it-
 - **Empirical Data on Backwardness**- of the class benefitting from the reservation.
 - **Empirical Data on Inadequate Representation**- in the position/service for which reservation in promotion is to be granted.
 - **Impact on efficiency**- how reservations in promotions would further administrative efficiency.
- Many stakeholders and petitioners were not satisfied with these criteria and various review petitions were filed on this judgment. It was again taken up in **Jarnail Singh Case** which upheld the 2nd and 3rd criteria of Nagaraj Case. But observed that there is no longer need to collect quantifiable data on the backwardness of SCs and STs. Although it stated that the exclusion of **creamy layer** while applying the principle of reservation is justified, even in the case of SCs and STs.
- Last year, the Supreme Court had **permitted the Central government for reservation in promotion to SC/ST employees working in the public sector in "accordance with law"**.
- The Karnataka government set up the **Ratna Prabha Committee** to submit a report on the three criteria and based on its report had come up with the revised bill. This time, the court has upheld it constitutionally.

Related cases, constitutional provisions and amendments

- **Article 15(4)** allows State to make special provision for the advancement of any socially and educationally backward classes of citizens or for SCs and STs.
- **Article 16(4B)**- provides that reserved promotion posts for SCs and STs that remain unfilled can be carried forward to the subsequent year. It ensures that the ceiling on the reservation quota – capped at 50% by Indra Sawhney Case – for these carried forward unfilled posts does not apply to subsequent years.
- **Article 335** mandates that reservations have to be balanced with the '**maintenance of efficiency**'.
- In the **Indira Sawhney case** (1992), the Supreme Court held that the reservation policy cannot be extended to promotions.
- However, **77th Constitutional Amendment (CA)**, inserted **Clause 4A in Article 16**, which enables the state to make any law regarding reservation in promotion for SCs and STs.
- The court in 1990s restored their seniority once promoted at par with the SC/ST candidates who got quick promotions ahead of their batch mates.
- However, **85th CA Act, 2001** gave back "**consequential seniority**" to SC/ST promotees.

Arguments in favour of reservation in promotions

- **For equality of opportunity**- Along with the Constitution the Supreme Court has also, time and again, upheld any affirmative action seeks to provide a level playing field to the oppressed classes with the overall objective to achieve equality of opportunity.
- **Skewed SC/ST representation at senior levels**- The representation of SCs/STs, though, has gone up at various levels, representation in senior levels is highly skewed against SCs/STs due to prejudices. Over the years Institutions has failed to promote equality and internal democracy within them. There were only 4 SC/ST officers at the secretary rank in the government in 2017.
- **Case of Efficiency and Merit**-
 - Overall **efficiency in government is sometimes hard to quantify**, and the reporting of output by officers is not free from social bias. For ex. In Maharashtra, a public servant was denied promotion because his 'character and integrity were not good'.
 - The **administrative efficiency** is an outcome of the actions taken by officials after they have been appointed or promoted and is not tied to the selection method itself.
 - A "**meritorious**" candidate is not merely one who is "talented" or "successful" but also one whose appointment fulfills the constitutional goals of uplifting the members of the SCs and STs and ensuring a diverse and representative administration. A system that promotes substantive equality promotes merit.
 - Further, under the **Karnataka Civil Services General Recruitment Rules 1977**, the candidate on promotion has to serve a **statutory period of officiation** before being confirmed; this ensures that the efficiency of administration is, in any event, not adversely affected, the bench concluded.

Arguments against the reservation in promotions

- **Not a fundamental right**- Provisions under articles 16(4), 16 (4A) and 16 (4B) of the Constitution are **only enabling provisions**, and not a fundamental right. Neither was it ever envisaged by the constitutional makers, as can be made out from the debates and statements during the drafting of constitution.
- Gaining employment and position does not ensure the end of social discrimination and, hence, should not be used as a single yardstick for calculating backwardness.
- The reservation in promotion **may affect the efficiency of administration**.

Way Forward

- Caste is not a matter of identity or right, when it comes to administrative policy. At difference levels, studies and empirical data should to be collected to decide the level of promotions needed.
- The Constitution envisages not just a formal equality of opportunity but also the achievement of substantive equality. Currently, there is ambiguity in promotion process. Thus, there is a need for a new, comprehensive law to be enacted.

1.2. JUDICIAL PENDENCY

Why in news?

Recently the Delhi High Court has released the report on its pilot project titled "**Zero Pendency Courts**" which has highlighted that pendency of cases in the courts is the biggest challenge that Indian Judiciary is facing today.

Status of Judicial Backlog

- As per the National Judicial Data Grid (NJDG), in 2018, **2.93 crore cases are pending in the subordinate courts, 49 lakhs in High Courts and 57,987 cases in Supreme Court** respectively.
- Five states which account for the highest pendency are **Uttar Pradesh** (61.58 lakh), **Maharashtra** (33.22 lakh), **West Bengal** (17.59 lakh), **Bihar** (16.58 lakh) and **Gujarat** (16.45 lakh).

Zero Pendency Courts Project

- Delhi High Court started the pilot project from January 2017 in certain subordinate courts in Delhi.
- The objectives of the project were to study the actual, real-time 'Flow of Cases' from the date of institution till final disposal.

Highlights

- It says that the Capital needs 43 more judges above the current strength of 143 to clear all the pending cases in one year.
- It says that absence of witnesses during the evidence stage causes a serious impediment to the progress of the case.
- Also, unnecessary adjournments sought by the advocates or the parties at various stages in a case delay the proceedings, thus prolonging the case life.

- In the Supreme Court, more than 30% of pending cases are more than five years old while in the Allahabad High Court, 15% of the appeals have been pending since 1980s.
- A **Law Commission report in 2009** had quoted that it would require 464 years to clear the arrears with the present strength of judges.

Reasons for Judicial Pendency

- **Shortage of judges** - around 5,580 or 25% of posts are lying empty in the sub-ordinate courts. It leads to **poor Judges to Population Ratio**, as India has only 20 judges per million population. Earlier, Law Commission had recommended 50 judges per million.
- **Frequent adjournments**- The laid down procedure of allowing a maximum of **three adjournments per case** is not followed in over 50 per cent of the matters being heard by courts, leading to rising pendency of cases.
- **Low budgetary allocation leading to poor infrastructure**- India spends only **about 0.09% of its GDP** to maintain the judicial infrastructure. Infrastructure status of lower courts of the country is miserably grim due to which they fail to deliver quality judgements. A 2016 report published by the Supreme Court showed that existing infrastructure could accommodate only 15,540 judicial officers against the all-India sanctioned strength of 20,558.
- **Burden of government cases**- Statistics provided by **LIMBS** shows that the Centre and the States were responsible for over 46% of the pending cases in Indian courts.
- **Special leave petition cases in the Supreme Court**, currently comprises to 40% of the court's pendency. Which eventually leads to **reduced time for the cases related to constitutional issues**.
- **Judges Vacation**- SC works on average for 188 days a year, while apex court rules specify minimum of 225 days of work.
- **Lack of court management systems**- Courts have created dedicated posts for court managers to help improve court operations, optimise case movement and judicial time. **However only few courts have filled up such posts so far.**
- **Inefficient investigation**- Police are quite often handicapped in undertaking effective investigation for want of modern and scientific tools to collect evidences.
- **Increasing Literacy**- With people becoming more aware of their rights and the obligations of the State towards them, they approach the courts more frequently in case of any violation.

Legal Information Management & Briefing System (LIMBS)

- It is a **web-based portal** developed by Ministry of Law & Justice for monitoring and handling of various court cases of Govt. Departments and Ministries.
- It will help authorities to take '**data driven decision making**' and to evaluate performance of various stake holders and to **conduct legal audit**.

Impacts of Judicial Pendency

- **Denial of 'timely justice' amounts to denial of 'justice' itself**- Timely disposal of cases is essential to maintain rule of law and provide access to justice. Speedy trial is a part of right to life and liberty guaranteed under Article 21 of the Constitution.
- **Erodes social infrastructure**- a weak judiciary has a negative effect on social development, which leads to: lower per capita income; higher poverty rates; poorer public infrastructure; and, higher crime rates.
- **Overcrowding of the prisons**, already infrastructure deficient, in some cases beyond 150% of the capacity, results in "violation of human rights".
- **Affects the economy of the country** as it was estimated that **judicial delays cost India around 1.5% of its Gross Domestic Product annually.**
 - **As per the Economic Survey 2017-18** pendency hampers **dispute resolution**, contract enforcement, discourage investments, stall projects, hamper tax collection and escalate legal costs which leads to **Increasing cost of doing business.**

Steps to reduce pendency

- **Improving infrastructure for quality justice**- The **Parliamentary Standing Committee** which presented its report on Infrastructure Development and Strengthening of Subordinate Courts, suggested:
 - States should provide suitable land for construction of court buildings etc. It should undertake vertical construction in light of shortage of land.
 - Timeline set out for computerisation of all the courts, as a necessary step towards setting up of **e-courts.**

- **Addressing the Issue of Vacancies-** Ensure the appointments of the judges be done in an efficient way by arriving at an optimal judge strength to handle the cases pending in the system. **The 120th Law Commission of India report** for the first time, suggested a **judge strength fixation** formula.
 - Supreme Court and High Courts should appoint efficient and experienced judges as Ad-hoc judges in accordance with the Constitution.
 - **All India Judicial Service**, which would benefit the subordinate judiciary by increasing quality of judges and help reduce the pendency.
- **Having a definite time frame to dispose the cases** by setting annual targets and action plans for the subordinate judiciary and the High Courts. The judicial officers could be issued a **strict code of conduct**, to ensure that the duties are adequately performed by the officials.
- **Strict regulation of adjournments** and imposition of exemplary costs for seeking it on flimsy grounds especially at the trial stage and not permitting dilution of time frames specified in Civil Procedure Code.
- **Better Court Management System & Reliable Data Collection:** For this categorization of cases on the basis of urgency and priority along with bunching of cases should be done.
- **Use of Information technology (IT) solutions-** The use of technology for tracking and monitoring cases and in providing relevant information to make justice litigant friendly. A greater impetus should be given to
 - **Process reengineering-** Involves redesigning of core business processes to achieve dramatic improvements in productivity and quality by incorporating the use of technology in court rules. It will include:
 - ✓ **Electronic filing of cases:** e-Courts are a welcome step in this direction, as they give case status and case history of all the pending cases across High courts and Subordinate courts bringing ease of access to information.
 - **Revamping of National Judicial Data Grid** by introducing a new type of search known as **elastic search**, which is closer to the artificial intelligence.
- **Alternate dispute resolution (ADR)-**
 - As stated in the Conference on **National Initiative to Reduce Pendency and Delay in Judicial System-** Legal Services Authorities should undertake **pre-litigation mediation** so that the inflow of cases into courts can be regulated.
 - The **Lok Adalat** should be organized regularly for settling civil and family matters.
 - **Gram Nyayalayas**, as an effective way to manage small claim disputes from rural areas which will help in decreasing the workload of the judicial institution.
 - **Village Legal Care & Support Centre** can also be established by the High Courts to work at grass root level to make the State litigation friendly.

Conclusion

The fundamental requirement of a good judicial administration is **accessibility, affordability and speedy justice**, which will not be realized until and unless the justice delivery system is made within the reach of the individual in a time bound manner and within a reasonable cost. **Therefore, continuous formative assessment is the key to strengthen and reinforce the justice delivery system in India.**

1.3. FAST TRACK COURTS

Why in news?

As per the recent study conducted by the **National Law University** (Delhi), fast-track courts (FTC) in India are increasingly getting sluggish.

About Fast Track Courts (FTCs)

- They were established in the year 2000, to expeditiously dispose of **long pending cases in the Sessions Courts and long pending cases of under trial prisoners** in a time bound manner.
- The **11th Finance Commission recommended** the creation of 1734 FTCs in the country. They were to be established by the state governments in consultation with the respective High Courts.
- FTCs have also been set up on the **orders of various High Courts** to accelerate disposal of cases on matters ranging from sexual offences, anti-corruption, riots, and cheque bouncing.
- The judges for these were appointed on an ad hoc basis, selected by the High Courts of the respective states.

- There is **no central funding to FTCs after 2011**. However, the state governments could establish FTCs from their own funds.
- The **14th Finance Commission** endorsed the proposal for setting up 1800 FTCs at a cost of Rs.4144.00 crore. It also urged the State Governments to utilize the enhanced devolution of central taxes from 32% to 42% to fund this effort. As on December 2018, 699 FTCs are functional across the country
- **Some notable fast track cases-** Best Bakery Case, Jessica Lal Murder Case, 26/11 Mumbai case
- **However, questions have been raised over the slow and inefficient working of FTCs.** Since inception, close to around 39 lakh cases were transferred to the FTCs out of which, 6.5 lakh cases are still pending with FTCs.

Issues plaguing the functioning of the Fast Track Courts

- **Insufficient number** of fast track courts for the number of cases that are required to be disposed. For example: In Delhi, fast-track courts have only one or two judges. FTCs at the level of additional district or session judge is being run on **ad hoc or temporary basis** though the Supreme Court in 2012 had directed that either they be discontinued or made permanent.
- **Heavy workload-** Over the years, the **number of cases allotted to them have increased**, which has led to the burdening of these courts which in turn slow down the decision process, and compromised quality of judgements.
- **Lack of infrastructure-** These courts were not set up with different facilities, but were often housed in an existing court, limiting their effectiveness. Some FTCs do not have the equipment needed to conduct **video and audio recordings of victims**.
- **They do not follow any special, speedier procedure for disposal of cases** which leads to usual delay like the regular courts.
- **Financial bottlenecks-** In its judgment in the Brij Mohan Lal case, the Supreme Court held that the **continuation of FTCs is within the domain of the States with their own funds**. This has left FTCs on the mercy of State as some states have continued support for FTCs while others did not.

Way ahead

- **Rationalisation of judicial structures-** Fast-track courts and special courts are administered under different judicial bodies, with little **coordination or uniformity** among them. Therefore, a lead agency to be established by Central and State Governments to review the functioning of courts in a **systematic and streamlined manner**.
- **Capacity building and improving infrastructure** as originally envisaged, therefore hiring of additional judges and new infrastructure, including courtrooms, technological facilities and libraries is the need of the hour. Also, as suggested by the Supreme Court, the ad-hoc judges and support staffs should be granted **permanent appointments**.
- **Sensitising State Governments-** As per the **Conference of Chief Ministers and Chief Justices**, the State Governments, in consultation with the Chief Justices of the respective High Courts should take necessary steps to establish suitable number of FTCs and provide adequate funds for the purpose of creating and continuing them.
- A holistic approach of fast **tracking the investigation to** complement the FTC's and providing a **special procedure** different from the procedure followed in the regular courts is required.

1.4. ELECTION COMMISSION

Why in news?

In the recent General Election for the 17th Lok Sabha, the role of Election Commission of India has been debated over its various actions.

Background

- Recently, the **Constitutional Conduct group**, a group of retired civil servants wrote a letter to the President, raising doubts about the **credibility of the Election Commission** and the extent to which the **Model Code of Conduct (MCC)** is being followed by the ruling party.
- The ECI has drawn flak over its response to the MCC violations such as use of Indian Army in political rallies despite ECI giving warning against it, announcement of India's first anti-satellite (ASAT) test, transfers of top officials, voter verifiable paper audit trail (VVPAT) audits, violations of the MCC by Rajasthan Governor etc.

- On the other hand, the ECI in the past has also raised matter of strengthening its **independence and capacity** to deal with such issues. It has also conducted **hackathons and meetings** to allay the fears of political parties on issues of EVMs, apart from bringing in **VVPATs**. But still there are **voices of protest** against the ECI.

Issues and Challenges faced by Election Commission

- **Allegation of partisan role-** The opposition alleged that the ECI was favoring the ruling government in giving clean chits to the model code violations made by the Prime Minister.
- **Lack of capacity-** The Election Commission is vested with absolute powers under Article 324, but still has to act according to laws made by Parliament and it cannot transgress the same. E.g. Despite being the registering authority for political parties under Section 29A of the Representation of the People Act, 1951, it has no power to de-register them even for the gravest of violations.
- **Lack of proactive use of authority-** The Election Commission had told the Supreme Court that its powers to discipline politicians who sought votes in the name of caste or religion were **“very limited”**.
- **Ineffective control over political parties-** ECI is not adequately equipped to regulate the political parties. The EC has no role in enforcing inner-party democracy and regulation of party finances.

Implications

- **Breakdown of democratic principles-** such as free and fair elections, observation of common Model Code of Conduct among others.
- **Erosion of institutional integrity-** whereby the credibility and authority of the commission is undermined.
- **Loss of people’s trust in elections-** If people lose faith in the institutions of democracy, the credibility of the consent obtained through electoral verdicts itself will be in doubt.
- **Degradation of political discourse-** where barriers of civility and decency are not respected by the politicians and abuse of power becomes a norm. This also results into issues of national/local importance taking a backseat and personal rivalries among candidates coming to fore.
- **Politicisation of the Election Commission-** since the Chief Election Commissioner is not barred from post service posts, the critics allege CEC’s independence is prone to being compromised.

Way Forward

- The Election Commission has, at least since the 1990s, enjoyed enormous public trust. Even the recent uncertainties over the trustworthiness of electronic voting machines, and the lacunae in updated electoral rolls have not visibly dented the faith Indians have in the commission.
- Elections are the bedrock of democracy and the EC’s credibility is central to democratic legitimacy. Hence, the guardian of elections itself needs urgent institutional safeguards to protect its autonomy.

Election Commission of India (ECI)

- **Article 324** of the Constitution of India provides for an independent Election Commission. It was established in accordance with the Constitution on 25th January 1950.
- It has the powers of superintendence, direction and conduct of elections to the Parliament, the state legislatures, the office of the President and the office of the Vice-President.
- Originally the commission had only a Chief Election Commissioner. It currently consists of Chief Election Commissioner and two Election Commissioners.
- Parliament has been empowered to make provisions with respect to all matters relating to elections. However, the ECI can also take necessary measures under Article 324 to ensure free and fair elections.

Successes of the ECI

- **Successful conduct of elections-** It witnessed the participation of over 90 cr voters. Also, Election Commission commissioned 22.3 lakh ballot units, and 17.3 lakh VVPATs.
- **Credibility of voting-** After the counting was done, it was found that there wasn't a single case of a mismatch between the VVPAT slip and the EVM count.
- **Voter Education and Participation-** The highlight of 2019 was the highest ever voter turnout in a general election so far (67.11%), which proves that the EC’s voter education programme **SVEEP (Systematic Voters’ Education and Electoral Participation)** is effective.
- **Actions taken against politicians-** The ECI took strong and unprecedented action against some political leaders in the recent general elections, debarring them from campaigning for up to three days by invoking Article 324.
- **Action against money power-** The ECI cancelled the election to Vellore parliamentary constituency in Tamil Nadu after over Rs 11.48 crore worth unaccounted cash was unearthed during an income tax raid.

- In its **255th report, the Law Commission** recommended a collegium, consisting of the Prime Minister, the Leader of the Opposition and the Chief Justice of India for the **appointment of the Election Commissioners**.
- **Suggestions to strengthen the ECI-**
 - Give constitutional protection for all three-election commissioners as opposed to just one at present.
 - Institutionalize the convention where the senior most EC should be automatically elevated as CEC in order to instil a feeling of security in the minds of the ECs and that they are insulated from executive interference in the same manner as CEC.
 - Reducing the ECI's dependence on DoPT, Law Ministry, Home Ministry. The ECI should have an independent secretariat for itself and frame its own recruitment rules and shortlist and appoint officers on its own.
 - Its expenditures must be charged upon the Consolidated Fund of India similar to other constitutional bodies such as the UPSC. The government the Election Commission (Charging of Expenses on the Consolidated Fund of India) Bill, 1994 in the 10th Lok Sabha which lapsed on the dissolution of the 10th Lok Sabha in 1996 and was never re-introduced.
 - Equal status to all ECs – For this, there is a case filed in the Supreme court which demands the equal security of tenure and constitutional protection to all the ECs.

1.5. CHANGING NATURE OF ELECTIONS IN INDIA

Why in news?

Recent elections to the Indian parliament raised the debate of Indian elections becoming more personality centric.

What shift is happening?

- **Electoral campaigning** is becoming more personality based where political parties are focussing on individual leadership rather than local issues and local representatives.
- **Narrative capture** where election outcome is decided by “artificial issues” rather than state specific or local issues and diversion of attention from genuine public concerns.
- **Change in voters' attitude** as issue of national leadership is central in determining voter decisions. Voters know which individuals it wants but not necessarily which parties or policies.
- **Weak political culture**, weak opposition also limit the scope for genuine public debate.

Why this shift is a matter of concern?

- **Undermining parliamentary system** where voters elect local representatives, on the basis of local concerns, to make laws.
- **No genuine separation of powers-** The legislature cannot truly hold the executive accountable since electors have won in the name of their leader. It leads to undermining of legislature. Frequent disruptions in the Parliament further aggravate this problem.
- **Turncoat candidates (persons changing parties)** who found it difficult earlier to get elected are now overpowering personality of leader makes it easier for them to get elected. This leads to corruption, criminalisation, fall in ethical values in politics.
- **Populism and personality-based politics** weaken the spirit of democracy and reduce space for critical debate.

Way forward

- The ills of Indian political system can be solved by **reforming the processes** like electoral processes, transparent electoral funding etc.
- Systemic reforms like **intra party democracy** which reduces scope for top down decision making within parties and created democratic environment.
- **Role of media**, as a pillar of democracy to educate voters on genuine public issues rather than biased reporting. Better monitoring of usage of platforms like **social media**, which often spread false information creating attraction for a strong leader.

1.6. REDACTIVE PRICING AUDIT

Why in news?

The Supreme Court's observations in connection with the **Rafale fighter aircraft** deal by citing the Comptroller and Auditor General of India's (CAG's) report on **redacted pricing** brought back into the spotlight the role of the supreme audit institution of India.

Background

- In an unprecedented move, the CAG in the preface of its '**Performance Audit Report of the Comptroller and Auditor General of India on Capital Acquisition in Indian Air Force**', stated that **redactive pricing** had been done but it had to be accepted due to the **Ministry's insistence citing security concerns**.
- **Redaction** is the selection or adaption by '**obscuring or removing sensitive information**' from a document prior to publication. Consequently, the full commercial details were withheld and the figures on the procurement deal were **blackened** in the report.
- Hence, it was unprecedented that an audit report submitted by the CAG to the President under **Article 151** of the Constitution suppressed relevant information. It has generated a discussion on the constitutional mandate of CAG and whether redactive pricing could be included in it.

Comptroller and Auditor General of India

- The CAG, constituted under **Article 148**, is mandated to audit all receipts and expenditures of the three-tier governments in India and report to the legislature judiciously, independently, objectively in compliance with applicable laws, rules and regulations, without fear and favour.
- Under **Article 149**, the Constitution empowers the Parliament to prescribe the duties and powers of the CAG and accordingly the **CAG's (Duties, Powers and Conditions of Service) Act, 1971** was enacted.
- The **secret service expenditure** is a limitation on the auditing role of the CAG. The CAG **cannot call for particulars of expenditure** incurred by the executive agencies, but has to accept a certificate from the competent administrative authority that the expenditure has been so incurred under his authority.

Implications of redactive pricing in the audit

- **Defeats the rationale of audit-** A performance audit is done to establish whether the procurement activity was executed keeping in mind economy, efficiency, effectiveness, ethics and equity. Only a thorough pricing audit can bring out the credibility and integrity of a purchase decision.
 - Whereas under redactive pricing, **critical details have been left out**. E.g. in the Rafale deal, details like the reduction in the original **requirement to 36 aircrafts**; a waiver of the earlier decision to involve Hindustan Aeronautics Limited; observations of the Indian Negotiating Team; cost escalation due to inclusion of bank guarantee and performance guarantee **were not compared properly** to arrive at the audit conclusion.
- **Lack of further scrutiny to uphold accountability-** e.g. in the Rafale deal, the Parliament, its committees, the media and other stakeholders of the CAG's reports cannot obtain complete, accurate and reliable information due to redactive pricing.
- **Could become a loophole in anti-corruption efforts-** as CAG reports are often the source of further investigation by anti-corruption bodies like the Central Vigilance Commission, Central Bureau of Investigation.
- **Impacts the governance of state-** CAG plays a vital role to help deter, detect, and take remedial and preventive action to provide good governance. While performing the mandated duties, the CAG highlights deficiencies in internal controls, segregation of powers, defective planning, implementation and inadequate monitoring.
- **Not used in contemporary audit institutions of other countries-** such as the National Audit Office, the Government Accountability Office etc.

Way Forward

- Pricing decisions must be subjected to detailed analysis, without resorting to redactive pricing. Parliament is constitutionally privileged to know what the executive had done and how and under what conditions procurement was decided.
- Therefore, a thorough pricing audit can bring out the credibility and integrity of a purchase decision, thereby achieving the constitutionally mandated responsibilities of the CAG.

1.7. JAL SHAKTI MINISTRY

Why in news?

The Union Government has setup a **Jal Shakti Ministry**, a dedicated ministry overseeing various issues related to water.

Details

- The government has merged the erstwhile the **Ministry of Water Resources, River development and Ganga Rejuvenation** and the **Ministry of Drinking Water and Sanitation** to form the **Ministry of 'Jal Shakti'** (Water Power).
- The new ministry will deal with **all critical issues** like water scarcity, overexploited water resources, contaminated groundwater, polluted rivers, dwindling supplies of freshwater, international and inter-states water disputes etc.

Need of such a move

- **Fragmentation of departments related to water-** There were several Central ministries those deals with different issues of water in a piecemeal manner. For instance, the **Ministry of Forest and Environment** is entrusted with conservation of most rivers in the country. Similarly, urban water supply is looked after by the **Ministry of Housing and Urban Affairs** and micro-irrigation projects come under the **Ministry of Agriculture**.
- **Issues of coordination was not easy to solve-** such as under the **Namami Gange Program**, the Ministry of Water Resources signed memorandum of understanding (MoU) with 10 other ministries to synergise activities, but there are concerns over the success of the project.
- **Need to develop an integrated data management system-** on the availability of water from various resources in terms of both quality and quantity at one platform.
- **Increasing challenges faced by the country on the front of water-** which require urgent measures to be taken in a comprehensive manner under one umbrella architecture.

Broad Mandate of the new ministry

- To approach the issue of water **management holistically** and ensure better coordination of efforts.
- To **integrate demand side and supply side** of water in the country
- To expedite the **programme for linking rivers** from different parts of the country.
- To ensure a solution to the problems of **drinking water and irrigation**. The government aims to launch a special programme, called '**Nal se Jal**', to ensure piped water for every household by 2024.

History of water ministries in India

- **Ministry of Water Resources, River development and Ganga Rejuvenation**
 - In 1951, the government had set up a ministry of national resources and scientific research, which looked at the subject of '**irrigation and power**'.
 - In 1985, the Ministry of Water Resources came into being.
 - In 2014, the Ministry was renamed as Ministry of Water Resources, River Development and Ganga Rejuvenation.
- **Ministry of Drinking Water and Sanitation**
 - In 1999, the Department of Drinking Water Supply (DDWS) was formed under Ministry of Rural Development, for focused attention on drinking water and sanitation.
 - Later it was renamed as Department of Drinking Water and Sanitation in 2010 and in 2011, it was conferred the Ministry status.

Challenges for the Jal Shakti Ministry

- **Water Stress-** According to the NITI Aayog report, nearly 600 million Indians face "high to extreme water stress", while 75% households do not have drinking water on their premises. About 2 lakh people die every year due to inadequate access to safe water.
- **Rising demand-** the country's water demand likely to double by 2030, indicating that there will be a 6% loss in the country's gross domestic product (GDP) by 2050.
- **Groundwater availability-** 21 cities, including New Delhi, Bengaluru, Chennai, and Hyderabad, are set to run out of groundwater by 2020, affecting an estimated 100 million people.
- **Groundwater Contamination-** A total of 69,258 rural habitations across India with a population of over 45 million are affected with groundwater contaminated with fluoride, arsenic, iron, salinity, nitrate and heavy metal.
- **River Pollution-** According to Central Pollution Control Board, for the majority of its course from Uttarakhand to West Bengal, the water of River Ganga is unfit for drinking and, in a significant section of its course, its water is unfit for bathing.
- **Availability of water for agriculture-** about 53 per cent of agriculture in the country is rain-fed. India's rain-dependent farmers are often forced to fend for themselves in the face of repeated droughts.

Way Forward

- Experts feel redefining the role and mandate of the Water Ministry rather than restructuring the existing system needs to be top priority. A re-organisation of departments is a good starting point but until a multi-sector approach is adopted to address the water problems of the country a big difference cannot be achieved. For instance, water remains a state subject and unless states make specific requests the Centre can't intervene.
- **Water sector reforms** need to take place, along with a proper **water governance structure** has to be put in place. There has been an overarching focus on the **supply - side management** to provide water, e.g. for irrigation. However, the immediate priority should be the focus on **demand side management**, using tools, technology and science to ensure efficient water management.
- A change in people's mindset towards **water conservation and usage** needs to be achieved.



फाउंडेशन कोर्स सामान्य अध्ययन 2020

प्रारंभिक एवं मुख्य परीक्षा

इनोवेटिव क्लासरूम प्रोग्राम के घटक

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- सीसेट कक्षाएं
- PT 365 कक्षाएं
- **MAINS 365** कक्षाएं
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- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
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2. INTERNATIONAL RELATIONS

2.1. INDIA'S SHIFT TOWARDS BIMSTEC

Why in news?

Recently BIMSTEC leaders were invited for Prime Minister's swearing in ceremony. This is seen as indicator of India's policy of engaging neighbours and keeping Pakistan out as in 2014 SAARC leaders were invited for the swearing in ceremony.

