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NOTE:

Dear Students,

Memorisation and recollection of information in Current Affairs is as important as understanding the articles. In order to enhance the learning outcomes from the Monthly Current Affairs Magazine, we are introducing following additions:

A thematic based colors has been used in the document in the boxes, tables etc to enable easy identification and recollection of various concepts and topics.

Questions are an important tool to assess and retain information. To enable this we are adding a Smart Quiz at the end of each section in the document for practicing the questions.

A wide variety of infographics have been added to ensure smoother learning experience and enhanced retention of the information. This will also help in effective presentation of information in the answer writing as well.

Places and persons in news are being presented in an objective manner through Maps, Tables & Pictures. This will help in easier recollection of factual information.

1. POLITY AND GOVERNANCE

1.1. CASTE CENSUS

Why in news?

Demands by various political parties to have a caste-based enumeration in the 2021 Census has triggered a serious debate.

What is a caste census?

- Caste Census is the **caste-wise tabulation of population** in the census exercise.
- Caste, was last included in the Census of India back in 1931. The practice was stopped by the British in 1941 and the post 1947, the government did not revive it.
- While India publishes separate data on Scheduled Castes (SC) and Scheduled Tribes (ST), since the first exercise in independent India in 1951, the **Census does not include data on other castes**.

Previous attempts towards a Caste Census

Socio-Economic Caste Census (SECC), 2011

- This was a **distinct exercise from the Census of 2011.**
- It is a study of **socioeconomic status** of rural and urban households and allows **ranking of households based on predefined parameters.**
- It had **three census components**.
  - **Census in Rural Area:** Department of Rural Development (DoRD).
  - **Census in Urban areas:** The Ministry of Housing and Urban Poverty Alleviation (MoHUPA).
  - **Caste Census:** The Ministry of Home Affairs, Registrar General of India (RGI) and Census Commissioner of India.
- It provides information like- **structure of the houses of household** (Kuccha or Pucca), **ownership status**, **main source of income** among others. But the entire SECC data has not been made public.

For more information on Parameters and data refer to the infographic at the end of the article.
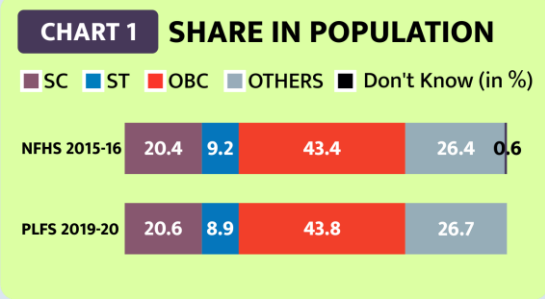
- **Utility:** In 2017, Centre replaced poverty line, as the main instrument for identification of beneficiaries and transferring of funds for social schemes in rural areas, with the SECC. Few examples are: NFSA, PM awas yojana, PM Ujjwala yojana, Ayushman Bharat yojana.

Rohini Commission- An attempt towards categorization within OBCs for better targeted service delivery

- The commission **took charge in October, 2017,** and is headed by retired Delhi high court chief justice G Rohini.
- The commission was set up **to examine the possibility of creating categories within OBCs** for the reservation to ensure **"equitable distribution" of representation** among all OBC communities.
- Its objectives include **working out a mechanism, criteria, norm and parameters through a scientific approach for sub-categorization within the OBCs** and identifying the respective castes or communities or sub-castes or synonyms in the Central List of OBCs and classifying them into their respective sub-categories.
- As reported, the commission has proposed to divide **OBCs into four subcategories numbered 1, 2, 3 and 4 and split the 27% into 2, 6, 9 and 10%, respectively.**
- It has also recommended **complete digitisation of all OBC records** and a standardised system of issuing OBC certificates.
- Recently, the term of the commission has been extended for further 6 months.

Brief History of Caste Census

1830: The first complete census of India was conducted by Henry Walter in Dacca (now Dhaka).

1836-37: Second Census was conducted.

1872: Popularly labeled as the first population census of India.

1881: The first synchronous census in India was held.

1931: The last census that counted OBCs.

1953: The Kaka Kalelkar Commission, the first National Backward Classes Commission, was appointed.

1979: Government appointed a Socially and Educationally Backward Classes Commission headed by BP Mandal.

1990: Report of Mandal commission was implemented.

Specification	Arguments against caste census	Arguments favouring caste census
Availability of data on caste	**Estimates of caste is already available:** reasonable estimates of the broad social break-up of India's population is already available as various government surveys such as the ones conducted by the National Sample Survey Office (NSSO) and National Family and Health Survey (NFHS) collect data on broad share of SCs, STs and Other Backward Classes (OBCs) in the population.	**Survey is not census:** Data of caste such as those collected by NFHS and NSSO are **survey-based estimates unlike the census.** The latter is actually an enumeration of every person in the country. It also generates data on the educational level, occupation, household assets and life expectancy for each group that it enumerates at each level that it recognises.
Operational challenges	A full caste census, including a jati-wise break-up of all 'upper castes', would pose some difficulties, since we don't have an official list of all castes in the country. This would mean extensive **post-census classification work and may cause some delay in the release of General Caste tables.**	It is a **common practice** that **some Census tables are released five or seven years after the Census is completed.**
Identity politics	It is said that in India voters don't cast their votes, they vote their caste. Break up of population in various caste would **further strengthen caste-based politics in India.** Such politics may lead to marginalization of developmental issues like health, education, etc.	From a purely academic and policy point of view, the collection of such data makes sense. It is not just **necessary to understand people's socio-economic status by caste and sub-caste**, but can also be valuable in **designing policies for affirmative action and redistributive justice.** • The **Indra Sawhney judgment** of the Supreme Court had **demanded that such evidence be collected every 10 years in order to screen out the privileged castes from the benefits of reservations**.
Rise in demand for reservation	Caste census would lead to a **clamour for higher quotas, and removal of the 50% cap on reservations.**	The absence of up-to-date caste data has **not prevented demands from various social groups for quotas in public employment and admission to central educational institutions.** Over the last decade, we have witnessed large mobilizations by Jats, Patels and Marathas **seeking reservations**, with some protests turning violent. These demands weren't based on **scientific evidence** on the size of those groups or their relative level of deprivation vis-à-vis OBC, SC or ST groups.

Way Forward

- **Understanding utility of caste data:** Discussion should be ensued on the caste data that already exists, how it has been used and understood by the government and its various departments to grant or withdraw benefits.
  o Also it's utility for the important academic exercise of mapping social inequalities and social change.
- **Reading all the available data holistically:** Linking and syncing aggregated Census data to other large datasets such as the NSSO or the NFHS that cover issues that the Census exercises do not, such as maternal health, would be significant **for a more comprehensive analysis**. This linking of the Census with the National Sample Survey data has been suggested in the past by scholars.
- **Changes in census to meet the demand of the hour:** Experts point out that Census operations across the world are going through significant changes, employing methods that are precise, faster and cost effective, involving coordination between different data sources.
  o However, care must be taken to ensure that digital alternatives and linking of data sources involving Census operations are inclusive and non-discriminatory, especially given the sensitive nature of the data being collected.

Conclusion

Before another SECC is conducted, a stocktaking of the previous exercise, of what has been learnt from it, and what changes are necessary, beyond changing exclusionary criteria for beneficiaries of state support, are crucial. This would enable the Census to facilitate effective policy work and academic reflection. Concerns about methodology, relevance, rigour, dissemination, transparency and privacy need to be taken seriously to make this exercise effective.

SECC DATA

Total households in the country (rural plus urban)	24.49 Crore
Total rural households	17.97 Crore
Total excluded households (based on fulfilling any of the 14 parameters of exclusion). Some of the major parameters are - I. Motorized 2/3/4 wheeler/fishing boat. ii. Mechanized 3-4 wheeler agricultural equipment. iii. Kisan credit card with credit limit of over rs. 50,000/-. iv. Household member government employee. v. Households with non-agricultural enterprises registered with government. vi. Any member of household earning more than rs. 10,000 per month. vii. Owns more than 2.5 acres of irrigated land with 1 irrigation equipment.	7.07 Crore (39.35%)
Automatically included (based on fulfilling any of the 5 parameters of inclusion - I. Households without shelter. Ii. Destitute, living on alms. Iii. Manual scavenger families. Iv. Primitive tribal groups. V. Legally released bonded labour.	15.95 Lakh (0.89%)
Households considered for deprivation	10.74 Crore
Households not reporting deprivation	2.01 Crore
Households with any one of the 7 deprivation	8.73 Crore

1.2. DECLINING PRODUCTIVITY OF PARLIAMENT

Why in news

Recently, in the Monsoon session, Lok Sabha saw only 21 hours of functioning and 22% productivity of the House before being adjourned sine die.

About summoning the sessions of Parliament
- The summoning of Parliament is specified in **Article 85 of the Constitution**.
- The power to convene a session of Parliament rests with the government. The decision is taken by the **Cabinet Committee on Parliamentary Affair**s. This decision is **formalised by the President**, in whose name MPs are summoned to meet for a session.
- India **does not have a fixed parliamentary calendar. By convention**, Parliament meets for **three sessions in a year t**he longest, the Budget Session, the Monsoon Session, and the Winter Session.

More on News

- The recent Monsoon session was **adjourned sine die two days ahead of its scheduled date** as the Opposition protested over various issues.
- **Zero Hour and Question Hour witnessed disruptions on most of the days.**
- This is **the fourth consecutive session that has been cu t short.**

Why the sitting hours of the Parliament are on decline?

REASONS
- **Dissatisfaction in MPs** because of inadequate time for airing their grievances.
- **Unresponsive government** and the insensitive behaviour of the treasury benches towards opposition.
- **Political parties not adhering to parliamentary norms** and disciplining their members.
- **Absence of prompt action against disrupting MPs** under the legislature's rules.
- **Standing Committees** have anchored debates outside the House.
- **Sitting hours are not fixed** by the Constitution or rules of the Houses.
- **Covid-19 Pandemic** led to the curtailment of two sessions.

Cost of decline in the sittings of Parliament

During the **first two decades** of Parliament, Lok Sabha met for an average of a little more than **120 days a** year. This has come down to approximately **70 days in the last decade (refer infographic)**. Some of the cost of decline in the sitting of Parliaments is as follows:

- **Reduced accountability:** Due to parliamentary disruption, the ability of the Opposition to hold the government accountable for its functioning is dented. With Question Hour barely operational, ministers neither had to orally answer questions nor face pin-

PARLIAMENT SITTINGS ON THE DECLINE

Lok Sabha   Rajya Sabha

103   29

60   30

1952 1958 1964 1970 1976 1982 1988 1994 2000 2006 2012 2018*

*Till Budget Session 2018
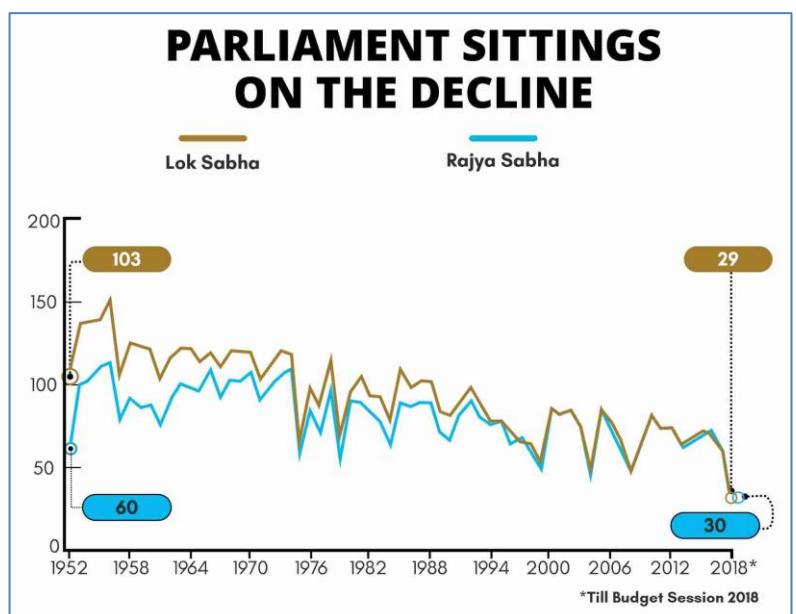
pointed follow-ups on the work done by their ministries.