Recent examples of shifting focus from SAARC to BIMSTEC

Since then, tensions between India and Pakistan have led to New Delhi shifting focus from SAARC to BIMSTEC. Notable events depicting this shift include-

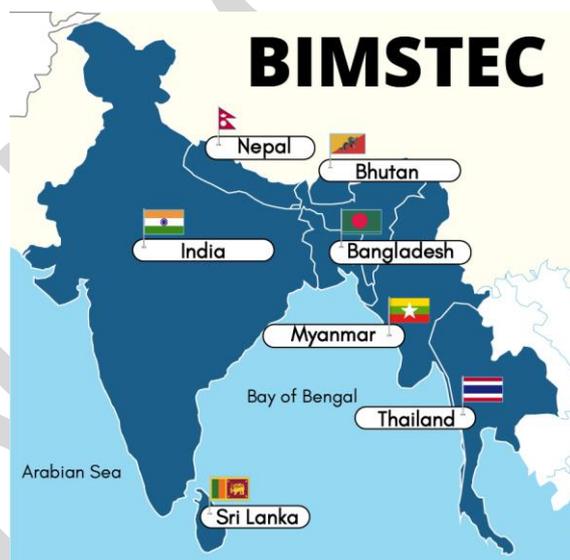
- Kathmandu SAARC summit (2014): Pakistan vetoed connectivity agreements initiated by India when all other countries were ready to sign it.
- After the Uri attack of 2016, India boycotted the SAARC summit, which was to be held in Islamabad. The Summit was called off after other SAARC member states followed suit.
- Soon after, India invited BIMSTEC leaders to the BRICS outreach summit in Goa in 2016.
- In 2017 BIMSTEC summit, India's PM announced, "It is a natural platform to fulfil our key foreign policy priorities of Neighbourhood First and Act East."
- Thereafter, the 2018 BIMSTEC summit in Nepal saw the grouping pass a resolution demanding that states that "encourage, support or finance terrorism, provide sanctuaries to terrorists and terror groups" be held accountable.

Why India's shift towards BIMSTEC?

- **Stagnation of SAARC** is a key reason for India to reach out to BIMSTEC as stagnation limited the scope of India's growing economic aspirations as well as the role it could play in improving regional governance.
- Thus, BIMSTEC offers a natural platform to fulfil key foreign policy priorities of '**Neighbourhood First**' and '**Act East**'.
- BIMSTEC also carries a lot of **economic promise**. With a combined gross domestic product (GDP) close to \$2.7 trillion and despite an adverse global financial environment, all seven countries were able to sustain average annual rates of economic growth between 3.4 and 7.5 percent from 2012 to 2016. The bay is also **rich in untapped natural resources**, with reserves of gas and other seabed minerals, oil and also fishing stocks.
- **Better connectivity** with BIMSTEC countries opens up opportunities for Indian coastal states and North East states to unlock the potential for development in the region.
- **Strategically**, BIMSTEC is a platform to counter assertive China in South and Southeast Asia, where it has undertaken investments through the Belt and Road initiative.

Bay of Bengal Initiatives for Multi-sectoral, Technical and Economic Cooperation (BIMSTEC) is a regional group of seven members: **Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan, and Nepal**, established in 1997 through **Bangkok Declaration**.

Founding members: Bangladesh, India, Sri Lanka and Thailand.



Why SAARC remains relevant despite renewed interest in BIMSTEC?

- SAARC, as an organisation, reflects the **South Asian identity** of the countries, historically and contemporarily. It has geographical identity. Equally, there is a cultural, linguistic, religious and culinary affinity that defines South Asia. BIMSTEC despite its achievements is not moored in the **identity of the nations** that are members.
- South Asian countries are closely tied in their **socio-political state** as they face similar **threats and challenges** like terrorism, similar economic challenges, disaster etc. To face such challenges, the South Asian countries must cooperate. The **European and ASEAN experience** is testimony to the contribution of regional cooperation in the economic growth of the countries.
- BIMSTEC itself faces **challenges** since its inception. It is also not well **institutionalised** as SAARC, which despite political tensions between its largest members has institutions for cooperation. Though there have been delays in regular SAARC summits, there are mechanisms of interaction within SAARC- **South Asian University, South Asia Satellite** which keep SAARC relevant.

Conclusion

- The two organisations, SAARC and BIMSTEC—focus on **geographically overlapping regions**. However, this does not make them equal alternatives. BIMSTEC does not render SAARC pointless rather it opens up **new opportunities of regional cooperation** in South Asia.
- The very **founding principle** of BIMSTEC is cooperation within BIMSTEC will constitute an addition to and **not as a substitute** for bilateral, regional or multilateral cooperation involving the Member States. It's officially described as **“a bridge between South and South East Asia”** and a “platform for intra-regional cooperation between SAARC and ASEAN”.
- India should take lead in creating platforms for **informal discussions, formal mediation** and resolution mechanisms tailored to the region's specific needs and problems. So that bilateral issues do not hinder broader regional integration under both SAARC and BIMSTEC.

2.2. ARCTIC COUNCIL

Why in news?

Recently, India was re-elected as an Observer (first it became in 2013) to the Arctic Council.

About the Arctic Council

- It was established by the **eight Arctic States through the Ottawa Declaration of 1996**. These are— Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, Russia, Sweden and the United States.
- It is **not a formalized treaty-based international legal entity** and does not allocate resources.
- **Six organisations representing the indigenous people of the Arctic** region have also been granted the status of permanent participants in the Council.
- It is one of the leading intergovernmental forums, for discussing issues concerning the Arctic region, including **scientific research**, and **peaceful and sustainable use of resources** in the region.
- All decision-making happens through **consensus** between the permanent members.
- The Council **does not prohibit the commercial exploitation** of resources in the Arctic.

Arctic: Characteristics and Issues

- **Resource rich Arctic:**
 - Varied estimates suggest that the Arctic holds a significant portion of 30% of the world's undiscovered natural gas and 13% of its undiscovered oil reserves.
 - However, exploitation of the resources has been difficult because of the natural barriers created by **harsh weather conditions and difficult terrain**.
 - **Also**, the resources are unevenly distributed, for instance, the **Russian region is richer in gas reserves, while the Norwegian region has more oil resources**.
- **Scramble for Arctic:** As the various countries scramble for a share of its resources, it could give rise to conflict and tensions.

- Recently, China has released its first **official Arctic policy white paper**, outlining its ambition for a **Polar Silk Road**.
- There are existing disputes related to territorial claims between the region's coastal states, such as those between **Canada and Greenland, Russia and the US etc.**
- **Environmental hazards:** There is also the danger of extraction activities triggering negative consequences on the fragile Arctic ecosystem, such as oil spills, as was seen in the **1989 Exxon Valdez oil spill in Alaskan waters**. It will create the so-called '**Arctic-paradox**'. As routes open up because of climate change, the non-renewable resources previously inaccessible will then be extracted, and these activities in turn will contribute to further **global warming**.
- **Arctic not a Global Common:** There is a lack of overarching guidelines for how stakeholders can engage the Arctic's resources, akin to the **Antarctic Treaty of 1959** that limited the use of the Antarctic only for scientific and peaceful purposes and freed it from any territorial claims making the **Antarctic a global common**.
- **Ease of navigability triggered by ice-melt giving rise to new shipping routes:** The other area of potential disputes relates to the **opening of new shipping routes** (via Canada, US, Russia) owing to the melting Arctic ice. Advantages will be huge economic returns via:
 - shortening of journey time (40-percent shorter distances between Europe and East Asia.)
 - reduction of costs.
 - Free of piracy and terrorism thus more secure than the conventional sea lanes.
 - Estimates suggest that by 2025, **over 60 million tonnes of energy resources will be transported via the Northern Sea Route**, including coal and LNG.

India's ongoing efforts in terms of scientific research and investments in Arctic

- In the absence of an official Arctic policy, India's Arctic research objectives are centred on **ecological and environmental** aspects, with a focus on climate change. However, off late it has acquired strategic importance as well.
- The major objectives of the Indian Research in Arctic Region are:
 - To study the hypothesized tele-connections between the **Arctic climate and the Indian monsoon** by analysing the sediment and ice core records from the Arctic glaciers and the Arctic Ocean.
 - To **characterize sea ice in Arctic** using satellite data to estimate the effect of global warming in the northern polar region.
 - To conduct research on the **dynamics and mass budget of Arctic glaciers** focusing on the effect of glaciers on sea-level change.
- **Himadri**, India's only research station in the region opened in 2008.
- National Centre for Antarctic and Ocean Research was renamed as the **National Centre for Polar and Oceanic Research (NCPOR)** in 2018.
- **Norwegian Programme for Research Cooperation with India (INDNOR):** India and Norway's bilateral research cooperation.
- **NCPOR signed a contract with FESCO Transportation Group** for access to the icebreaker vessel which will be utilised both for general cargo deliveries to Antarctic stations and scientific activities in the Arctic region as India currently lacks a Polar-suitable vessel.
- **Economic endeavours:**
 - In the energy domain, India and Russia's top oil and gas companies have signed agreements and are cooperating on shared production projects and offshore exploration.
 - **India's ONGC (Videsh)** holds a 26-percent stake in Russia's Vankorneft project.

India's future role and contribution in the Arctic Region

- **Engagement in research and scientific activities:** It should also encourage **businesses and private parties to participate** in the multiple research avenues.
- **Sustainable development and Enhanced Cooperation:** India should collaborate with these countries in the sharing of facilities and expertise, which will increase India's experience. For example: collaborating with China in the **field of climate change in the Himalayas**, will lead to a win-win situation and a positive perception of India.
- **A Platform for Increasing India's Clout:** India's relative absence in Working Groups where other Observers are actively engaged displays India's underexploited potential in Arctic governance.
- **Collaboration to diversify the sources:** As India does have a growing demand for energy, procurement of Natural Gas or newer resources like **methane hydrates**, from the Arctic region in collaboration with countries, will diversify its energy imports.

2.3. INDIA AND CTBT

Why in news?

Recently, India has been invited to join Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBTO) in the capacity of an observer.

Background

- It is a multilateral treaty that **bans all nuclear explosions**, for both civilian and military purposes, **in all environments**.
- Since the time it was opened for signature, India did not support the treaty based on its discriminatory nature.
- The supporting organisation of the treaty, i.e. CTBTO has been trying to build trust with India and address its concerns which have restricted India from joining it.
- In this direction, the CTBTO has invited India to join as an observer, which will let India know what is going on this front and obtain benefits from its information without actually binding itself.

Why India has not joined CTBT?

- **CTBT divides the world permanently into nuclear "haves and have-nots"**, as it favors the nuclear power states, who have already achieved sophistication in nuclear technology and have little utility in testing further. Whereas other countries' programs would be stopped at the nascent stage itself.
- **No time frame mentioned** to dismantle existing nuclear weapons and is silent on complete nuclear disarmament. On the other hand, India is "committed to working towards a CTBT that will promote the goal of total nuclear disarmament".
- **Does not address India's security concerns**- as India faces threats from hostile neighbourhood. E.g. as a party to the CTBT, India would be waiving the possibility of testing and developing its own nuclear weapons whereas China would be able to retain its arsenal as per the NPT. This was compounded by the fear of nuclear collusion between China and Pakistan.
- **Would hinder India's strategic nuclear program development**- for scientific development and energy needs given its growing population and requirement of clean energy.

Benefits India can accrue by joining CTBT

- **Strategic Interests**- By joining CTBT, India can get easy entry to the Nuclear Supplier's Group as well as strengthen its claim to the UN Security Council.
- **May help end the nuclear race in Asia**- especially in the India's neighbourhood, as it may lead to a follow up by Pakistan too (Pakistan has already joined CTBT as an observer).
- **Gain access to data from the International Monitoring System**- which uses advanced technologies like hydroacoustics, infrasound, radionuclide and can help India in areas such as disaster management, plane crash sites, mining and exploration.
- **Become a part of international scientific community**- which comes together under the aegis of the CTBTO and help India tap into numerous scientific cooperation with the world.

More about CTBT and its architecture

- It was adopted by the United Nations General Assembly in 1996 and opened for signature. So far, **184 countries have signed the treaty and 168 of them have also ratified it** (most recently Ghana on 14 June 2011).
- The CTBT will come into force when all the **44 countries** which possess nuclear capability and research reactors agree to sign and ratify it. It was opened for signature in **1996** but is **yet to come into force** because **eight countries** have not signed or ratified it as yet. **India, North Korea and Pakistan** have neither signed nor ratified the treaty whereas China, Egypt, Iran, Israel and the United States have signed but have not ratified the treaty.
- In order to operationalize this treaty, some measures have been taken to build trust among the states, such as-
 - **The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)**- Established in 1997, it has been working towards bringing the Treaty into force, making preparations for effective implementation, in particular by establishing its verification regime and also operate the **IMS** in it.
 - **The CTBT verification regime**- to constantly monitors the planet for nuclear explosions and shares its findings with Member States. It consists of the **International Monitoring System (IMS)**- a global network of sensors to detect possible nuclear explosions, **International Data Centre (IDC)** and **On-site inspections (OSI)**.

Conclusion

- India believes its security would be enhanced, not diminished, in a **world free of nuclear weapons**. With the changing geopolitics, India can reacquaint itself with today's global nuclear test ban, while making an important contribution to the **multilateral verification regime under the CTBTO**.
- Taking initial steps such as observer status can help India take an informed decision on joining as well as negotiate with other countries to develop a CTBT that would enjoin equal obligations and responsibilities on all Nuclear Weapon States.
- At the same time, India has adhered to the fundamental obligation of the CTBT. Its **voluntary commitment and restraint** were meant to convince the international community of the need for meaningful negotiations to implement a more equitable CTBT and persevere towards global nuclear disarmament.

India and Nuclear Disarmament

Nuclear disarmament is the act of reducing or eliminating nuclear weapons. India has always been a **proponent** of nuclear disarmament, however is against any form of **discrimination** among the states. Thus, India did not join the **Nuclear Non-proliferation Treaty (NPT)**, but has asserted its support in-

- **1954-** Indian PM became the **first head of state** to call for a **standstill agreement** proposing a ban on nuclear testing.
- **1965-** India advocated a strong non-discriminatory treaty banning nuclear proliferation. India was amongst the **Non-Aligned Eight in the Eighteen Nation Disarmament Committee (ENDC)**
- **1988-** India proposed a comprehensive proposal for "**complete and universal nuclear disarmament**" to the United Nations.
- **1996-** India as a part of the "**Group of 21**", submitted a **Programme of Action** calling for "phased elimination of nuclear weapons" to the **Conference of Disarmament**.
- **1998-** India first adopted a "**No first use**" of nuclear weapons **policy** after its second nuclear tests, Pokhran-II. India has also adopted that it will not use nuclear weapons against a non-nuclear weapon state.
- **1999-** In its **Draft Nuclear Doctrine**, India stated that a "global, verifiable, and non-discriminatory nuclear disarmament is a **national security objective**."
- **2015-** at the **Conference on Disarmament (Geneva)** India stated that non-discriminatory, multilateral agreements to increase restraints on the use of nuclear weapons will lead to their eventual elimination.

2.4. UNSC REFORMS

Why in news?

India has criticised the slow pace of UN Security Council reform process and opaque methodologies, non-attribution of assertions and obfuscation of references by the member states which are blocking the early reform of the UN.

More about the news

Since 1993, the UN General Assembly has hotly debated Council reform but has not been able to reach agreement, primarily due to "institutional inertia".

Why reforms?

- **Changed Geopolitics:** The Security Council's membership and working methods reflect a bygone era. Though geopolitics have changed drastically, the Council has changed relatively little since 1945, when wartime victors crafted a Charter in their interest and awarded "permanent" veto-wielding Council seats for themselves.
- **Reforms Long Overdue:** It was expanded only once in 1963 to add 4 non-permanent members. Although the overall membership of the UN has increased from 113 to 193 but no change in the composition of the UNSC happened.

What constitutes UNSC reform agenda?

Five sets of issues have been identified by the General Assembly. These are

1. Categories of membership
2. The question of the veto
3. Regional representation
4. Size of an enlarged Council and its working methods and
5. The Security Council-General Assembly relationship.

Credentials for India's bid for membership

- Founding member of UN.
- World's largest democracy and both demographically and geographically holds a significant position.
- One of the fastest growing large economies in the world.
- One of the largest contributors to UN peace keeping missions and India suffered highest number of fatalities over the years, which is acknowledged time and again.
- India is seen as a responsible power, which adheres to rule of law, global norms. India's elevation will make UNSC more credible, representative.

- **Inequitable economic and geographical representation:** While Europe is over represented, Asia is under represented. Africa and South America have no representation at all.
- **Crisis of legitimacy and credibility:** Stalled reform agenda and various issues including its Interventions in Libya and Syria in the name of responsibility have put the credibility of the institution in jeopardy.
- **North South Divide:** The permanent UNSC membership of portrays the big North-South divide in the decision making of security measures. For instance, there is no permanent member from Africa, despite the fact that 75% of its work is focused on Africa.
- **Emerging issues:** Issues such as transnational threats, deepening economic interdependence, worsening environmental degradation also call for effective multilateral negotiations based on consensus yet all critical decisions are still being taken by the veto-wielding permanent members of the Security Council.

India and UNSC reforms

- India has adopted a **multi-layered strategy** to assume the long awaited permanent seat in the Security Council consisting of two components: Maximising support in the UN General Assembly and Minimising resistance in the UN Security Council.
- India hopes that its continued engagement at various **Global South forums** such as G 77 and NAM, African Union would garner much needed numbers in the UNGA. This is reflected in India's strong defence of the principle of sovereignty and the constant voluble criticism of the "Responsibility to Protect."
- India's growing **strategic partnerships** with the P5, growing economic strength, including the nuclear deals with US, Russia, rapprochement with China paints a favourable picture for Indian Explicit public declarations supporting India's candidature as a permanent member in the Council are reiterated by countries like France, UK.
- India has also formed the **G4 with Brazil, Germany, and Japan**, its "coalition of the willing", and a "collaborative strategy" to negotiate reforms of the Council. The four nations support each other's bids for permanent seats on an expanded Security Council.

Why delay in reforms?

- **Lack of Political will-** Changing the composition of the P5 involves changing the UN's charter which will further require the backing of two-thirds of the General Assembly including the current P5 which is difficult to obtain due to lack of political will and consensus among them.
- **Lack of consensus** among member States and regional groups like G-4, L-69, African Union, Uniting for Consensus, Organization of Islamic Conference and also divergent demands of various groups.
- **Use of Veto power-** There are various countries and groups demanding permanent membership and veto power, which the P5 are not ready to accede.

Way forward

In the current circumstances it has become crucial for the UNSC to reform itself and uphold its legitimacy and representativeness in the world. However, for that to happen political will, especially of P-5 nations and strong consensus among all the nations is the need of hour.

2.5. UN HABITAT

Why in news?

India has been elected to the Executive Board of the first UN-Habitat Assembly.

About the session

- The first session of UN- Habitat assembly was held at the headquarters of UN-Habitat in Nairobi.
- The special theme for the UN-Habitat assembly is "**Innovation for Better Quality of Life in Cities and Communities**".

About UN Habitat

- The **United Nations Human Settlements Programme** (UN-Habitat) is the United Nations agency for human settlements and sustainable urban development.

- **Established in 1978** as an outcome of the First UN Conference on Human Settlements and Sustainable Urban Development (Habitat I) held in Vancouver, Canada in 1976.
- **Mandate** is to **promote socially and environmentally sustainable towns and cities**. It is the focal point for all urbanization and human settlement matters within the UN system.
- Under UN Habitat till now three conferences were held:

Habitat I	Habitat II	Habitat III
<ul style="list-style-type: none"> • 1st UN Conference on Human Settlements, at Vancouver, (1976). • Vancouver Declaration urged countries to commit to human settlements policies by combining spatial planning with fundamentals of economic, social and scientific thinking, to alleviate the conditions of uncontrolled urbanization 	<ul style="list-style-type: none"> • 2nd UN Conference on Human Settlements, Istanbul (1996). • Report titled An Urbanizing World: The Global Report on Human Settlements 1996 was released raising awareness on the need to put cities in the forefront of development strategies, and on the growing problem of poverty and poor housing conditions. 	<ul style="list-style-type: none"> • UN Conference on Housing and Sustainable Urban Development, took place in Quito, Ecuador, in 2016. • It adopted The New Urban Agenda which is an action-oriented document setting global standards for the achievement of sustainable urban development, by rethinking the way we build, manage, and live in cities.

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3. ECONOMY

3.1. MIDDLE INCOME TRAP

Why in news?

Recently, a member of PM Economic Advisory Council (PMEAC) warned that India may be nearing a structural slowdown and may soon get caught in the 'middle income trap' like Brazil and South Africa.

What is middle income trap?

- The term middle-income trap (MIT) usually refers to countries that have experienced rapid growth and thus quickly reached middle-income status (with Gross National Product per capita between \$1,000 & \$12,000), but then failed to overcome that income range to further catch up to the developed countries and achieve high-income status. MIT is a relatively new phenomenon and was first mentioned in 2007 in the World Bank report.
- The countries caught in the Middle Income Trap are unable to compete with low-income, low-wage economies in manufactured exports and unable to compete with advanced economies in high-skill innovations.
- MIT is associated with a relatively sustained growth slowdown with both direct effects (e.g. income losses) as well as indirect effects (e.g. social conflicts).
- Fuelled by the global slowdown, many countries, particularly in South East Asia (e.g. Thailand, Vietnam, and Malaysia etc.), Africa (e.g. South Africa) and Latin America (e.g. Brazil) currently face the predicament of MIT, which has impeded their transition from middle income to high income.
- One of the most standard examples of an MIT country is Brazil where annual income growth rate plummeted to an average rate of 0.58% between 1997 and 2011. It was accompanied by one of the highest income inequalities worldwide (World Development Indicators, World Bank, 2016), poor institutional quality in comparison to developed countries and a wave of protests against the corruption and mismanagement in the country.

Why Do Countries Fall into the Middle Income Trap?

- **Inability to shift growth strategies:** If a country cannot make a timely transition from resource-driven growth, with low-cost labor and capital, to productivity-driven growth, it might find itself trapped in the middle income zone.
 - Traditional exports cannot be as easily expanded as before because wages are higher and cost competitiveness declines.
 - Moreover, export growth depends on introducing new processes and finding new markets. To do this, exporters must understand the quality, price, and consumer preference points of the global economy, which is a demanding task.
- **Skewed income distribution & stagnation in middle class population:** Wealth inequality and the hierarchical distribution of income in developing countries is a downward drag on domestic demand, which results in stagnation. It slows down the upward mobility of families that are at lower levels, into middle class that is prepared to pay more for quality and differentiated products.
- **Recurring boom-bust cycles & procyclical lending:** Many middle-income countries in Latin America have been through cycles of growth based on credit extended during commodity booms, followed by crisis, and then recovery. This stop-go cycle has prevented them from becoming advanced economies despite enjoying many periods of fast growth. This is in sharp contrast with successful countries in East Asia—Japan, Hong Kong, Taiwan, Singapore, and South Korea that have been able to sustain high growth over some 50 years.

Why India might get caught into middle income trap?

- **Backlash against globalization:** Hyperglobalization (that benefited the early convergers like China, South Korea & Japan) led to a **backlash in the advanced countries**, as seen through increasing protectionism & lowering World Trade-GDP ratios since 2011. This means that similar trading opportunities may no longer be available for the new convergers.
- **Thwarted Structural Transformation:** Successful development requires two kinds of structural transformations: 1) a shift of resources from low productivity to high productivity sectors; and 2) a larger

share of resources devoted to sectors that have the potential for rapid productivity growth. However, in late convergers like India, 'pre-mature deindustrialization' (**tendency for manufacturing to peak at lower levels of activity and earlier in the development process**) is a major cause of concern.

- **Human Capital Regression:** Human capital frontier for the new structural transformation has shifted further away making the transformation costlier. This is because the new advents in technology not only require skilled human capital, but also demands them to learn continually. As opposed to these requirements, there is a wider educational attainment gap between lower income countries and advanced economies.
- **Climate change-induced Agricultural Stress:** Agricultural productivity is crucial both for feeding people and for ensuring human capital moves from agriculture to modern sectors. With climate change, ambient temperature has increased and weather extremities have become a recurrent phenomenon. This is, in particular, a threat to India where agriculture is heavily dependent on precipitation.
- **Fall in private consumption, muted rise in fixed investment and sluggish exports** have led to slowdown in the economy and increase India's vulnerability to the middle income trap.

Avoiding the Middle Income Trap

In 1960, India was a low-income country with per capita income around 6% of the US. However, India attained the status of lower middle income in 2008 with per capita income of about 12% of the US.

But, the growth has occurred with limited transfer of labour resources to high productivity and dynamic sectors, despite relatively modest agricultural growth. Thus, the risk of getting trapped in middle income zone remains.

To avoid becoming trapped without a viable high-growth strategy, India needs to:

- **Transitioning from diversification to specialization in production:** Specialization allowed the middle-income Asian countries to reap economies of scale and offset the cost of disadvantages associated with higher wages (E.g. Electronics industry in South Korea).
 - High levels of investment in new technologies and innovation-conducive policies are 2 overarching requirements to ensure specialized production.
 - Developing good social-safety nets and skill-retraining programs can ease the restructuring process that accompanies specialization.
- **Shifting to productivity-led growth:** Total factor-productivity growth in middle-income countries requires major changes in education, from primary & secondary schooling to tertiary education so that workers are adept in new skills as per the demands of the markets. Creating such knowledge economy requires long term planning and investment.
- **Opportunities for professional talent:** To attract and retain a critical mass of professional talent that is becoming more internationally mobile, middle income countries like India must develop safe & livable cities that provide attractive lifestyles to professionals.
- **Addressing barriers to effective competition:** There is a need to address rigidities that can arise from bankruptcy laws, stringent tax regulations, limited enforcement of IP regulations, imperfect information, discrimination etc.
- **Decentralized economic management:** Greater powers should be vested in local governments to ensure speedier decision making
- **Sustaining macroeconomic stability** through flexible fiscal framework that limited deficits and debt, and a flexible exchange rate mechanism backed up by a credible inflation-targeting monetary policy could help sustain long periods of growth. Effective restructuring, regulating, and supervising of the financial sector must be ensured so that the present NPA crisis can be effectively handled.
- **Changing orientation of social programmes** that targets middle class besides poorer sections of the society which would propel the demand driven growth. E.g. low-cost housing for first-time home buyers in cities, programs to ensure that recent graduates get suitable employment opportunities, paying more attention to public goods like safety, urban transport, and green spaces etc.

3.2. PERFORMANCE OF JAN DHAN YOJANA

Why in news?

The aggregate deposits in the PMJDY accounts have increased to ₹1 lakh crore, having grown ten-fold from the ₹10,500 crore in the first phase of the scheme in January 2015.

About Pradhan Mantri Jan Dhan Yojana (PMJDY)

- PMJDY is a National Mission on Financial Inclusion encompassing an integrated approach to bring about comprehensive financial inclusion of all the households in the country.
- Jan Dhan Yojana has been a success, be it on number of bank accounts opened, their inclusivity, their balance and even their usage.
- Prompted by the success, the government last year, extended the programme with the focus shifting from opening accounts of “every household” to “every unbanked adult”. Under this, the overdraft limit was revised from Rs 5,000 to Rs 10,000, while accident insurance cover was raised from existing Rs 1 lakh to Rs 2 lakh for new PMJDY accounts opened after August 8, 2018.

Achievements and Significance

- **Helped in financial inclusion-** As per the Global Findex Database, almost 80% of adult Indians have bank accounts. Financial inclusion has taken place in three ways-
 - **Financialisation of savings-** by giving lower income households access to a safe investment product. In the last four years, deposits in these accounts have expanded ten-fold even as the number of account holders is up only three-fold, showing that existing depositors in JDY regularly top up their balances.
 - **Diversification of financial products-** for the disadvantaged section, with 13.5 crore beneficiaries enrolling for the low-cost accident insurance cover and 5.5 crore for the life cover. As of February 2019, 6,107 claims were received under the accidental insurance scheme and 67% of them have already been paid off.
 - **Transition to electronic payments-** with 27.7 crore-account holders now having Rupay debit cards.
- **Helped banking sector**
 - **Improved balance sheets of banks-** even though they still make up less than 1 per cent of banks’ deposit base, they sustained growth in a year when deposit flows were hard to come by.
 - **Falling percentage of zero balance accounts-** from **58%** in 2015 to **15 %** as on January 2019, with even the percentage of inoperative accounts declining from **19.8%** in 2017 to **16.3%** as on December 2018.
 - **Servicing Cost is not an issue for the banks now-** as the average deposit balance in these accounts has increased from **Rs 1,065** as on March 2015 to **Rs 2,603** as on January 2019.
- **Helped in inclusive growth**
 - **Focus on rural India-** Of the 35.70-crore account holders, those from rural and semi-urban regions are 21 crore.
 - **Women empowerment-** Around 18.88 crore account holders are women.
- **Direct benefit transfer-** data submitted by the government to Parliament shows that 23 per cent of these accounts received direct benefit transfers as on August 2018.

Challenges

- **Need to maximize usage of the accounts-** which faces hurdles due to inadequate availability of formal credit or formal savings in financial institutions like mutual funds etc.
- **Increasing Cost of Business Correspondents:** If these accounts have to be functional and not remain dormant then the density of banking correspondent has to be increased, which will increase the cost of delivering the banking services.
- **Dependency on unsecured debt-** Data shows that within the poorest section of population, two in three people take credit from informal sources. Thus, access to bank accounts seems to have had little effect on their dependence on private money lenders.
- **Internet Connectivity Problem:** The inadequate infrastructure base for Internet facilities basically in tribal and hilly areas making it difficult for Business Correspondents to deliver the required basic banking services.
- **Managing Multiple Saving Bank Accounts:** Many of the individuals who already have savings bank accounts in other banks opened account under PMJDY for benefiting from the Rs. 1 Lakh accident insurance and overdraft. As per norms PMJDY is only for those who do not have any bank account either in public or private sector banking setup.

Way Forward

- With the high deposits in the banks, the **Government must nudge the banks to offer much-needed loan products** to the account holders. Allowing them to build up a credit and transaction history in the banking system is critical to wean them away from the grip of usurious money lenders who extract a heavy price on

their finances when emergencies strike. It can be done **using a dashboard approach** to track the value and number of overdrafts sanctioned on the PMJDY portal.