- **Ineffectiveness of Parliamentary committees:** The political debate in the two Houses on a law is often in addition to a careful examination of the government's legislative proposal by a parliamentary committee. And this aspect of legislative scrutiny is weakened when Parliament session is cut short.
    - **Only 12% of the government's legal proposals have been sent to committees for scrutiny** in the current Lok Sabha.
    - This number was 27% in the 16th (2014-19), 71% in the 15th (2009-14) and 60% in the 14th (2004- 09) Lok Sabha.
- **Bills are passed in haste:** Amid continuing disruptions, Lok Sabha, on an average, took less than 10 minutes to pass a law, and Rajya Sabha passed each law in less than half an hour.
    - In Lok Sabha, there were 13 bills in which no Member of Parliament spoke other than the minister in charge of the bill.
- **Important bills are pending:** The Personal Data Protection Bill, 2019, The Surrogacy (Regulation) Bill, 2019, The Inter-State River Water Disputes (Amendment) Bill, 2019, etc. are pending in the Parliament for more than 2 years. Effective functioning of Parliament is necessary to ensure such crucial bills are passed and enacted forthwith.
- **Financial burden:** Reportedly, the recent winter session cost over Rs 133 crore to the public exchequer.
- **Triggers Ordinance Raj:** When Parliament is not working, government promulgates ordinance to bring legislative changes. The ordinance-making power of the executive contradicts the fundamental concept of separation of powers between the executive and the legislature.
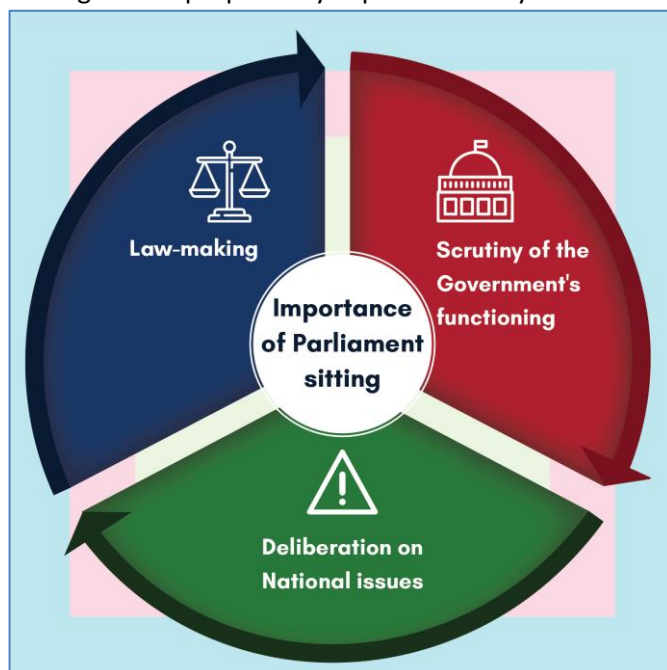
Way ahead

- **Annual calendar of sitting:** In countries such as the United States, the United Kingdom and Canada, Parliaments are in session throughout the year. At the beginning of the year, a calendar of sitting days is formalised and legislative and other businesses are programmed in. On an average, the sitting days of these legislatures range between 100 days (as with the US Congress) to 150 (with the British Parliament) days in a year. Indian Parliament could also emulate such calendar.
- **Increasing the number of sitting days:** Increasing the number of sitting days will not only help to minimize the number of bills lapsing at the end of the term, but will also facilitate wider discussion on bills, finances of the government and broader policy issues that members of parliament would like to raise.
- **Training of Members:** Institutionalized arrangements are necessary to provide the much needed professional training and orientation to every newly elected/nominated Member. The curriculum should include, among other things, adequate knowledge of the political system, the Constitution, the Rules of Procedure and Conduct of Business, the do's and don'ts for Members, the rules of parliamentary etiquette and the like.
- **Improving the quality of discussion in Parliament**
    - **Pre-legislative scrutiny:** It incorporates making Bills available in the public domain for a stipulated period or sending them to the respective Parliamentary Standing Committees before introducing them in the legislature. It can help build broad consensus before being brought to Parliament.
    - **Enhance opportunities of discussion for opposition parties:** In the United Kingdom, where Parliament meets over 100 days a year, opposition parties get 20 days on which they decide the agenda for discussion in Parliament. Usually, decisions of the House passed on opposition days are not binding on the government and are an opportunity for the opposing parties to focus national attention on issues that it deems crucial. Canada also has a similar concept of opposition days.
    - **Leveraging Parliamentary Library:** It is not merely a repository of books, publications, legislative debates and parliamentary papers, but also an integrated store-house of knowledge.

- **Virtual meetings:** Our parliamentary rules do not require MPs to meet physically at the Parliament House. The only requirement for a duly constituted sitting of a house is that it be presided over by the chairman/speaker or any authorised MP. Therefore, crucial legislative work could continue in crisis like COVID-19 pandemic by leveraging technology for virtual meetings as Courts across the country are doing.

1.3. WOMEN IN JUDICIARY

Why in news?

Recently, in first for Supreme Court, 9 judges including three women took oath in one go.

More on news

- With the latest appointments, the **working strength of the top court has risen to 33** judges, against the **sanctioned strength of 34.**
- Marking another first, the **top court will now have as many as four women judges.**
  o Until now, right from 1950, of the total 247 judges appointed so far, there have been only **eight women judges.** In 1980, Justice M Fathima Beevi became the first woman judge to be appointed to the apex court.

> **Appointments of judges in the Higher judiciary**
> - **Articles 124(2) and 217** of the Constitution govern the appointment of judges to the **Supreme Court and High Courts respectively.**
> - Under both provisions, **the President** has the power to make the appointments **"after consultation with such of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary".**
> - **In three cases**, which came to be known as the Judges Cases, in 1981, 1993 and 1998, the **Supreme Court evolved the collegium system for appointing judges.**

AVERAGE SEX RATIO OF JUDGES IN HIGHER JUDICIARY (SC AND HCs)
MALE / FEMALE
12%
88%

AVERAGE SEX RATIO OF JUDGES IN LOWER JUDICIARY (SC AND HCs)
MALE / FEMALE
28%
72%
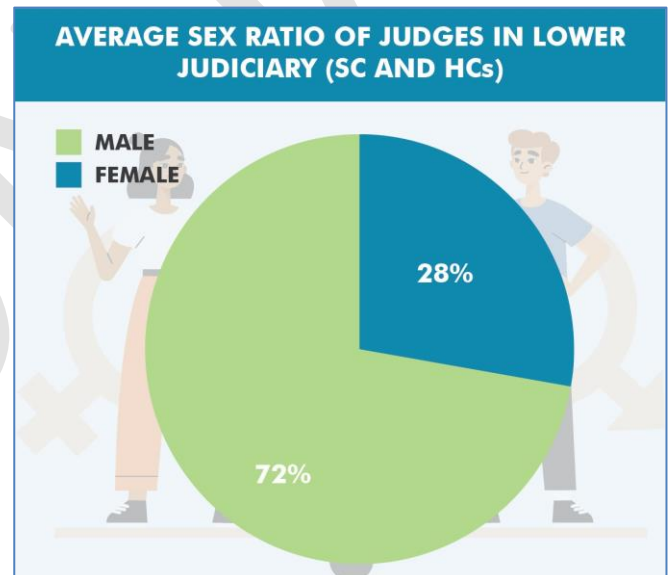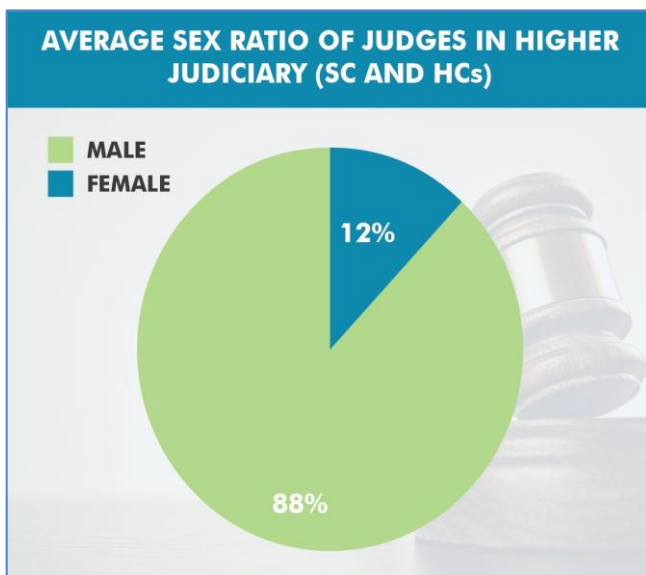
Significance of women representation in judiciary

- **Representation of country's demography:** A representative gender jurisprudence would raise willingness of women to seek justice and produce judgments that better reflect the diversity of Indian experiences.
  o In India, women constitute 50% of the total population and a large number of women are available in the Bar but the number of women judges is small.
- **Public perception:** The entry of women judges into spaces from which they had historically been excluded has been a positive step in the direction of judiciary being perceived as being more transparent, inclusive, and representative of the people whose lives they affect. By their mere presence, women judges enhance the legitimacy of courts, sending a powerful signal that they are open and accessible to those who seek recourse to justice.
- **Different way of decision-making:** Women judges also face all the social and cultural challenges common women face. These challenges may include complex family relationships and obligations. Women judges bring those experiences to their judicial actions, experiences that tend toward a more comprehensive and empathetic perspective that encompasses not only the legal basis for judicial action, but also awareness of consequences on the people affected.

- **Role model:** Any step in this direction will be a benchmark for society with many more young women students coming forward and opting for law as a profession.

Challenges faced by women in judiciary

- **Patriarchal society:** According to a study by the International Commission of Jurists (ICJ) the lower representation of women in the judiciary is often due to gender stereotyping.
- **Stringent and closed recruitment processes**
  - o **Leaking pipeline:** In the lower judiciary, major barrier to women's recruitment as district judges are the eligibility criteria to take the entrance exams. Lawyers need to have seven years of continuous legal practice and be in the age bracket of 35-45. This is a disadvantage for women as many are married by this age.

WOMEN JUDGES IN THE COUNTRY

SUBORDINATE COURTS

States	Total Judges	Women Judges	% of women judges	Reservation for women
Bihar	1.002	99	9.88	35
Jharkhand	448	62	13.83	05
Gujarat	1,111	177	16	Nil
J & K	219	43	19.65	Nil
UP	1,726	376	21.75	20
MP	1,240	319	25.72	Nil
Himachal	147	39	26.55	Nil
Maharashtra	2.025	596	29.43	Nil
Delhi	489	170	34.76	Nil
All India	16,443	4,704	28.60	—

Note: The percentage of women judges are of the total strength of judges in subordinate courts. Reservation for women judges range from 5% to 35%, not all states have provided quota in the subordinate courts. No quota in HCs and SC.

  - ✓ Further, the long and inflexible work hours in law, combined with familial responsibilities, force many women to drop out of practice and they fail to meet the requirement of continuous practice. Thus, many women judges from lower judiciary do not make it to the higher judiciary.
  - o **Stringent eligibility:** While Article 233 of the Constitution provides that appointment as a district judge requires **not less than seven years** as an advocate, the Supreme Court has upheld the interpretation to mean **continuous practice**.
  - o **Collegium system:** In higher judiciary the power of appointment rests almost exclusively with the Supreme Court Collegium. The appointment process is not very transparent and the collegium over the year have been male dominated which might have resulted in low ratio of selection of women judges.
- **Poor infrastructure:** According to a report by Vidhi Centre for Legal Policy in 2019, about 15 per cent of courts in India do not have a women's toilet.
  - o Another report by Vidhi Centre showed that only about 40 per cent of 555 district courts in India have functional women's toilet while 100 districts do not have toilet facilities for women.
- **Frequent transfers:** Magistrates are made to transfer every three years. This can be seen as another challenge to fill the gender gap in the judicial system as the defined gender roles in the Indian society makes it difficult for women to stay away from their homes for their careers.
- **Limited outreach opportunities:** The absence of documentation about the lives of women in law greatly diminishes opportunities for mentoring young women.

Way ahead

- **Concrete data on women representation:** Supreme Court should direct collection of data to determine the number of women judges in the lower judiciary and tribunals and also to determine year-wise number of senior designates by all High Courts.
- **Transparency in selection process:** According to the UN Women, female judges could be improved in many cases by transparent selection and appointment processes.
- **Reservation:** Higher judiciary should also have horizontal reservation for women such as subordinate judiciary without diluting merit.
- **More women Chief Justices:** Having women in the leadership position sometimes help in having more representation of women. For instance, many high courts where the Chief justice was women had relatively higher number of women judges.
- **Sensitivity to gender discrimination:** This needs to be cultivated in the society as a whole. This would ensure that women do not shoulder all the household responsibilities. It would also help them to become more career oriented.

Conclusion

Achieving equality for women judges, in terms of representation at all levels of the judiciary and on policy-making judicial councils, should be our goal- not only because it is right for women, but also because it is right for the achievement of a more just rule of law.

As Justice Indu Malhotra, in her farewell speech, rightly asserted "justice will be served if gender diversity is found on the bench." Therefore, along with women steps needs to be taken to bring more transgender judges on the bench.

1.4. GAMBLING

Why in news?

Recently, a plea in Delhi High Court sought appropriate steps to prohibit online gambling websites.

More on news

- The plea claimed that despite there being laws enacted by various States prohibiting such activities, **a large number of websites providing gambling, betting and wagering games are still accessible in India**.
- The Delhi High Court was informed by the Centre that **online gambling is a State subject** and the State governments have to make laws to regulate such activities.
- Centre also claimed that the **legislative competence** to determine **whether a game is a game of skill or a game of chance or is involved in gambling** (played with stakes or not) **is conferred on the States only or to the court of laws** (which possess the judicial wisdom).

GAMBLING

It is a **State subject** under Entry 34 of List II of the Seventh Schedule.

According to the **Finance Act, 1994** act **"Betting or Gambling"** means putting on stake something of value, particularly money, with consciousness of risk and hope of gain on the outcome of a game or a contest, whose result may be determined by chance or accident, or on the likelihood of anything occurring or not occurring.

LOTTERY

Lottery is enumerated under **Entry 40 of List I of the Seventh Schedule** of the Constitution of India and has been generally **excluded from the ambit of "gambling"**.

It is governed by the Lotteries (Regulation) Act.

Arguments against legalizing betting and gambling

- **Against morality:** India has been culturally opposed to gambling even though it existed in Indian society since ancient times. The textual references also suggest that **these activities have never been approved by the society**.
- **Preventing social harm:** Gamblers keep on playing in an effort to recover their incessantly accruing loss. 'Loss chasing' is one of the most important identifiers of 'problem gambling', and closely resembles drug addiction. Problem gamblers also experience cravings and withdrawal-symptoms when deprived of gambling.

Legal position of gambling in India right now
- **Horse racing is legal in India.** Horse racing involves some prior skills so it isn't all about gambling.
- **Several Indian states have legalized lotteries.** These are Goa, Kerala, Arunachal Pradesh, Assam, Maharashtra, Madhya Pradesh, Mizoram, Manipur, Meghalaya, Punjab, Nagaland, West Bengal, and Sikkim.
- **Online gambling and land-based casinos are legalized in Goa, Sikkim, Nagaland, and Daman** under the Public Gambling Act, 1976.
- **Maharashtra has prohibited gambling** and considers gambling as illegal under the Bombay Prevention of Gambling Act, 1887.
- **E-gaming (games of chance) has been legalized in Sikkim and Nagaland.**
- **Telangana and Arunachal Pradesh** consider **the game of skill as illegal** as per the Telangana State Gaming Act, 1974.
- **All India Gaming Federation, The Rummy Federation, and Federation of Indian Fantasy Sports have adopted a self-regulation code** for all their advertisements.

- **Protecting the poorest strata of the society:** Gambling has been proven to result in financial losses, causing an adverse impact on one's economic state, personal life and social life. Such activities affect the vulnerable sections of the society in unimaginable and often, irreparable ways.
- **Legalising would promote gambling:** Since gambling is portrayed as something clean and a way to earn money quickly, it attracts young people, who eventually become gambling addicts. Gambling addiction also leads to crimes and mental illnesses to people who fall prey to this trap.