- The Centre and the RBI also need to make sure that the **first-time adopters are treated well at bank branches**, know the grievance redressal mechanisms and are aware of, and protected from, the consequences of fraud or misuse of their accounts.
- Focus should be on education of account holders to make sure they are aware of their rights and don't fall prey to benami holders or money-launderers seeking to exploit their banking access. Launching **massive campaign programmes** among the poor households could be taken.
- The policy focus should shift from the **quantity of inclusion to the quality of inclusion**. The measure of success of the scheme should include clearly-defined targets for usage and transactions.

3.3. RBI'S 'VISION 2021' DOCUMENT ON PAYMENT SYSTEMS

Why in news?

Recently, the Reserve Bank has released the '**Payment and Settlement Systems in India: Vision 2019 - 2021**', with its core theme of '**Empowering Exceptional (E)payment Experience**' to achieve "a highly digital and cash-lite society".

Background

- The Reserve Bank of India expects the number of digital transactions to increase more than four times to **8,707 crore in December 2021**. Growth in electronic payments has been substantial with **retail payments** reflecting large growth in **volume terms**, while the **Systemically Important Financial Market Infrastructures (SIFMIs)**, such as RTGS system in **value terms**.
- Further, new challenges have arisen requiring new strategies and need to focus on innovation, cyber security, financial inclusion, customer protection and competition.
- The RBI, under powers from **the Payment and Settlement Systems Act, 2007**, has guided the planned development of payment systems India using its Vision documents. The last document, i.e. Vision 2018 facilitated
 - Continued decrease in the share of paper-based clearing instruments;
 - Consistent growth in individual segments of retail electronic payment systems such as the National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS) and card transactions;
 - Increase in registered customer base for mobile banking;
 - Launch of new products like Unified Payments Interface (UPI) and Bharat QR (BQR);
 - Significant growth in acceptance infrastructure;
 - Accelerated use of Aadhaar in payment systems.

Expected Outcomes of Vision 2021

- Further decrease in the share of **paper-based clearing** as a percentage of retail payments.
- Increased deployment of **card acceptance infrastructure** across the country.
- Reduced demand for cash and achieve reduction in **Cash in Circulation (CIC)** as a percentage of GDP.
- Further facilitation of **mobile-based payment transactions**.
- Reduction in **pricing of electronic payment systems** by at least 100 basis points.
- **Security of systems and customer centricity** as reflected by decrease in Technical Declines, reduction in Business Declines and improvement in Turn Around Time (TAT) for resolution of customer complaints.
- Enhanced **healthy competition** in the payments space.

About Vision 2021 Document

- The Vision 2021 has endeavoured to ensure that India has '**state-of-the-art**' **payment and settlement systems** that are not just safe and secure, but are also efficient, fast and affordable.
- Its thrust areas are to focus on customer, system operators & service providers, ecosystem & infrastructure, proper regulation and risk focused supervision.
- It envisages to achieve the **expected outcomes** through 36 initiatives, which can be clubbed under the following goals-
 - **Competition**- in the payment systems landscape, specific thrust areas like creating regulatory sandbox, authorising new players, USSD-based payment services, ensuring inter-regulatory and intra-regulatory co-ordination etc.

- **Cost effectiveness-** for the customers through initiatives like review of corridors and charges for inbound cross border remittances, inter-operability and building capability to process etc.
- **Convenience-** by freer access with availability of multiple payment system options anytime-anywhere, setting up a 24x7 helpline, National settlement services for card schemes, widened scope / use of domestic cards etc.
- **Confidence-** of the customer through the 'no-compromise' approach towards safety of payment systems to address security vulnerabilities, increased coverage of the Cheque Truncation System among others.

Significance

- The Vision 2021 document would act as a catalyst for **promoting digital economy** and **instill confidence** among the general public, fintech companies.
- It will help in increasing the **digital transactions penetrations** especially in the assisted segment in smaller cities and rural India.
- The document has **clarity in defining outcomes** in terms of scale of digital and overall payments vis a vis GDP, which will help in measuring **the impact of work done** by all stakeholders.
- With growing competition, industry players will be able to offer services at **an optimal cost to their customers** and it will also spur **innovation in technology and processes** that will eventually save time of end consumers.

Way Forward

In order to have a **coordinated approach** towards regulation, the RBI shall engage with the **other sectoral regulators** — Securities and Exchange Board of India, Insurance Regulatory and Development Authority, Telecom Regulatory Authority of India, etc. to remove friction in regulation and ease system operator and customer comfort.

3.4. RBI REMOVES CHARGES ON NEFT AND RTGS

Why in news?

RBI has removed charges for payments via NEFT and RTGS and asked banks to pass on the benefits to customers.

More on news

- Reserve Bank of India had also recently **increased** the Real Time Gross Settlement (RTGS) **time window** for customer transactions (initial cut-off) from 4.30 pm to 6 pm.
- This follows a robust year-on-year increase in the number of RTGS transactions by 8 per cent to ₹1,335 crore in March 2019.
- The volume of NEFT transactions has steadily grown at a CAGR (compound annual growth rate) of 26 per cent over the past four years.

Details

- The Reserve Bank levies minimum charges on banks for transactions routed through its RTGS and NEFT. Banks, in turn, levy charges on their customers. In order to provide an impetus to digital funds movement, RBI decided to efface these charges.
- RTGS and NEFT are much **cheaper modes than other payment mechanisms** like Cheques in terms of the cost involved in managing end to end transactions until settlement.
- This move will specially benefit the small traders who deal in small value transactions and operate on small margins. On the whole, it will go a long way in encouraging digitization of payments and enhancing financial inclusion.

Related news

RBI-appointed **Nandan Nilekani-led committee** report for **deepening digital payments** had earlier recommended that banks incentivise digitisation of payments by not charging their customers and small merchants on digital transactions.

Digital modes of payment settlement

- **National Electronic Funds Transfer (NEFT)** is a payment system that facilitates one-to-one funds transfer from one NEFT enabled bank to another.
- **Real Time Gross Settlement (RTGS)** is a system of continuous and real-time settlement of large-value fund-transfers, individually on a transaction by transaction basis. 'Real Time' means the processing of instructions

at the time they are received; 'Gross Settlement' means that the settlement of funds transfer instructions occurs individually.

- **Immediate Mobile Payment Services (IMPS)** offers instant inter-bank funds transfer service through mobile phones, which is available throughout the year, including bank holidays.

Features	NEFT	RTGS	IMPS
Introduced by	RBI	RBI	NPCI
Settlement type	Half- hourly batches	One on one settlement	One on one settlement
Min transfer limit	Re.1	Rs. 2 lakh	Re. 1
Max transfer limit	No limit (Rs. 50,000 per transaction)	No limit	Rs. 2 lakh
Funds Transfer Speed	2 hours	Immediate	Immediate
Service timings	Available on certain days of week between stipulated time period	Available on certain days of week between stipulated time period	24/7
Mode	Online/ offline	Online/ offline	Online

3.5. DELAYED RECOGNITION OF BAD LOANS LEADING TO DIVERGENCE

Why in news?

Recently three public sector banks have reported divergence while announcing quarterly reports.

More about the news

- Divergence is the difference between RBI's assessment and that reported by the lender/ banks.
- Divergence takes place when the RBI finds that a lender has under-reported or not reported at all bad loans in a particular year and hence asks the lender to make disclosures if under-reporting is more than 10% of bad loans or the provisioning.
- Divergence was identified because many of the banks were late in identifying NPAs.

Loan classification in India

- As per RBI, **NPAs** are any commercial loans which are more than **90 days overdue** and any consumer loans which are more than **180 days overdue**.
- For **agricultural loans**, if the interest and/or the instalment or principal remains overdue for two harvest seasons; it is declared as NPAs. But, this period should not exceed two years. After two years any unpaid loan/instalment will be classified as NPA.
- **Sub-standard** is when the NPAs have aged less than or equal to 12 months.
- **Doubtful** is when the NPAs have aged more than 12 months.
- **Loss asset** is when the bank or its auditors have identified the loss, but it has not been written off.

3.6. GOVERNMENT CLEARS RESTRUCTURING OF STATISTICAL SYSTEM

Why in news?

Recently, the government has decided to merge the Central Statistical Organisation (CSO) and the National Sample Survey Office (NSSO) to form a National Statistical Office (NSO), under the Ministry of Statistics and Program Implementation.

Background

- The move is a follow-up of a decision taken by the government in 2005, based on recommendations of the report of the **National Statistical Commission**, headed by C Rangarajan. The 2005 decision had proposed, the **National Statistical Organisation**, as "the executive wing of the government for statistics" that would "act according to the policies and priorities as laid down by the **National Statistical Commission**."
- Both the wings are currently part of the **Ministry of Statistics and Programme Implementation (MoSPI)** and functioning independently. The **CSO** brings out macro economic data like economic (GDP) growth data, industrial production and inflation. While, the **NSSO** conducts large-scale surveys and brings out reports on health, education, household expenditure and other social and economic indicators.

- The restructuring is in line with the proposed **National Policy on Official Statistics**, which was floated last year.
- The proposed National Statistical Office would be directly under the government headed by the secretary of the MoSPI.

Benefits of restructuring

- With the re-organisation of the CSO and the NSSO within NSO as part of the main ministry, the administrative functions will be streamlined with the involvement of Directorate General level officers in administrative and overall coordination of the ministry.
- The Data Processing Division (DPD) of the present NSSO would be renamed **Data Quality Assurance Division (DQAD)** and have the responsibility to bring out quality improvements in survey data, as well in data of non-survey source like Economic Census and administrative statistics (provided by various department or bodies).
- A good statistical system is a prerequisite for sound decision-making and for the formulation and monitoring of public policies.

Draft National Policy on Official Statistics, 2018

- **Core statistics:** The draft policy proposes to focus on certain statistics of national importance as core statistics
- **National Statistical Commission (NSC)** be re-constituted to regulate and audit core statistics and advise the central government on improving other official statistics
- A **National Statistical Appraisal and Assessment Organisation** will be set up under NSC to conduct statistical audits.
- A **National Statistical Development Council** will be set up under the chairmanship of the Prime Minister to provide guidance to the NSC on policy matters
- **All-India Indian Statistical Service:** Currently, there are several statistical cadres such as the Indian Statistical Service, State Statistical Services, and other Group A Statistical posts or cadres
- Discontinuing with the role of the **Chief Statistician of India** as secretary to the National Statistical Commission (NSC).

Challenges apprehended

- **Loss of autonomy of NSSO-** Earlier, NSSO was an attached office of MoSPI, which gave it a legally distinct identity from the ministry. National Statistics Commission used to oversee all technical aspects of the statistical work—which survey needs to be done, when and how it needs to be done. With the merger of NSSO and CSO, the autonomy of NSSO will go away and the NSC's control over NSSO will not be there.
- This is in **contrast to the original plan proposed by experts** to merge various statistical bodies such as the NSSO and others to create a unified statistics body that is accountable to **Parliament**, rather than the government. It would bring official economic data more directly under the control of the government.
- Lastly, **centralisation of data** in the ministry can become a hurdle for quick and **timely release of the data** for public research and debate. A recent example of such trouble was the recent non-availability of data on unemployment.

National Statistics Commission (NSC)

- It is an autonomous body, setup by the Government of India through a resolution in 2005, on the basis of recommendations of Rangarajan Committee.
- It was established as a permanent nodal and empowered body for all core statistical activities of the country, evolve, monitor and enforce statistical priorities and standards and to ensure statistical co-ordination among the different agencies involved.
- Its main objective is to reduce the problems faced by statistical agencies in the country in relation to collection of data, from State and Central government departments.
- The NSC has four Members besides a Chairperson, each having specialization and experience in specified statistical fields.

Way Forward

- Statistics should have an independent oversight and inputs. Recently, the **Indian Council of Social Science Research** has initiated a new programme called the **Impactful Policy Research in Social Sciences**. Such, independent research requires timely access to reliable and neutral macro statistical data.
- As recommended by the Rangarajan Committee, the NSO should work as the nodal body for all core statistical activities, but it should work under a separate body, which is directly answerable to the Parliament, not the government. The body must be mandated the role by giving a statutory status. Without such a move, the Parliament may not be able to **uphold the accountability** of the government.

3.7. REPORT ON PROJECT/PROGRAM MANAGEMENT

Why in news?

A Task force under **NITI Aayog** has submitted a **report on Project/Program Management**, suggesting policy framework for project management for infrastructure projects in India.

Context

- The Infrastructure sector is one of the key drivers of economic growth and development. Accordingly, the government has launched various critical infrastructure mega programs like Power for All, Bharatmala, Sagarmala, Smart Cities, Housing for All, Swachh Bharat Mission, AMRUT, etc.
- However, the track record of completing projects on time is abysmal. According to a recent MoSPI report,
 - It has been observed that **more than 25 per cent of central sector projects are delayed** beyond their scheduled date of completion.
 - There has been a significant cost overrun of **around Rs 3.17 lakh crore** in these projects.
- Although there are various challenges which can be attributed to the current state of project implementation, but one aspect, which needs attention, is the successful **adoption of globally accepted Project and Program Management practices**.
- In this context, a Task Force was created under the Chairmanship of CEO, NITI Aayog with the objective of a focused **result-oriented approach and effective delivery of projects** within time and budget for Central/ State Government and Public-Sector Enterprises (PSEs).

Challenges in Project Implementation in India

- **Uncertainties in the land acquisition** process and regulatory approvals,
- **Lack of comprehensive upfront planning and risk management**,
- **Low maturity of project management** processes to adequately plan for such factors.
- Non-availability of **raw materials**, lack of **skilled workers**.
- Lack of capacity, comprehensive planning and management by different **Urban Local Bodies (ULBs)**.

Need of better project management practices

- Given the fact that each of the projects are unique, complex, involve multiple stakeholders, and require significant funds and time to complete, **traditional ways of managing project** have proven to be ineffective.
- **Poor project management** leads to –
 - **Additional expenditure burden** due to increased costs, which crowds out funding for more deserving projects.
 - **Creating a culture of acceptance** of delays and avoidable costs, which causes more cases to occur.
 - **Economic burden** due to delayed return in investments.
 - The increased cost of procurement due to monetization of higher risks perceived by contractors such as delay and scope creep associated with publicly funded projects.
- Structured project management practices would-
 - **maximize the limited resources** and effectively respond to changing project requirements.
 - **bring in skills** such as project scoping, planning, scheduling, risk assessment, team building and quality control for getting complex projects completed with desired quality, on time and within budget.
 - **bring in synergies**, integration and a common language to all the complex program initiatives like Sagarmala, Bharatmala, Industrial Corridors, Smart Cities Mission, etc.

Major Recommendations

- **Develop a National Project / Program Management Policy Framework (NPMPF)**- considering the specific issues and requirements of the nation as a whole – such as contracts in public /private/ state sector, infrastructure, Health, Safety and Environmental issues, CSR requirements, etc. It can refer to the already available global best standards on project/ program management, and suggest procedures and guidelines for effective project execution of public sector and PPP projects.
- **Setup a Committee on Project/ Program Management (CPM)**- comprising of experts to develop NPMPF and its implementation, for review & monitoring.
- **Establish separate Project/ Program Management delivery team**- which can be assigned to **audit the delivery issues** with mega projects and recommend "fixes" to the existing projects.
- **Create a National Institute of Chartered Project Professional (NICPP)**- to become as the nodal institution to create a resource pool of competent project professionals. As per the report, Indian would need 70 lakh skilled project managers in the next 10 years.

- **Share Holder Agreement (SHA) and State Support Agreement (SSA)** should be included in the contract, to ensure proper Rehabilitation and Resettlement (R&R).
- **Other important recommendations include**
 - using simulation models for establishing cause and effect relationship.
 - introducing professional courses for institutionalizing project management.
 - Focus on preparing quality **Detailed Project Reports (DPRs)**.

3.8. PRADHAN MANTRI FASAL BIMA YOJANA (PMFBY)

Why in News?

Out of ₹1,400 crore earmarked annually for the north-eastern States under Pradhan Mantri Fasal Bima Yojana, only ₹8 crore was actually spent in 2018. Arunachal Pradesh, Nagaland, Manipur and Mizoram are not covered under the scheme at all.

More on news

- States in the Northeast, as well as the Union Territory of Daman and Diu, face challenges such as the lack of interest by insurance companies and the lack of state budgetary resources to pay their share of the premium.
- Insurance companies have been reluctant to bid for these States, as the administrative costs are high. There are no proper land records. Historic yield data is not available for these States, particularly at the gram panchayat and block level.
- **Insurance companies are also not interested** because the coverage is so limited. There are low number of loanee farmers in the Northeast, except in Assam.
- Lack of forecasting infrastructure has also hampered the penetration of the weather-based insurance scheme in these states.
- **Some large States** like Bihar and West Bengal **have withdrawn from PMFBY** to set up their own State-level schemes and Punjab has never participated in the scheme.

Other challenges faced in the implementation of PMFBY

- **Delayed compensation:** Many state governments have failed to pay the subsidy premiums on time, as paying these premiums eat into their budgets for the sector. This leads to insurance companies delaying or not making claim payments.
- **High premium charged:** There was an increase in the premium being charged by the private companies whereas it was expected to be reduced even though they are allotted areas with less risk.
- **Inadequate Data collection:** Data discrepancy, leading to high claim ratios in certain states, has been a major concern, often resulting in delay of settlement. According to insurers, crop cutting experiments (CCE) in the previous years were not properly conducted in several states.
- **Poor capacity to deliver:** Insurance companies are not putting in place any ground infrastructure required for grievance redressal and assessing crop losses in individual plots. Also, there have been no concerted effort by the state government and insurance companies to build awareness of farmers on PMFBY.
- **Problems with internal functioning of insurance companies:** Due to the complexities in agriculture insurance the complete understanding takes time and the senior positions in insurance do not function till the tenure is complete and some posts have been vacant.
- **Declining farmer enrolments:** Between FY16 and FY17, the number of farmers enrolled in the scheme declined from about 57.3 million to about 48.5 million, a fall of around 15 per cent.
- **Issues with notification of crops:** As states have the responsibility to notify crops, there are lack of clarity and wide spread variations in choosing the major crops among the states, which in turn results in the exclusion from insurance coverage of farmers who grow non-notified crops.

Way Forward

- **Governance**
 - Strengthen **the capacity of state governments by increasing funds for rural infrastructure and incentivizing the development and use of technology.**
 - It is crucial to increase the penetration of crop insurance. Mandatory awareness programmes on the benefits of crop insurance must be developed and made available to farmers via radio, word of mouth, campaigns and farmer meetings.

- A regulatory framework that unifies the insurance system covering yield and price risk will ensure increased participation and stability.
- To encourage farmer participation, a revenue-protection insurance must be implemented, which will allow farmers to protect their income in times of harvest loss.
- **Technology and Infrastructure**
 - The use of remote-sensing, drones, satellite imagery and digitisation of land records for effective implementation of the PMFBY.
 - A grievance-redressal system to help distressed farmers resolve issues regarding the scheme.
 - A 360-degree approach where crop insurance scheme should be combined with efforts towards land and water management, including irrigation development, soil conservation and improvement in public delivery systems.
- **Other recommendations**
 - Land lease laws must be changed to achieve larger participation in the welfare programme. The land policy must be dynamic to prevent transformations from stalling, an important concern that needs cooperative federalism to achieve higher productivity in this sector.
 - Many male farmers are moving to urban areas for better opportunities, leaving the women to take care of the farms. Unfortunately, these women are not recognised as cultivators and cannot avail the benefits of the schemes targeted to farmers. It is crucial to include women farmers, tenant farmers and sharecroppers to help formalise this economy, protecting revenue and jobs.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

Objectives of the scheme

- To provide insurance coverage and financial support to the farmers in the event of natural calamities, pests & diseases.
- To stabilise the income of farmers to ensure their continuance in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure flow of credit to the agriculture sector.

Features of PMFBY

- It was launched in 2016 **replacing the existing two schemes** National Agricultural Insurance Scheme (NAIS) as well as Modified NAIS.
- A **uniform premium** of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops & oilseeds and 5% for horticultural crops.
- The balance premium was to be paid by state and central government in equal proportions.
- There is **no upper limit on Government subsidy** so farmers will get claim against full sum insured without any reduction.
- The PMFBY is **compulsory for loanee farmers** availing crop loans for notified crops in notified areas and **voluntary for non-loanee farmers**.
- The PMFBY operates on an area approach. Thus, all farmers in a particular area must pay the same premium and have the same claim payments.
- It encourages bidding amongst insurance companies before being allocated to a district to ensure fair competition.
- Yield Losses – Natural Fire and Lightning, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, Tornado. Risks due to Flood, Inundation and Landslide, Drought, Dry spells, Pests/ Diseases. **It also includes Post Harvest losses.**
- It also includes mandatory use of technology such as smart phones, drones etc. while assessing losses.
- **Public sector insurer** (Agriculture Insurance Company of India, United India Insurance Company etc.) and **private insurance companies** are empanelled for implementation of the scheme.
- **Recently**, states have been allowed to set up their own insurance companies for implementing the scheme.
- **Recently**, Government has comprehensively revised the Operational Guidelines of the scheme.
 - The farmers will be paid 12% interest by insurance companies for the **delay in settlement claims** beyond two months of prescribed cut-off date.
 - State Governments will have to pay 12% interest for the delay in release of State share of subsidy beyond three months of prescribed cut-off date submission of requisition by insurance companies.
 - Inclusion of hailstorms in post-harvest losses, besides unseasonal and cyclonic rainfalls.
 - Separate Budget Allocation for Administrative expenses (atleast 2% of budget of scheme).
 - Appointment of District Level Grievance Redressal Officer and creation of State and District Grievance Redressal Cells for fast redressal of grievances.

3.9. UN'S DECADE OF FAMILY FARMING

Why in news?

Recently, the United Nations' Decade of Family Farming (2019-2028), was launched by the **Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD)**.

More on news

- A **Global Action Plan** was also laid out to boost support for family farmers, which provides detailed guidance for the international community on **collective and coherent actions** that can be taken during **2019-2028**.

Family Farming: Concept and Significance

- As per the FAO, "Family farming is a means of organizing agricultural, forestry, fisheries, pastoral and aquaculture production which is **managed and operated by a family** and predominantly **reliant on family labour**."
- **Provide** healthy, diversified and **culturally appropriate foods**. They represent over 90 per cent of all farms globally, and produce 80 percent of the world's food in value terms.
- **Generate on- and off-farm employment** opportunities as they spend their incomes mostly within local and regional markets thus helping rural economies grow along with wider women's participation.
- **Ensure the succession of knowledge** and tradition from generation to generation, and promote social equity and community well-being.

Challenges to Family Farming in the developing countries

- **Socio-economic challenges:** Although family farmers produce most of food, they, paradoxically face poverty in developing countries with women farmers facing greater constraints. Rural youth are also highly vulnerable due to a lack of incentives for on-and off-farm employment opportunities.
- **Shrinking land holding**, as more than 80 percent of all farms globally are **below two hectares** therefore unable to reach **economy of scale**.
- **Lack of access** to resources, credit, infrastructure and technology to support the food production and marketing.
- **Climate change** as the environmental conditions on which they rely are under threat which necessitates adoption of **climate resilient** agricultural practices.

Conclusion

Family and farm represent a unity that continuously co-evolves, fulfilling economic, environmental, social and cultural functions of the wider rural economy. Hence the **Decade of Family Farming** aims to create a conducive environment that strengthens their position, and maximizes their contributions to global food security and nutrition, and a **healthy, resilient and sustainable future**.

International Fund for Agricultural Development (IFAD).

- An international **financial institution** and specialized United Nations agency based in **Rome**.
- Works in the most remote regions of developing countries and fragile situations, where poverty and hunger are deepest.

Global Action Plan of the Decade of Family Farming

Actions include

- Developing and implementing an enabling policy environment that support family farming at **local, national and international levels**;
- Supporting rural youth and women by enabling them to access productive assets, natural resources, information etc.
- Strengthening family farmers' organizations and their capacities to generate knowledge and link traditional knowledge with new solutions;
- Improving family farmers' livelihoods and enhancing their resilience to multiple hazards through access to basic **social and economic services**.
- Promoting sustainability of family farming for **climate-resilient food systems**

3.10. DISCOM DEBT TO RETURN TO PRE-UDAY LEVELS

Why in news?

As per a recent report of the rating agency CRISIL, the total debt of state-owned DISCOMS is set to **increase to pre-Uday levels of Rs 2.6 trillion** by the end of this fiscal year.

About Ujwal Discom Assurance Yojana (UDAY)

- In 2015, The Ministry of Power, Government of India launched this scheme, to improve the **financial health and operational efficiency** of India's debt-ridden power distribution companies (DISCOMS that supply power to consumer. They can be a private or a government company.
- It involved a tripartite agreement (Memorandum of Understanding, MoU) between Ministry of Power (MoP), state governments and respective DISCOMS.
- Under UDAY, DISCOMS can convert their debt into state government bonds, but are required to fulfill certain conditions such as **AT&C loss reduction, mandatory metering, power purchase planning and performance monitoring**. In lieu, state governments took over three-fourths of discom debts, thus reducing the interest burden.
- After UDAY had been implemented, aggregate discom debt had fallen from ₹2.7 lakh crore in September 2015 to ₹1.9 lakh crore in FY16 and ₹1.5 lakh crore in FY17.
- A CRISIL report has analyzed the DISCOMS in 15 states that account for 85% of the aggregate losses. As per it, the downward trajectory is now expected to reverse, moving up to ₹2.28 lakh crore in FY19 and ₹2.64 lakh crore in FY20.

Features of UDAY Scheme

 State Takeover of Discom Debt	 Debt takeover mechanism	 UDAY Bonds	 Treatment of residual debt	 Future Discom financing												
Scheme available only for State Discoms including combined generation, transmission and distribution undertakings	Debt of Discom will be taken over in the priority of debt already due, followed by debt with highest cost.1	Non-SLR bonds issued by States shall have maturity period of 10-15 years with a moratorium on repayment of principal up to 5 years, as required by the State	Up to 25% of the grant can be given as equity where the Discom requires equity support.	Bank/FIs henceforth cannot advance short term debt to Discoms for financing losses.												
States shall take over 75% of Discom debt as on September 30, 2015. Debt shall be taken over as: 2015-16 - 75% 2016-17 - 25%	Transfer to Discom by State will be as grant with an option to spread the grant over three years (MoP can further relax by 2 years for high debt States)	10 year Bond Pricing: The 10 year UDAY bonds would be priced at the 10 year G-sec + 0.50% spread of 10 year SDLs + 0.25% spread for non-SLR status on semi-annual compounding basis, or market determined rate whichever is lower. This may be further reduced if the interest is paid on monthly basis.	Discom debt to be taken over by the State will include Discom bonds which are committed to be taken over by the State as part of FRP 2012 including bonds already taken over in 2015-16	Working capital loans from Bank/FIs will only be allowed up to 25% of the Discom's previous year's annual revenue.												
Discom debt is de facto borrowing of State which is not counted in de Jure borrowing. Principal debt taken over will not be included in fiscal deficit of States. However, interest has to be serviced within FRBM limits.	State will issue non SLR including SDL bonds in the market or directly to the respective banks/ Financial Institutions (Fis) holding the Discom debt to the appropriate extent. Proceeds shall immediately be transferred by the States to the Discom, which in turn shall discharge the corresponding amounts to Bank/FIs debt.	Bonds to be issued against the loans of FIs, including REC and PFC, would first be offered for subscription by the market including pension and insurance companies. Balance, if any, would be taken over by banks in proportion to their current lending to Discoms.	For amount transferred as loan, the interest rate payable by the Discoms to the State for the intervening period shall not exceed the rate of interest on the bonds issued by the State.	States shall take over the future losses of Discoms in a graded manner <table border="1" data-bbox="1125 1489 1484 1680"> <tr> <td>FY16</td> <td>0% of the loss of FY15</td> </tr> <tr> <td>FY17</td> <td>0% of the loss of FY16</td> </tr> <tr> <td>FY18</td> <td>5% of the loss of FY17</td> </tr> <tr> <td>FY19</td> <td>10% of the loss of FY18</td> </tr> <tr> <td>FY20</td> <td>25% of the loss of FY19</td> </tr> <tr> <td>FY21</td> <td>50% of the loss of FY20</td> </tr> </table>	FY16	0% of the loss of FY15	FY17	0% of the loss of FY16	FY18	5% of the loss of FY17	FY19	10% of the loss of FY18	FY20	25% of the loss of FY19	FY21	50% of the loss of FY20
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FY21	50% of the loss of FY20															

Reasons for increase in debt levels of states

- **Limited Fiscal space-** it makes continuous financial support to their DISCOMS difficult. In 2016, most states had the fiscal headroom to assume three-fourths of the debt of their discoms, but now, because of the deterioration in their finances over the past few years, the space has become limited.
- **Operational Inefficiencies-** e.g. across several states, there is a lack of effective billing procedures, poor measurement of power consumption, and ineffective monitoring of power theft.

- **Increased Power Purchase Cost-** After the one-time measures under UDAY, the power purchase costs have now increased by 5 per cent in the first nine months of 2018-19. Further the input costs of coal and freight have gone up.
- **Lack of structural reforms-** such as AT&C losses reduced by only 400 bps by December 2018 from pre-UDAY levels, against the target of reducing AT&C losses by 900 basis points to about 15% in 2018-19.
- **Lack of adequate tariff hikes-** The average tariff increases were a paltry 3% per annum against the target of implementing regular tariff hikes of 5-6% per annum and now with the focus on new rural connections, further increases are unlikely. Even if the Discoms have improved their operational efficiency, but state regulators in some cases have not allowed electricity tariffs to keep pace with input costs.

Steps which need to be taken

- **Power banking:** DISCOMs could also resort to power banking arrangements wherein the state could smoothen the seasonal variations by supplying energy during surplus situations (e.g. in the month of June/July for Karnataka) to other states, which experience deficit situation during these months.
- **Separate power planning cell in DISCOMs:** This cell could support the demand forecasting exercise and coordinate with other state nodal agencies.
- Need to ensure **cost-reflective tariffs** so as to maintain the financial health of DISCOMs.
- **Material reduction in AT&C losses** using measures such as smart metering, installation of prepaid meters on government buildings.
- **Streamlining the energy auditing process:** In order to have a successful outcome from the smart metering initiative, all Distribution Transformers should be installed with smart meters, which could record real-time data remotely.