Arguments in favour of legalizing betting and gambling

- **Accountability for the money which is otherwise transferred through illegal channels: The** Mudgal Committee stated that, "legalising sports betting would reduce the element of black money and the influence of the underworld besides helping them in detection and focusing their investigation".
  - In 2013, the Federation of Indian Chambers of Commerce and Industry (FICCI), in a report titled 'Regulating Sports Betting in India', highlighted that **the underground betting market in India is huge at an estimated INR 3,00,000 crore.**
- **Preventing corruption in sports:** Corrupt practices such as spot and match-fixing being employed in sports, particularly cricket, one of the most popular sports in India. Left unregulated, this problem could further manifest and grow uncontrollably.

> **The Lodha Committee**
> - It was **constituted by the Supreme Court** under RM Lodha to examine and make suitable **recommendations for reforms in the Board of Cricket Control in India (BCCI).**
> - The committee a **sharp distinction between betting and fixing,** favouring the legalising of the former and criminalising the latter.
> - **Key recommendations**
>   - **Legalise betting:** Legalise betting, with strong safeguards, except for those covered by the BCCI and IPL regulations. players, team officials, members and employees should be prohibited from betting.
>   - **Strengthening regulatory watchdogs**: It would be necessary to ensure that the betting houses as well as those transacting there, are strictly monitored, failing which their registrations would be susceptible to cancellation.
>   - **Declaration of income and assets:** By the players, administrators and others closely associated with the sport would be required to furnish the details of their income and assets for the sake of transparency.
>   - **Licensing:** Licence would have to be issued to those placing the bets as well, with age and identification details recorded.

- **Cap on "connecting crime":** As of now, since gambling is not in a regulatory framework it often results in connected crimes such as chain snatching, looting, stealing, etc. Legalizing it would increase the regulatory oversight thus minimizing losses and curbing the tendencies of 'connecting crime'.
- **Revenue generation:** Licensing such activities help the government in earning substantial revenue and generate employment, development of tourism as it may work as a complimentary industry. It will protect the vulnerable sections of the society and prevent any kind of inconvenience at the hands of the law enforcement authorities.
- **Social benefits:** Protection for the young and vulnerable against the dangers of unwise betting behavior. Fairer and more trusted betting experience for consumers, offering entertainment in a controlled and responsible manner. Protection of players, coaches and all involved with sport from unprincipled approaches.
- **Tackling emerging challenges:** With the advent of online gambling and the anonymity that it ensures, the gambling and betting activities have acquired a global presence. It has, therefore, become more challenging for countries to monitor or curb these activities. Many countries that prohibit gambling have not been successful, particularly with regard to online gambling.

Way ahead: The arguments in favour of legalising gambling far outweigh the arguments against the same. Therefore, Law commission of India has suggested legalising gambling with some safeguards. F**ollowing safeguards be provided in the legislation regulating betting**

- **Categories gambling:** Gambling must be classified into two categories:
  - **Proper gambling:** Would be characterised by higher stakes. Accordingly, only individuals belonging to the higher income group shall be permitted to indulge in this form of gambling.
  - **Small gambling:** Individuals belonging to the lower income groups will have to confine themselves to 'small gambling', not being permitted to stake high amounts (falling within the bracket of 'proper gambling').
- **Transparency:** Gambling and betting, if any, should be offered **only by Indian licensed operators** from India possessing valid licenses granted by the game licensing authority.
  - There must be a stringent law(s) in place to **regulate Foreign Direct Investment** on one hand and to **prevent money laundering** on the other.
- **Curbing loss chasing:** For participants, there must be a cap on the number of transactions an individual can indulge in these activities in a specific period. The nature of stakes should be restricted to money with a linkage to PAN card and Aadhaar card, and the betting amount should be prescribed by law.

- **Intervention of Parliament**
  - o **Regulating online betting and gambling:** Since online betting and gambling are offered and played over media (telephones, wireless, broadcasting, and other like forms of communication) covered under Entry 31 of List I of Union List, the **Parliament has the legislative competence to enact a law(s) dealing with the same.**
  - o **Enacting model law:** The Parliament may also enact a model law for regulating gambling that may be adopted by the States or in the alternative, the Parliament may legislate in exercise of its powers under Articles 249 or 252 of the Constitution.
- **Information against gambling:** Information regarding the risks involved in gambling/betting and how to play responsibly must be displayed prominently on all gambling and betting portals/platforms.
- The **"National Sports Development Code of India, 2011",** which aims at preventing betting and gambling in sports or any other code applicable from time to time, will also require an amendment/modification, to create an exception for the same, if betting and gambling are to be regulated.

Conclusion

Justice D P Madon has once remarked "as the society changes, the law cannot remain immutable" and that "the law exists to serve the needs of the society which is governed by it." Since, online gambling has increased the challenges associated with gambling manifolds, it is high time for giving a thought to legalising it which would enable effective regulation of this sector.

2. INTERNATIONAL RELATIONS

2.1. 50 YEARS OF INDO-SOVIET TREATY

Why in news?

Recently, the 50th anniversary of the **Indo-Soviet Treaty on Peace, Friendship and Cooperation** signed in 1971 was celebrated.

Key features of the Treaty

* **Peace**:
  o The Treaty declares that **enduring peace and friendship** shall prevail between the two countries and their people. Each Party shall respect the **independence, sovereignty and territorial integrity** of the other party and refrain from interfering in the other's internal affairs.
  o The treaty declares its determination to **halt the arms race and to achieve general and complete disarmament**, including both nuclear and conventional, under effective international control.
* **Friendship**:
  o Guided by the loyalty to the lofty ideal of equality of all People and Nations, irrespective of race or creed, the treaty **condemned colonialism** and reclaimed in all forms and manifestations for their final and complete elimination.
  o The treaty aims to **maintain regular contacts** with each other on major international problems affecting the interests of both countries by means of meetings and exchanges of views between their leading statesmen.
* **Cooperation**:
  o **Treaty binds both parties to abstain from providing any assistance to any third party that engages in armed conflict with the other Party.** In the event of either Party being subjected to a threat, the both the Parties shall immediately enter into mutual consultations in order to remove such threat and to take appropriate effective measures to ensure peace and the security of their countries.
  o Attaching great importance to **economic, scientific and technological co-operation** between them, the both the Parties will continue to consolidate and expand mutually advantageous and comprehensive co-operation in these fields as well as expand trade, transport and communications between them on the basis of the **principles of equality, mutual benefit** and most-favoured-nation treatment.

Significance of the Treaty

* **Upholds principle of Strategic Autonomy**: It was not a military alliance. On the contrary, it strengthened the basis for India's strategic autonomy, and its capacity for independent action.
* **International pact:** According to experts, the treaty was perhaps the most consequential international pact entered into by India since Independence.
* **Convergence of interests**: The treaty symbolised an alignment of interests in the face of regional and international challenges. It also symbolised an extraordinary convergence of national interest of both countries on the most critical issues of war and peace.
* **Contemporary significance**: While the Treaty was of historical importance, concluded for an era that "has gone by," its geopolitical underpinnings remain of enduring value, reflected in the close partnership between India and Russia in the 21st century, characterised as special and privileged Strategic Partnership.

Strategic Importance of India Russia relations

* **Defence partnership**: The defence ties are one of the highly influential aspects of their relation, and rest on 3 features of **technology transfer**, **joint development**, **marketing & selling** and **export of equipment,** an

agreement non-existent with any other country. It has provided significant enhancement to India's indigenous defence manufacturing.
- o Some of the major defence collaboration programs are- **BrahMos Cruise Missile program**, Sukhoi Su30 and Tactical Transport Aircraft.
- **Economic Relations**: It is an important pillar of the relations yet there remains a lot of scope to improve it further. India and Russia are exploring various ways for enhancing bilateral trade.
- **Energy Security:** In Energy sector Russia has built nuclear reactors in India (Kudankulam reactors), adopted strategic vision in nuclear energy, offered oil, gas and investment opportunities in the fuel sector of Russia e.g., Sakhalin- I etc.
- o Both are extending civil nuclear cooperation to 3rd countries, e.g., Bangladesh.
- **Space technology**: India and Russia have a four-decade strong relationship in the field of space. The former Soviet Union launched India's first two satellites, Aryabhata and Bhaskar. It has provided India Cryogenic technology to build heavy rockets.
- **International standing:** Russia has supported **India's bid for permanent seat in UNSC**. It has been favouring Indian entry to Nuclear Supplier Group. Both countries coordinate each other over various forums including BRICS, SCO, G20 etc.
- **Cultural Relations**: From people-to-people contacts (through programs like 'Namaste Russia') to sharing educational brilliance of both the countries through institutes like Jawaharlal Nehru Cultural Centre, both the countries have had good cultural links.

Contemporary issues

India Russia relations have remained close, but they have lost intensity of India-Soviet relation. Recently, there has been a decline in India Russia Relations.

BILATERAL TRADE COMPARISON ($ BILLION)

- **India's growing proximity to the United States**: Rapidly expanding ties and growing defence relationship between India and US, and India joining quadrilateral group led by the US has led to a strategic shift in Russia's foreign policy. For Russia it has been a period of great hostility with West, thus pushing it to align with China.
- **Defence partnership**:
  - o India has been recently diversifying its defence relations with US, Israel etc. Russia's share of Indian defence imports fell from 79 percent between 2008-2012 to 62 percent between 2013-2017.
  - o **India and US signed four foundational agreements** (Like Logistics agreement, Basic Exchange and Cooperation Agreement etc.), which shows enhanced inter-operability between the two militaries. India Russia relation lacks this aspect.
- **One Dimensional Trade**:
  - o Trade has been one-dimensional i.e., **defence based**. The trade in 2017-18 was $10.7 billion, which is far below potential in comparison to India's trade with China ($89.7 billion), the United States ($74.5 billion).
  - o There are a number of issues that hinder India-Russia trade, like, connectivity issues, distance, weak banking links, cumbersome regulations on both sides and Russia's restrictive visa regime.
- **Russia's changed foreign policy posture**:
  - o **Towards Pakistan**: Russia in 2014 lifted arms embargo on Pakistan. Russia and Pakistan conducted a military exercise in September 2016. In 2017, a military-technical cooperation agreement was signed which deals with arms supply and weapon development. All these factors raised concerns in India.
  - o **Towards China**: Increasing strategic military relations between Russia China also impacted India Russia relations. Russia has sold advanced military technology to Beijing, endorsed China's One Belt One Road. There has also been concern about Moscow leaning toward Beijing in forums like the BRICS. Also, China
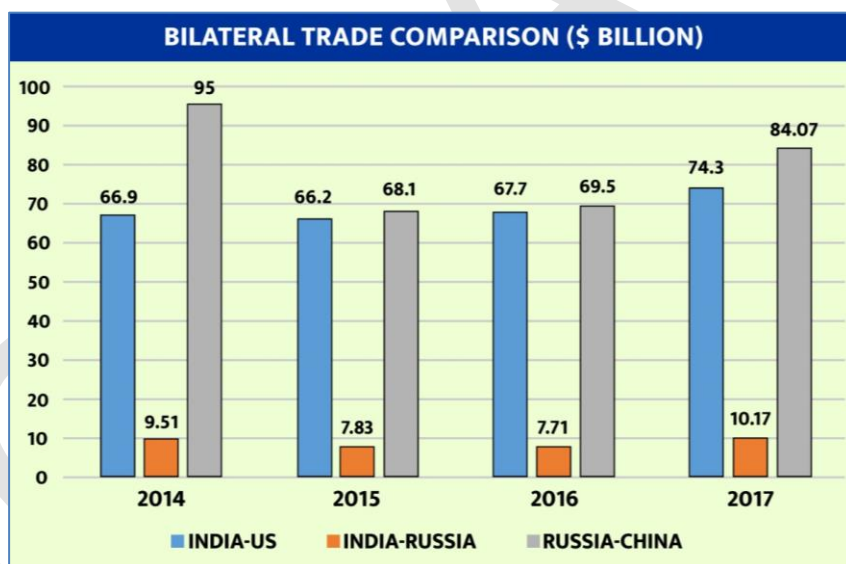
and Russia inaugurated the first cross-border pipeline between their countries, called the **"Power of Siberia"** to pump natural gas to China from Russia's far-east regions which shows increasing collaboration between two.

- o **Towards Taliban**: Russia is showing inclination towards Taliban in Afghanistan while India continues to have concerns about the group. For example, India has not been invited to a crucial meeting being convened by Russia on the fast-evolving situation in Afghanistan.

Way forward

- **Diversifying areas of cooperation**: India and Russia will have to diversify their areas of cooperation beyond energy and defence. The trade relationship remains weak and needs active intervention to take advantage of policies like 'Make in India'.
  - o India and Russia continue to share a common strategic rationale for their relationship. Apart from bilateral synergies, the two are members of various multilateral organisations including BRICS, RIC, G20, East Asia Summit and SCO—where avenues for cooperation on issues of mutual importance exist. There is also a **need for cooperation in areas like counter terrorism, cyber security, the Afghanistan conflict, outer spa**ce, and climate change.
- India would do well to take steps to shore up its relations with Russia to prevent it from becoming more dependent than it already is on China. At the same time, Russia would also benefit from diversifying its relations across the region, including India, so as to **prevent its pivot to Asia becoming a pivot to China.**
- **Relevance in Indo-Pacific region**: India would benefit from a closer cooperation with Russia in the Indo-Pacific. Though Russia's deteriorating relations with the US make the prospects of such a move difficult, but the option of cooperating with India should be considered by the former superpower.
- **Strengthening Eurasian Presence**: The proposal of Russia for a '**more extensive Eurasian partnership** involving the Eurasian Economic Union (EAEU) and China, India, Pakistan and Iran' should be used by India to strengthen its presence in Eurasia.

2.2. TALIBAN CONTROL OVER AFGHANISTAN

Why in news?

Taliban have seized power in Afghanistan and captured Kabul triggered by the U.S. withdrawal.

Background

- On February 29, 2020, the United States and the Taliban signed an agreement in Doha to end the war in Afghanistan.
- US president Joe Biden had set the date of 31 August 2021 for final withdrawal of all US troops from Afghanistan.
- The Taliban and their several allied militant groups began their offensive in May 2021, simultaneous with the withdrawal of most U.S. troops from Afghanistan.
- The Taliban militants entered Kabul on August 15 and sought the unconditional surrender of the central government.

Guarantees to prevent the use of Afghan soil by any international terrorist groups or individuals against the security of the United States and its allies.

A timeline for the withdrawal of all U.S. and Coalition forces from Afghanistan.

A political settlement resulting from intra-Afghan dialogue and negotiations between the Taliban and Afghanistan Government.

4 Guiding Principles of U.S. Afghan Peace deal

A permanent and comprehensive ceasefire.

About Taliban
- The Taliban, which means "students" in the Pashto language, emerged in 1994 around the southern Afghan city of Kandahar.
- It was one of the **factions fighting a civil war for control of the country following the withdrawal of the Soviet Union in 1989** and subsequent collapse of the government in 1992.
- By 1998, it had taken control of almost all of the country and were only removed from power by US-led forces in 2001.
- During their rule, they enforced their own hard-liner version of Sharia, or Islamic law, accompanied by introduction of brutal punishments, restricting women's right to education and free movement, banning of music and cinema etc.
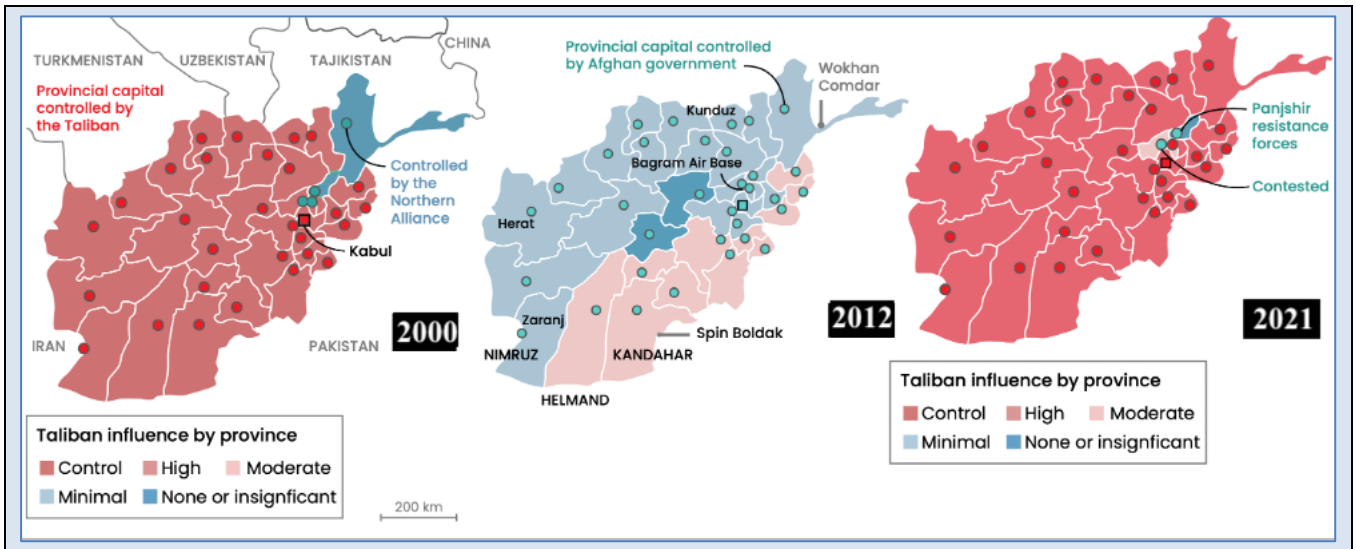
Key developments after Taliban takeover

- **India conducted Operation Devi Shakti** to evacuate more than 800 people including its citizens and Afghan partners from Afghanistan.
- **Ministry of External Affairs of Government of India held meeting with Taliban in Doha**, focused on safety, security and early return of Indian nationals stranded in Afghanistan, and the travel of Afghan nationals, especially minorities, to India.
- The **UN Security Council adopted a resolution** condemning deadly attacks in Afghanistan and requiring the Taliban to honour their commitment to let people freely leave Afghanistan and raised calls for combating terrorism and upholding human rights.
- The **US has frozen nearly $9.5 billion in assets** belonging to the Afghan central bank and stopped shipments of cash to the nation.

Concerns related to takeover of Afghanistan by Taliban for India

- **Limitations of India's existing approach**: India has always supported "**an Afghan-led, Afghan-owned and Afghan-controlled**" process for enduring peace and reconciliation in Afghanistan. It involved active engagement with the elected Afghan Government and isolation of the Taliban regime.

Did you Know?

Operation Devi Shakti was not India's first experience in rescuing people from conflict zones. Following are the biggest international evacuation operations that India has conducted since 2000-

Operation Sukoon, 2006 to evacuate Indians, Sri Lankans and Nepalese citizens from war-hit **Lebanon**.

Operation Safe Homecoming, 2011 to evacuate Indian citizens fleeing from the Civil War in **Libya**.

Operation Raahat, 2015 to evacuate Indians as well as foreign citizens from conflict-hit **Yemen**.

Indian investments in Afghanistan

Assistance in constructing, upgrading, rebuilding or restoring buildings and various types of infrastructure. Examples-
- Building of Afghanistan's Parliament in Kabul.
- Reconstruction of the Salma dam, now known as the Afghan-India Friendship Dam.
- Establishment of an electricity transmission line from Pul-e-Khumri to Kabul.
- Construction of Zaranj-Delaram road.
- High Impact Community Development Project (HICDP) program to finance medium scale projects in areas such as education, health, water management, government buildings, sport facilities, agriculture and irrigation, etc.

Transfer of various objects like ambulances, buses, biscuits, medicine, military vehicles and helicopters, etc. Examples-
- Mi-25 and Mi-35 choppers for the air force.
- Airbus aircraft for the national airlines.
- Materials for substations and a transmission line in the Faryab province.
- Military vehicles for the Afghan National Army.
- Ambulances for public hospitals.

People-to-people exchanges in the form of offers for Afghan citizens to gain knowledge and experience from India. Examples-
- Providing Indian technical advisers to Afghan institutions.
- Offering scholarships for Afghan students.
- Organizing training for Afghan soldiers, policemen and public servants.

Government and isolation of the Taliban regime.

- **Revival of terrorism:** India faces **threat from terrorist factions such as the Haqqani group**, which is among the United Nations' designated entities as a terror group and is a key member of the Taliban. It is known for engineering and carrying out attacks against Indian assets, including the Indian embassy in Kabul.
    - Also, political instability in Afghanistan can lead to resurgence of other terror groups, such as the al Qaeda and the Islamic State (IS).
- **Threat to financial and strategic investments**: Over the past years, India has invested an estimated $3 billion in projects (see infographic) across Afghanistan and has engaged in other soft power tactics to strengthen friendship and goodwill between two nations. Taliban takeover not only poses a security threat to India's assets, but also lays waste to India's efforts.
- **Increasing influence of China and Pakistan**: The **nexus between the Taliban and the Inter-Services Intelligence of Pakistan** raises concerns about Pakistan's increasing influence within the country. Also, absence of U.S. financial and military aid opens up avenues for China to gain influence over the nation.
- **Perpetual Regional instability**: The Taliban has no single Afghan identity, and it is heavily dependent on various factions representing different regions, tribes and interests. Thus, internal strife may create a perpetual instability post the takeover, which has security (rise in terrorism, illicit drug trade etc.) as well as economic (impact on bilateral and regional trade etc.) implications for India.
- **Human rights violation:** The rule of Taliban may be accompanied by erosion in women's and minority rights and the overturning of a democratic system which stands a concern for India.

Policy Options available with India

Given all these concerns, India has following options, none of which are easy, nor without repercussions:

Option	Pros	Cons
Backing only a democratically elected government in Kabul.	• Government aligned with Indian interests and accumulated goodwill if Taliban rule fails. • Clarifying India's stance on possible Humanitarian issues associated with Taliban led rule. • Political stability in the region.	• Deterioration of India-Afghan relations if Taliban establishes lasting rule in Afghanistan, with India being left behind countries like China and Pakistan who are already engaged in talks with the Taliban. • Possibility of Hostile actions against India including terrorist threats.
Accelerate contacts with the Taliban.	• Ensuring India's participation in intra Afghan dialogue and negotiations. • Platform to convey India's concerns regarding terrorism, well being of minorities, etc.	• Hurdles can be posed by Anti-Indian factions present in the Taliban. • Political Opposition within India.
Wait and watch, until the chaos of conflict reveals a winning side, and weigh its options accordingly.	• Balanced approach that provides India enough time and knowledge to take strategically secure decisions.	• Denies India relevance at the "high table" where Afghanistan's future is being discussed.

Way Forward

- **Establishing informal links with the Taliban government**: It would put New Delhi in a stronger position to ensure that its assets and investments in Afghanistan aren't imperiled.
- **Broader Diplomatic Engagement**: India should consider appointing a special envoy dedicated to Afghan reconciliation. The envoy can ensure that Indian views are expressed at every meeting, broaden engagement with the Afghan government and other political actors, and reach out to certain Taliban representatives.
- **Developmental and Humanitarian aid**: Given the continued levels of violence and the impact of the coronavirus on the Afghan economy, India should expand its development assistance.

> **Can Taliban achieve international recognition?**
> - During the last period of Taliban rule, **only a handful of countries such as Pakistan** recognized their government.
> - But their control is more widespread now, and foreign officials have been dealing with Taliban representatives for some time. Several factors that will determine whether Taliban can gain international recognition include-
>   - Formation of a more inclusive leadership representing women and the country's ethnic and religious minorities.
>   - Respect for international commitments and basic rules of democracy and rule of law.
>   - Prevention of international terrorist groups from using Afghanistan as a base.

- **Working With and Through Others**: India should look to broaden its engagements with Iran and Russia, explore opportunities for cooperation with China, and find common ground with the United States on Afghanistan's future.
  - Such engagements should include investing in a wider diplomatic initiative with the view to carve out areas of convergence.

Conclusion

India needs a long-term strategic approach towards Afghanistan that weaves political, economic, military and diplomatic dimensions into a coherent whole within the framework of a grand strategy. India's Afghan policy must be based on a clear-cut understanding of India's strategic goals in the region, and the regional and global strategic environment.

2.3. INDO-SRI LANKA

Why in news?

The Sri Lankan government has reportedly prepared a roadmap to repair its ties with India, which came under significant strain over multiple issues.

Challenges in India-Sri Lanka relationship

- **Chinese card played by Sri Lanka:** Various governments in Sri Lanka have tried to leverage China as a counterweight to India. China has invested heavily in Sri Lanka's infrastructure as part of its "string of pearls" policy.
- **Trust-Deficit:** On several occasions in the past, Sri Lanka backed out from its commitments made to India, including cancellation of the Sampoor Coal power plant, not signing the Comprehensive Economic Partnership Agreement (CEPA), suspension of the Kankasenthurai project, non-implementation of 13th Amendment among others.
  - **13th Amendment to the Sri Lankan constitution** became part of local statute as a direct result of the Indian intervention in 1987, under the India-Sri Lanka Accord. It proposed the establishment of a provincial council system and **devolution of power for nine provinces in Sri Lanka.**
- **Economic relationship:** The Lanka Indian Oil Company, a

BACKGROUND ON INDIA - SRI LANKA RELATIONS

POLITICAL RELATIONS
The 2020 Virtual Summit issued a joint statement 'Mitratva Magga' covering all areas of bilateral relations.

COMMERCIAL RELATIONS
Sri Lanka remains among the largest trade partners of India in the SAARC.

CULTURE TIES
Ashoka sent his children Arhat Mahinda and Theri Sangamitta to spread the teachings of Lord Buddha at the request of King Devanampiya Tissa of Sri Lanka making Buddhism one of the strongest pillars connecting both nations. The Swami Vivekananda Culture Centre (SVCC), Indian Technical and Economic Cooperation (ITEC) Program, 'Study in India' tourism etc.

DEVELOPMENT COOPERATION
Sri Lanka is one of India's major development partners. For example: India housing Project, with an initial commitment to build 50,000 houses in war affected areas and estate workers in the plantation areas.

MILITARY EXERCISES
Some military exercises between India and Sri Lanka are MITRA SHAKTI, IN-SLN SF EX, SAMVEDNA SLINEX.

Sri Lanka's 'roadmap' to restore ties with India
- Resolving fishermen's issues.
- Building Connectivity.
- Trade and Investment.
- Promoting religious links.
- Handing over a sacred "Sita temple stone" from Sri Lanka for the proposed Ram temple in Ayodhya.
- Buddhist Exchanges.

subsidiary of state-owned Indian Oil Company, controls approximately 15 percent of the auto fuel supply in Sri Lanka. This investment was facilitated in 2003. Since then, **there have been very little strategic FDI coming into Sri Lanka from India.** Both the countries have not been able to upgrade their FTA to an Economic and Technology Cooperation Agreement due to regime change in Sri Lanka.

- **Fishermen issue:** It has been often a sensitive issue in India particularly in Tamil Nadu (TN) in the past one decade. Even in early 2021, four fishermen lost their lives. Fishermen from TN coast sail towards Talaimannar and Katchatheevu coasts, a region famous for rich maritime resources in Sri Lanka where they are killed by Sri Lankan Navy.
  - Katchatheevu is an uninhabited volcanic islet in the Palk Strait.
  - **In 1974, the island was ceded to Sri Lanka** after an agreement was signed between the two countries.
  - The agreement allows Indian fishermen **"access to Katchatheevu for rest, for drying of nests and for the annual St Anthony's festival"** but it did not ensure the traditional fishing rights.

Sri-Lanka-China relationship is governed by the following factors
- **Debt:** China over the last decade and a half has been the second-largest foreign lender for Sri Lanka. In fact, Sri Lanka is also seen as a victim of China's 'Debt-Trap policy' as it had to lease Hambantota port to China for 99 years to repay its debt. In early 2021, the Sri Lankan government obtained a 10 billion renminbi (RMB) **currency swap facility from China** to tackle the ongoing foreign currency shortage.
- **Trade:** During the last two years, China has become the top import partner of Sri Lanka, surpassing India, which had long been Sri Lanka's largest source of imports.