Conclusion

Till now, the focus was at the intervention in terms of reducing the debt burden. But, in future the focus needs to be at interventions in terms of technology and enablement to further achieve the same objectives. This will require aerial bunch cables, smart metering, providing some funds for dedicated police units which will be attached with the distribution companies, to prevent theft etc.

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4. SECURITY

4.1. CHALLENGE OF ISIS IN INDIA

Why in news?

Recently, the Islamic State (IS) terror group has claimed for the first time that it has established a “**province**” in India, after a clash between militants and security forces in the Kashmir region killed a militant with alleged ties to the group.

Background

- **Islamic state** previously known as the **Islamic state of Iraq and Syria (ISIS)**, is a terror group which envisages to establish an “**Islamic state based on Sharia law or Islamic Caliphate**”.
- IS's **Amaq News Agency** has announced its new province in India, that it called “**Wilayah of Hind**”, but did not elaborate on the branch's geographical remit.
- In the past, IS had vowed to convert India into **Khurasan State**, a historic name for a region that covers Afghanistan, Pakistan, parts of India, and other surrounding countries.

Why Islamic State is a challenge for India?

- **Involvement of other state actors**- such as Pakistan’s Inter-Services Intelligence (ISI), which can provide a well-established intelligence and logistic network, in a symbiotic relationship. The NIA reported in 2014, the recruitment of more than 300 Indian youths by Pakistan-based Tehreek-e-Taliban (TTP), which had joined hands with ISIS.
- **IS losing territorial ground in other areas**- such as Middle East to US-led forces, now IS is seeking to strengthening its global affiliations. Such a strategy was highlighted by ISIS chief Abu Bakr al-Baghdadi in the past. At the same time, ISIS views India as a potential hotbed for radicalization due to the demographic structure.
- **Efforts of radicalization**- The IS have published recruiting materials in Hindi, Urdu, Tamil and other languages spoken in India. In 2015, it released an e-book to spread its propaganda and making direct reference to Indian Prime Minister accusing him of spreading communal disharmony. So far, India has had some 82 active cases of investigations on individuals suspected of engaging in pro-ISIS activities.

Strengths of India in the fight towards IS

- Despite the initial euphoria, ISIS has not been able to create much of an influence in India.
- Recently, more than 1,000 Muslim leaders in India issued a fatwa condemning the terror group as “**un-Islamic and inhuman.**”
- The majority of the Muslims in India have historically followed a **liberal and spiritual faith of Islam** -- it is not based on the outer trappings of Islam but focused on the inner essentials of the religion.
- Over the centuries of co-existence and cultural intermingling, there emerged a mixed and mosaic-like Hindu-Muslim culture in the **Indo-Gangetic (popularly known as Ganga-Jamuni Tehzeeb)**.
- The fertile grounds of recruitment which ISIS finds in Europe are not present in India. Many of the ISIS cadres from Europe are drug-addicts, new converts and youth suffering from depression; many of them lack a social support system and have weak family ties and feel the effects of cultural deracination.
- Also, more or less, the constitutional fundamental rights mandated to all citizens of India given every citizen a sense of confidence.

IS Challenge in South Asia

- IS, although militarily now on the backfoot, is still – as the Sri Lankan attacks show – very much alive, with branches in 18 countries, including Afghanistan and Pakistan, and new forays into Bangladesh.
- In fact, there is an arc of new IS activity across Southeast Asia, including the Maldives, Indonesia and the Philippines.
- ISIS named a certain Abu Muhammed al-Bengali as its new emir in ‘Bengal’ and issued a direct threat to carry out strikes in India and Bangladesh.

Vulnerabilities in India

- **Gaps in intelligence architecture**-
 - The Intelligence Bureau (IB), the designated premier agency, is hamstrung by inadequate manpower and equipment.

- The National Investigative Agency (NIA) established in 2008 to exclusively investigate terror cases, lacks muscle, and receives little cooperation from state police forces which resent its intrusion.
- The Defence Intelligence Agency (DIA) was set up in 2002, but is underutilised in the absence of a chief of defence staff, and duplicates the external intelligence work being done by the Research & Analysis Wing (RAW).
- **Inadequate technical research capacity-** The National Technical Research Organisation (NTRO), failed to flag twitter accounts such as ShamiWitness, which allegedly became one of the most vocal proponents of ISIS on the Internet. The NatGrid, a national, computerised information sharing network, which was first mooted in 2001 but did not see the light of day till 2008, is still struggling to become fully operational.
- **Presence of radicalized youth in neighbouring region-** There have been examples of Bangladeshi and Indian pro-ISIS individuals attempting to work together online to form a larger base of like-minded individuals to create an organised entity.
- **Presence of other terror groups-** With the dismantling of the Indian Mujahideen, several radical extremists groups are looking for an alternate identity and ISIS may well provide the much desired character. The appearance of black flags in Jammu and Kashmir preceding the Indian PM's visit was one such instance where local insurgent outfits were using the name of ISIS in order to garner attention.

Way Forward

- It is necessary for India to effect changes in its internal security architecture and further empower its intelligence and investigation agencies for enhanced preparedness, some diplomatic measures are also needed to counter terrorism in the whole continent.
- A large part of the preparatory work in the fight against IS has to be done by research analysts and intelligence agents, well before kinetic measures are applied. This must receive the necessary impetus through cross platform recruitment of specialists dealing with social media, big data analysis, terrorism finance and technical intelligence, to name a few.
- A comprehensive strategy of early prevention, targeted repression and intervention, which involves government and non-governmental actors. Influential Minority Religious leaders should be roped in to appeal to youth against radical propoganda, especially those coming through social media and other internet platforms.
- The government should work with social groups, NGOs and student bodies, which can reach out easily to the population at large, as compared to state institutions.
- While India has showcased a steadfast and robust human intelligence record against deterring terror activities, the Achilles heel remains the online world. A well-operated online intelligence network in India will not only have a domestic benefit, but will give gains to the neighbourhood as well with intelligence sharing, joint online operations and database convergence to keep a check on ISIS's influence on the internet.

4.2. CHRISTCHURCH CALL TO ACTION

Why in news?

Recently, a document called "Christchurch Call To Action" was signed and adopted with participation from 26 nations, including India.

More on news

- The initiative was taken up by the governments of France and New Zealand along with top social media companies after the Christchurch attacks to combat online extremism and secure the Internet.

Other similar initiatives

- **Tech against Terrorism** is an initiative launched and supported by the United Nations Counter Terrorism Executive Directorate (UN CTED) working with the global tech industry to tackle terrorist use of the Internet whilst respecting human rights.
- **Global Internet Forum to Counter Terrorism (GIFCT)** is an industry led initiative, working in close partnership with the UN Counter Terrorism Executive Directorate (UNCTED) to substantially disrupt terrorists' ability to promote terrorism, disseminate violent extremist propoganda.
- **Aqaba Process** was established by the Hashemite Kingdom of Jordan to counter radicalization and extremism in Arab World and promote moderate Islam.
- **Global Counter Terrorism Forum (GCTF)** is an informal, apolitical & multilateral CT platform, launched in 2011. It develops training modules, good practices and ICT tools to strengthen CT civil capabilities and national strategies. **India is a founding member of GCTF.**

- It outlines **collective, voluntary commitments** from governments and online service providers intended to address the issue of violent extremist content online and to prevent abuse of the internet, while maintaining international human right laws.
- The signatories include France, New Zealand, European Commission, Ireland, Norway, Senegal, Canada, Jordan, UK, Indonesia, Australia, Germany, Japan, Spain, Netherlands, Sweden and India.
- **US declined to join the Call** citing freedom of expression and freedom of the press as reasons it would not be joining the agreement.

Features of the Call

Under the Call, the Governments have committed to:

- Counter **drivers of terrorism** and **violent extremism** by strengthening **resilience and inclusiveness of societies** through education, building media literacy and fight against inequality.
- Ensure **effective enforcement of laws** that prohibit the production or dissemination of extremist content, while ensuring consistency the rule of law & human rights including freedom of expression.
- Encourage **media outlets to apply ethical standards** when depicting terrorist events online, to avoid amplifying terrorist and violent extremist content.
- **Awareness-raising** and **capacity-building** of smaller online service providers, development of **industry standards or voluntary frameworks** and policy measures to prevent dissemination of extremist content, while **maintaining free, open and secure internet**.
- **Ensure appropriate cooperation with and among law enforcement** agencies for the purposes of investigating and prosecuting illegal online activity.

Online service providers have committed to 9 point action plan with 5 individual actions:

- **Terms of Use:** Updating terms of use, community standards, codes of conduct, and acceptable use policies to expressly prohibit the distribution of terrorist and violent extremist content.
- **User Reporting of Terrorist and Violent Extremist Content:** Providing easy to use methods within online platforms and services for users to report or flag inappropriate content.
- **Enhancing Technology:** Prevent the **upload & dissemination** of terrorist and violent extremist content, with a **mechanism for automatic identification** and immediate & permanent removal.
- **Live-streaming:** Regulate through vetting procedures like account activity and ratings, and publish regular, transparent reports on extremist content on their platforms.
- **Transparency Reports:** Publishing on a regular basis transparency reports regarding detection and removal of terrorist or violent extremist content on online platforms

In addition, the online platform also committed to following collaborative actions to be undertaken with support from Governments and civil society

- **Shared Technology Development:** Share technology with other industries, governments, and NGOs, such as data sets and open source content AI detection tools.
- **Crisis Protocols:** Creating a crisis protocol for responding to emerging or active events, on an urgent basis, so relevant information can be quickly and efficiently shared, processed, and acted upon by all stakeholders with minimal delay.
- **Education:** Collaborate with industry, governments, educational institutions, and NGOs to help educate the public about terrorist and extremist violent content online & how to report it.
- **Work together** to ensure cross-industry efforts are coordinated and robust and coordinate with Governments and civil society. E.g. Investing in and expanding the **GIFCT** (see box).
- **Combating Hate & Bigotry: Support research and academic efforts** to better understand and attack root causes of extremism and online hate and supporting capability and capacity of NGOs to promote pluralism.

Significance of the Christchurch Call

- The **aim of the call is significant** as it raises the concern related to the use of Internet and web-enabled technologies in spreading propaganda, seeking finances, training, planning and execution which is visible across the globe in major terror attacks (e.g. London, Madrid, Mumbai, Dhaka etc).
- It is the **1st major initiative towards securing global cooperation** to contain the misuse of social media platforms by terrorists & extremists.

- It seeks to **balance global security with human rights** with its emphasis on preserving the principles of a free, open and secure internet and seeking action against objectionable content without compromising fundamental freedoms.
- Considering the **constant evolution of communication technology**, the collaboration between technology companies and Governments is the need of the hour.

Conclusion

However, the pledge **does not contain any enforcement or regulatory measures**, and it would be up to each individual country and company to decide how it would honour its voluntary commitments. Moreover, a **definition of violent extremist content is not included** in a draft version of the pledge, and it would be up to individual companies to decide on what constituted objectionable material. Thus, the success of the pledge depends upon willingness and initiative of the signatory countries to abide by their commitments.

4.3. INDIAN TRI-SERVICES COMMANDO UNIT

Why in News?

In a major step towards setting up of an **elite Indian tri-services commando unit**, a Major General ranked officer has been appointed as the **first chief of the Armed Forces Special Operations Division**.

About Armed Forces Special Operations Division.

- The tri-services formation will have Special Forces **commandos from Army's Parachute Regiment, Navy's MARCOS and Air Force's Garud Commando Force**.
- The three forces have operated together but this will be **first effort to bring them under a common command and control structure**, an important step in integration of the three forces
 - Earlier in December 2018, three services had also agreed on the appointment of a **Permanent Chairman of the Chiefs of Staff Committee (PCCoSC)** which is to be headed by a four-star military officer, who will be equivalent to chiefs of army, airforce and navy.
 - He would look into **joint issues of the services** like training of troops, acquisition of weapon systems and joint operations of the services.
- These three units will function under the **Integrated Defence Staff (IDS)**.
- It will start functioning with a small team of commandos. This division will have around 3,000 trained commandoes to **carry out warfare in jungles, at sea and attack or rescue helicopter operations**.
- It will also **be responsible for conducting missions** that include targeting strategic installations, high-value targets in terms of terrorists and crippling the war-fighting capabilities of the enemy.

Integrated Defence Staff (IDS)

- It is an organisation responsible for fostering **coordination and enabling prioritisation across the different branches of the Indian Armed Forces**.
- It is composed of representatives from **the Indian Army, Indian Navy, Indian Air Force, Ministry of External Affairs, Defence Research and Development Organisation, Ministry of Defence and Ministry of Finance**.
- It is **headed by Chief of Integrated Defence Staff** along with Deputy Chiefs of Integrated Defence Staff.
- The body **advises and assists the chairman of the Chiefs of Staff Committee**.
- It was established in 2001 after the recommendations of the **Kargil Review Committee**.

Chiefs of Staff Committee

- It advises the Defence Minister and through him all the matters relating to military are seen further by Cabinet Committee on Political Affairs.

Significance of the move

- It will **reduce costs of training besides logistics and administrative costs**.
- The division will **boost India's capability** to conduct frequent surgical strikes like tactical operations and secret missions both within and outside the country.
- India has been facing terrorism threats for decades now and there has been a view that we need a special team to take on such threats with **specialised forces operating in synergy with each other**.

4.4. FOREIGNERS' TRIBUNAL

Why in news?

Supreme Court held that a Foreigners' Tribunal's order declaring a person as an illegal foreigner would be binding and would prevail over the government decision to exclude or include the name from the National Register of Citizens (NRC) in Assam.

More on news

- When the draft NRC was published in 2018, around **40.7 lakh people were excluded** from the NRC. However, those excluded were **allowed to file claims and objections** with **NRC Seva Kendras**. The claims-and-objections process will also take into account errors during the update and any new document submitted (like birth certificates, land records etc.)
- Once the final NRC is published, those excluded can approach **Foreigners' Tribunal**, followed by further appeals from Guwahati High Court and Supreme Court.
- The State Government **proposed to set up 1000 Foreigners Tribunals (FTs)** to review the appeals of those declared as illegal immigrants.
- The decision of FTs cannot be abrogated through executive action. According to SC, the principle of '**res-judicata**' (a judicially decided issue cannot be re-agitated) would apply on the decision of FTs and a person who has been **declared an illegal immigrant cannot seek re-decision** in normal circumstances.
- Those, whose appeals are rejected, will be sent to **detention centres** or **deported**.

About Foreigners' Tribunals

- Foreigners' Tribunals (FTs) are **quasi-judicial** bodies meant to determine whether a person is or is not a foreigner under **Foreigner's Act, 1946**.
- FTs were **first setup in 1964** and are **unique to Assam**. In rest of the country, a foreigner apprehended by the police for staying illegally is prosecuted in a local court and later deported/put in detention centres.
- Each FT is headed by a member who can be a **retired judicial officer, bureaucrat or lawyer with minimum seven years of legal practice**.
- Earlier, powers to constitute tribunals were vested only with Centre. Recently amended **Foreigners (Tribunal) Order, 2019** has empowered district magistrates in all States & Union Territories to set up tribunals to decide whether a person staying illegally in India is a foreigner or not.

ENGLISH Medium | 25 July 5 PM **हिन्दी माध्यम | 1 Aug 5 PM**

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5. ENVIRONMENT

5.1. CARBON DIOXIDE IN THE ATMOSPHERE

Why in News?

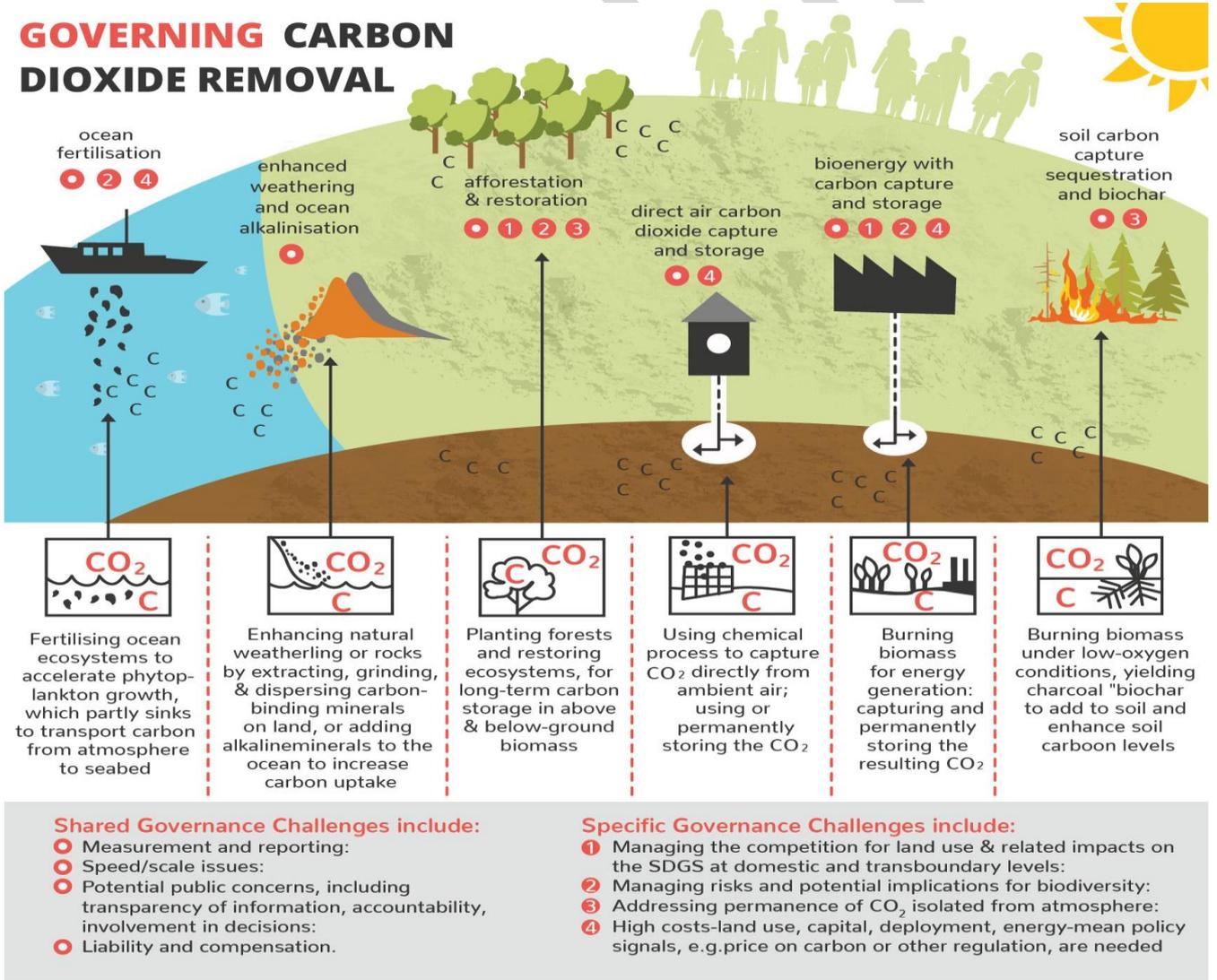
Recently, for the first time, global concentration of carbon dioxide in the atmosphere have crossed 415 parts per million (ppm) mark as per **Mauna Loa Observatory**.

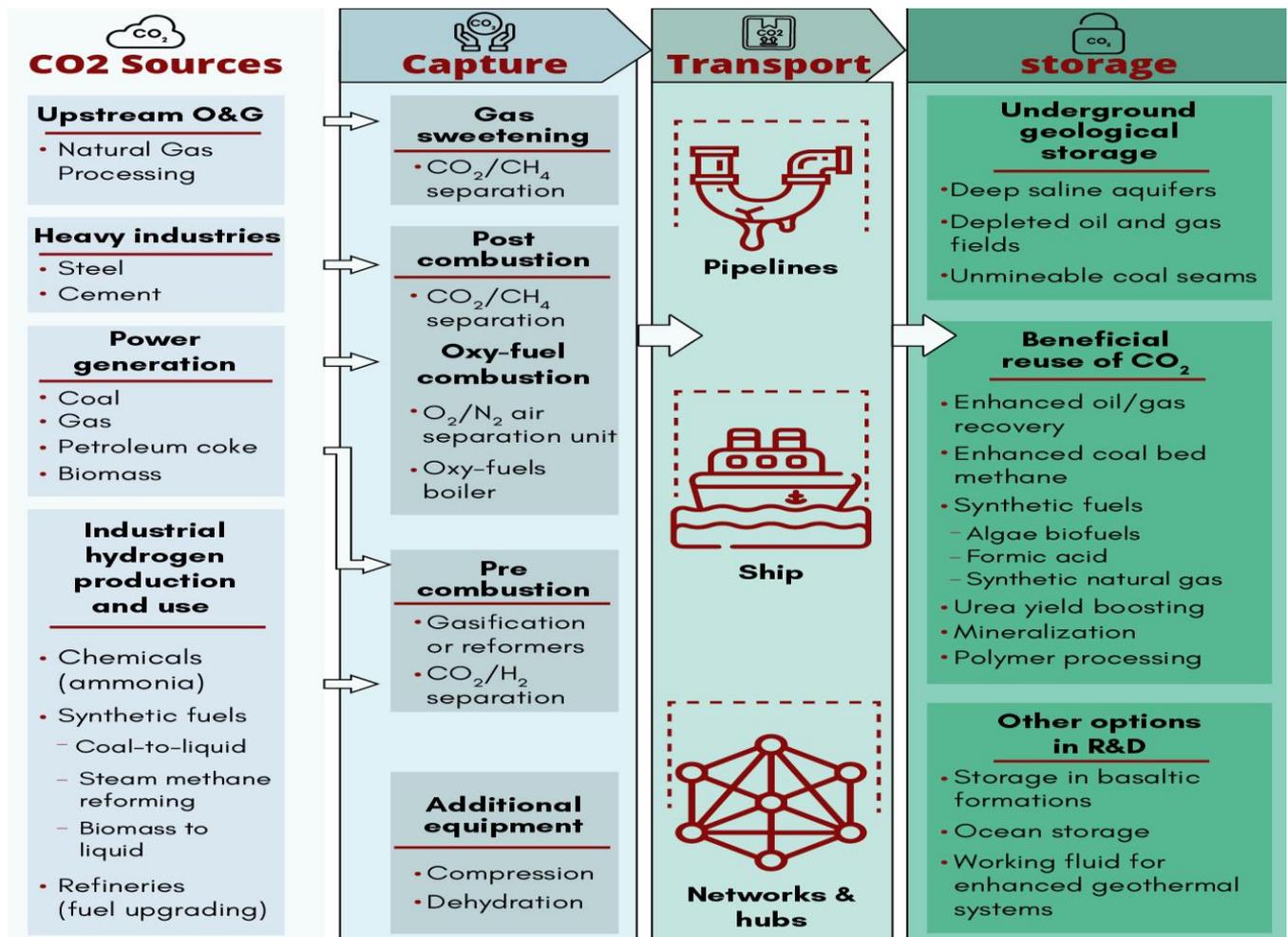
Background

- **Paris Agreement 2015:** Parties to the United Nations Framework Convention on Climate Change (UNFCCC) agreed to limit global temperature increase to well below 2°C above pre-industrial levels and to pursue efforts to limit the increase to 1.5 C.
- In 2018, the **Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C (IPCC SR 1.5°C)** warned that the impacts of warming at 2°C would be significantly worse than those at 1.5°C.
- According to IPCC SR 1.5°C, to avoid or limit any overshoot of the 1.5°C temperature goal, CO₂ emissions **will need to be phased out almost entirely by 2050.**

- **Mauna Loa Observatory (MLO)** is the oldest continuous carbon dioxide (CO₂) measurement station in the world situated in Hawaii.
- The observatory is part of the **National Oceanic and Atmospheric Administration (NOAA)** - Earth System Research Laboratory (ESRL) - Global Monitoring Division (GMD).
- **Keeling Curve** is a graph of the accumulation of carbon dioxide in the Earth's atmosphere based on continuous measurements taken at the Mauna Loa Observatory.

Steps to be taken to reduce Carbon dioxide in atmosphere





5.2. PLASTIC POLLUTION

Why in news?

Recently, more than 25 states in the country have failed to submit their **respective action plans on systematic disposal of plastic waste** to the Central Pollution Control Board (CPCB) due till the deadline of April 30, 2019.

Background

- A 2017 report by the **Central Pollution Control Board (CPCB)** pegs the amount of plastic waste generated in India at 25,940 tonnes per day.
- India notified the **Plastic Waste Management Rules in 2016**, which replaced the earlier Plastic Waste (Management and Handling) Rules, 2011.
- As per the **Rule '17(3)** of the rules, each State Pollution Control Board or Pollution

Plastic Waste Management Rules, 2016 (as amended in 2018)

- Defines minimum thickness of plastic carry bags** i.e. 50 microns. This would increase the cost and the tendency to provide free carry bags would come down.
- Responsibility of local bodies:** Rural areas are brought under the rules since plastic has reached rural areas as well. The gram sabhas have been given responsibility of implementation.
- Extended Producer Responsibility:** Producers and brand owners have been made responsible for collecting waste generated from their products.
- Producers are to keep a record of their vendors** to whom they have supplied raw materials for manufacturing. This is to curb manufacturing of these products in unorganised sector.
- Responsibility of waste generator:** All institutional generators of plastic waste shall segregate and store their waste as per Solid Waste Management Rules, and handover segregated wastes to authorized waste disposal facilities.
- Responsibility of street vendors and retailers:** Not to provide such carry bags or fine would be imposed. Only the registered shopkeepers on payment of a registration fee to local bodies would be allowed to give out plastic carry bags on charge.
- Promote the use of plastic** for road construction or energy recovery.
- A Central Registration System** for the registration of the producer/importer/ owner.
- Phasing out of Multi-layered Plastic (MLP)** is applicable only to MLP that are "non-recyclable or non-energy recoverable or have no alternate use".

Control Committee shall prepare and submit the Annual Report to the CPCB on the implementation of these rules by the **31st July of each year**. However, inaction on the states' part made the CPCB approach the **National Green Tribunal (NGT)** to enforce the implementation of plastic waste management rules by non-compliant states.

- The NGT in March 2019, ordered all states and UTs (**except for Andhra Pradesh, Sikkim, West Bengal, and Puducherry**) to submit action plans for implementing Plastic Waste Management Rules, 2016 by **April 30, 2019**. The court had also said that failure to do so would invite a **penalty of Rs 1 crore per month**.
- However, 25 states failed to send their action plans to the Central Pollution Control Board (CPCB) by the designated date.

Impact of plastic Pollution

- **Environmental Pollution:** According to a 2014 toxics link study on plastic waste, it contributed directly to ground, air and water pollution.
 - **Soil Pollution:** Toxic chemicals leach out of plastic through landfill site, is linked to decreasing crop productivity, impacting food security, birth defects, impaired immunity, endocrine disruption and other ailments
 - **Poisoning Ocean:** Every year, up to 13 million tons of plastic leak into our oceans, where it smothers coral reefs and threatens vulnerable marine wildlife. The plastic that ends up in the oceans can circle the Earth four times in a single year, and it can persist for up to 1,000 years before it fully disintegrates.
 - **Air Pollution:** Disposing of plastic waste by burning it in open-air pits releases harmful gases like furan and dioxin.

CATEGORIES OF PLASTIC			
Type	Category	Examples	Recyclable?
 Thermoplastics	PS (Polystyrene)	Foam hot drink cups, plastic cutlery, containers, and yogurt	Partially
	PP (Polypropylene)	Lunch boxes, take-out food containers, ice cream containers	Partially
	LDPE (Low-density polyethylene)	Garbage bins and bags	Partially
	PVC (Plasticized polyvinyl chloride or polyvinyl chloride)	Juice or squeeze bottles	Yes
	HDPE (High-density polyethylene)	Shampoo containers or milk bottles	Yes
	PET (Polyethylene terephthalate)	Fruit juice and soft drink bottles	Yes
 Thermoset and others	Multi-layer and laminated plastics, polyurethane foam, Bakelite, polycarbonate, melamine, nylon etc.	Car parts, mattresses, circuit boards and electrical insulators	Yes

- **Social Cost:** The social damage continuously being inflicted is inestimable as every sphere of life get affected by it like tourism, recreation, business, the health of humans, animals, fish and birds.
- **Health Impact:** Plastic bags often provide breeding grounds for mosquitoes and pests thus increase the transmission of vector-borne diseases like malaria.
- **Bioaccumulation:** Plastic bags are often ingested by animals who mistakenly taken them for food due to which toxic chemicals entered the human food chain.
- **Financial Loss:** The total economic damage to the world's marine ecosystem caused by plastic amounts to at least \$13 billion every year.
- **Exuberating Natural Disaster:** Encroachment and clogging of city drainage with plastic and solid waste often leads to suburban flooding e.g. Mumbai's experience of annual flooding like situation during monsoon season due to water clogging etc.

Additional Information

- **Microplastics or Microbeads** are plastic pieces or fibre, which is very small, generally measuring **less than 1mm**. They enter water bodies they accumulate as act as carriers for other pollutants. They carry carcinogenic chemical compounds in the food chain.
- **Single-use plastics:** Also referred as disposable plastics, are commonly used for plastic packaging and include items intended to be used only once before they are thrown away or recycled. They have a higher carbon footprint and are more resource and water intensive to produce.

Challenges in addressing Plastic Pollution

- **Not prioritized by the state authorities-** Waste management is the last in the list of priorities of municipal corporations. Many States/UTs have not constituted **State Level Monitoring Committee (SLMC) Body** to monitor implementation of PWM Rules.
- **Lack of expertise-** among the state pollution control boards and the dearth of understanding of the scale of the plastic waste challenge.
- **Presence of a communication gap** between the state and central government officials.
- **Poor response of companies/ producers-** which are mandated to set up systems either individually or collectively in cities to ensure the collection of non-recyclable waste. They are supposed to submit their plans to states, which has been founding lacking till now.