Recent skirmishes in Indo-Sri Lanka relationship
- **Scrapping the East Container Terminal (ECT) project:** Having promised earlier to lease out 51 percent of the ECT to India, the Sri Lankan government abruptly reversed course.
  - **Over 70 per cent of the transshipment business in the terminal is linked to India**.
  - It is also of **geostrategic interest for India,** as the terminal is located in proximity to Colombo Port City, being developed by the Chinese.
- **Jaffna Hybrid Energy Project**: A Chinese company was awarded the contract to install a hybrid renewable energy system about 50 km away from the Tamil Nadu coast on Nainativu, Delft, and Analaitivu islands off the Jaffna Peninsula. India has objected the project citing security concerns. Reportedly, India had offered a $12 million grant to execute the same project.
- **Issues in economic cooperation:** In February 2021**, India refused to extend the term of its currency swap agreement with Sri Lanka**, quoting concerns about Sri Lanka's economic climate.

Way ahead

- **Prioritizing our country's interest:** India considers the Island nation as a "Priority One" in the defence sphere. India is committed to enhance its friendship and cooperation with Sri Lanka in all spheres of bilateral relations. India must ensure that its vital interests are not compromised while trying to help Sri Lanka tide over its internal and external challenges.
- **Leveraging strength of economic relation to counter China:** Despite growing bonhomie between China and India, in 2020 Sri Lanka's exports to China amounted to just 2.3 percent of total exports, while exports to India represented 6.1 percent of total export. Sri Lanka relies more on India as an export market, especially as most of its products can enter India tariff-free, thanks to their FTA. Also, there is a general fear among people of Pakistan about China's 'Debt-Trap' policy. Such concerns are not associated with Indian projects in Sri Lanka.
- **Deepen people-to-people contacts:** One definite way to address the friction between both the countries is to deepen people-to-people contacts and relations, for a better understanding between the two countries.
- **Reciprocating the recent initiative:** India has always practiced 'neighborhood first policy' and has been there in the needs of hour to its neighbours. India in March 2021 abstained from a crucial vote on Sri Lanka's rights

record at the United Nations Human Rights Council in Geneva. Continuation of similar approach would help India eliciting good will gesture from Sri Lanka.

Conclusion

The two countries share an array of preoccupations, such as: the Indian Ocean as a zone of peace; regional integration in South Asia; the future of the South Asian Association for Regional Cooperation (SAARC); ways to rejuvenate the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC); and expanding bilateral economic cooperation between them. Their paths converge in some areas, and not in others. The good thing is that the two countries are building path for cooperation in every aspect of their relation.

2.4. CROSS BORDER FLOOD MANAGEMENT

Why in news?

The recent flooding in north Bihar (the Mithilanchal region) indicates that flood control in Bihar is contingent upon inter-governmental river-basin cooperation between India and Nepal.

Why does India need a cross border flood management mechanism?

- **High frequency of floods:** The South Asian region collectively faces the problem of floods every year with change of season or variation in river flows. For instance, **frequent floods in the Kosi region** are a major point of discussion between India and Nepal.
- **Large dependency on rivers:** Close to **80% of India's population** is dependent on 14 major rivers for food and livelihood. Any altercations and variations in the river ecosystem could have a drastic impact, especially on the agricultural sector.
- **Flood-control mechanism needs an integrated approach:** Developments in any of the river sharing states directly impacts all the countries sharing the river ecosystem. For example, infrastructural developments on Brahmaputra in China impacts both India and Bangladesh.
- **Region is highly vulnerable in nature:** Heavy dependence on rivers along with poverty and fragile nature of the economy makes hazards such as floods even more destructible in nature.
- **Emerging threats like climate change:** The effects of climate change i.e., rising sea levels or melting of glaciers could drive changes in the river ecosystem whose mitigation demands regional cooperation.

India's river water disputes and current mechanism of cooperation

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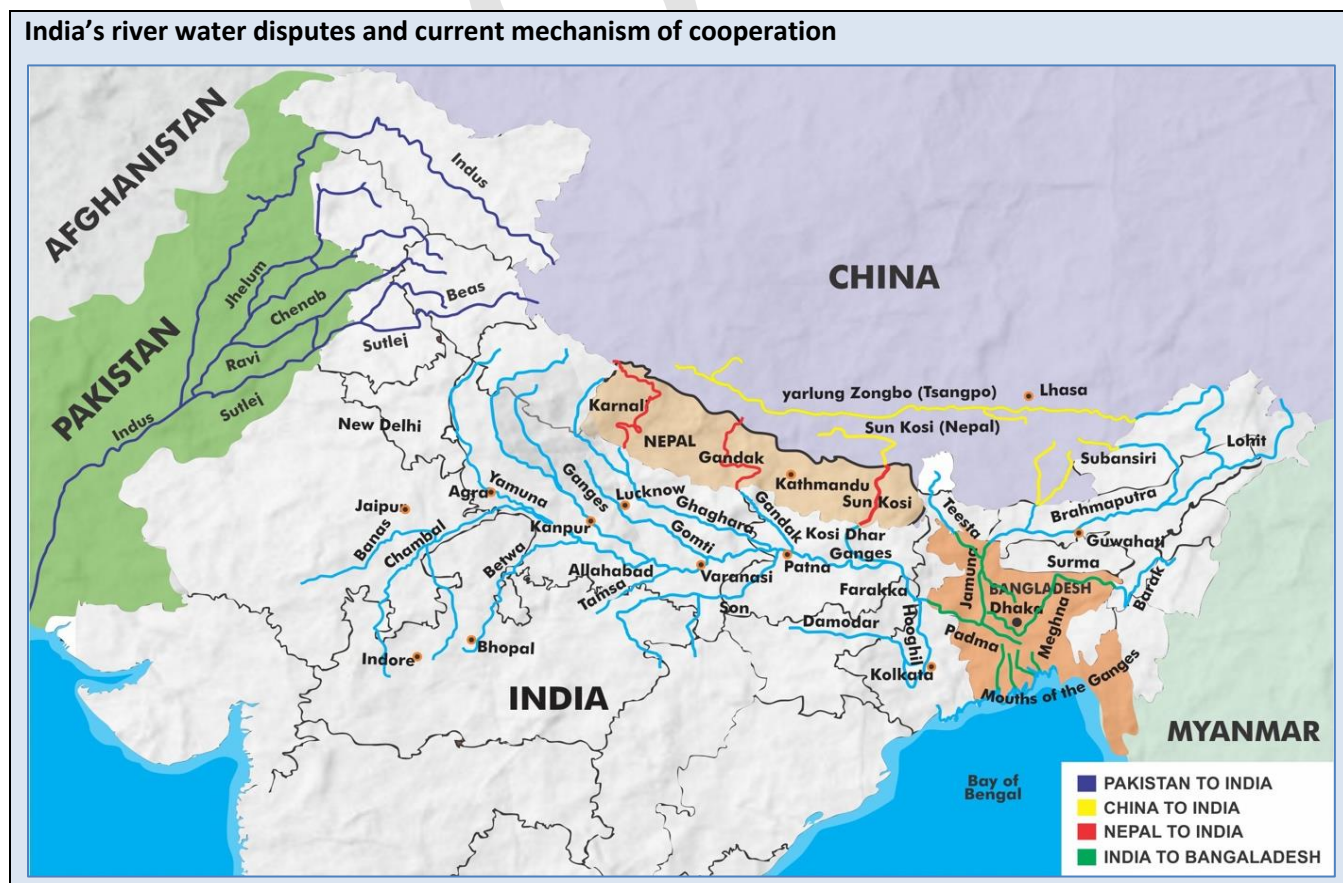
Countries	Mechanism for cooperation
India-Nepal	• **The Kosi Treaty of 1954**, under which the embankments in Nepal were established and maintained. • **The Mahakali Treaty** pertains to sharing water of a river by the same name.
India-Pakistan	• **Indus Waters Treaty of 1960** allocated three western rivers (the Indus, Chenab and Jhelum) to Pakistan, and the three eastern rivers (Ravi, Beas and Sutlej) to India.
India-China	• **Memorandum of Understanding** upon provision of Hydrological Information of the **River Brahmaputra.** • **Memorandum of Understanding** on Hydrological Data Sharing on **River Sutlej**. • **Expert-Level Mechanism** to discuss interaction and cooperation on provision of flood season hydrological data and emergency management.
India-Bangladesh	• The **Ganges Treaty** is an agreement to share surface waters at the Farakka Barrage near their mutual border. • System of **Transmission of flood forecasting data** on major rivers like **Ganga, Teesta, Brahmaputra, and Barak during** the monsoon season.
India-Bhutan	• **Comprehensive Scheme for Establishment of Hydro-meteorological and Flood Forecasting Network** on rivers Common to India and Bhutan. • A **Joint Group of Expert (JGE) on Flood Management**.

What are the major issues in cross border flood management?

- **Limited Sharing of Hydrological Data:** The water sharing among the South-Asian states has been sporadic in nature and remains contingent upon the status of their political relationship. For example, China stopped sharing **hydrological data on the Brahmaputra** with India during the 73-day Doklam standoff in 2017.
- **Asymmetric control between upper and lower riparian states:** This undue advantage is exploited by upper riparian states in multiple ways. For instance, China is **using its leverage over water flows as a stick to win concessions from downstream South-east Asian states** on other issues, including its Belt and Road Initiative.
- **Absence of a binding international or regional agreement:** Absence of such a treaty indirectly forces states to seek bilateral arrangement which has limited effectiveness and is rarely enforceable at international level.
- **Problem of Water Nationalism:** At times, the problem of cross-border cooperation assumes a political character, especially in the case of Pakistan and China. For instance, Pakistan has time and again challenged India's **Baglihar dam project on the Chenab River** before the World Bank.
- **Issues with the prevalent treaties:**
  - **Not futuristic in nature:** The current treaties don't account for technological advancement or variable infrastructure development along the river. E.g., the Kosi treaty **did not make enough provisions for the maintenance of embankments and the rivers changing their course.**
  - **Poor implementation of the treaties:** For instance, the **Mahakali Treaty** is in force, but there have been **ups and downs in its implementation**.
  - **Absence of multilateral treaties:** All major treaties are bilateral in nature despite the riparian ecosystems being connected. For example, the India-Bangladesh cooperation is contingent upon usage by Nepal as an upper riparian state in the river ecosystem.

What approach can be adopted for overcoming these challenges?

- **Exploring avenues of Cooperation**: There are huge potentials of regional cooperation on several issues, including sharing of major rivers during lean period, augmentation of flow of the lean period, hydropower generation and distribution, cooperation in flood management, sharing of data for flood forecasting, cooperation in navigation system, water quality improvement, and watershed management.
- **Need of Political will**: Everyday policy concerns like water sharing and usage often receive less attention, are combined with larger security or border concerns, or are dealt with only when natural disasters occur.
  - Such issues need to be addressed from a place of a genuine community of interest and political will for 'river sharing', which take a positive sum approach rather than a zero-sum one.
- **Recommendations of Standing Committee on Flood Management and International Water Treaties:**
  - The Committee recommended the **government should take necessary diplomatic measures to renegotiate the treaty with Pakistan** to address the impact of climate change on water availability in the Indus basin.

- It further suggested **monitoring Chinese actions on Brahmaputra River** to ensure that China does not pursue any major interventions which may adversely impact India's interests.
- **Learning from best practices**: South Asia as a region has much to learn from the experiences of international treaties and river basin organizations.
- **Long term Planning**: India and Nepal need to be in dialogue to end the crisis of flooding every year and for that both countries need a long-term strategy of water management cooperation.

Some of the international treaties and best practices
- **United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, 1997:** dealing with measures of protection, preservation and management related to the uses of those watercourses and their waters.
- **Treaty for Amazon Co-operation in 1978:** signed for equitable sharing in South America between Bolivia, Brazil, Columbia, Guyana, Peru, Suriname and Venezuela.
- **Mekong River Commission:** It is major multilateral development in Asia for the Sustainable Development of the Mekong River, 1995 signed by Thailand, Laos, Cambodia and Vietnam.

Conclusion

The countries of the region are **dependent on one another as far as protection from floods is concerned**. This makes flood control a **mutual responsibility of the region** and thus should be approached in a collective manner.

3. ECONOMY

3.1. NATIONAL MONETISATION PIPELINE

Why in news?

Recently, the government of India has launched the **National Monetisation Pipeline (NMP),** a roadmap for asset monetisation of various brownfield infrastructure assets across sectors**.**

About Asset Monetisation

- Also **commonly referred to as asset or capital recycling,** it refers to the process of **conversion of assets into economic value**.
- It is a constituent of the government's non-debt capital receipts.
- Asset monetization, as a concept, entails **offering public infrastructure to the private sector or institutional investors** through structured vehicles and mechanisms.
  - Hence, monetization is **distinct shift from 'privatization'** or 'structured partnerships' with the private sector within defined contractual frameworks.
- **It serves three critical objectives**:
  - **Unlocks value from public investment** in infrastructure
  - **Taps private sector efficiencies.**
  - **Creation of new sources of revenue** by unlocking of value of hitherto unutilized or underutilized public assets.