- **Lack of accurate data-** Only 14 of India's 35 state pollution control boards filed information on plastic waste generation in 2017-18, as per CPCB. The states have been unable to gather real-time data on its generation.
- **Large-scale presence of informal sector-** Over 90 percent of the plastic industry is informal, thus trying to reach and work with these manufacturers becomes a challenge. It is further compounded due to presence of illegal units.

Way Forward

- The Centre and state should conduct **awareness programmes** and **capacity building exercises** to educate **state-level officials** to carry out necessary measures to segregate plastic and dispose it.
- To manage plastic waste, it is imperative for states to **devise plans based on real-time targets** and have companies and plastic manufacturers on in the loop.
- The **informal sector** needs to be given proper recognition, including adequate space, access to waste, storage and recognised plastic collection centres. States should plan to incentivise the informal sector to collect single-use plastic and other plastics which have low or no value, so that they get properly disposed of.
- For **use of alternatives to plastics**, consumer awareness campaigns need to be devised. Further, the alternatives should be made available at lower prices for consumers to move away from plastics. For this alternative industries should be promoted so as to reduce their prices.
- A **multi-stakeholder action plan** should be put in place by the states to consider reduction, focus on low value or no value of plastics and include the informal sector, enabling them to become entrepreneurs. The State Urban Development Authorities should incorporate PWM Rules, 2016 in Municipal Bye-laws for its effective implementation.

5.3. COP TO BASEL, ROTTERDAM AND STOCKHOLM CONVENTIONS

Why in News?

Recently, 2019 joint **Conferences of the Parties** to the Basel (COP-14), Rotterdam (COP-09) and Stockholm (COP-09) convention was held in Geneva.

Important Decision taken during COP are:

- **Under the Rotterdam Convention: Establishment of a compliance mechanism** to assist Parties to identify and address gaps in complying with the Convention, with the aim of ensuring that governments have the information they need about hazardous chemicals to assess the risks and take informed decisions when importing chemicals.
 - Two chemicals, **the pesticide phorate** and the industrial **chemical hexabromocyclododecane** were added to Annex III of the convention, making them subject to the Prior Informed Consent (PIC) Procedure, through which countries can decide on future imports of these chemicals.
- **Under Stockholm Convention: Listing for elimination of dicofol and perfluorooctanoic acid (PFOA)**, its salts, and PFOA-related compounds under **Annex A of the Convention**, which obliges Parties to eliminate these chemicals from use.
 - Dicofol is used as a miticide on a variety of field crops, fruits, vegetables, ornamentals and tea and coffee and is known to cause skin irritation and hyperstimulation of nerve transmissions in humans as well as being highly toxic to fish, aquatic invertebrates, algae and birds.
 - PFOA is a widely-used industrial chemical used in the production of non-stick cookware and food processing equipment, as well as a surfactant in textiles, carpets, paper, paints and fire-fighting foams. As a substance of very high concern, it is known to be linked to major health problems including kidney cancer, testicular cancer, thyroid disease and hypertension in pregnancy.
- **Under Basel Convention: Adoption of an amendment to include unsorted, mixed and contaminated plastic waste under PIC (Prior Informed Consent) procedure** and improve the regulation of its transboundary movement.
 - The **legally binding framework for reducing plastic waste** means countries will have to monitor and track thousands of types of plastic waste outside their borders.
 - It will make global trade in plastic waste **more transparent and better regulated**, whilst also ensuring that its management is safer for human health and the environment.

- It would also **empower developing countries to refuse plastic waste dumping**. Even though the U.S. and a few others have not signed the accord, they cannot ship plastic waste to countries that are on board with the deal.
- **Partnership on Plastic Waste** was also established to mobilise business, government, academic and civil society resources, interests and expertise to assist in implementing the new measures, to provide a set of practical supports – including tools, best practices, technical and financial assistance.
- It also adopted technical guidelines on environmentally sound management (ESM) of **electrical and electronic wastes (e-wastes)**.

Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal

- It was adopted in 1989 and entered into force on 5 May 1992.
- It was created to address concerns over the management, disposal, and transboundary movement of the estimated 400 million tonnes of hazardous wastes that are produced worldwide each year.
- The guiding principles of the Convention are that transboundary movements of hazardous wastes should be: reduced to a minimum; minimized at the source; managed in an environmentally sound manner; and treated and disposed of as close as possible to their source of generation.

Rotterdam Convention on the Prior Informed Consent Procedure (PIC) for Certain Hazardous Chemicals and Pesticides in International Trade

- It was adopted in September 1998 and entered into force on 24 February 2004.
- It's jointly administered by the United Nations Food and Agriculture Organization (**FAO**) and **UN Environment (UNEP)**.
- It creates **legally-binding obligations** for the implementation of the Prior Informed Consent (PIC) procedure.
- **Objectives:** To promote shared responsibility and cooperative efforts among parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm.
 - To contribute to the environmentally sound use of those hazardous chemicals by: **facilitating information exchange** about their characteristics; providing for a **national decision-making process on their import and export**; and **disseminating** these decisions to parties.

Stockholm Convention on Persistent Organic Pollutants (POP)

- It was adopted in May 2001 and entered into force on 17 May 2004.
- It's a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods (POP), become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.
- It calls for international action on three categories of POPs: pesticides, industrial chemicals, and unintentionally produced POPs.
- **Key provisions:** Elimination (POPs in annex A); Restriction (POPs in annex B) & Reduction or elimination (unintentionally produced POPs in annex C)
- It requires parties to prevent the development of new POPs and promote best available techniques (BAT) and best environmental practices (BEP) for replacing existing POPs.
- It initially addressed 12 substances (**known as "the dirty dozen"**), but now 30 chemicals of global concern are listed under it, including Dicofol and PFOA.

5.4. BIO JET FUEL

Why in News?

Recently, a Russian-origin AN-32 transport plane was formally fleet certified by DRDO to fly with the 10 per cent bio-jet blended ATF (aviation turbine fuel) made **from Jatropha oil**.

More about the news

- The first AN 32 was flown in December 2018 using the bio-jet fuel.
- India's first biofuel-powered flight was successfully tested between Dehradun to Delhi in August 2018 by Spicejet Airlines to ascertain the feasibility of biofuel powered flights.

Jatropha

- Jatropha is a plant of Latin American origin, which is now widespread throughout arid and semi-arid tropical regions of the world.
- It is a drought resistant perennial plant living up to 75 years.
- Jatropha seeds contain about 35% non-edible oil.
- Jatropha oil can be used directly in diesel engines, added to diesel fuel as an extender or Trans-esterifies to a bio-diesel fuel.
- Jatropha seed cake makes an excellent organic fertilizer with a high nitrogen content. It can also be used as a livestock feed.
- It is also used as an insecticide and fungicide.

- While developed countries like Canada, Australia and US have already conducted these test flights, India would be the first developing nation to experiment that.
- The indigenous bio-jet fuel was first produced by the Council of Scientific and Industrial Research, and Indian Institute of Petroleum, Dehradun in 2013.
- Bio-jet fuel making involves a hydrocracking process (two-stage process that combines catalytic cracking and hydrogenation) with non-precious metal based catalyst developed inhouse at CSIR-IIP Dehradun.

Significance of Bio jet fuel

- Regular use of such bio-fuels can help the IAF **cut down some costs in buying huge quantities of ATF** every year and reduce fossil fuel use.
- Bio-Fuel will be produced only from non-edible oils that **grow well in arid lands**, in states like Gujarat, Punjab, Haryana, Chattisgarh, Uttarakhand and Telangana.
- This is a huge step **in promoting the 'Make in India' mission** as this bio-fuel would be produced from Tree Borne Oils (TBOs) sourced from tribal areas and farmers, augmenting their income substantially.
- Aviation sector is one of the largest emitters of Green House Gas worldwide (at 2% of the total human induced GHG emissions). So, the sector's transition to sustainable and renewable fuels is crucial **to meet international climate targets set in 2015 Paris Agreement**.
- Green Aviation biojet-fuels contribute around 80% reduction in the carbon footprint of the aviation industry and are a potential offset for CO2 emissions in the aviation industry.
 - Recently, the Directorate General of Civil Aviation (DGCA) issued draft guidelines for aeroplane operators flying on international routes for implementation of Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).
 - **CORSIA** is the International Civil Aviation Organization (ICAO) resolution for a global marketbased measure to address CO2 emissions from international aviation from 2021 to 2035.
 - All civilian international operations undertaken by operators are covered by CORSIA with **exceptions for humanitarian, medical and fire-fighting flights**.

5.5. TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)

Why in news?

Recently, a report titled, **'Changing Course- a comprehensive investor guide to scenario-based methods for climate risk assessment'** was released in line with the recommendations of the FSB's **Task Force on Climate-related Financial Disclosures (TCFD)**.

About Task Force on Climate-related Financial Disclosures (TCFD)

- The TCFD was established by the Financial Stability Board in 2015 to develop a set of **voluntary, consistent disclosure recommendations** for use by companies in providing information to investors, lenders and insurance underwriters about their climate-related financial risks.
- The Task Force published its recommendations in June 2017 after extensive public engagement and consultation. Following this, 20 institutional investors from 11 countries called as **Investor Pilot Group**, convened by the **U.N. Environment Finance Initiative (UNEP FI)** have come up with this report that helps investors understand how to calculate the risk companies face from climate change.

U.N. Environment Finance Initiative (UNEP FI)

- It is a partnership between **United Nations Environment** and the global **financial sector** created in the wake of the 1992 Earth Summit with a mission to promote sustainable finance.
- The UNEP FI consists of 215 members from financial institutions, banks, investors and insurance companies among others.
- UNEP FI hosts its **Global Roundtable** every other year and has done so since 1994.
- The **UNEP Statement of Commitment by Financial Institutions on Sustainable Development** represents the backbone of the Initiative.
- It is also a founding member of the United Nations **Sustainable Stock Exchanges (SSE)** initiative along with the **Principles for Responsible Investment (PRI)**, the United Nations Conference on Trade and Development (**UNCTAD**), and the **UN Global Compact**.

Key observations of the Report

- This report presents the methodology enhanced and used by the **Investor Pilot Group** in collaboration with the data analytics firm Carbon Delta. The main objective of the Investor Pilot including this report is two-fold- **boost investor savviness** and support **industry-wide harmonisation**.
- In holding large portfolios, **most institutional investors** face exposure to risk across sectors, geographies and financial instruments, while at the same time financing the development of the real economy.
- The report has noted that it is important to consider climate change in strategic decisions due to the longer time horizons of their asset and liability management, as well as their exposure to equity and unsecured debt.

5.6. CYCLONE FANI

Why in news?

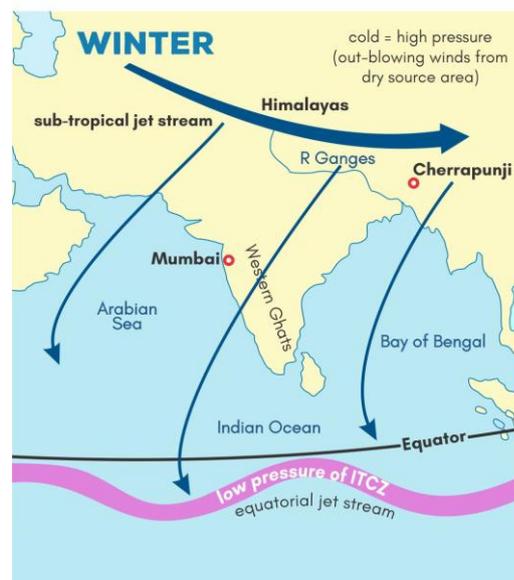
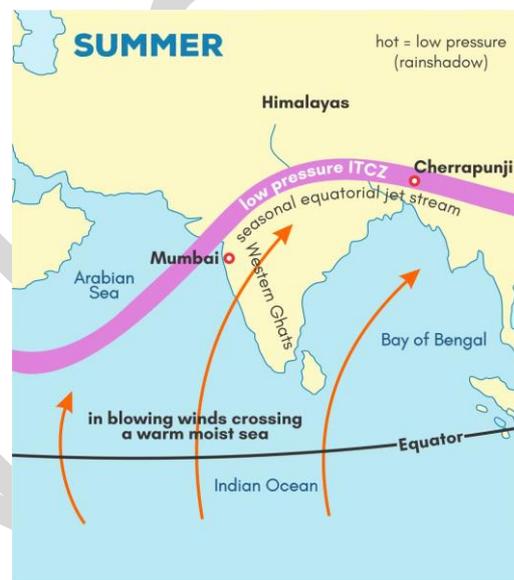
Extremely severe cyclonic Fani recently hit the Odisha coast.

More in news

- India Meteorological Department issued **yellow warning**, which indicates severely bad weather, warning people who are at risk to take preventive action.
- With sustained winds of 240 kmph, the storm was the equivalent of a **Category 4 hurricane on the Saffir-Simpson Hurricane Wind Scale**.
 - The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based on a hurricane's sustained wind speed.
 - This scale **estimates potential property damage**.
 - Hurricanes reaching Category 3 and higher are considered major hurricanes because of their potential for significant loss of life and damage.

What makes Fani unique?

- **Place of origin:** The in situ cyclonic systems in the Bay of Bengal usually originate around latitude 10°, in line with Chennai or Thiruvananthapuram. **Fani, on the other hand, originated quite close to the Equator, around latitude 2°, well below the Sri Lankan landmass.**
- **Lifespan:** Tropical cyclones over the Bay of Bengal have a lifespan of four-seven days, whereas Fani traveled long which allowed it to gather a lot of moisture and momentum, resulting in strong winds.
- **Route:** Fani was **initially headed north-westwards**, towards the Tamil Nadu coast but **changed its course midway** and moved northeast away from the coastline to reach Odisha. The **recurve** it has taken gave it more time over the sea and has ensured that it has gathered unusual strength.
- **Strength:** Most cyclones that generate exclusively in the Bay of Bengal become relatively weaker by the time they reach the Indian landmass. Cyclone Fani made a landfall in Odisha with **wind speeds of more than 170 km/h**.
- **Timing:** It started developing in April, a month that has historically seen very few cyclones that were



Naming of cyclone in Indian Ocean

- World Meteorological Organisation (WMO) and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) started the tropical cyclone naming system in 2000.
- Eight north Indian Ocean countries — Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand, gave eight names each which was combined into a list of 64 names.

categorised as extremely severe. According to the IMD, in the past 126 years (1891-2017) only 14 severe tropical cyclones have formed in April over the Bay of Bengal. Out of those, only one storm crossed the Indian mainland. Cyclone Fani will be the second storm to form in April and cross the mainland.

Cyclones

- Tropical cyclones—also called typhoons or hurricanes—are intense water-rotating systems formed by strong winds around low-pressure areas.
- **Conditions required:**
 - The temperature of the top layer of the sea, up to a depth of about **60 metres, need to be at least 28°C** to support the formation of a cyclone.
 - Then, the low level of air above the waters needs to have an **‘anticlockwise’ rotation (in the northern hemisphere; clockwise in the southern hemisphere)**.
- This explains why the April-May and October-December periods are conducive for cyclones.
- During these periods, there is a **ITCZ in the Bay of Bengal** whose southern boundary experiences winds from west to east, while the northern boundary has winds flowing east to west. This induces the anticlockwise rotation of air.
- Once formed, **cyclones in this area usually move northwest**. As it travels over the sea, the cyclone gathers more moist air from the warm sea, and adds to its heft.
- **Cyclones emerging in April-May usually are much weaker than those during October-December.**
- The Indian subcontinent experiences cyclones from two basins: the Bay of Bengal basin and the Arabian Sea basin.
- Of the two, **more cyclones are generated in the Bay of Bengal and cyclones here have also been more severe than the one generated over the Arabian Sea.**
 - The Bay of Bengal receives higher rainfall and constant inflow of fresh water from the Ganga and Brahmaputra rivers. This means that the Bay’s surface water keeps getting refreshed, making it impossible for the warm water to mix with the cooler water below, making it ideal for a depression.
 - On the other hand, the Arabian Sea receives stronger winds that help dissipate the heat, and the lack of constant fresh water supply helps the warm water mix with the cool water, reducing the temperature.

5.7. GLOBAL ASSESSMENT REPORT (GAR)

Why in News?

Recently, Global Assessment Report (GAR) was launched by the United Nations Office for Disaster Risk Reduction (UNDRR).

Findings

- **Threat to Asia-Pacific:** Asia Pacific region accounts for 40% of the global economic losses due to extreme climate changes, with the greatest impact in the largest economies of Japan, China, Korea and India.
- **Miniscule Investment:** About \$5.2 billion was spent on reducing disaster risk between 2005 and 2017, representing just 3.8% of total humanitarian spending - or less than \$4 for every \$100 spent.
 - Economic losses to the extent of 4% of GDP annually are projected if countries don’t invest in DRR.
- **Regional Variation:** Human losses and asset losses relative to GDP tend to be higher in the countries with the least capacity to prepare, finance and respond to disasters and climate change.
- **Increasing Social Divide:** Disasters may exacerbate conflict by placing additional stressors on fatigued governance systems and fuelling existing divides.
- **Spiral Effect:** There is a high potential for one type of disaster to produce or exacerbate another. Such as heavy rains trigger mudslides after wildfires.

Related news

- **United Nations Office for Disaster Risk Reduction (UNDRR)** during 6th Session of Global Platform for Disaster Risk Reduction (GPDRR) in Geneva, conferred **Sasakawa Award** to Dr. Pramod Kumar Mishra.
- **United Nations Sasakawa Award** is the most prestigious international award in the area of **Disaster Risk Management**.
- **GPDRR is a biennial multi-stakeholder forum** established by the **UN General Assembly** to review progress, share knowledge and discuss the latest developments and trends in reducing disaster risk.

United Nations Office for Disaster Risk Reduction (UNDRR)

- UNDRR was **established in 1999**, as part of the United Nations Secretariat.
- It **serves as the focal point** for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socio-economic and humanitarian fields.
- It **supports** the implementation, follow-up and review of the **Sendai Framework for Disaster Risk Reduction: To reduce disaster deaths economic losses and strengthen risk governance by building resilience and investing in early warning system.**
- The GAR is published **biennially** by the UN Office for Disaster Risk Reduction (UNDRR).

- **Displacement of People:** About 265 million people have been displaced by disasters since 2008, which is more than three times as many as those forced from their homes by conflicts and violence.
- **Impact on SDGs:** Failure to act urgently to manage intertwined risks could slow or even reverse progress towards U.N. sustainable development goals, which include eradicating poverty & hunger and creating wide disparities among population groups and households.

Recommendations

- **Decentralized Decision making** at policy level for addressing spatial needs and location specific strategies.
- **Enhancing Disaster resilient Investment:** It has been estimated that an annual investment of \$6 billion in DRR strategies would generate benefits of up to \$360 billion each year.
- **Integrated risk assessment and disaggregated data collection** for timely interventions to effectively protect those groups whose vulnerability profiles make them more susceptible to disaster risk.
- **Improving human capital** to enable risk-informed choices, empowering the vulnerable as the drivers of change.
- **Invest in physical infrastructure**, especially in the information technology sector, to ensure better online reporting and loss accounting at all administrative levels while building capacities in cartography and geospatial data.
- Break away from the prevailing practice of compartmentalized research and adopt pragmatic, pluralist approaches that can **study risk phenomena at a variety of levels.**
- **Put Sendai Framework into action** by shifting focus from disaster management to reducing risk.

5.8. ANTHROPOCENE EPOCH

Why in news?

Anthropocene Working Group (AWG) has voted in favour of designating a new geological epoch — **the Anthropocene**. The panel plans to submit a formal proposal for the new epoch by 2021 to the **International Commission on Stratigraphy**, which oversees the official geologic time chart.

About Anthropocene Epoch

- The term ‘Anthropocene’ was coined in 2000 by Nobel Laureate Paul Crutzen and Eugene Stoermer **to denote the present geological time interval in which human activity has profoundly altered many conditions and processes on Earth.**
- **Rising global temperatures, sea levels, depleting ozone layer and acidifying oceans** are the result of human activity that has “distinctively” altered our planet.
- The phenomena associated with the Anthropocene include
 - **an order-of-magnitude increase in erosion and sediment transport** associated with urbanisation and agriculture,
 - marked and abrupt anthropogenic perturbations of the cycles of elements such as carbon,
 - environmental changes generated by these perturbations, including global warming, sea-level rise etc.
 - proliferation and global dispersion of many new ‘minerals’ and ‘rocks’ including concrete, fly ash and plastics, and the myriad ‘technofossils’ produced from these and other materials.

Geological Time Scale

- The geological time scale is the “**calendar**” for events in **Earth history.**
- It subdivides all time into named units of abstract time called—in descending order of duration—**eons, eras, periods, epochs, and ages.**
- **Eons** are the largest intervals of geologic time and are hundreds of millions of years in duration.
- The names of eras were chosen to reflect major changes of the development of life on the Earth: Paleozoic (old life), Mesozoic (intermediate life), and Cenozoic (recent life).
- Each period corresponds to significant events such as the break-up of continents, shifts in climate, and the emergence of particular types of animals and plant life.
- These units of the geologic time scale are based on sedimentary strata that have accumulated over time.

ERA	PERIOD	EPOCH	BEGAN (Years ago)
Cenozoic	Quaternary	ANTHROPOCENE	??
		Holocene	11,700
		Pleistocene	2.5 M
	Tertiary	Pliocene	5.3 M
		Miocene	23 M
		Oligocene	34 M
		Eocene	56 M
		Paleocene	65.5 M
Mesozoic	Cretaceous		146 M
	Jurassic		200 M
	Triassic		251 M
Paleozoic			542 M
Proterozoic			4.5 B

- The focus is now on **identifying a definitive geologic marker or golden spike** (technically called Global boundary Stratotype Section and Point) to signal the beginning of the Anthropocene Epoch. The golden spike must be present globally and should be a part of deposits for geological record.
- According to experts, the new epoch **should begin about 1950** and was likely to be defined by the radioactive elements dispersed across the planet by nuclear bomb tests, although an array of other signals, including plastic pollution, soot from power stations, concrete, and even the bones left by the global proliferation of the domestic chicken were now under consideration.
- The move signals **the end of the Holocene epoch**, which began 12,000 to 11,600 years ago.

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6. SOCIAL ISSUES

6.1. DOMESTIC VIOLENCE LAW

Why in News?

Recently Supreme Court held that even the brother-in-law has a liability to pay maintenance to a victim under the Domestic Violence Act if they had lived together under the same roof in a **shared household** as part of a joint family at any point of time.

About Domestic Violence

- Every third women, since the age of 15, has faced domestic violence of various forms in the country, reported the National Family Health Survey (NHFS-4).
- According to WHO, worldwide as many as 38% of murders of women are committed by a male intimate partner.
 - In India intimate partner violence is the highest at 37.7% in the WHO South-East Asia region.
- Domestic violence can negatively affect a **woman's physical, mental, sexual, and reproductive health.**
- **Reasons/Issues Involved:**
 - **Changing socio- economic relations particularly in urban areas** such as more income of a working woman than her partner, abusing and neglecting in-laws, dowry demands etc.
 - **Violence against young widows especially in rural areas:** most often they are cursed for their husband's death and are deprived of proper food and clothing without often being given the opportunity for remarriage in most of the homes. Also there are cases of molestation and rape attempts by other family members in joint families.
 - **Orthodox & Patriarchal mindset-** male domination and control over women, male privilege and women's subordinate status, infertility or desire for male child.
 - Women are also more likely to experience intimate partner violence if they have low education, exposure to mothers being abused by a partner, abuse during childhood, and attitudes accepting violence, male privilege and women's subordinate status.

Other Important judgments on Domestic Violence Act, 2005

- The Supreme Court has upheld a ruling that the Domestic Violence Act, intended to **safeguard women against marital abuse, will apply even after divorce.**
- The Supreme Court has also struck down the words "adult male" from the pertinent provision in the DV Act to lay down that a woman can also file a complaint against another woman, accusing her of domestic violence.
- The Delhi High Court has ruled that granting maintenance under the Domestic Violence Act was not dependent upon the expression "unable to maintain herself". Maintenance doesn't depend on wife's earning.
 - Under Section 20 of the Domestic Violence Act, the magistrate had the powers to direct the husband to pay monetary relief to meet the expenses incurred and losses suffered by the aggrieved person and any child of the aggrieved person as a result of domestic violence.
 - It also observed that under Section 20(2) of the Act, monetary relief granted has to be adequate, fair and reasonable and consistent with the standard of living to which the aggrieved person was accustomed.

Government Steps taken to prevent domestic violence

There are mainly three laws in India that deal directly with domestic violence:

- **The Protection of Women from Domestic Violence Act, 2005:**
 - The Act **expanded the definition of domestic violence** to include not just physical, but also verbal, emotional, sexual and economic violence.
 - The law is broad in its definition— **"domestic relationship" includes married women, mothers, daughters and sisters.**
 - This law not only protects women who are married but **also protects women in live-in relationships**, as well as family members including mothers, grandmothers, etc.
 - Under this law, women can seek protection against domestic violence, financial compensation and they can get maintenance from their abuser in case they are living apart.
 - It provides the **Right to Secure Housing** i.e. right to reside in the matrimonial or shared household, whether or not she has any title or rights in the household. This right is secured by a residence order, which is passed by a court.

- A magistrate can pass a protection order under the Act to ensure the abuser doesn't contact or get close to the survivor.
- It provides for breach of protection order or interim protection order by the respondent as a cognisable and non-bailable offence punishable with imprisonment which may extend to one year or with fine which may extend to Rs. 20,000 or with both.
- It provides for **appointment of protection officers and NGOs** to provide assistance to the woman for medical examination, legal aid and safe Shelter.
- **Punishment** of one year maximum imprisonment and Rs. 20,000 each or both to the offenders is mentioned.
- PWDVA enshrines principles of the **Convention on the Elimination of All forms of Discrimination Against Women (CEDAW)**, which India ratified in 1993.
- **The Dowry Prohibition Act:** This is a criminal law that punishes the taking and giving of dowry. Under this law, if someone takes, gives or even demands dowry, they can be imprisoned for six months or they can be fined up to Rs 5,000.
- **Section 498A of the Indian Penal Code:** This is a criminal law, which applies to husbands or relatives of husbands who are cruel to women. Recently, the Supreme Court restored an immediate arrest provision in the dreaded Section 498A, IPC.

Issues with Domestic violence Act

- **Gender biased and not gender neutral:** There have been increasing number of false cases. Also, the domestic violence against men in India is not recognised by the law.
- Excludes abuses pertaining to marital rape.
- Lack of awareness specially in rural areas where there is more need of such Acts.
- Judicial system resorting to mediation and counselling even in cases of extreme abuse. Also, Insensitivity by male police officers, judicial magistrates during hearings, etc.
- Absence of economic, psychological and support system for victim women.
- Insufficient budgetary allocation to States- the States could not assign 'Protection Officers' because of the already overburdened department.
- Though most of these cases are reported from urban areas, **innumerable cases of violence against women go unreported in India's distant villages.**

Way forward

- **Government can create a fund available with magistrates and judges passing maintenance orders.** In the event that orders cannot be executed it must be the responsibility of the government to pay the amount to the distressed wife and then recover the amount from the husband.
- There is need for **bringing in judicial reforms** and increasing the strength of magistrate's courts in the country so that courts are not overworked and have time to dedicate to cases under the DV Act.
- At a broader level successive rounds of NFHS surveys create space for deeper understanding of various aspects of domestic violence and for evidence-based policy recommendations. The factors **behind the reduction of spousal violence need to be scrutinised further.**
- NGOs relating to women empowerment should be encouraged to protect women from domestic violence.
- Women should be financially empowered through various government schemes and programmes.
- More **sensitivity training** to be given to officers concerned at every stage.

6.2. POCSO ACT

Why in news?

The Madras High Court suggested that consensual sex, physical contact or allied acts after the age of 16 be excluded from the ambit of POCSO Act.

Suggestions made by High Court

- The definition of 'Child' under Section 2(d) of the POCSO Act can be **redefined as 16 instead of 18.**
- It suggested that suitable amendments could be made so that a consensual relationship between a girl above 16 years of age and a boy between 16 to 21 years of age need not attract the draconian provisions.

- The Act can be amended to the effect that the age of the offender ought not to be more than five years or so than the consensual victim girl of 16 years or more. So that the impressionable age of the victim girl cannot be taken advantage of by a person who is much older and crossed the age of presumable infatuation or innocence.

Provisions of the POCSO Act

- The Protection of Children from Sexual Offences (POCSO) Act 2012 was formulated in order to **effectively address sexual abuse and sexual exploitation of children through legal provisions.**
- India being a party to the ‘**UN Convention on the Rights of the Child**’ is also under legal obligation to protect its children from all forms of sexual exploitation and sexual abuse.
- The act defines a child, (irrespective of gender) as a person under the age of 18 years, which prevents the “**inducement or coercion of a child to engage in any unlawful sexual activity**”.
- It mandates the Central and State governments to take all measures to ensure publicity to the provisions of the Act and obliges government officials to be trained in how to implement the Act.
- It also seeks to establish Special Courts for speedy trial of such offences. The Act stipulates that a case of Child Sexual Abuse must be disposed of within one year from the date the offence is reported.
- It is **gender neutral law**, wherein the law takes cognizance of sexual crimes committed against both girls and boys under the age of 18 years.
- The law protects children from both contact and non-contact sexual abuse.
- It addresses a wide range of sexual offences which include anything from complete and partial penetration, non-penetrative sexual assault, stalking of a child, showing children pornography, using the child for pornography and exhibitionism.
- It places the burden of proof on the accused and ensures punishment for all perpetrators irrespective of age and gender.
- It does not recognize consensual sexual acts among children or between a child and an adult. Prosecutes any person (including a child) for engaging in a sexual act with a child irrespective of whether the latter consented to it.
- It introduces child friendly measures and defines the role of the police as a child protector and pronounces the importance of mandatory reporting of sexual offences.

Why the demand for reduction in the age under POCSO?