Infrastructure Asset Monetisation Cycle

New Infrastructure creation → Existing Assets Base → Monetise Existing Assets → Proceeds from Monetisation → New Infrastructure creation

- This consists of **limited period transfer of Brownfield Infrastructure Assets** (where investment is already being made, but assets are either languishing or not fully monetized or under-utilized) to unlock "idle" capital.
  - Here, the private sector entity is expected to operate and maintain the asset based on the terms of the contract/concession, generating returns through higher operating efficiencies and enhanced user experience.
  - Funds, so received by the public authority, are reinvested in other assets or projects that deliver improved or additional benefits. This **enables deployment of resources by government towards social sector and other competing public priorities.**
- Under the Union Budget 2021-22, Monetization of Assets has been **identified as one of the three pillars for enhanced and sustainable infrastructure financing** in the country. Accordingly, National Monetisation Pipeline (NMP) has been planned to be co-terminus with the National Infrastructure Pipeline (NIP) that was announced in 2019.
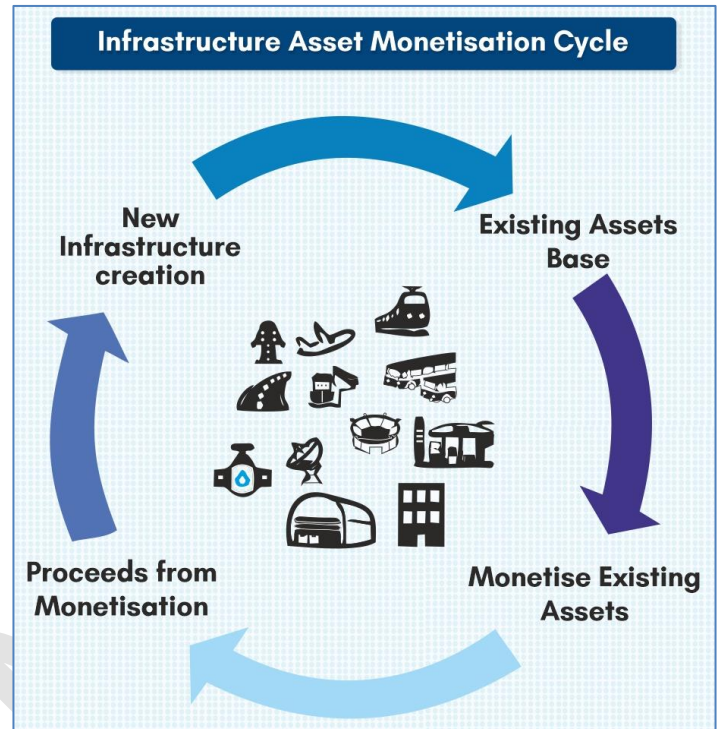
Understanding the Difference

	Asset Monetisation	Disinvestment	Strategic Disinvestment	Privatisation
Meaning	Government cedes control over its assets for a certain period of time, after which the assets must be returned to the government unless the lease is extended.	Govt shareholding in an asset is reduced but remains >51%.	Sale of a substantial portion of the Government shareholding of up to 50%, or higher to either private or public entity.	Govt shareholding in an asset is <51%.
Ownership	Remains with the Govt.	Remains with the Govt.	Transferred to Public/Private Entity.	Transferred to Private Entity.
Management Rights	Temporarily Transferred to Private Entity	Remains with the Govt.	Transferred to Private Entity.	Transferred to Private Entity.

Asset Monetisation Models

Asset Monetisation Models

Direct Contractual Approach

Structured Financing models

Brownfield PPP models
Obligation to provide service remains with the public authority, but the day-to-day management of the asset is vested with the private sector.

Long Term Lease
Can be adopted in case of sectors such as telecom etc. where the license to provide an infrastructure service is already available with a private party.

Operate Maintain Transfer (OMT)
Adopted as Toll Operate Transfer in Roads

Design Build Finance Operate Transfer
a proposed private participation initiatives in railways

Infrastructure Investment Trust (InvIT)
Introduced in India in 2014 and employed by infrastructure asset owners to pool in money from a diverse set of investors

Operate Maintain Develop (OMD)
Adopted in India at Airports

Real Estate Investment Trusts (REIT)
Only real estate projects are eligible under this structure.

About National Monetisation Pipeline (NMP)

- NMP will help in **evolving a common framework for monetisation of core assets**. (Monetization through **disinvestment and monetization of non-core assets** have **not been included** in the NMP).
  - o **Core and Non-Core Assets:** Assets which are central to the business objectives of an entity and are used for delivering infrastructure services to the public/ users are considered as Core Assets. Other assets, which generally include land parcels and buildings, can be categorised as non-core assets.

- The **total indicative value** of NMP for Core Assets of Central Government has been estimated at **Rs 6.0 lakh crore** over the 4 year period, FY 2022-2025.
  - o This **corresponds to ~5.4% of the total infrastructure investment envisaged under the NIP** which is ~Rs 111 lakh crore and **~14% of the proposed outlay for Centre (Rs 43 lakh crore)**.

"Key sectors identified by the government for NMP"

Roads Rs 1,60,200 crore; Railways Rs 1,54,496 crore; Power Transmission Rs 45,200 crore; Power Generation Rs 39,832 crore; Natural Gas Pipelines Rs 24,462 crore; Product Pipeline /Others Rs 22,504 crore; NMP Period : Co-terminus with NIP, 4 years (FY 22-25); Urban Real Estate Rs 15,000 crore; Telecom Rs 35,100 crore; Warehousing Rs 28,900 crore; Mining Rs 28,787 crore; Aviation Rs 20,782 crore; Ports Rs 12,828 crore; Stadiums Rs 11,450 crore.

The **top 5 sectors capture ~83%** of the aggregate pipeline value. These include: Roads followed by Railways, Power , oil & gas pipelines and Telecom.

- The **framework for monetisation** of core asset monetisation has three key imperatives:
  - o **Monetisation of rights not ownership** which means the assets will have to be handed back at the end of transaction life.
  - o **Brownfield de-risked assets with stable revenue generation profile and of critical importance.**
  - o **Structured partnerships under defined contractual frameworks & transparent competitive bidding**, where Contractual partners will have to adhere to Key Performance Indicators (KPIs) and Performance Standards.
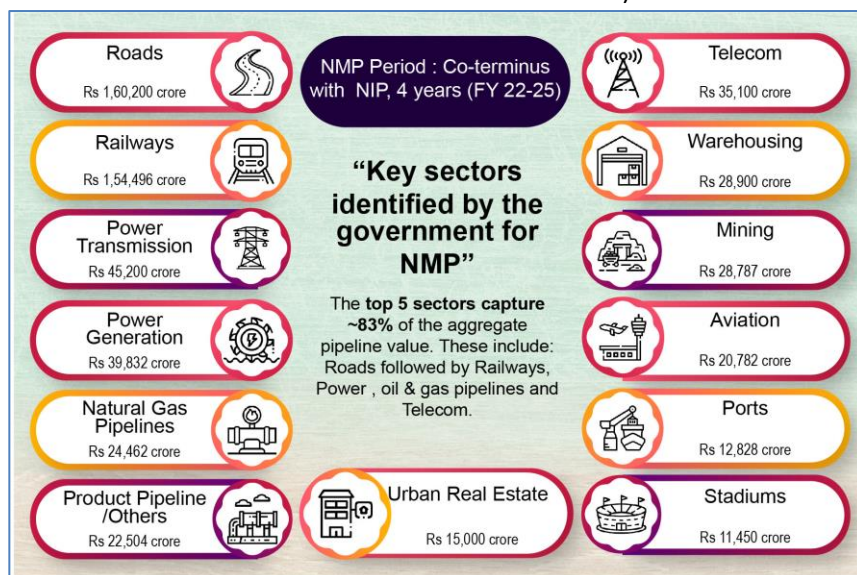
Objectives of the National Monetisation Pipeline

- Brings out clearly the scale of financing through asset monetization.
- Phasing of the proposed monetization and the capital generated over the medium-term.
- Guidance on asset/project profile and method of monetization.
- Brief operational contours of the project/asset (Lane-kms of road, circuit km etc.)

Sources of Financing for NIP

Budgetary Sources	Private or Extra Budgetary Sources	Innovative and alternative financing Sources
Central Budget (18–20%)	Financing by Bank (8–10%) Bond Markets (6–8%)	Innovative and alternative financing (15–17%)
State Budget (24–26%)	Infrastructure NBFCs (15–17%) PSU Accruals, Equity and Others (8–15%)	

- The assets and transactions identified under the NMP are expected to be rolled out through a range of instruments/models (refer infographic).

Significance of NMP

Resource Mobilisation: Asset monetisation is critical to attract the required quantum of capital into infrastructure sector.

Fiscal Prudence: The revenue accrued by leasing out these assets will help fund new capital expenditure without pressuring government finances.

Mobilising Private Capital: Resource and capital efficiencies of private sector along with the ability to dynamically adapt to the evolving global and economic reality will foster value creation in Infrastructure.

Resource Efficiency: through optimum utilisation of government asset.

Investment Avenues: Creates an enabling environment for participation of long-term institutional investors in infrastructure asset management.

Benefits to environment: For instance, increased user charges on roads operated by private sector may promote adoption of public transport for commuting.

Cooperative Federalism: To encourage states to pursue monetisation, the Central government has already set aside Rs 5,000 crore as incentive.

Promoting Public-Private Partnership: Collaboration of the public and private sector , each excelling in their core areas of competence, helps in delivering socio-economic growth and quality of life to the country's citizens.

Challenges in implementation and associated risks

- **Financial Challenges-**
  - **Lack of identifiable revenue streams** in various infrastructure assets. For instance, a significant proportion of National Infrastructure Pipeline is to be financed by the Private Sector but the mechanisms for revenue transfer have not be specified.
  - **Difficulty in attracting investors:** Less-than-encouraging bids in the recently launched PPP initiative in trains indicate that attracting private investors' interest is not that easy.
  - Leasing of public utilities to private investors **could lead to higher prices for consumers.**
- **Regulatory Challenges-**
  - **Lack of independent sectoral regulators** who could provide dedicated domain expertise and simultaneously aid development of the sector.
  - **Structural problems such as legal uncertainty and the absence of a deep bond market** that hold back private investment in infrastructure. This is further compounded by **Inefficient Dispute resolution mechanism.**
  - The allocation of assets owned by governments to private investors is often subject to **political influence, which can lead to corruption.**

- **Asset-specific Challenges-**
  - o Low Level of capacity utilisation in gas and petroleum pipeline networks.
  - o Regulated tariffs in power sector assets.
  - o Low interest among investors in national highways below four lanes.

Way ahead

NMP is a great step forward but successful execution of the plan remains key to its success. For this:

- **Contracts must be designed to allow for some flexibility** for addressing unforeseen developments (such as climate-related disasters) and to prevent needless and longwinded litigation.
- **Clear quality benchmarks must be set** for the assets that are handed over by the government and for KPIs expected of the private party for operating and maintaining the asset.
- There is a **need to set up a robust mechanism for dispute resolution relating to PPP contracts** as recommended by the Kelkar Committee on PPPs.

3.2. SEVEN YEARS OF PRADHAN MANTRI JAN DHAN YOJANA

Why in news?

Recently, the **Pradhan Mantri Jan-Dhan Yojana (PMJDY),** announced in 2014 **has completed seven years of its implementation**.

About Pradhan Mantri Jan-Dhan Yojana (PMJDY)

- It is **National Mission for Financial Inclusion** to ensure access to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner.
  - o **Financial inclusion** is the process of ensuring access to financial products and services needed by vulnerable groups at an affordable cost in a transparent manner by institutional players. It is a major **step towards inclusive growth**.
  - o The concept of financial inclusion was **first introduced in India in 2005 by the Reserve Bank of India**.
- **Objectives of the scheme:**
  - o To **ensure access to various financial services** like access to **need based credit**, **insurance and pension to the excluded sections** i.e. weaker sections and low income groups.
  - o **Use of technology** to lower cost and widen the reach of financial sector.
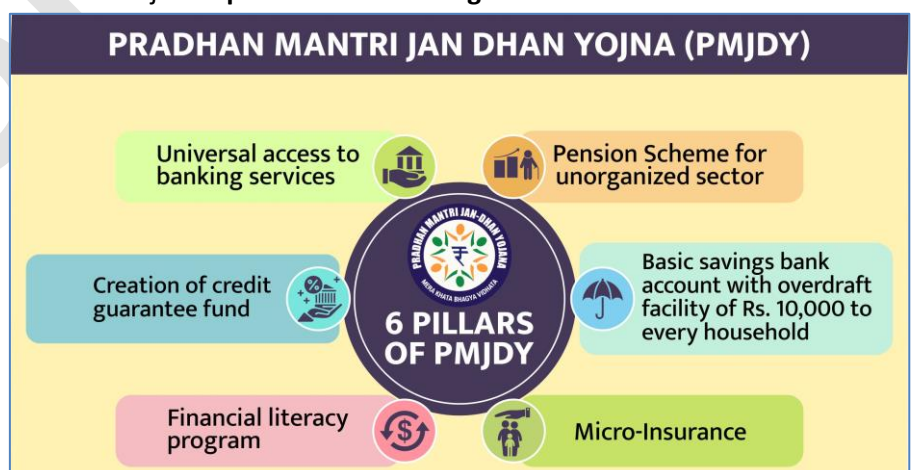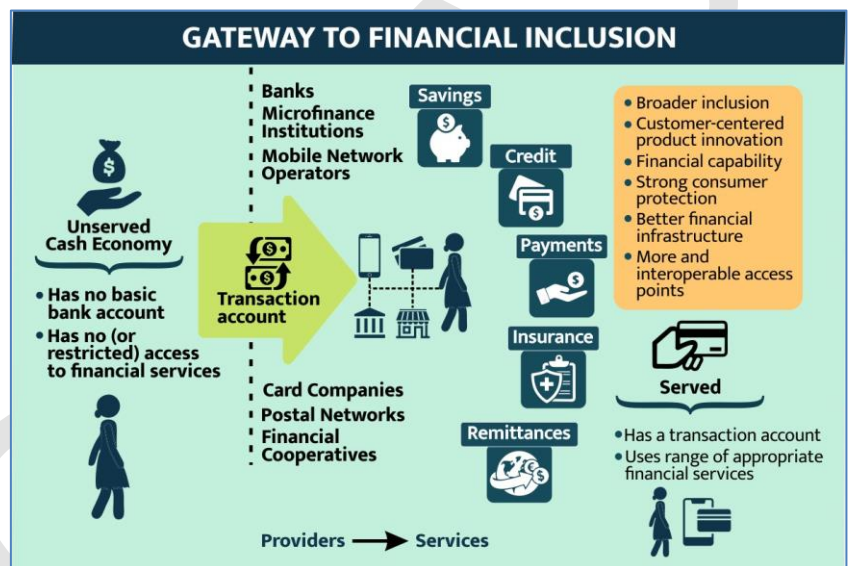
Achievements of PMJDY

- **PMJDY accounts**: They have **grown three-fold** from 14.72 Crore in 2015 to **43.04 Crore in 2021**.
  - o **More than half of the beneficiaries are women** and about two-third of the accounts are in rural and semi-urban areas.

- **Operative accounts**: 85.6% accounts are operative which indicates that more and more of these accounts are being used by customers on a regular basis.
- **Deposits under accounts:** Increased about 6.38 times from 2015 to 2021.
- **Rupay Cards:** Number of RuPay cards and their usage has **increased over time.**
- **Creation of Jan Dhan Darshak App:** It provides a **citizen centric platform for locating banking touch points** such as bank branches, ATMs, Bank Mitras, Post Offices, etc. Over 8 lakh banking touch points have been mapped on the GIS App.
  - o It is also being **used for identifying villages which are not served by banking touch points** within 5 km.
- **Smooth DBTs (Direct Benefit Transfer) transactions:** About **5 crore PMJDY account holders received DBT** from the Government under various schemes.