- Considering the innovation in digital technology, **the children are exposed to so much of information** that they get matured much earlier and thus are in a position to give consent for any relationship even at the age of 16.
- Many of the cases of sexual assault reported to the police (under the POCSO Act and other laws) dealing with the 16-18 years-old children are consensual in nature and are generally reported at the behest of girl’s parents who disapprove of the teenagers’ conduct.
- It will also **reduce significant number of criminal cases pending in various courts**, where the provisions of the Act are grossly misused as even when a girl in the intermediate age of 16-18 gives consent, it is treated as invalid in view of the provisions of the POCSO Act.
- Where two minors engage in a consensual sexual relationship, in a paradox, **they stand both as victims and perpetrators vis-à-vis each other**, although ground-level reality results in boys being overwhelmingly treated as perpetrators and girls as victims.
- Read together with the Juvenile Justice (Care and Protection of Children) Act, 2015, which allows the trial of 16 and 17-year-old children as adults in respect of heinous offences, a child above 16 years can now be prosecuted and punished for engaging in consensual sex with a minor and be punished for a minimum 10 years in jail, which can extend to life imprisonment.
- The act mandates doctors to reveal the identities of their patients who are under the age of 18. This deters the patients under 18 years with accidental pregnancies and infections to approach doctors.

Definition of child under different acts

- **POCSO Act:** Less than 18
- **Child Labour (Prohibition and Regulation) Act, 1986:** Less than 14
- **The Juvenile Justice (Care and Protection of Children) Act 2015:** Less than 16
- **Factories Act, 1948:** Less than 15

Globally laws on age of consent

- Many countries have 16 years or below that as the age of consent.
- Most of the American states, Europe, Japan, Canada, Australia, China and Russia fall into this category.

Conclusion.

- POCSO privileges age to define to a child, wherein consent of a child is not a defence to sexual assault. Though the court directive to lower the age has been lauded. Any such amendment should not be done in haste.
- Given challenges of the age determination process, the age of consent should not be the only factor in determining sexual assault
- Apart from suggesting that the age of consent for sex be lowered, the Madras High Court also said that there was a need to look at why violent and heinous sexual crimes against children and women were on the rise.
- It called on government to set up a high level committee comprising people like a social auditor, psychologist, social scientist etc., to investigate the reasons behind these serious crimes.

6.3. PCPNDT ACT

Why in news?

Recently, the Supreme Court upheld the provisions in the Pre-conception and Pre-natal Diagnostic Techniques (Prohibition of Sex Selection) Act of 1994, which 'criminalises' non-maintenance of medical records by obstetricians and gynaecologists and suspend their medical licenses indefinitely.

Background

- The Pre-conception and Pre-natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994 was enacted to stop female foeticides and arrest the declining sex ratio in India. It was amended in 2003, to improve the regulation of the technology used in sex selection.
- The basic requirements of the act include the registration of clinics, written consent of the pregnant women, prohibition of communicating the sex of fetus, maintenance of records and creating awareness among the public at large by placing the board of prohibition on sex determination.
- A petition was filed by Federation of Obstetrics and Gynaecological Societies of India (FOGSI), which challenged some sections of the Act, using which criminal proceedings are initiated against doctors, even for any unintentional or clerical errors. But the court has dismissed this petition.

Rationale for the stringent provisions in the Act

- **Key to prevent female foeticide**– The Supreme Court highlighted that non-maintenance of record by sonography and diagnostic centre is a springboard for the commission of the offence of female foeticide, which is what is intended by the Act. Hence, it cannot be termed as a clerical error.
- **Relegate the right of life**- of the girl child under Article 21 of the Constitution, to a mere formality. As per a United Nations Report, more than 4.6 lakh girls went missing at birth on an average annually during the period 2001-12 as a result of sex selective abortions and justify the stringent provisions under the Act to maintain sex ratio and social balance in the society.
- **Leads to a cycle of violence against women**- A skewed sex-ratio is likely to lead to greater incidences of violence against women and increase in practices of trafficking, 'bride-buying' etc. The rigorous implementation of the Act is an edifice on which rests the task of saving the girl child.
- **Responsibilities of a doctor**- A responsible doctor is supposed to know all such minute details like the form he is required to fill and the impact of medical findings and its consequences, which is virtually the pre-requisite for undertaking a test. It is critical for a member of a noble medical profession to be educated about such details.

Challenges faced due to stringent sections

- Fails to distinguish between criminal offences and the anomalies- such as deliberation non- completion of the required paperwork and documents on one side and clerical mistakes like incomplete address or inappropriate photographs at centres on the other hand.
- Loss of livelihood of doctors as well as their dependents- Minute clerical errors have led to unreasonable actions of raid, seizure and sealing of premises and imprisonment, fine and suspension of doctors' licences.
- Remedies available, but the process is slow- like filing an appeal before the appellate authority and getting the machine released from the court of law, but all these measures are time-consuming and bring the career of an individual to a standstill.

Successes of the law

- Increase in registrations of PCPNDT Clinics- from 600 in the year 2000 to more than 55,000 today.
- Check on advertisements for sex selection- from print media, television and from walls around the country.
- Increase in sex ratio in some states- e.g. Effective implementation of the Act has been identified as one the prominent reasons in increasing sex ratio in Rajasthan where it has increased from 888 in 2011 census to 950 in 2017-18.
- Increased ambit of the law- under the amendment of 2003, which brought ultrasound and other stringent provisions to improve the effectiveness of the act.

Failures of the law

- Poor reporting under the law- Only 3,000 cases have been filed against violators of the act, since the passing of act, though half a billion medical crimes have been committed.
- Poor conviction rate- There are only 586 convictions out of 4202 cases registered even after 24 years of existence
- Presence of unqualified options- such as quacks, nurses, where people continue to get abortions done.
- Overall drop in child sex ratio- for the age group of 0-6 years has declined to 918 girls in 2011 against 927 per thousand boys in 2001.

Way Forward

- Implementation of this Act requires a more systematic involvement of the State and enactment of legislation is only the first step in this direction. The State machinery, in this case the health department has to play a more crucial role. The local bodies should also take a lead in effective implementation of the act.
- Help of Anganwadi and ASHA workers can be sought to report any suspicious activity to determine the sex of a child. Doctors and other professional staff at such clinics need to be further sensitised on the importance of the subject.
- Government schemes such as Beti Bachao Beti Padhao have yielded appreciable results in states like Haryana. Awareness among people needs to increase using more such measures so that demand for feticide is itself eliminated.

6.4. SHIFT IN INDIAN DEMOGRAPHICS

Why in news?

Recently released statistics have shown a change in demography of India as for the first time in its history, India has reached a **TFR (Total Fertility Rate) of 2.18**, which is below the average world replacement rate of 2.3, as per the latest NFHS-4 data.

Background

- The general opinion about Indian demography has been mainly about the **young workforce, which is bound to give dividends** to India. It implies that India is going to remain like that. However, the data from the 4th National Family Health Survey (NFHS-4) 2015-16 for the survey period 2013-15 has signaled a **monumental shift in modern Indian demographics**, as India's total fertility rates have seen a change.
- With the Total Fertility Rate now below the replacement rate, Indian population growth has moved past its peak. It signals that the growth of **number of youth in the country is on the decline**, as the population pyramid has inverted for the first time ever.
- As can be seen in the population pyramid chart, from NFHS 4, there are fewer babies being born over the last 10 years. The percentage of children under the age of 15 declined from **35% in NFHS-3 (2003-05) to 29% in NFHS-4 (2013-15)**. In contrast, the population of those aged 60 years and older increased slightly, from **9% in NFHS-3 to 10% in NFHS-4**. It shows there are not enough young people coming into India to replace the current population.
- This highlights that India would **lose its young country advantage** sooner than expected and the expanding share of dependents would further increase the burden on the state and the economy.

- The **fertility rate** is defined as the number of live births during a year per 1,000 female population aged 15-49 years at the midpoint of the same year.
- The **Total Fertility Rate (TFR)** is the number of children that would be born per woman, assuming no female mortality at childbearing age and the age-specific fertility rates of a specified country and reference period.

Implications of this change

- **Increasing dependents in the society-** India may lose demographic dividend and stare at a situation where a large number of population will be dependent including old age.
- **Double burden on the government-** The twin challenges of rising population and old age dependents will only add to India's troubles of providing jobs, education, health along with geriatric care.
- **Create economic challenges-** The country's working-class population would have to create enough wealth for the growing segment of longer-living senior citizens that will increasingly rely on pensions. Already, the country is facing job shortage and losing the demographic advantage would put India at a loss compared to other developing countries.

Challenges in dealing with this demographic shift

- **Difficulty in raising resources-** due to jobless growth, lack of quality jobs and a slowing economy.
- **Changing dynamics of elderly care-** due to increasing life expectancies where the aged of the ages 80 to 90, will find their children themselves of the ages in 60 and would be less capable of administering help.
- **Nascent level Gerontology in India-** which is the study of the aged population. As per survey by Helpage India, in 2014, half of the elderly population surveyed reported poor to very poor health and the major health problems found were age-related problems, asthma and hypertension.
- **Lack of involvement of all stakeholders-** the government and the private sector, through CSR initiatives, aren't doing more for the aged. There are start-ups and NGOs that are trying to care for the elderly, but they are also in their nascent stages.

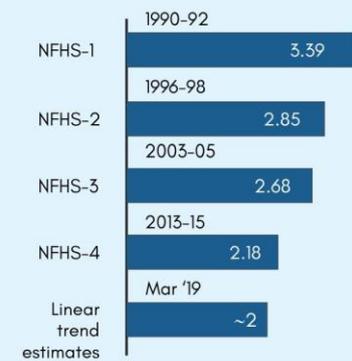
Measures which need to be taken

- **Need to have decentralized models of development-** Social policies for each state must be differentiated to accommodate **different rates of population growth**. The populations in south and west India are growing at a much slower pace than in the central and eastern states.
- **Need to utilize the energies of all sections of society-** including women and senior citizens too. According to IMF research, raising women's participation in the labour force to the same level as men can boost India's GDP by 27% and contribute additively to India's GDP growth every year. Government driven programs should also target people between the ages of 60-75 so as to ensure they remain employable.
- **Need to improve social security architecture-** by incentivizing investments and savings in retirement schemes, pension funds etc. The focus should be on informal sector, which constitute the majority of workforce. India's social security shortfall will increase from \$3 trillion in 2015 to \$85 trillion in 2050, which needs to be addressed.

Way Forward

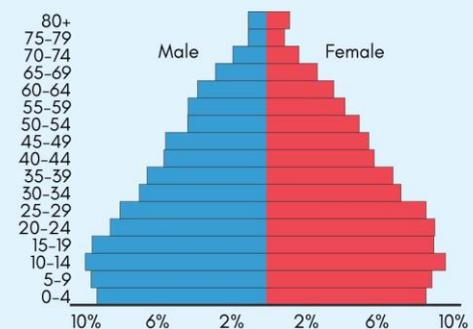
- Demographic dividend without investments in human capital will be a wasted development opportunity, and it will further widen economic and social gaps, instead of narrowing them. Investing more and more efficiently in people will enable India to tap into its demographic dividend, and prepare the country for the future.

NFHS total fertility rate

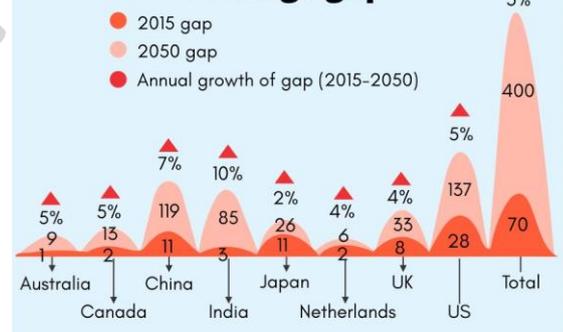


POPULATION PYRAMID

Percent distribution of the household population Are in years



Size of the retirement savings gap



- Government can also consider **increasing the retirement age** to capture this changing trend. Fewer jobs are labour-intensive these days, while rising life expectancies are encouraging longer working lives, and today's higher incomes are also encouraging people to work for longer. Fostering these trends can help the economic growth of those nations at the forefront of ageing impacts – as is especially true of Hong Kong, Taiwan, Singapore, Korea and China.

6.5. HUMAN RESOURCES FOR HEALTH

Why in news?

Recently, a study based on the National Sample Survey Organisation, has revealed that India has **20.6 health workers per 10,000 people**, which is less than the minimum threshold set by the World Health Organisation.

Background

- India's quest for Universal Health Coverage (UHC) depends to a great extent, on **adequate and effective Human Resources for Health (HRH)** providing care at primary, secondary and tertiary levels in both the public and private sectors.
- The health workforce in India comprises of broadly eight categories- **doctors** (allopathic, alternative medicine); **nursing and midwifery professionals**; **public health professionals** (medical, non-medical); **pharmacists**; **dentists**; **paramedical workers** (allied health professionals); **grass-root workers** (frontline workers); and **support staff**.
- The size and composition of human resource for health (HRH) in India have significantly changed during the last decade. However, most existing literature on HRH in India reports that the country is short of the WHO's recommendation of the minimum threshold of **22.8 skilled health professionals per 10 000 population**. Recently, the WHO, drawing evidence from the OECD countries, has further revised the minimum need as **44.5 health professionals per 10, 000 population**.
- The Global Health Workforce Alliance and WHO have categorised India among the **57 most severe crisis-facing countries** in terms of availability of HRH.

Issues faced in deployment of Human Resources in Health in India

- **Gap between different official estimates**- such as the total size of health workforce registered with different councils and associations was **5 million**, but the NSSO estimated the size of the workforce to be **1.2 million fewer at 3.8 million**.
- **Skewed distribution among states**- Most central and eastern Indian states have a low density of health workers, ranging from approximately 23 per 10,000 population in Bihar and Northeastern states other than Assam, to as low as 7 per 10,000 population in Jharkhand. The highest concentration of health workers is in Delhi (67), followed by Kerala (66) and Punjab (52).
- **Uneven distribution between urban and rural areas**- Rural areas with nearly 71% of India's population has only 36% of health workers.
- **Majority employed in private sector**- Government medical colleges in the country produce 50 per cent of all doctors in India every year, but nearly 80 per cent of them work in the private sector. Also, 70% of nurses and midwives are employed in the private sector.
- **Slow growth compared to the demand**- There are reportedly 462 medical colleges that produce 56,748 doctors every year. Similarly, 3,123 institutions across the country prepare 125,764 nurses each year.

Related news

- Recently, 72nd Session of the World Health Organization's (WHO) World Health Assembly (WHA) took place in Geneva, Switzerland.
- WHA is the decision-making body of WHO, attended by delegations from all WHO Member States.
 - **Main function:** To determine the policies of the Organization, appoint the Director-General, supervise financial policies, and review and approve the proposed programme budget.

Important Resolution Adopted during Assembly are:

- It recognized the role of primary health care and urges Member States to take measures to implement the **Declaration of Astana**, adopted at the 2018 Global Conference on Primary Health Care.
 - **ASTANA DECLARATION:** It is the global commitment to strengthen Primary Health Care. This declaration reaffirms the historic **1978 Declaration of Alma-Ata**.
 - **Alma-Ata Declaration** was the first declaration which identified Primary Health Care as a key to the attainment of the goal of Health for All.
- The resolution calls on Member States to accelerate progress towards UHC with a focus on poor, vulnerable and marginalized individuals and groups.

However, with India's population increasing by about 26 million each year, the increase in number of medical staff is too little.

- **Large-scale Presence of unqualified health professionals-** Only **one in five doctors** in rural India are qualified to practice medicine, highlighting the widespread problem of **quackery**. The WHO report, published in 2016, said 31.4% of those calling themselves allopathic doctors were educated only up to Class 12 and 57.3% doctors did not have a medical qualification. As for nurses and midwives practicing in rural areas, only 33% have studied beyond secondary school and 11% have medical qualification.

Challenges in accelerating the HRH deployment

- **Qualified medical professionals avoid rural India-** due to challenges such as poor living and working conditions, irregular drug supply, weak infrastructure, professional isolation and the burden of administrative work, as stated by a 2017 study by the Public Health Foundation of India.
- **Absence of dedicated policies for health professionals-** and even if it exists, it does not address the framework for key elements such as forecasting for HRH, deployment and career progression, compensation and retention of health workers. The policies also do not address issues like continuous education and on the job skill development to retain the talent.
- **Poor data management of health professionals-** including the registration data being inadequately updated and likely to include deceased, unemployed and professionals who have migrated overseas, and the survey data being self- and also outdated reported.
- **Gaps in training framework-** such as lack of need based training to different categories of staff, apathetic attitude towards training, inadequate training infrastructure and training skills, absence of induction training and duplication of efforts by different agencies without much integration.
- **Other non-training challenges-** like lack of mechanism for follow-up after training, mismatch between training and job profile and lack of system for monitoring performance related to trained work force.

Potential Benefits

- Currently, the Primary Health Centres require 25,650 doctors across India to tend to a minimum of 40 patients per doctor per day for outpatient care, as per Indian Public Health Standards (IPHS). If these standards are met, 1 million patients could be benefit everyday.
- Strengthening both the PHCs and sub-centres will ease the burden on secondary (district hospitals and block community health centres) and tertiary health institutions (specialist and super-specialist services in hospitals-cum-medical colleges).

Way Forward

- Centre and States should have policies focusing on enhancing the quality of health workers and **bringing professionally qualified persons** into the health workforce.
- Special training courses should be designed for different categories of **non-physician care providers**. More training courses and curriculum for **super specialty paramedical care** (perfusionists, physiotherapists, occupational therapists, radiological technicians, audiologists, MRI technicians, etc.) should be developed.
- States should have a **dedicated cell for HR planning**, especially forecasting requirements, taking into consideration the changing disease profile, and population dynamics and composition. The cell should not limit itself to public systems only but also monitor HR available in private sector so that a more holistic view can be undertaken.
- Efforts should be made to **attract and retain doctors in rural areas** such as, financial and non-financial incentives, creating medical colleges in rural areas, preference to students from under-served areas, realigning pedagogy and curriculum to suit rural health needs, mandatory rural postings, etc.

National Health Policy, 2017 on public health cadre

- The policy proposes creation of Public Health Management Cadre in all States based on public health or related disciplines, as an entry criteria.
- It also advocates an appropriate career structure and recruitment policy to attract young and talented multidisciplinary professionals.
- The policy recognizes the need to continuously nurture certain specialized skills like entomology, housekeeping, bio-medical waste management, bio medical engineering communication skills, management of call centres and even ambulance services.
- It supports measures aimed at continuing medical and nursing education and on the job support to providers, especially those working in professional isolation in rural areas using digital tools and other appropriate training resources.
- It suggests that State Directorates to be strengthened by HR policies, central to which is the issue that those from a public health management cadre must hold senior positions in public health.

- **Mid-level health providers for wellness campaign** could address the shortage of doctors in rural areas, according to this report of a national consultation on strengthening rural healthcare, 2018. This can be done through appropriate courses like a B.Sc. in community health and through competency-based bridge courses and short courses.
- A **certification programme for ASHAs** could be brought for their preferential selection into ANM, nursing and paramedical courses. Further, enabling engagements with NGOs can be made, to serve as support and training institutions for ASHAs and to serve as learning laboratories on future roles of community health workers.
- There should be dedicated **Public Health Management Cadre** in all states, based on public health or related disciplines. Public health cadre would comprise of trained professionals responsible for population-wide preventive services to reduce exposure to disease through sanitary and health regulations, monitoring and averting health threats.
- The **National Medical Commission Bill, 2016** is an important step for strengthening the quality of human resources education and training. Reforms along similar lines should be undertaken for the medical, nursing, pharmacy and dental councils.
- A bill on the lines of **National Commission for Human Resources for Health Bill, 2011** could be brought for regulatory framework around human resources for health specifically.

6.6. EDUCATION QUALITY UPGRADATION AND INCLUSION PROGRAMME (EQUIP)

Why in News?

Ministry of Human Resource Development plans to launch an ambitious ₹1.5 lakh crore action plan Education Quality Upgradation and Inclusion Programme (EQUIP) to improve the quality and accessibility of higher education over the next five years (2019-2024).

About Education Quality Upgradation and Inclusion Programme (EQUIP)

- It is meant to bridge the gap between **policy and implementation**.
- **Objectives:**
 - double the **Gross Enrolment Ratio (GER)** in higher education,
 - resolve the geographically skewed access to higher educational institutions,
 - achieve globally acceptable quality standards across the country,
 - position at least 20 Indian institutions among the top global institutions, promote research / innovation eco system,
 - substantially improve employability of the students, promote framework for internationalisation;
 - better accreditation systems,
 - use of education technology,
 - governance reforms and quantum increase in investments.

GER

- It is the number of students enrolled in a given level of education as a percentage of the total population of that age.
- It can be greater than 100% if students from outside the official age group are also enrolled.

6.7. NEW FOOD PACKAGING NORMS

Why in news?

Recently, the FSSAI has updated the food packaging norms.

Details

- The new guidelines on food packaging under the **Food Safety and Standards (Packaging and Labelling) Regulations, 2011**, will come into force in July 2019.
- All food businesses shall comply with the new norms.
- Food Safety and Standards Authority of India (FSSAI) has banned the use of newspapers, recycled papers,

- **Food Safety and Standards Authority of India (FSSAI)** is an autonomous body established under the Ministry of Health & Family Welfare, Government of India.
- The FSSAI has been established under the **Food Safety and Standards Act, 2006** which is a consolidating statute related to food safety and regulation in India.
- FSSAI is responsible for protecting and promoting **public health** through the **regulation and supervision of food safety**.

cardboards and plastic sheets/ recycled plastic to wrap food directly.

- The guidelines take into account the carcinogenic effect of newsprint ink and dyes.
- They also reference **specific Indian Standards for printing inks** for use on food packages. Schedule IV of the regulations is a list of suggested packaging materials for different food product categories.
- It also provides that:
 - Any material which comes in direct contact with food or likely to come in contact with food used for packaging, preparation, storing, wrapping, transportation and sale or service of food shall be of food grade quality.
 - **Tin containers once used, shall not be re-used** for packaging of food.
 - The regulations also specify that **food packaging materials must now comply with Indian Standards (IS)** listed in Schedules I, II, and III for paper and paperboard materials, metal and metal alloys, and plastic materials, respectively. Previously, compliance with the standards was voluntary.
 - They include both **general and specific requirements for packaging materials**. In particular, they prescribe an overall migration limit of 60 mg/kg or 10 mg/dm² and specific migration limits for certain contaminants in plastic packaging materials.
 - ✓ Plastic materials and articles shall not release the substances in quantities exceeding the specific migration limit.
 - ✓ Various chemicals that migrate from plastic materials in contact with articles of food include: barium, cobalt, copper, iron, lithium, manganese and zinc.

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7. SCIENCE AND TECHNOLOGY

7.1. ANTIMICROBIAL RESISTANCE

Why in news?

Recently, the Interagency Coordination Group on Antimicrobial Resistance (IACG) has released a report titled, “No Time to Wait: Securing The Future From Drug Resistant Infections”, which highlights the financial fall-out of uncontrolled antimicrobial resistance.

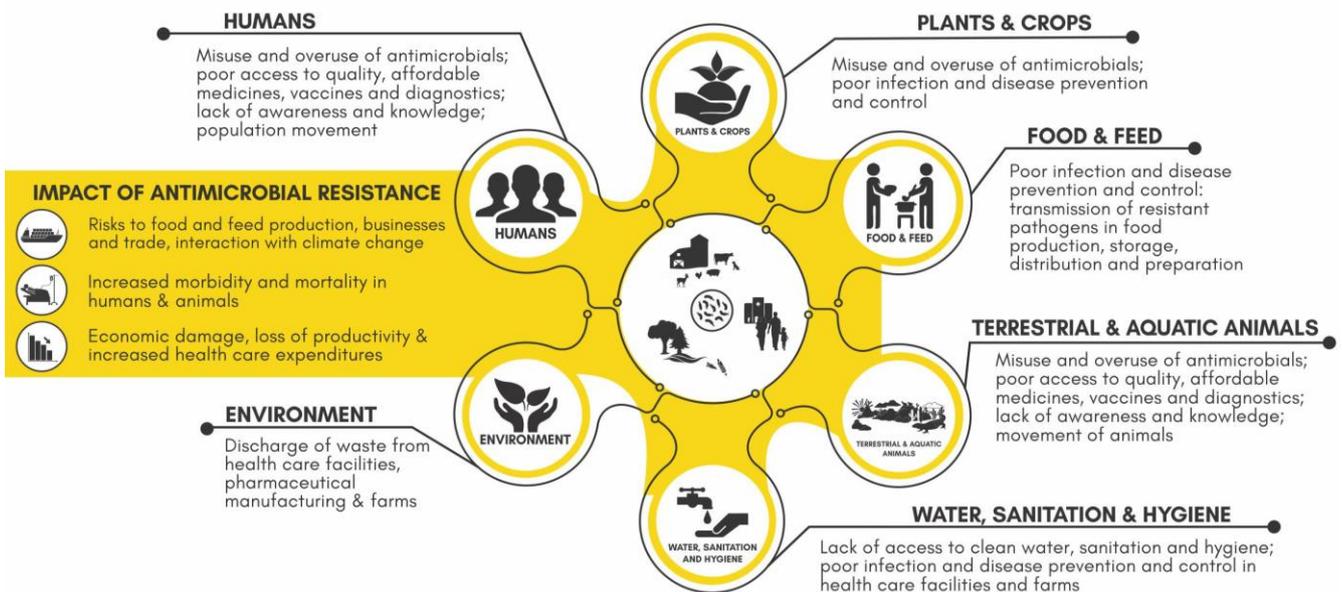
Background

- **Antimicrobial resistance (AMR)** is the ability of a microorganism (like bacteria, viruses, and some parasites) to stop an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others.
- Antibiotic resistance occurs naturally, but misuse of antibiotics in humans and animals is accelerating the process. Poor infection prevention and control further accelerate it.

Interagency Coordination Group on Antimicrobial Resistance (IACG)

- It was convened by the Secretary-General of the United Nations after the UN High-Level Meeting on Antimicrobial Resistance in 2016.
- The IACG brought together partners across the UN, international organizations and individuals with expertise across human, animal and plant health, as well as the food, animal feed, trade, development and environment sectors, to formulate a blueprint for the fight against antimicrobial resistance.
- The World Health Organization (WHO) provided the Secretariat for the IACG, with contributions from the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE).

DRIVERS OF ANTIMICROBIAL RESISTANCE



Key Recommendations of the Report

- **Accelerate Progress In Countries-** in terms of implementation of One Health National Antimicrobial Resistance Action Plans. Also Member States to phase out the use of antimicrobials for growth promotion.
- **Innovate To Secure The Future-** through quality-assured, new antimicrobials (particularly antibiotics), novel compounds, diagnostics, vaccines, waste management tools, and safe and effective alternatives to antimicrobials for usage.
- **Collaborate For More Effective Action-** through systematic and meaningful engagement of civil society groups, private players and organizations as key stakeholders in the One Health response to antimicrobial resistance at global, regional, national and local levels.
- **Invest For A Sustainable Response-** through greater resource allocation, donations to fund the implementation of National Antimicrobial Resistance Action Plans.

- **Strengthen Accountability And Global Governance-** by urgent establishment of a One Health Global Leadership Group on Antimicrobial Resistance, supported by a Joint Secretariat managed by the Tripartite agencies (FAO, OIE and WHO).

Way Forward

- Antimicrobial resistance is a global crisis that threatens a century of progress in health and achievement of the Sustainable Development Goals. Unless the world acts urgently, antimicrobial resistance will have disastrous impact within a generation.
- Because the drivers of antimicrobial resistance lie in humans, animals, plants, food and the environment, a sustained One Health response is essential to engage and unite all stakeholders around a shared vision and goals, such as-
 - Individuals to use antibiotics only when prescribed. Prevent infections by maintaining hygiene.
 - Policy makers should ensure a robust national action plan to tackle antibiotic resistance, improve surveillance of antibiotic-resistant infections.
 - Agriculture sector: Only give antibiotics to animals under veterinary supervision, Vaccinate animals to reduce the need for antibiotics and use alternatives to antibiotics when available.

Situation in India

India faces a twin challenge of overconsumption of antibiotics breeding drug-resistant bacteria while ensuring that the poor and vulnerable have easy access. WHO's report states that anti-biotic resistance may cause rise in death of Indians to 20 lakhs per year by 2050.

Steps taken

- To strengthen the surveillance of antimicrobial resistance (AMR) in the country, Indian Council of Medical Research (ICMR) has set up a **National Anti-Microbial Resistance Research and Surveillance Network (AMRRSN)** to enable compilation of National Data of AMR at different levels of Health Care.
- The **Drugs and Cosmetic Rule, 1945** were amended in 2013 to incorporate a new Schedule H1. These will be sold on prescription only. They are also marked with Red Line (Red Line Campaign).
- Government has formulated a **National Action Plan to combat Antimicrobial Resistance** in 2017 and National Policy for containment of antimicrobial resistance in 2011.

7.2. 5G NETWORK

Why in news?

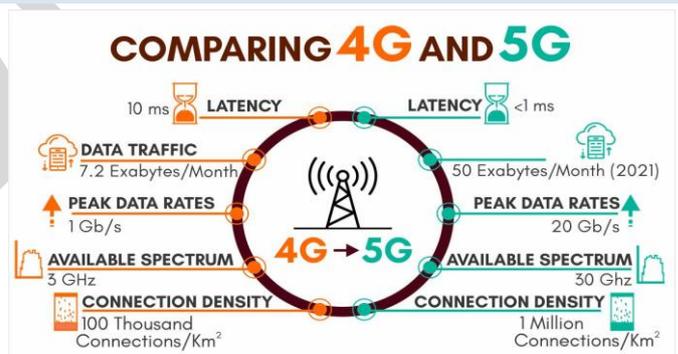
Department of Telecommunications has decided to allow mobile operators to start 5G trials from June.