Impact of PMJDY on the Financial System

- **Prevent Leakage**: DBTs have **empowered and provided financial security to the vulnerable sections** of society via PMJDY accounts as well as ensured every rupee reaches its intended beneficiary and **preventing systemic leakage.**

KEY FEATURES

- Account can be opened in any branch or business correspondent (Bank Mitr) outlet
- PMJDY account with balance
- Interest deposit
- No minimum balance required
- Accidental insurance cover of Rs. 1 Lakh
- Easy Transfer of money across India
- Life insurance cover of Rs. 30,000/-
- After satisfactory operation of the account for 6 months, over-draft facility to be permitted
- Beneficiaries of Goverment Scheme Direct Benefit Transfer in these account
- Accidental insurance cover, Rupay Debit Card must be used atleast once in 45 days
- Access to pension, insurance product
- Overdraft facility upto Rs. 10,000/- is available in only one account per household, preferably lady of the household

- **Financial inclusion:** PMJDY has been the foundation stone for **people-centric economic initiatives**. Whether it is DBTs, COVID-19 financial assistance, PM-KISAN, increased wages under MGNREGA, life and health insurance cover, the first step of all these initiatives is to **provide every adult with a bank account**, which PMJDY has nearly completed.
- **Formalization of the financial system**: Jan dhan provides an **avenue to the poor for bringing their savings into the formal financial system**, an avenue to remit money to their families in villages besides taking them out of the clutches of the usurious money lenders.
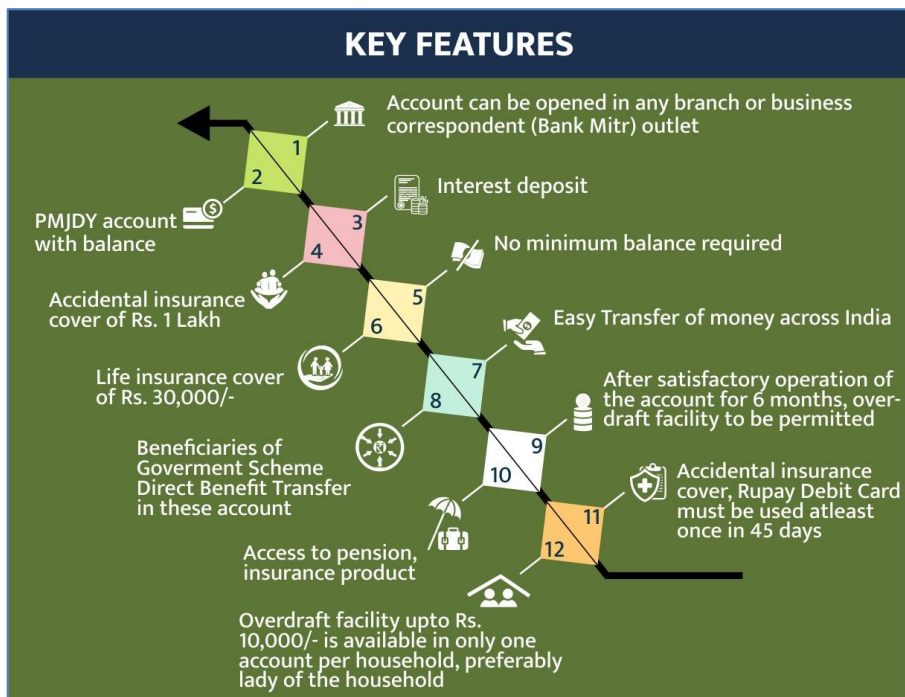
Challenges faced in PMJDY

- **Infrastructural Issues:**
  - o **Connectivity:** Lack of **physical and digital connectivity in hinterlands and hilly areas** such as the Northeast, Jammu and Kashmir, Uttarakhand, and Bihar etc. pose a major hurdle in achieving Financial Inclusion.
  - o **Technological issues:** Issues ranging from **poor connectivity, network outage, power shortage and bandwidth problems** to **managing costs of maintaining the infrastructure affect the banks**.
- **Keeping the accounts 'LIVE':** Villagers are **reluctant to deposit a small amount of money** in far located branches that costs time and loss of a full day's earnings. On the other side, Banks have to spend Rs. 100-150 per account on the necessary paper work, cost of holding camps and the commission paid to Business Correspondents (BC) who are authorised to open accounts.
  - o Unless transactions per account increase via technology or BC, it is **financially unsustainable** for the Government to run this scheme.
- **Financial and Technology illiteracy**: There is **a lack of financial illiteracy, awareness, knowledge and skills among rural people** to make informed decisions about savings, borrowings, investments and expenditure.
  - o A survey conducted by Visa reveals that **65 percent of Indians lack financial literacy**.
- **Duplication of Accounts**: The lure of getting a large insurance cover, accidental death benefit cover and overdraft facility, may prompt people to open **multiple accounts in different banks using different identification documents,** as there is **no single centralised information sharing system** to detect duplication of account.

- **Managing the ecosystem of Business Correspondents (BC)**: It is a **complex and unwieldy task** for the banks due to the following reasons-
  - **Delay in payout of subsidies and remuneration** granted under MNERGA, DBT, pension, etc. to villagers by BC.
  - Bank's **lack of commitment to monitor** the operations of BC.
  - **Lack of effective grievance redressal** systems.
  - **Absence of proper training** to a BC agent regarding financial products and ability to handle customer complaints.

Way Forward

- **Financial empowerment**: Going forward, there is need to move from financial inclusion to financial empowerment by providing credit. The PMJDY should become **PM Jan Dhan Vridhi with universal access to bank credit** to the most underprivileged sections of the society.
- **Infrastructure:**
  - **Model of credit history**: This will require **reduction in cash transactions and moving to digital transactions** and building credit models using artificial intelligence techniques to promote digital payments including RuPay debit card usage amongst PMJDY account holders.
  - Cost effective, techno-savvy and economically viable business model needs to be implemented.
- **Access of account holders**: Improving access of PMJDY account holders to **Micro-credit and micro investment** such as flexi-recurring deposit etc.
- **Create Database:** There is a need to build up a data base **to capture the income, transaction history of the Jan Dhan account holders** on the basis of which credit delivery models can be worked out.
  - As of now, we have only aggregate data. Banks and Fintechs can do further data analysis to create a new data base.

Conclusion

PMJDY holds greater promise than its predecessors because it is more geographically widespread, provides greater benefits, embraces technology and garners greater support from critical stakeholders i.e. the Government, banks and regulators. PMJDY can be a **solid foundation for holistic growth and inclusive development.** With firm intent and a positive attitude, the dream of financial services can be achieved.

Related News
Recently, the Reserve Bank of India (RBI) released the first composite **Financial Inclusion Index (FI-Index).**
About Financial Inclusion Index (FII)
- FII is a **comprehensive index to capture the extent of financial inclusion** across the country as **recommended by RBI under its National Strategy for Financial Inclusion 2019-2024.**

Access
» Bank branches
» Number of ATMs
» Banking correspondents
» Point-of-sales terminals etc.

Usage
» Frequency of account usage
» Credit
» Insurance
» Cashless and mobile based transactions
» Remittances etc.

Quality
» Financial literacy
» Consumer protection
» Inequalities and deficiencies in services
» Greivance redressal etc.

FINANCIAL INCLUSION

- It **incorporates details of banking, investments, insurance, postal as well as the pension sector** in consultation with the government and regulators.
- It **captures information on various aspects of financial inclusion on a scale from 0 to 100,** where 0 represents complete financial exclusion and 100 indicates full financial inclusion.
  - The **FI-Index for the year 2021 is 53.9** as against 43.4 for the year 2017.
- There are **three broad parameters** with certain assigned weights – access (35 percent), usage (45 percent) and quality (20 percent). Each parameter consists of various dimensions computed based on **97 indicators.**
- The **FI-Index doesn't have a base year** reflecting cumulative efforts of all stakeholders over the years towards financial inclusion.
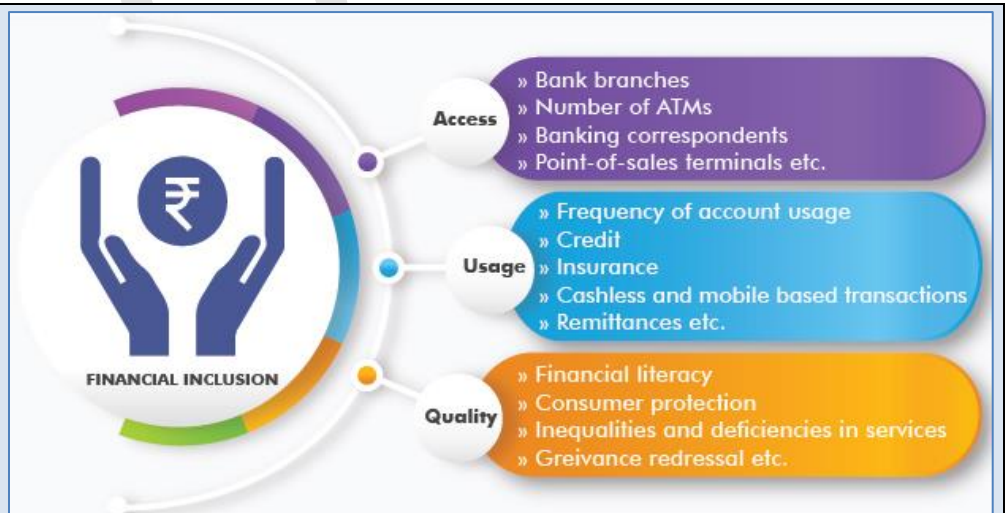
3.3. NEO-BANKS

Why in news?

Recently, Fintech platforms, which sometimes refer to themselves as neo-banks, are increasingly making inroads into the Indian market.

Neo-Bank and its mechanism

- Neo-bank is a term for 'fintech firms' with only a digital presence and no physical branches. They **provide banking services use** such as savings accounts, instant loans, credit cards, mutual funds, and fixed deposits.
    - They do this via **tie-ups with Reserve Bank of India (RBI)-licensed banks**.
    - In the case of products such as wealth management, neo-banks generally get investment adviser licenses. Usually, they **tie-ups are with small finance banks or small scheduled commercial banks**.
    - Some countries such as the UK have a formal regulatory license for neo-banks, but that is not the case in India.
- There is **no such category of banks under the RBI rules**.
- Neo banks are different from traditional banks in every aspect from business models to customer care. (refer infographic)

Benefits of Neo-Banks

- They are usually mobile-first, **leveraging technology to minimise operating costs** and offer a customer-friendly interface.
- Tie-ups of neo-banks with small banks allow them to **offer higher interest rates on savings accounts.**
    - Single neo-bank can tie up with multiple regulated banks.
- They help to **analyze and track the spending.**
- They offer wider choices and better customer experiences with the following features:
    - **New account** online can be **opened in just a few minutes**.
    - **Connecting of existing bank accounts**.
    - **Receive payments immediately** with integrated payment gateways.
    - **Pay bills through multiple options**.

3.4. RETROSPECTIVE TAXATION

Why in News?

Recently, parliament enacted the **Taxation Laws (Amendment) Act, 2021** to amend the **Income-tax (IT) Act, 1961** and the **Finance Act, 2012**, scrapping the 2012 retrospective tax law.

What is Retrospective Taxation and India's experience with it?

Retrospective taxation is a 'backward looking' tax, allowing a country to pass a rule on taxing certain products, items or services and deals and **charge companies from a time behind the date on which the law is passed.** Used by number of nations to **remove taxation anomalies** through new or additional charge on past transactions, it helps in overcoming misuse of tax laws loopholes by companies. In India-

- It was introduced in **2012**, empowering Income tax Department to raise tax demands **on capital gains** arising from **indirect transfer of assets** located in India.
- It was used in **17 tax matters** with demand of **Rs. 1,08,730 crores** of tax from companies like **Vodafone, Cairn Energy, Westglobe, Richet Holdings** etc.
- But it can be understood as a **policy error** as it managed to raise only **Rs 8,098.12 crores** from **15 tax matters** (2 were stayed by High Courts) with **protracted litigation.**

What are the potential Negative impacts of Retrospective Taxation?

- **Goes against the Principle of Tax Certainty**: The Retrospective Tax removes the time limit provided under **Section 149** of the **Income Tax Act** and makes taxes uncertain.
- **Hurts Private investors/companies** by introducing new demands which can spoil the business planning and expectations.
- **Arbitration Issues:** Out of 17 cases, 4 invoked arbitrations under **Bilateral Investment Protection Treaty** with the United Kingdom and Netherlands.
  o Also, being a signatory to the **Convention on the Recognition and Enforcement of Foreign Arbitral Awards** (1958, also known as **New York Arbitration Convention**), the companies can enforce foreign and non-domestic arbitral awards enforced against Indian assets in numerous jurisdictions around the world.
- **Damaging India's Reputation:** Despite various financial and infrastructure reforms for Ease of Doing Business, it damages India's reputation with-
  o **Reduced FDI inflows** due to **reduced confidence** of **potential investors**,
  o **Reduced effectiveness of special initiatives** to attract investment like IFSC-GIFT city.
- Leads to a **Vicious Cycle** of **low investment** and **low tax revenue** along with **low growth** and **reduced employment opportunities**.

RETROSPECTIVE TAX IN INDIA

CAIRN ENERGY CASE

2006: As part of internal corporate restructuring, Cairn UK transferred shares of Cairn India Holdings to Cairn India.

2009-11: Cairn Energy sold its majority stake in Cairn India to Vedanta.

2012 : In Vodafone Case, **Supreme Court** ruled in favour of Vodafone interpretation of IT Act with no tax liability of the company.
To circumvent Supreme Court judgment, an amendment to IT Act was passed by parliament, making **any capital gains resulting from the transfer of shares from a foreign entity whose assets were located in India taxable from 1962.**

2014: IT department asked for information on 2006 reorganization.

2015: Cairn Energy receives demand of Rs 10,247 crore as retrospective tax.