Background

- 5G is a wireless communication technology using **radio waves** or radio frequency (RF) energy to transmit and receive data.
- It is the next generation mobile networks technology after 4G LTE networks. 5G technologies will enter services gradually, beginning in 2019 and advance to a full range of services by 2024.
- 5G connections in India are forecasted to reach 88 million by 2025, equivalent to around 7% of the total connections base in the country.
- 5G will underwrite USD 12.3 trillion of global economic output by 2035, with investment in the value chain expected to generate a further USD 3.5 trillion in output and provide support for 22 million jobs by 2035.

Advantages of 5G

- **Faster Data Speed** – Currently 4G networks are capable of achieving the peak download speed of one gigabit per second. With 5G the speed could be increased upto 10Gbps.
- **Ultra-low latency** – Latency refers to the time it takes for one device to send a packet of data to another device. In 4G the latency rate is around 50 milliseconds but 5G will reduce that to about 1 millisecond.
- **A more Connected World** – 5G will provide the capacity and bandwidth as per the need of the user to accommodate technologies such as **Internet of Things**. Thus, will help to incorporate **Artificial Intelligence** in our lives. It can also support Virtual Reality and Augmented Reality services.
- As per the **OECD (Organization for Economic Cooperation and Development) Committee** on Digital Economic Policy, 5G technologies rollout will help in **increasing GDP, creating employment and digitizing the economy**.



- **In agriculture**, 5G can enable improvement in the entire value-chain, from precision farming, smart irrigation, improved soil and crop monitoring, to livestock management.
- **In manufacturing**, 5G will enable use of robotics for precision manufacturing, particularly where humans cannot perform these functions safely or accurately.
- **In the energy sector**, 'smart grids' and 'smart metering' can be efficiently supported. With the rise of renewable and storage technologies, low latency communications will be critical to manage these grids.
- **In health-care**, 5G can enable more effective tele-medicine delivery, tele-control of surgical robotics and wireless monitoring of vital statistics.

Challenges

- **Huge Investment Required:** India needs a massive Rs 5 lakh crore (\$70 billion) investment to bring in 5G.
- **Expensive spectrum:** Indian spectrum prices are some of the highest in the world and the allocated quantity is well below global best practices, while 40% of the spectrum is lying unsold.
- **Lack of uniform policy framework:** Delays due to complex procedures across states, non-uniformity of levies along with administrative approvals have impacted telecom service providers in rolling-out Optical Fibre Cables (OFC) and telecom towers.
- **Local Regulatory Issues:** Many of the local rules and regulations are prohibiting the rapid and cost-effective roll-out of small cells in city centres where 5G is initially expected to be most in demand.
- **Debt scenario in the industry:** According to ICRA, the collective debt of telecommunications service providers (TSPs) stands at Rs 4.2 lakh crore.
- **Low optical fibre penetration:** India lacks a strong backhaul to transition to 5G. Backhaul is a network that connects cell sites to central exchange. As of now 80% of cell sites are connected through microwave backhaul, while under 20% sites are connected through fibre.
- **High Import of Equipment's:** Imports account for a 90 per cent of India's telecom equipment market. However due to lack of local manufacturing and R&D, Indian telecom providers have no option other than to procure and deploy 5G technologies from foreign suppliers.
- **Security:** According to the **Global Cyber Security Index** released by the **International Telecommunication Union (ITU)**, only about half of all the countries had a cybersecurity strategy or are in the process of developing one. The index, which was topped by Singapore at 0.925 saw India at 23rd position.
- **Possibility of increased digital divide:** Initial deployment of 5G networks in dense urban areas could left behind rural areas due to commercial viability, may led to increase the digital divide.
- **Human exposure to radiofrequency electromagnetic fields:** There has been concern about the said impact of these frequencies on health of human as well as on animals.

- **2G and 3G mobile networks** relied on microwave wireless backhaul to connect cell sites with the nearest switching centre.
- **4G LTE introduced IP-based connectivity**, replacing copper- or microwave-based cell sites with optical fibre.
- **5G deployment** is based on optical fibre infrastructure.

Steps taken

- **BharatNet programme:** Plans to link 2.5 lakh gram panchayats through optical fibre network.
- **National Digital Communications Policy 2018**, envisages a digitally empowered economy and society, which essentially means that the information and communications needs of the citizens and enterprises are met with a ubiquitous, resilient and affordable digital communications infrastructure and services.
- The Government has launched a program titled '**Building an End-to-End 5G Test Bed**'. The program envisages close collaboration between the universities and small technology companies to build broadly compliant with the 3GPP standards.
- Several smaller academic R&D programs around 5G themes have also been funded by **DST and MEITY**.
- Ericsson has installed the first public access 5G test bed at IIT Delhi.
- The report of the **Steering Committee of the High Level Forum** laid out three priority areas in 5G:
 - **Deployment** – An early roll out of 5G services to maximise the value proposition of 5G as a technology.
 - **Technology** – To build indigenous industrial and R&D capacity, especially for the design and Intellectual Property.
 - **Manufacturing** – To expand the manufacturing base for 5G technologies, which includes both semiconductor fabrication and equipment assembly and testing.

Way Forward

- **Spectrum Policy:** India's spectrum allocation for public wireless services should be enhanced significantly. Also, the cost of spectrum relative to per capita GDP is high and should come down.

- Create a **5G Program Office within Department of Telecommunications and an Oversight Committee.**
- New civil infrastructure like highways, roads, canals and utilities(gas, electricity, water) lines should be mandated to provide Common Telecom Infrastructure resources such as ducting and power junction boxes to support 5G infrastructure.
- Security audits, a prerequisite for importing of equipment before deploying in Indian networks, needs to be simplified.
- **Support 5G investment:** Indian government and regulators should ensure the long-term sustainability of the industry and its ability to fund the significant investment required for 5G network deployments.
 - Policy-makers may consider the use of licensed, unlicensed and shared spectrum to create a balanced spectrum ecosystem – one that encourages investment, makes efficient use of spectrum and promotes competition.
 - Where market failure has occurred, governments may consider stimulating investment in fibre networks and passive assets through setting up PPPs, investment funds and offering grant funds, etc.
- **Favorable Taxation Policy:** Reducing taxation and regulatory fees on revenues could contribute to further evolution of the tax framework.
- **5G Pilot:** Policy-makers may consider encouraging 5G pilots and test beds to test 5G technologies and use cases and to stimulate market engagement.

7.3. INDIA ADOPTS NEW DEFINITION OF KILOGRAM

Why in news?

National Physical Laboratory recently recommended updation of definition of Kilogram in the syllabi and textbooks in India recently.

Details

- The 26th General Conference on Weights & Measures (CGPM) last year redefined World’s standard definition of **Kilogram, Ampere, Kelvin, and Mole.**
- Earlier, the kilogram derived its provenance from the weight of a block of a platinum-iridium alloy housed at the **International Bureau of Weights and Measures.**
- All other prototypes that served as national reference standards, including the one at New Delhi’s CSIR-National Physical Laboratory (NPL), were calibrated to it.
- The NPL institute is also in the process of making its own ‘**Kibble Balance**’ (in which the weight of a test mass is offset by an electromagnetic force), a device that was used to measure the Planck Constant and thereby reboot the kilogram.

THE SEVEN FUNDAMENTAL UNITS		
UNIT	QUANTITY	HOW IT IS/WILL BE DEFINED
Meter*	Distance	Based on speed of light
Kilogram**	Mass	To be based on Planck constant
Second*	Time	Based on hyperfine-transition frequency of caesium-133 atom
Ampere**	Current	To be based on an electron’s charge
Kelvin**	Temperature	To be based on Boltzmann constant(Equal to a change in thermal energy of 1.380649×10^{-23} joules)
Mole**	Amount of substance	To be based on Avogadro constant ($6.02214076 \times 10^{23}$)
Candela*	Luminous intensity	From luminous efficacy of monochromatic light of frequency 540×10^{12} Hz

*Current definition stands**Being redefined

Impact of changes in definitions

- It will result in **uniform and worldwide accessible SI system** for high- technology manufacturing, basic science, etc. For example, earlier the scientific definition of the “second” had helped ease communication across the world via technologies like GPS and the Internet.
- The units shall be **stable in the long term**, internally self-consistent and practically realisable being based on the present theoretical description of nature at the highest level.
- It will **not be bound by the limitations of objects in our measurement** of the world, but have universality accessible units that can pave the way to even greater accuracy and accelerate scientific advancement.
- It will **not change measurements in our day to day life** like in kitchen, trade & transport etc. Thus for most people, everyday life will carry on as normal despite the redefinitions.

General Conference on Weights and Measures (CGPM)

- CGPM is the highest international body of the world for accurate and precise measurements.
- **India became a signatory in 1957.**
- The CGPM meets usually once every four years
- The International Bureau of Weights and Measures (BIPM), the main executive body of CGPM has the responsibility of defining the International System of Units (SI).

7.4. MANAV: HUMAN ATLAS INITIATIVE

Why in news?

Department of Biotechnology (DBT) recently launched **MANAV: Human Atlas Initiative**.

Details

- **MANAV Project** aims to create an open and interactive atlas of human biology, compiling, curating and synthesizing data at the molecular, cellular, tissue and organismic level from scientific literature and public databases.
- For the first time, Indian scientists will be **mapping every single tissue** of the human body to have deeper understanding of the roles of tissues and cells linked to various diseases.
- Participating institutes include National Centre for Cell Science (NCCS) and Indian Institute of Science, Education and Research (IISER), Pune. Besides, Persistent Systems Limited has co-funded the project (alongwith DBT) and is developing the platform.
- The project can be signed up by students who are in their final year graduation and above. Even participants having a science background but not necessarily involved in active scientific research can be part of this network.
- Initially, DBT will accommodate colleges that operate the DBT Star College scheme to register for this Human Atlas programme.

Benefits and applications

- **Physiological and molecular mapping** – holistic analysis : The aim of the project is to understand and capture the human physiology in two stages – in a normal stage and while in a disease stage. Such a database on individual tissues, once ready, can come handy in-
 - tracing the causes of a disease,
 - understanding specific pathways,
 - decode the body's disease stage linked to tissues and cells,
 - develop disease models through predictive computing.
- **Drug discovery**: The teams will also study any potent elements or molecules that have never been used in the form of drugs, to target the specific cells or tissues.
- **Customise and personalize medicine**:
 - Patient specific support for medicine/ treatment decisions
 - Understanding of pre-clinical and clinical assessment of healthcare products
 - Personal health forecasting
- **Skill development of student community**: students will be the backbone on assimilating the information. This platform will impart key skills to the student community to read classified scientific literature, in this case, on individual tissue-basis, and perform annotation and curation.
- **Future research**: Since all the information generated will pass through multiple levels of reviews, it will be an Atlas or a reliable collection on human body tissues. It will also identify gaps in the current biological knowledge, which could be basis for future studies - for both future researchers and to the clinicians and drug developers, who finally handle human bodies in disease conditions; and future policies.

7.5. INITIATIVE TO CONTROL LIVESTOCK DISEASES

Why in news?

Union cabinet approved initiative to control and subsequently eradicate **Foot and Mouth disease (FMD)** and **Brucellosis**.

Details

- The Cabinet cleared a total outlay of Rs. 13,343 crores for the next five years to fully control these diseases in order to support livestock rearing farmers in the country and create better livelihood opportunities for them.
- The **FMD** component of the scheme envisages **vaccination** coverage to 30 crore bovines (cows-bulls and buffaloes) and 20 crore sheep/goat and 1 crore pigs at six months' interval along with primary vaccination in bovine calves.

- The **Brucellosis** control programme shall extend to cover **100% vaccination coverage** of 3.6 crore female calves.

Foot and mouth disease

- It is a severe, highly contagious **viral disease** of livestock affecting cattle, swine, sheep, goats and other cloven-hoofed ruminants. It is **not zoonotic** and rarely transmits to humans.
- There are seven strains which are endemic in different countries worldwide. Each strain requires a specific vaccine to provide immunity.

- The disease is estimated to circulate in **77%** of the **global livestock population**. Intensively reared animals are more susceptible to the disease than traditional breeds.
- If a cow/buffalo gets infected with FMD, the milk loss is upto 100% which could last for four to six months.

Brucellosis

- It is a **zoonotic** and contagious disease of livestock caused by various **bacteria** of the family **Brucella**.
- It affects cattle, swine, sheep and goats, camels, equines, and dogs. It may also infect other ruminants, some marine mammals and humans.
- Transmission to humans is most often by drinking raw milk from infected animals, causing a severe debilitating disease in people.
- The disease in animals is characterized by **reproductive failure**. While animals typically recover, and will be able to have live offspring following the initial abortion, they may continue to shed the bacteria.
- In case of Brucellosis the milk output reduces by 30%, during the entire life cycle of animal.

- As per 19th Livestock census of 2012, India owns **second largest** number of **cattle** at 190.9 millions.
- India is the **largest milk producer** with 165.4 million tonnes production of milk in 2016-17, which grew at 6.37% from previous year.
- Output from livestock accounts for **29%** of **agriculture** and **allied sector output** (at current prices, 2015-16).
- About 20.5 million people depend upon livestock for their livelihood. It provides livelihood to two-third of rural community.

7.6. SUPERCONDUCTIVITY AT ROOM TEMPERATURE

Why in news?

Recently, a team from the Indian Institute of Science (IISc), Bengaluru has come up with a material, which exhibits **major properties of superconductivity** at ambient temperature and pressure.

About Superconductivity

- Superconductivity is a phenomenon in which the **resistance of the material to the electric current flow is zero**. When current is passed through an ordinary conductor, such as copper, a part of it is lost to the surroundings in the form of heat energy generated due to the resistance offered to its flow by the material. Low resistance means more of the supplied power gets to its intended destination. With the use of superconductors, this loss can be cut down.
- **Significance of the recent development** - Till now, scientists have been able to make materials superconduct only at temperatures much below zero degree C and hence making practical utility very difficult, as maintaining such low temperatures are energy intensive and, thus, expensive. Superconductivity at ambient temperature has been a treasure in physics for about a century, which makes this discovery important.
 - **The material confirmed** by the team is in the form of nano-sized films and pellets made of silver nanoparticles embedded in a gold matrix.

Applications of such material

- **Energy Storage**- Unlike conventional batteries, which degrade over time, semiconductors, which have zero loss of energy, can be used to store power. With more and more energy being produced from renewable sources, which needs to be stored, the power sector is looking for options, **which have minimum losses**.
- **Railways**- the trains running on magnetic levitation (**maglev**) have the potential to revolutionary transportation.
- **Power Transmission**- Currently, in the electricity grid, with wires running a long distance, a lot of energy is lost in the form of heat energy. It can be minimised using superconductors.
- **Other important applications include**-
 - **SQUIDS** (Superconducting Quantum Interference Devices) are used to detect even the weakest magnetic field. They are used in mine detection equipment to help in the removal of land mines.

- **Large hadron collider or particle accelerator** - Superconductors are used to make extremely powerful electromagnets to accelerate charged particles very fast (to near the speed of light).

7.7. GOLDEN RICE

Why in news?

The International Rice Research Institute along with its partners has successfully cultivated Golden Rice in a controlled environment on IRRI campus.

What is golden rice?

- Golden rice is the collective name of **rice varieties that are genetically modified to counter vitamin A deficiency** in developing countries.
- European scientists developed the first strain of Golden Rice towards the end of the 1990s.
- Golden rice differs from standard rice in that it contains **extra genes one from maize and one from bacterial origin** together responsible for the **production of provitamin A (beta-carotene)** in the rice grain.
 - Provitamin A colors the grains yellow-orange, hence the name 'Golden Rice'.
 - Once absorbed into the body, provitamin A is converted into vitamin A.
 - Provitamin A is found in many fruits and vegetables; it is also what makes carrots orange, for example.
- Research has indicated that one cup of Golden Rice can provide up to 50 per cent of the daily requirement of an adult for vitamin A.
- The Golden Rice can be grown just the same way we grow normal rice. There is no change in cost of cultivation.
- It reduces water use by up to 30 per cent without any yield loss.
- **It should not be stored for more than three months.** It may lose its nutrients after that.

Vitamin A deficiency

- Vitamin A deficiency generally occurs due to an imbalanced diet including limited access to fresh fruit, vegetables and animal products.
- Persistent deficiency in this vital nutrient can result in blindness, illness and even death.
- Vitamin A deficiency also compromises the immune system, which means children die from common diseases including diarrhea, respiratory tract infections and measles.

International Rice Research Institute

- It is an independent, nonprofit, research and educational institute, founded in 1960 by the Ford and Rockefeller foundations with support from the Philippine government.
- The institute, headquartered in Los Baños, Philippines, has offices in 17 rice-growing countries in Asia and Africa. Its regional centre was opened recently in Vanarasi.
- It is dedicated to reducing poverty and hunger through rice science; improving the health and welfare of rice farmers and consumers; and protecting the rice-growing environment for future generations.
- IRRI is a member of the CGIAR Consortium, a global research partnership committed to a food-secure future

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8. CULTURE

8.1. ISHWAR CHANDRA VIDYASAGAR

Why in news?

Recently the statue of **Ishwar Chandra Vidyasagar** was vandalised during the violent clashes that broke out in Kolkata.

About Ishwar Chandra Vidyasagar (1820-1891)

- He, received the title **Vidyasagar** (ocean of knowledge) for his outstanding academic performance, was a legendary educationist, a Sanskrit scholar and a social reformer who **questioned oppressive social traditions** of Hindu society.
- He was invited by the Fort William College to teach Bengali to the European recruits and later he went on to become the head of the Sanskrit Department. In 1846, he joined the **Sanskrit College**.
- He came to the conclusion that **merging of Eastern and Western culture would remove superstition and prejudice**.

A Social Reformer

- **Making of the modern Bengali society:** Though a Sanskritist, he interpreted custom and tradition in the **language of logic and rationality** and upheld the rights of the **individual over collective** identities. As a part of larger social movement called the **Bengal Renaissance**, his contributions are:
 - **Campaign for Widow remarriage:** It was in 1854 that he began the campaign for widow remarriage by writing against the practice in the Tattvabodhini Patrika. He challenged the Brahminical authorities and proved that widow remarriage is sanctioned by Vedic scriptures (he discovered a stanza from the **Parashara Samhita**, an ancient legal text which favoured widow remarriage). In 1855, he filed a petition before the government, seeking legislation that would allow widow remarriage, which finally resulted in the passing of the Widow Remarriage Act, 1856. He even married his son Narayan Chandra to an adolescent widow in 1870 to set an example.
 - **Admissions to backward castes:** After joining the Sanskrit College in 1846, he went against convention to admit students from lower castes to study Sanskrit. He cited the **Bhagavata Puran** to argue that there was “no direct prohibition in the Shastras against the Shudras studying Sanskrit”.
 - **Campaign against Polygamy** among Kulin Brahmins. Though the movement did not result in legislation, its social impact was considerable.
 - **Child Marriage:** By vigorously challenging the barbaric practice of **child marriage** he demanded raising of the marriageable age of the girl child. British administration passed the **Age of Consent Act in 1891**, which legally abolished child marriage.

Education Reforms

- He is credited with the role of thoroughly **remodelling medieval scholastic system** prevailing in Sanskrit College and bring about modern insights. He introduced:
 - Inclusion of English and Bengali as the medium of learning, besides Sanskrit.
 - Courses of European History, Philosophy and Science alongside of Vedic scriptures.
 - Modern concepts like class routine and weekly off day as part of the School reforms.
 - Concepts of Admission fee and tuition fee for the first time.
- **Women’s education:** Ardent advocate of women education. He, therefore:
 - lobbied for opening of school for girls and outlined suitable curriculum that also enabled them to be **self-reliant through** vocations and initiated **Nari Siksha Bhandar, a fund** to lend support for the cause of women education.
 - opened 35 schools for women throughout Bengal and was successful in enrolling 1300 students.
 - maintained his support to John Bethune to establish the first permanent girls’ school in India, **the Bethune School** in 1849.
 - spent the last two decades with the Santhal tribes in Jharkhand, where opened the first school for tribal girls.

- **Contribution to literature:**
 - Bringing a revolution in the way Bengali language was written and taught, his book, '**Borno Porichoy**' (Introduction to the letter), is still used as the introductory text to learn Bengali alphabets.
 - Wrote student-friendly Sanskrit grammars 'Upakramonika' and 'Byakaran Koumudi' in Bengali.
 - **Translation** of several Sanskrit books into Bengali, including **Kalidas's Shankuntala**.
 - Wrote two volumes on the mistreatment of widows, which set the tone for major social reform in the state.
- **Contributions to Journalism:** He was associated with journals like 'Tattwabodhini Patrika', 'Somprakash', and 'Hindu Patriot' etc.
- He set up the **Normal School for training teachers** enabling uniformity in teaching methods and founded the **Metropolitan Institution in 1872**.
- He **established the Sanskrit Press** to publish school text books at affordable prices.

8.2. VINAYAK DAMODAR SAVARKAR

Why in news?

Recently, the 136th birth anniversary of **Vinayak Damodar Savarkar**, the renowned philosopher, was observed.

About Veer Savarkar (1883-1966)

- He was an independence activist, politician, lawyer, writer, and the formulator of the Hindutva philosophy.
- **Major works:** The Indian War of Independence 1857 (It was banned by British), Hindutva (written in Ratnagiri Jail), Hindu-pad paatshahi, Joseph Mazzini.

Various aspects of Savarkar:

- **Freedom fighter:**
 - He established an organization named '**Mitra Mela**' later renamed as '**Abhinav Bharat**' which influenced the members to fight for 'absolute political independence' of India.
 - He was associated with the India House (England) for which he was arrested in 1910 and later moved to the **Cellular Jail in the Andaman and Nicobar Islands**, (released in 1921).
 - He later founded the **Ratnagiri Hindu Sabha** to preserve ancient Indian culture and worked in the direction of social welfare. Later he joined **Swaraj Party, formed by Tilak**.
 - He became a **fierce critic of the Indian National Congress** and its acceptance of India's partition.
- **Hindutva ideologue:**
 - As a response to Muslim league, Savarkar joined the **Hindu Mahasabha** and popularized the term Hindutva to create a **collective "Hindu" identity** as an essence of Bharat (India).
 - Advocated for validating religious myths/blind faith against the test of modern science, therefore was a **rationalist and reformer**.
 - Serving as the president of the Hindu Mahasabha in 1937, he endorsed the idea of India as a **Hindu Rashtra** and **opposed the Quit India struggle** in 1942.
- **Social reformer:**
 - He was a strong critic of the caste system, which was decided on the basis of birth.
 - In 1930, he started the **first pan-Hindu Ganeshotsav**. The festivities would be marked by 'kirtans' rendered by the untouchables.
 - Initiated **several temple movements** of Maharashtra, where the untouchables were encouraged to pray. (eg in **Patipavan temple in Ratnagiri**)

About Hindu Mahasabha

- Formed in 1907, it is a party established for safeguarding issues of Hindus.
- **Eminent Hindu leaders** extended this Organization in 1915 on all India basis. They were: Madan Mohan Malaviya, N.C.Kelkar, Lala Lajpat Rai, Veer Savarkar, Dr S.P. Mukherjee, Dr N.B.Khare;
- While not supportive of British rule, the **Mahasabha did not offer its full support to the nationalist movement** either, abstaining from participating in the Civil Disobedience movement of 1930 and the Quit India movement of 1942.
- It celebrates January 30, as **Shaurya Diwas**.

8.3. VEDANTA DESIKAN

Why in news?

Recently, a postage stamp was launched to commemorate the **750th birth anniversary of Sri Vedanta Desikan**.

About Vedanta Desikan

- One of the most prominent preceptors in the **Sri Vaishnava tradition**, he was a **multi-faceted personality**.
- Celebrated as '**Sarva-Tantra-Svatantra**' or master of all arts and crafts and awarded the title '**Kavi Tarkika-Kesari**'.
- **Philosophy-**
 - The Srivaishnava philosophy got a much wider audience with Vedanta Desikan's writings and preaching.
 - One of the essential features of his philosophy was the **aspect of inclusion** that is anyone, irrespective of caste and creed could join the Sri Vaishnava fold, obliterating caste distinctions and thus making it a **truly democratic movement**.
 - He illuminated the paths of **devotion and dedication**, of selfless love and affection for humanity and a total submergence in divine ambience.

Srivaishnava tradition

- A denomination **within the Vaishnavism tradition** of Hinduism.
- Though **Nathamuni** (10th century CE) is attributed as the founder, its central philosopher was **Ramanuja (11th C)** who developed the **Vishishtadvaita philosophy**.
- The **most striking difference** between Srivaishnavas and other Vaishnava groups lies in their **interpretation of Vedas**.
- While other **Vaishnava groups** interpret Vedic deities like Indra, Rudra, etc. to be same as their Puranic counterparts, **Srivaishnavas** consider these to be different names and forms of Lord Narayan thus claiming that the **entire Veda is dedicated for Vishnu worship alone**.
- In this tradition, the **ultimate reality and truth** are considered to be the divine sharing of the feminine and the masculine, the goddess and the god.
- The prefix Sri is used for this sect because they give **special importance to the worship of the Goddess Lakshmi**, who they believe to act as a mediator between **God Vishnu and man**.
- **Acharyas:** Yamunacharya, Ramanujacharya, Parasara Bhattar, Pillai Lokacharya, Vedanta Desikan.

8.4. PATTACHITRA

Why in news?

Many pieces of **Pattachitra art** have been damaged due to **cyclone Fani** in the coastal villages of Odisha.

About Pattachitra

- A traditional cloth-based **scroll painting** form **Odisha**, which derives its unique place because of its pictorial conception, technique of painting, line formation and colour scheme.
- These were traditionally drawn by the **mahapatras**, the original artiste caste in Odisha.
- They became an important art form with the ornamentation of **Lord Jagannath** in the innermost sanctum.

Features

- The artist **does not use a pencil or charcoal for the preliminary drawings**.
- In Pattachitra, it is a tradition to **complete the borders** of the painting first.
- When the painting is completed it is held over a charcoal fire and lacquer is applied to the surface. This makes the painting **water resistant and durable**, besides giving it a shining finish.
- It is a disciplined art form where chitrakars maintain **rigidity in their use of colours and patterns, restricting the colours to a single tone**.

Related Information

Raghurajpur (Puri, Odisha) has been identified as a **heritage village** due to the traditional works ranging from Pattachitra to paper mask and wooden carvings to dolls.

Other important Scroll Paintings:

- **Kalamkari:** Andhra Pradesh
- **Kalighat Pats:** Bengal
- **Phad Paintings:** Rajasthan
- **Cheriyal Paintings:** Telangana
- **Pichwai:** Raiasthan

- **Themes:** Depiction of temple of **Lord Jagannath**, his brother Balram and sister Subhadra, Krishna Lila, incarnations of Lord Vishnu, mythological and folk stories from the Panchatantra, Puranas, Ramayana-Mahabharata and the Geet Govind.
- **Craft material and colours:** The materials used in the paint are from vegetable, earth, and mineral sources.
 - The gum of **the kaitha tree is the chief ingredient**, and is used as a base for making different pigments.
 - **White** is prepared from conch-shells, **Red** from Hingula (a mineral), **Yellow** from Haritala stone, **Blue** from Ramaraja (a variety of indigo) and **Black** is obtained from lamp-black or coconut shells.
- With the passage of time, the Pattachitra art has gone through a **commendable transition**, and have been painted on **tussar silk and palm leaves**, and being created as wall hangings and showpieces.

8.5. STUCCO SCULPTURE

Why in news?

Recently, archaeologists have unearthed a life-size stucco sculpture from a Buddhist site in **Phanigiri, Telangana** making it the largest found in the country so far.

About the Sculpture

About 1.73 m in height and 35 cm in width, the figurine represents one of the Bodhisattvas belonging to the **Jathaka Chakra**, believed to be belonging to the **Ikshavaku dynasty**.

Phanigiri Hillock

- It is a prominent Buddhist site in Telangana and has relics dating back to 1st Century AD which were unearthed during excavations in 2001.
- The sculptural wealth from the site shows a gradual transition between the **Satavahana period and Ikshvaku period**.
- Efforts are ongoing to place Phanigiri on the tourist map of **Buddhist circuit** by the State government.
- A **Mahastupa**, apsidal **chaitya grihas**, votive stupas and pillared congregation halls belonging to the **Satavahana period** from the first century BC have been found here.
- The site was one of the **biggest training and Dhyana Kendra for Buddhist monks** as 200 Viharas in which Buddhist monks are believed to have resided, were located on the hillock.

About Stucco Art

- Stucco is used as a decorative coating for walls and ceilings, and as a sculptural and artistic material in architecture.
- **Traditional stucco** is made of lime, sand, and water, whereas **modern stucco** is made of portland cement, sand, and water.
- As a plastering material it is applied wet which hardens to a very dense solid.
- Indian architecture used stucco as a **material for sculpture in an architectural context**.
- Stucco art was earliest seen in the **Gandhara region** (around Peshawar and northern Pakistan)
- It was used mainly in the monastery complex. For example: In the sculptural art of Nalanda and **Vikramshila** monasteries stucco was used extensively.
- In the **Dravida architecture** hundreds of stucco figures used to decorate the vimana.

8.6. TENTATIVE LIST OF UNESCO WORLD HERITAGE SITES

Why in News?

Recently, UNESCO has included the **Orchha city** (MP) and Indian part of **Kailash Mansarovar** in its tentative list of world heritage sites on the proposal sent by **Archaeological Survey of India (ASI)**.

More on News

- **About Orchha**
 - It's considered in the list of **cultural heritage**.
 - The historical settlement derived its name from the **phrase 'Ondo chhe'** meaning 'low' or 'hidden'.
 - Situated on the **banks of the Betwa river**, Orchha was built by **king Rudra Pratap Singh** of Bundela dynasty in the **16th century**.
 - Bundela architecture has Mughal influence.
 - It is famous for its **Chaturbhuj Temple**, Orchha fort complex, Raja Mahal.

About ASI

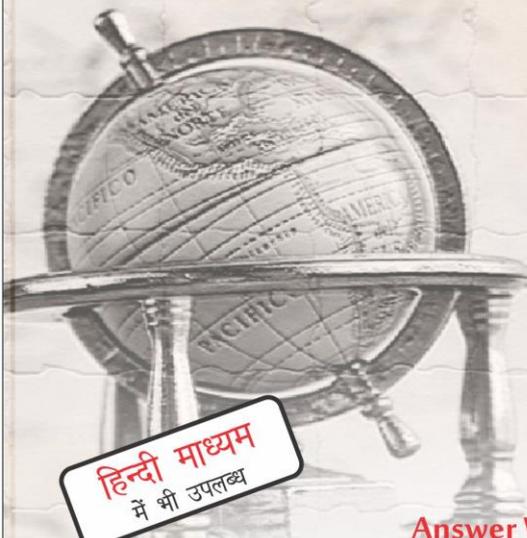
- Under the **Ministry of Culture**, it is the premier organization for the archaeological researches and protection of the cultural heritage of the nation.
- It regulates all archaeological activities in the country as per the provisions of the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
- It also regulates **Antiquities and Art Treasure Act, 1972**.

- Orchha is also famous for its **two elevated minaret called Saavan and Bhadon** and its four palaces — Jahangir Palace, Raj Mahal, Sheesh Mahal and Rai Praveen Mahal — and for its concept of open bungalows, stone work windows, animal statues depicting the culture of Bundelkhand.
- It is the **only place in India** where Lord Ram is worshipped as a king (not in God form) with a dedicated temple in his name called **Sri Ram Raja Mandir**.
- **About Kailash Mansarovar**
 - It is considered in the **mixed category** — both as a natural as well as a cultural heritage.
 - Site share landscape in the **east with Nepal and bordered by China on the north**.
 - Indian site is part of the larger landscape of 31,000 sq km referred to as the '**Kailash Sacred Landscape**' constituting the **Mount Kailash** and **Lake Mansarovar** in the remote south-western portion of the Tibet Autonomous Region of China and adjacent districts in the far-western region of Nepal.
 - Four rivers originate from Mount Kailash: the Indus, the Brahmaputra, the Karnali and the Sutlej.
 - Ministry of External Affairs organizes this Kailash Yatra each year through two different routes - Lipulekh Pass (Uttarakhand) and Nathu La Pass (Sikkim).

PHILOSOPHY/ दर्शनशास्त्र

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9. ETHICS

9.1. ETHICAL DILEMMAS IN ABORTION

Why in news?

The US state of Alabama has passed the most restrictive abortion bill in the United States, which places a near-total ban on the termination of pregnancy - even in cases of rape and incest - and could punish doctors who perform the procedure with life imprisonment. Abortion has been a controversial issue as it involves various ethical dilemmas.

About Abortion

Abortion is the deliberate termination of a pregnancy by surgical or other medical means. There are some instances, where the termination of pregnancy is deemed necessary such as –

- **Undesired pregnancies-** where the woman does not have an initial willingness to bear the child, such as, rape victims, unsafe sex among others.
- **Protect the life of the mother-** which may be endangered by pregnancy due to her impaired mental and physical health (and possible death).

Ethical Questions in Abortion

Abortion is one of the most controversial issues in today's world, as there are various ethical issues which need redressal such as-

- **Does the foetus have human rights on par with others? If the foetus is a person, then abortion is a murder and should be illegal.** Even if it is not a person, however, this doesn't mean that it can't have any moral standing.
- **Does the woman have any ethical obligations to the foetus?** If a woman voluntarily acts in a way that brings about the existence of a person or a foetus, then it is her responsibility to maintain the life of that person or foetus. Whether the foetus is a person or not, and whether the state takes a position on abortion or not, it's arguable that a **woman has some sort of ethical obligation to the foetus.**
- **Ethics of bodily autonomy of the mother:** It is arguable that a **right to abortion is a right to control one's body.** That claim to personal, bodily autonomy must be regarded as fundamental to the conception of any ethical, democratic, and free society. Given that **autonomy exists as an ethical necessity**, the question becomes **how far that autonomy extends.** Can the state really force a woman to carry a pregnancy?
- **Does the Woman Have Ethical Obligations to the Father?** Should women give fathers any say in deciding whether the pregnancy is carried to term? If men have an ethical obligation to support a child after birth, don't they have an ethical claim on whether a child is born?
- **Is it ethical to give birth to an unwanted Child?** Even if it were ethical to force women to carry pregnancies to term, it would not be ethical to force the birth of children who are unwanted and cannot be cared for. Women who choose to abort when they cannot be good mothers are making the most ethical choice open to them.
- **Can religious umbrella overshadow the civil and human rights?** - where the religion mandates the importance of newborn even if it amount to take the life of the mother. The question which needs an answer here is whether the law should take guidance from the human and civil rights or religious mandates.

WHO's arguments in favour of legalizing abortion

- Legal restrictions on abortions do not result in fewer abortions, nor laws & policies that facilitate safe abortions increase rate & number of abortions. **The principal effect is to shift unsafe procedures to legal and safe ones.**
- Restricting legal access will not decrease the need for abortion, but is likely to increase number of women seeking **illegal abortions, leading to increase in morbidity and mortality.**
- More women will seek services in other countries, **increasing costs, delays and inequity.**

Based on the above ethical questions/ discussions, following arguments could be categorized in support and against for the practice of abortion.

Arguments in support of abortion

- **The foetus is not a person**, not a being with full moral rights & does not possess a right to life because the event that makes the unborn a person is **not conception** but birth (unlike the mother, who has a full complement of rights).
- Since contraception is widely available and legal as a way to prevent child birth, in the same way abortion should be allowed on the same basis.
- Abortion is a matter of a woman's right to exercise control over her own body. The right to abortion is vital for **gender equality** and for individual women to **achieve their full potential**.
- Child bearing could be bane in some cases for mothers in the form of her loss of personal freedom, financial strain on the mother as well as on her family, the agony of bringing a seriously impaired baby to term only to see it die later, etc. In such cases, abortion cannot be considered unethical outrightly.
- **The foetus has a right to life but not a right to sustain that life by using the mother's body against her will.** The unborn's right to life does not entail the right to use the mother's body without her consent; the mother has a right to defend herself against unauthorized exploitation of her body. Also, if abortion is made legal, it can ensure more safe medical facilities for risk prone mothers.

Arguments against abortion

- If the foetus is a person, it becomes **an end in itself** and a **thing of intrinsic value and dignity**. Thus, like any adult human, foetus has rights, which emerge right **at the moment of conception** itself.
- Abortion **challenges the notion of the sanctity of all human life**. Permitting abortion **diminishes the respect society feels for other vulnerable humans**.
- An abortion on the basis of pregnant woman no longer having any interest, would be unethical as it would mean a life is treated merely as an object.
- Availability of abortion on grounds of foetal abnormality **encourages prejudice** towards any person with a handicap and insidiously creates the impression that the only valuable people are those who conform to some ill-defined stereotype of "normality".

Way Forward

- A moderate viewpoint can be considered as per which the foetus is considered a person with full moral rights, but abortion still may be permissible in certain cases. A **therapeutic abortion** performed to protect the life or health of the mother should not be morally problematic. But **induced abortions** should be discussed and taken on a case to case basis, such as the cases of rape, severe disability to the child and defective contraception
- Abortion is a difficult issue as it touches upon a significant number of important, fundamental ethical questions: the nature of personhood, the nature of rights, human relationships, personal autonomy, the extent of state authority over personal decisions etc. All of this means that it is very important that we take abortion seriously as an ethical issue- identify the various components and discuss them with as little prejudice as possible to reach any conclusion.

10. NEWS IN SHORT

10.1. DOPT FINAL AUTHORITY TO DECIDE ON SANCTION TO PROSECUTE CORRUPT PUBLIC SERVANTS

- Recently, **Department of Personnel and Training (DoPT)** issued guideline under **Prevention of Corruption (Amendment) Act, 2018** for sanctioning prosecution of a public servant.
- Guidelines specifically deal with disagreement between disciplinary authority (any central government department) and the CVC in cases of granting the prosecution sanction.
 - **Case-I:** Where the CVC advises grant of sanction for prosecution but the ministry/department concerned proposes not to accept such advise, then the case should be referred to the DoPT, which is headed by Prime Minister, for final advice.
 - **Case-II:** Where the CVC declines sanction for prosecution but the ministry/department concerned proposes not to accept such advice, should also be referred to **the DoPT for the final advice.**
 - **Case-III:** Where the CBI has sought sanction for prosecution and the CVC has recommended grant of sanction and yet the competent authority proposes not to grant the permission, then such cases should be **decided by the DoPT and its decision would be final.**

10.2. DELHI HIGH COURT RULED UN IS NOT A STATE

- The Delhi High Court has ruled that the **United Nations is not a "State"** within the meaning of **Article 12** of the Constitution of India and is not amenable to the jurisdiction of the Court under **Article 226** of the Constitution of India.
- According to Article 12 of the Constitution of India, the term **'State'** denotes the **union and state governments**, the Parliament and state legislatures and all local or other authorities within the territory of India or under the control of the Indian government.
- The government has also stated that the consent of the Government of India is not required to initiate a legal suit against UNO as it is not a foreign state and is only an Internal Organization.
 - **Section 86 of Civil Procedure Code, 1908** provides that a foreign State may be sued in any Court with the consent of the Central government.
- It, however, said UNO and its officials enjoy immunity under the United Nations (Privileges and Immunities) Act, 1947.

- As per the act, UNO has immunity from every form of legal process except insofar as in any particular case it has expressly waived its immunity.

10.3. ELEPHANT BONDS

- An advisory group to GOI has suggested issuance of **'Elephant Bonds'**.
- **Elephant Bonds** would be **sovereign bonds** issued for a period of **25 years** in which people declaring undisclosed income will be bound to invest 50 per cent, similar to an amnesty scheme. These funds will be utilised **only** for **infrastructure** projects.

10.4. WORLD ECONOMIC SITUATION AND PROSPECTS REPORT 2019

- The midyear review of the World Economic Situation and Prospects report has been released recently.
- It marks a downward revision from the projections made for India in the report released in January 2019, which forecasted that India will continue to remain the world's fastest-growing large economy in 2019 as well as in 2020 (much ahead of China).
- Growth projected at 7% in 2019 and 7.1% in 2020. In 2018, India grew at 7.2%. However, India remains the fastest growing major economy in the world. Growth is driven by strong domestic consumption and investment.
- Following an expansion of 3.0 per cent in 2018, world gross product growth is now projected to moderate to 2.7 per cent in 2019 and 2.9 per cent in 2020, reflecting a downward revision from the forecasts released in January.
- **WESP report** is a joint product of:
 - United Nations Department of Economic and Social Affairs (UN/DESA),
 - United Nations Conference on Trade and Development (UNCTAD)
 - Five United Nations regional commissions (Economic Commission for Africa (ECA), Economic Commission for Europe (ECE), Economic Commission for Latin America and the Caribbean (ECLAC), Economic and Social Commission for Asia and the Pacific (ESCAP) and Economic and Social Commission for Western Asia (ESCWA).

10.5. NEWSPACE INDIA

- Recently, the Indian Space Research Organisation (ISRO), inaugurated its commercial arm **NewSpace India Limited (NSIL), in Bengaluru.**
- It was incorporated for **commercially utilising research and development activities** carried out

by ISRO with an authorised share capital of Rs 100 crore and initial paid up capital of Rs 10 crore.

- **Main objectives of NSIL:**
 - To scale up industry participation in Indian space programmes as it will act as an aggregator for all space related activities in industry and develop private entrepreneurship in space related technologies.
 - Manufacturing and production of **Small Satellite Launch Vehicle (SSLV)** and **Polar Satellite Launch Vehicle (PSLV)** through technology transfer mechanisms.
 - Cater to emerging global commercial SSLV market demand by providing satellite building and satellite-based services, including **supply of sub-systems** for various domestic and international application needs.

About Small Satellite Launch Vehicle (SSLV)

- It is a launch vehicle developed by ISRO with payload capacity of **500 kg to Low Earth orbit or 300 kg to Sun synchronous orbit** for launching small satellites.
- It was developed with the aim of launching small satellites commercially at drastically reduced price and higher launch rate as compared to PSLV.
- Designed by **ISRO's Vikram Sarabhai Space Centre**, it can accommodate multiple satellites, albeit smaller ones.
- Unlike the PSLV and GSLV, the **SSLV can be assembled both vertically and horizontally.**
- The first three stages of the vehicle will use solid propellant, with a fourth stage being a **velocity-trimming module.**

10.6. SEVEN MEGA MISSIONS BY ISRO

- ISRO plans to conduct seven mega missions over next 10 years.
- **These include:**
 - **Chandrayaan-2**
 - **XPoSat:** X-ray Polarimeter Satellite, is a dedicated mission **to study polarisation.** It is scheduled for launch next year.
 - ✓ The spacecraft will carry Polarimeter Instrument in X-rays (POLIX) payload which will study the degree and angle of polarisation of bright X-ray sources in the energy range 5-30 keV. The satellite has a mission life of five years and will be placed in circular 500-700km orbit.
 - **Aditya-L1 missions:** Aditya-L1 is an important mission planned for 2021, to study the solar corona. The spacecraft will be placed in a halo orbit around the Sun-Earth Lagrangian point (L1), about 1.5 million km from the Earth.
 - The four other undefined missions, which are in the planning stage, are: **Mangalyaan-2, Venus mission, Lunar Polar Exploration and Exoworlds.**

For more details on Chandrayaan 2 refer April 2019 Current Affairs

10.7. NASA'S ARTEMIS LUNAR PROGRAM

- NASA recently unveiled the calendar for the "Artemis" program that will return astronauts to the Moon for the first time in half a century including the **first woman astronaut to moon.**
- Through Artemis, NASA aims to establish:
 - **sustainable human presence** on the Moon by 2028 to uncover new scientific discoveries,
 - demonstrate new technological advancements,
 - lay the **foundation** for **private companies** to build a **lunar economy,**
- Upon landing, American astronauts will step foot where no human has ever been before, the Moon's South Pole.
- NASA is rendering the services of private space companies to speed up the project.

10.8. AKASH-1S MISSILE

- DRDO successfully test fires Akash-1S surface to air defence missile.
- It is a new version of the Akash missile fitted with an indigenous seeker.
- Akash has been developed by the **Defence Research and Development Organisation (DRDO)** under the **Integrated Guided Missile Development Plan** along with Agni, Trishul, Prithvi and Nag.
- It is a **supersonic** surface-to-air missile.
- It has a strike range of about 25 km and can carry a 55- kg fragmentation warhead.
- It can reach an **altitude of 18 km** and can be fired from both tracked and wheeled platforms.
- The new Akash weapon system has combination of both command guidance and active terminal seeker guidance.

10.9. ABHYAS

- The DRDO has successfully conducted the flight test of ABHYAS - High-speed Expendable Aerial Target (HEAT) from a test range in Odisha.
- It offers a realistic threat scenario for practice of weapon systems.
- 'Abhyas' is designed for autonomous flying with the help of an autopilot.
- The configuration of 'Abhyas' is designed on an in-line small gas turbine engine and it uses indigenously developed micro-electro-mechanical systems-based system for navigation and guidance.

10.10. RISAT-2BR1

- India's Polar Satellite Launch Vehicle (PSLV-C46) successfully launched RISAT-2BR1 satellite from Satish Dhawan Space Centre, Sriharikota.
- It is a **radar imaging earth observation satellite** weighing about 615 kg (orbit of 556 km).
- The satellite is intended to provide **services in the field of Agriculture, Forestry and Disaster Management.**
- It has a sensor called the '**Synthetic Aperture Radar**', which takes high-quality radar images. Globally, security agencies use the images and services of such satellites.
 - The biggest advantage is that ground imageries **can be collected during rains and despite dust, clouds or darkness and during all seasons**, thus ensuring continuous and reliable data.
- In the past decade, ISRO has launched two satellites in the **RISAT series**, beginning in 2009 with the Israeli-built **RISAT 2**, and the second one, **RISAT 1**, in 2012. The RISAT 1 is no longer operational.
- Risat-2 is a military satellite which was fast tracked after the Mumbai terrorist incident to boost surveillance capabilities of security forces.

10.11. FOURTH SCORPENE-CLASS SUBMARINE VELA LAUNCHED

- The **Scorpene-class submarine Vela**, the fourth of six underwater warships being built in India with French collaboration, was launched in Mumbai recently.
- A contract was signed in 2005, between French collaborator Ms Naval Group (formerly DCNS), and Mazgaon Dock Limited under Indian Navy's **Project-75** for the construction and transfer of technology for six scorpene-class submarines.
- The first submarine **INS Kalvari** was commissioned in December 2017 while two other submarines - **INS Khanderi** and **INS Karanj** are in the advanced stages to join the Navy fleet.
- **Vagir** and **Vagsheer** are the remaining two submarines in the country's Scorpene Submarine programme, they are in the advanced stages of manufacturing.

10.12. IRON DOME AERIAL DEFENCE SYSTEM

- With the increasing tension between Israel and Ghaza, Israel is using its Iron Dome to intercept incoming rockets.
- The Iron Dome is a mobile **air defence system** developed by Israel to **intercept and destroy short-range rockets and up to 155mm artillery shells** fired from short distances.

- It can be operated in **all weather conditions** and can respond to multiple threats simultaneously.
- Iron Dome operates both **day and night, and can detect tickets 4 to 70 km away** to destroy target mid air.

10.13. SIPRI'S GLOBAL REGISTRY OF VIOLENT DEATHS

- Recently, **Stockholm International Peace Research Institute (SIPRI)** has launched a new initiative called **Global Registry of Violent Deaths (GReVD)**, aiming to establish the annual number of violent deaths worldwide.
- It will count deaths caused by **all forms of violence** and display these in an **open-source database** that will allow researchers, policymakers and the general public to **track trends** in violence at global, regional, national and local levels.
- The registry will help monitoring of progress on the world's commitment to '**significantly reduce all forms of violence and related death rates everywhere**' by 2030 as set out in **Goal 16 of SDGs** (Peace, justice and strong institutions).

About SIPRI

- Established in 1966, it is an **independent** international institute dedicated to research into conflict, armaments, arms control and disarmament, based in **Stockholm**.
- It provides **data, analysis and recommendations**, based on open sources, to policymakers, researchers, media and the interested public.
- **Publications:** Arms Transfers Database, Chemical & Biological warfare Studies.

10.14. ALGERIA AND ARGENTINA CERTIFIED MALARIA-FREE BY WHO

- Recently, Algeria and Argentina have been officially recognized by WHO as malaria-free.
- Certification is granted when a country proves that it has interrupted indigenous transmission of the disease for at **least 3 consecutive years**.
- Globally, a total of 38 countries and territories have now been declared malaria-free, with **Maldives and Sri Lanka achieving status** in 2015 and 2016 respectively.

10.15. ORANGUTAN

- Recently, India's only orangutan died in Odisha's Nandankanan Zoological Park.
- She was brought from **Singapore** to Pune's Rajiv Gandhi Zoological Park and later shifted to Odisha.
- Orangutans are one of the world's three surviving species of great apes and are native to Indonesia and Malaysia.
- Considered to be among the most intelligent primates, they use a variety of sophisticated tools

and construct elaborate sleeping nests each night from branches and foliage and also play a vital role in seed dispersal in their habitats.

- **Threats:** Habitat loss, Human-Animal Conflict, Illegal wild life trade etc.

Conservation Status

- IUCN (International Union for Conservation of Nature): Critically Endangered.
- CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora): Appendix 1

10.16. PURPLE FROG

- Purple frog (*Nasikabatrachus sahyadrensis*) could soon be designated as **Kerala's state amphibian**.
- It is **endemic to the Western Ghats**.
- It can be called as a '**living fossil**' as its evolutionary roots suggest it could have shared space with dinosaurs almost 70 million years ago.
- It is also known as the 'Maveli' frog/pig-nosed frog, and spends most of its time under the soil, **emerging for a few days each year at the start of the monsoons to breed**.
- Unlike other frogs, it has a peculiar set of limbs and a pointy nose to survive underground.

Conservation Status

- **IUCN:** Endangered
- **EDGE (Evolutionarily Distinct and Globally Endangered) list:** Ranked third in the list of threatened amphibians.

EDGE

- The EDGE of Existence programme is the **only global conservation** initiative to focus specifically on threatened species that represent a significant amount of unique evolutionary history.
- It was launched in 2007 by **Zoological Society of London**.
- The aim of the EDGE programme is to ensure that local stakeholders, government, in country and international conservation agencies take ownership for future survival of species.
- EDGE species are usually extremely distinct in the way they look, live and behave as well as in their genetic make-up. If they disappear, there will be nothing like them left on the planet.
- Ranking of Edge is based on the score calculated by **combining the ED** (Evolutionary Distinctiveness: Representing the unique evolutionary history survival in the species) and **GE/IUCN Score** (How close the species become extinct).

10.17. CHINKARA WILDLIFE SANCTUARY

- Karnataka's State Board for Wild Life has notified **Bukkapatna Chinkara Wildlife sanctuary** in Tamakuru District.

- This will be the **southernmost tip** of the distribution range of Chinkara in India. The first wildlife sanctuary for chinkaras was established at Yadahalli in Bagalkot district (Karnataka).
- Karnataka is home to 3 species out of the 6 species of antelopes in India including black bucks, four-horned antelope and Chinkaras.
- Bukkapatna forest area is perhaps the **only documented** place in Karnataka for all the three antelope species.
- Chinkara gazelles survives in the dry habitats and does not require much water for their survival. They get their moisture from dew, eating vegetation, fruits and other similar sources.
- **IUCN Status: Threatened**
- **Threats-**
 - Residential & commercial development
 - Agriculture & aquaculture: livestock farming and ranching
 - Biological resource use: hunting and trapping terrestrial animals

10.18. ITERATIVE EVOLUTION

- Recently, White-throated Rail bird showed the phenomenon of **iterative evolution** which means that the repeated evolution of similar or parallel structures from the same ancestor but at different times.
- This bird is descendant of a species of flying bird known as the white-throated rail — which was completely wiped out when the island Aldabra disappeared below sea level about 136,000 years ago.
- When sea levels fell again a few thousand years later, fossils show that the species re-colonized it, once again losing the ability to fly due to an absence of predators on the island.
- Presently it is **the only flightless bird** known in the Indian Ocean area, indigenous to Madagascar and migrating to Aldabra (Seychelles).

10.19. NOT ALL ANIMALS MIGRATE BY CHOICE CAMPAIGN

- UN Environment India and Wildlife Crime Control Bureau (WCCB) of India launched an awareness campaign '**Not all animals migrate by choice**' to be displayed at major airports across the country.
- The campaign aims at creating awareness and garnering public support for the protection and conservation of wildlife, prevention of smuggling and reduction in demand for wildlife products.
- The first phase of the campaign will focus on Tiger, Pangolin, Star Tortoise and Tokay Gecko.
- The campaign also complements worldwide action on illegal trade in wildlife through **UN Environment's global campaign, Wild for Life**.

Wildlife Crime Control Bureau

- It is a **statutory body** under the Ministry of Environment Forest and Climate Change to combat organized wildlife crime in the country and was constituted in 2007 by amending the **Wildlife Protection Act, 1972**.
- It is mandated to collect and collate intelligence related to organized wildlife crime activities and to disseminate the same to State and other enforcement agencies for immediate action so as to apprehend the criminals.
- It also assists and advises the Customs authorities in inspection of the consignments of flora & fauna as per the provisions of Wild Life Protection Act, CITES and EXIM Policy governing such an item.

10.20. CLIMATE EMERGENCY

- UK has become the **first national government to declare an Environmental and climate emergency**.
- The step followed 11 days of street protests in London by **the Extinction Rebellion environmental campaign group**.
- While there is **no precise definition of climate emergency**, this move will **put the climate and the environment at the very centre of all government policy**, rather than being on the fringe of political decisions.
- The IPCC report has predicted that, **if the world can become carbon-neutral by 2047, we will have a 66% chance of meeting the most ambitious end of the Paris Agreement pledge**.
- The delivery of a 'carbon-neutral' planet hinges on nations committing to net-zero emissions in the timeframe, a move which the UK is now being called upon to make.
- The UK is legally committed to an **80% reduction in carbon emissions by 2050** (relative to their 1990 levels) and was recently recognised as one of just 18 developed economies that have driven down carbon dioxide emissions over the last decade.
- **Ireland became the second country** to declare climate emergency.
- The development came after a Fianna Fáil amendment to the **Oireachtas report on Climate Action** was accepted by both the Government and Opposition parties without a vote.

10.21. ROOM OF THE RIVER PROJECT

One of the flagship projects of the **Netherland government**, **“Room of the river”** is to be replicated in Kerala’s **Kuttanad**, which remained submerged for weeks during Kerala floods.

About the project

- It is a **flood mitigation initiative** which is aimed at protecting areas adjoining rivers from routine flooding and improving water management systems in delta regions.
- **Key concept behind the project:** To provide **more space for the water body** so that it can manage

extraordinary high-water levels during floods. The project involves **tailor-made solutions for each River**.

- **Important measures of the project are:**
 - lowering the flood plain,
 - strengthening and relocation of dykes,
 - reducing the height of the groynes,
 - increasing the depth of the side channels and
 - removing obstacles.
- It will also **improve the surroundings of the river banks** through fountains and panoramic decks, for this the **landscapes are altered** in a way that they turn into **natural sponges** which can accommodate **excess water** during floods.

Kuttanad Below Sea Level Farming System

- Kuttanad is a **delta region situated below sea levels** along the west coast of Kerala, **known as state’s rice bowl**.
- The **Kuttanad Below Sea-level Farming System (KBSFS)** is a unique cultivation system, as it is the only system in India that practices rice cultivation below sea level over 150 year ago.
- This system contributes remarkably well to the **conservation of biodiversity and ecosystem services** including several livelihood services for local communities.
- It was declared by the Food and Agriculture Organisation as a **GIAHS (Globally Important Agriculture Heritage System)**.

10.22. ARUNACHAL 'S GRAPHITE DEPOSITS

- Recently, the Geological Survey of India (GSI) has stated that **35 per cent the country's Graphite deposits** of the country is found in **Arunachal Pradesh**.
- Currently, India is **importing graphite** from countries like China, Japan, Germany etc.
- **Other major hubs of graphite:** Jammu & Kashmir, Jharkhand, Tamil Nadu and Odisha.
- The Arunachal State Department of Geology and Mining had suggested the GSI to move the survey and drilling activities towards the **India-China border considering that China is reportedly undertaking huge mining activities in Tibet**. (Arunachal Pradesh shares 1,126 km of the 3,488 km boundary India shares with China.)

About Graphite

- Pure graphite is a mineral form of the **element carbon**.
- It is an **extremely soft mineral** that can break into flexible flakes that easily slide over one another.
- The greasy characteristic makes graphite a good solid lubricant, making it useful in applications where **“wet” lubricants**, such as oil, cannot be used.
- It is the **only non-metal element** that is a good conductor of electricity.
- Natural graphite is used mostly in **refractory applications** involving extremely high heat such as in steel industry. It is also used to make brake linings, lubricants, and molds in foundries.

11. GOVERNMENT SCHEMES IN NEWS

11.1. PRADHAN MANTRI KISAN SAMMAN NIDHI (PM-KISAN)

The Central Government notified a decision to extend the **benefit of ₹6,000 per year** under the Pradhan Mantri Kisan Samman Nidhi scheme to **all 14.5 crore farmers** in the country, **irrespective of the size of their landholding**.

Objective	Salient Features
<ul style="list-style-type: none">• To provide income support to all farmer families having cultivable land.• To supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income.	<ul style="list-style-type: none">• The revised Scheme is expected to cover around 2 crore more farmers, increasing the coverage of PM-KISAN to around 14.5 crore beneficiaries.• Responsibility of identifying the landholder farmer family eligible for benefit under the scheme shall be of the State/UT Government.• The lists of eligible beneficiaries would be published at the village level to ensure transparency.• Exclusions: Certain categories of beneficiaries of higher economic status such as institutional land holders, former and present holder of constitutional posts, persons who paid income tax in last assessment year etc. shall not be eligible for benefit under the scheme.<ul style="list-style-type: none">○ Professionals like doctors, engineers and lawyers as well as retired pensioners with a monthly pension of over ₹10,000 and those who paid income tax in the last assessment year are also not eligible for the benefits.○ For the purpose of exclusion State/UT Government can certify the eligibility of the beneficiary based on self-declaration by the beneficiaries.• A dedicated PM Kisan Portal will be launched for implementation of the scheme.• This is a Central Sector Scheme and will be funded fully by the Government of India.

Related news

- Government has also announced a **pension scheme** that would give **₹3,000 monthly to small and marginal** farmers from the age of 60 if they enroll between 18 and 40 years of age.
- Depending on their age at the time of enrolment, farmers have to put in an amount between ₹55 to ₹200 per month.
- The **Centre will match the farmers'** contribution to the pension fund to be managed by the LIC.
- Farmers can also opt to allow the contribution to be made directly from the benefits drawn from the PM-Kisan scheme.
- There will also be an online grievance redressal system for complete transparency.

11.2. HONEY MISSION

Khadi and Village Industries Commission (KVIC) has distributed more than one lakh bee-boxes among farmers and unemployed youths across the country in less than two years under its 'Honey Mission' initiative.

Objective	Salient Features
<ul style="list-style-type: none">• Create an end-to-end implementation framework for beekeeping skill development, which provides employment rural & urban unemployed youth.• Enforce nationally acceptable standards of Good Beekeeping Practices (GPB).• Develop a network of quality master trainers.• Offer a passage for overseas market for hive products.• Enable pathways from novice beekeepers to viable commercial beekeeping by handholding to credit linkages.• Promote convergence and co-ordination between all the stakeholders of beekeeping in India.	<ul style="list-style-type: none">• 'Honey Mission' was launched in August 2017 in line with Prime Minister's call for 'Sweet Revolution' in 2016 while introducing Banas Honey project at Deesa in Gujarat's Banaskantha district.• The KVIC also provides beekeepers practical training about examination of honeybee colonies, identification and management of bee enemies and diseases, honey extraction and wax purification, etc.• KVIC being the nodal agency of Prime Minister Employment Generation Programme (PMEGP) provides loans for setting up units of processing, packaging and labelling units for the honey.• Honey is a Minor Forest Produce (MFP) under The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

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