2021: Cairn moves to various international courts to enforce the award by securing overseas sovereign assets of India.

VODAFONE CASE

2007: Vodafone International Holding bought 67% stake in Hutchison Whampoa including its business and assets in India

2010: Bombay High Court ruled in favour of tax authorities.

2014: Vodafone moves to **Permanent Court of Arbitration at Hague** under Bilateral Investment Treaty between India and Netherlands of 1995.

2020: Arbitration court ruled in favour of Vodafone which provides for a fair and equitable treatment.

What are the changes introduced by Taxation Laws (Amendment) Act, 2021?

- Amends **Section-9 of IT Act, 1961** to **nullify the demands raised for indirect transfer** of Indian assets made before 28th May 2012 on fulfillment of specified conditions like withdrawal of appeal, petition, arbitration etc. in this regard.
- **Refund of any amount paid in these cases** without any interest under Section-244A.
- However, **offshore transactions involving Indian assets** executed after 28th May 2012 are **still taxable** as there is no retrospective application of the law.

Conclusion

The new law leads to a more **transparent**, **stable,** and **predictable taxation regime;** sending positive signal to investors on ability of India to sort out legacy issues to **improve investments** through stable operating environment and **help in early recovery** from COVID-19 by expanding the industrial base for increased tax base, higher growth, and work opportunities.

Sovereign right to tax and its limits
- Right to tax is a **core sovereign power**.
- The Constitution of India empowers government to **levy or charge taxes except by the authority of law**.
- Though upheld by Investor-State Dispute Settlement (ISDS) tribunals as well, the Bilateral Investment Treaty (BIT) puts **certain limits on the right as:**
  o **Expropriation**, i.e., no confiscation or claim on property against owner wishes from government
  o **Fair and Equitable treatment**, i.e., the taxes should not be discriminatory
- In 2016, India framed **model BIT**, **excluding taxation measures from its scope**, reducing scope of ISDS to interfere in sovereign right to tax.

3.5. PRIVATE SECTOR PARTICIPATION IN RAILWAYS

Why in news?

Recently, **bids for public-private partnership (PPP) in Passenger Train Operations** project were opened.

Background of Private Sector Participation in Railway Passenger Operations

- **Sam Pitroda Committee report, 2011: It** had recommended **attracting private investment in various areas of railways** such as stations & terminals, elevated rail corridors, high-speed rails, and private freight terminals, leasing of wagons, loco & coach manufacturing units, and so on.

About Indian Railways
- Indian Railways has the **fourth largest rail network in the world** after the United States, China, and Russia.
- Railways runs about **13,300 passenger trains and 9,200 freight trains** daily, covering around 7,200 stations. These trains carry **23 million passengers** and around **3 million tonnes of freight every day.**
- Railways **employs around 1.33 million** people.
- It is the world's second largest rail network **under one central management**. It has a monopoly in the rail segment, with private participation seen **only in certain ancillary activities.**

- **Bibek Debroy Committee**, 2015: It had recommended that **Private entry into running both freight and passenger trains** in competition with Indian railways should be allowed.
- **Ministry of Railways (MOR)**: It had invited Request for Qualifications (RFQ) in 2020, for private participation in operation of passenger train services **over 12 Clusters comprising for more than 150 Origin Destination pair** of routes through introduction of **151 modern Trains.**
  o This is the **first initiative** of private investment for **running Passenger Trains** over Indian Railways network. The **first set of 12 trains is estimated to roll out by 2022-23**, thereafter 45 trains in 2023-2024, 50 in 2025-26, and finally the remainder 44 in 2026-27.
  o The private entity shall be responsible for **financing, procuring, operation and maintenance** of the trains. It shall pay to Indian Railways **fixed haulage charges, energy charges** as per actual consumption and a **share in Gross Revenue** determined through a transparent bidding process.
  o Trains shall be designed for a **maximum speed of 160 kmph**. The running time taken by a train shall be **comparable to or faster than the fastest train** of Indian Railways operating **in the respective route**.
  o MOR has received bids from both private and public sectors to o**perate 29 pairs of trains with around 40 modern rakes** entailing an investment of **around ₹7200 crores**.

Need of private sector participation in Railways

- **To meet the growing demand:** Increasing **urbanisation** and **rising income** is driving growth in passenger segment. India is projected to account for **40% of the total global share of rail activity** by 2050.
  o According to Railway Board, f**ive crore intending passengers could not be accommodated during 2019-20** for want of capacity, and there was **13.3% travel demand in excess of supply** during summer and festival seasons.
- **To mobilize resources**: **Rakesh Mohan Committee** had noted that Railways has fallen into a **vicious cycle of under investment, misallocation of scarce resources, increasing indebtedness, poor customer service and rapidly deteriorating economics.**

- o According to estimates, railway infrastructure will need an **investment of ₹50 trillion between 2018 and 2030.** Given that the capital expenditure outlays of Railways are a**round ₹1.5 to 1.6 lakh crores per annum**, completing even all sanctioned projects **would take decades.**
  - o **Total investment of around Rs 30,000 crore** is envisaged into the railway system through rolling stock and other expenditure which is to be **borne by the private players.**
- **Losing Traffic to other modes:** Railways' share in the transportation of surface freight has declined from 86.2 per cent in 1950-51 to mere 18 percent in 2020.
  - o Between 2013 and 2018, reserved passenger traffic on Indian Railways **grew at less than 5%,** on average compared to a **13% growth in air traffic** during the same period.
  - o The CAG (2018) has noted that **post implementation of flexi-fare**, air fares were cheaper than the respective train fares for several routes.
- **For economic Growth**: An analysis by the **Economic Survey** showed that a steady shift to other modes of travel was **affecting economic growth by as much as 4.5% of GDP-equivalent**.
  - o It was estimated that a one rupee push in the railway sector would have a **forward linkage effect of increasing output in other sectors by ₹2.50**.
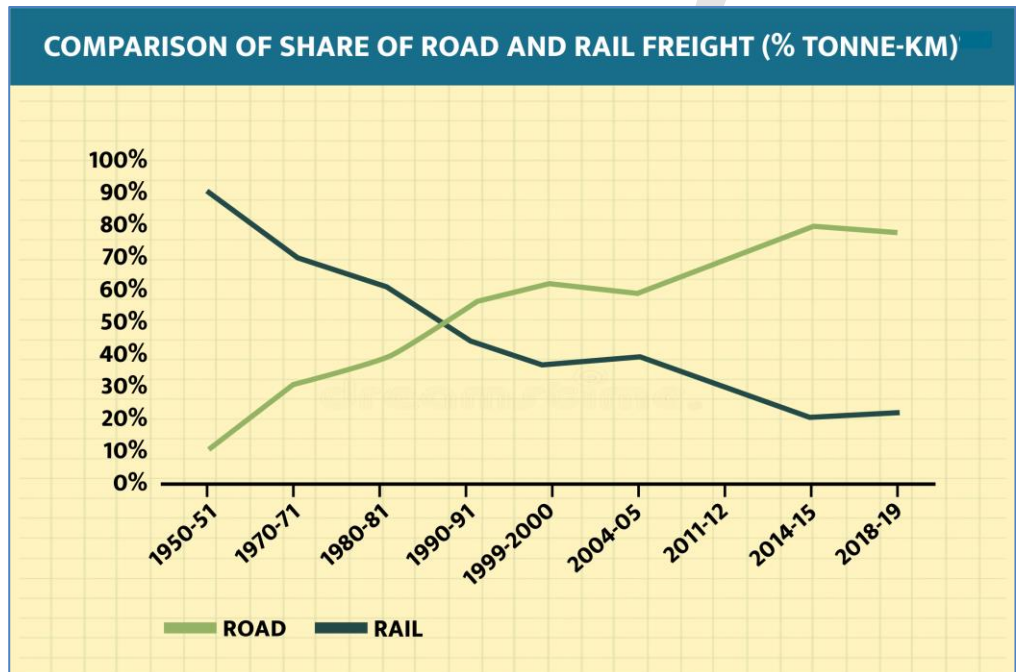
COMPARISON OF SHARE OF ROAD AND RAIL FREIGHT (% TONNE-KM)

- **Losses in passenger business:** These losses arise because of **pricing tickets at fares lower than costs** and **passenger concessions** (such as cheaper tickets for senior citizens, army veterans). The Committee on Restructuring Railways had noted that the **methods of calculating the cost** of running passenger business are **not scientific and accurate**.
  - o The CAG (2018) had noted that there is no justification for the **Railways for not fully recovering the cost of passenger services** in case of 1AC, 2AC, and First Class travel.
- **Enhanced Safety:** The Standing Committee on Railways (2016) had noted that under-investment in Railways results in **more rail accidents.** According to the High-Level Safety Review Committee (HLSRC), the **total financial implication of the safety measures over a five-year period** (2012-17) was likely to be around **Rs one lakh crore.**
- **Encourage competition:** Due to lack of competition, Railways has transformed into an **inefficient and bureaucratic monolith** with issues like Overstaffing, poor quality of services, low speed etc.
  - o Private players are expected to offer better services **like** improved passenger comfort, **efficient air conditioning** with automatic temperature and humidity control, **superior interiors**, friendly access to differently abled (Divyangjan) passengers, **GPS-enabled passenger announcement** system for on-board announcements for station arrivals etc.

Concerns regarding private sector participation

- **Absence of independent regulator:** The Railway Board has the unique distinction of **being the rule maker, operator and the regulator** which is a clear **conflict of interest** as pointed out by Bibek Debroy committee.
- **International experience: Rakesh Mohan committee** report had pointed out that the international experience on privatising railways showed that it was "**exceedingly difficult and controversial**". For instance, when Britain privatized its railways, it offloaded assets including tracks and routes which led to an **underinvestment in infrastructure.**

- **Social welfare concerns:** Since private sector is driven by profit motto, it may lead to an **increase in train fares** that have remain largely subsidised in the country.
- **Saturation and capacity constraints:** The rail network currently faces huge capacity constraints, and the high density network (network that connects metros) has **already reached saturation**. With high levels of capacity utilisation, and the introduction of new trains, trains tend to slow down, and affect the quality of services.
  - India's **track density at 45.74 per sq km** is comparable to the track density in the United States but much lower than that of Germany, Russia, China or Canada. Each kilometre of track **caters to 19,133 people in India** (as compared to 13,227 in China).

Way Ahead

- **Setup an independent regulator:** An independent regulator will ensure, among other things, **fair access to tracks, stations, warehouses, terminals and other infrastructure and services**.
- **More clarity:** The **clear-cut delegation of roles and responsibilities** between entities, the allocation of deliverables within **a predefined timeline** and ensuring **transparency and accountability** in the tender monitoring process is way forward for successful participation of private players.
- **Rationalize fare structure:** The NITI Aayog has suggested to price passenger fares as per the **prevalent market rates in corresponding transport modes**.
- **Enhance passenger amenities:** The **Standing**

> **Other reforms in Railways**
> - **National Rail Plan (NRP):** Based on the NRP, a **Vision 2024 document** has been prepared to develop infrastructure by 2024 to **enhance modal share of Railways in freight transportation to more than 40 per cent** and to cater to the traffic requirements upto 2030.
>   - It lists all priority projects with target dates of completion and allocation of resources.
>   - **Planned projects include: Multi tracking of 14,000 Km route, electrification of entire Railway network**, upgrading the speed potential of important routes to 130 KMPH and 160 KMPH (present speed potential 110 KMPH), completion of important **coal connectivity and port connectivity**.
> - **Improved Project execution and Organisational efficiency:** 146 projects have been identified as crucial from the point of view of freight traffic and provided with **prioritized fund allocation for time-bound completion**, after root cause analysis.
>   - Introduction of **E-work contract management system, E-Shramik Kalyan Portal and a single Central Payment System** (in collaboration with State Bank of India) have vastly improved **transparency** in decision making.
> - **Speeding Electrification of Railways and Mission Greening:** 66% of track length has been electrified by November 2020. Railways aim to complete electrification of its entire broad-gauge network by 2023.
>   - Once completed, IR will achieve a unique feat among the major railways in the **world to run trains fully with indigenously produced powe**r without dependence on imported fossil fuel.
>   - After 100% electrification, estimated **saving on fuel/energy bill** for IR would be about Rs.**14,500 Cr per annum.**
>   - Indian Railways have fixed itself a stiff target of being a **net-zero emitter of carbon by 2030.**
> - **High Speed Rail:** At present **Mumbai-Ahmedabad High Speed Rail (MAHSR)** project is the only sanctioned project of High Speed Rail (HSR) in the country. It is under execution with the **financial and technical assistance from Government of Japan**.
>   - A Special Purpose Vehicle (SPV), namely **National High Speed Rail Corporation Limited (NHSRCL)** has been formed to implement the Project.

Committee on Railways chaired by Radha Mohan Singh has made following recommendations in this regard.
  - Railways should prepare a **realistic budget** so that financial and physical **targets are optimally achieved.**
  - Need for a **robust monitoring mechanism** for ensuring maintenance and **upkeep of assets** created for passenger facilities.
  - Outsource most of the clearing activities under the **mechanised cleaning system** to professional agencies.

3.6. NATIONAL MISSION ON EDIBLE OILS – OIL PALM (NMEO-OP)

Why in News?

Recently, Cabinet approved a new centrally sponsored scheme, NMEO-OP, to promote domestic cultivation of oil palm in the next five years.

PREVIOUS MEASURES TO PROMOTE PALM OIL

In 1991-92, the Ministry of Agriculture launched the Oil Palm Development Programme under the 'Technology Mission on Oilseeds and Pulses'. It was envisaged that the area under oil palm will be expanded in Andhra Pradesh, Karnataka, Tamil Nadu, Odisha, Gujarat, and Goa.

In 1995, National Research Centre for Oil Palm was set up in the West Godavari district of Andhra Pradesh. It was later renamed as Directorate of Oil Palm Research.

From 2004-05 onwards, the oil palm cultivation scheme was implemented in twelve states as part of the 'Integrated Scheme of Oilseeds, Pulses, Oil Palm & Maize'.

In 2015, the union government allowed 100% foreign direct investment in five plantation crops– coffee, cardamom, palm oil tree, olive oil tree, and rubber via the automatic route. States were advised to declare oil palm as a plantation crop so that the private sector may be attracted to invest in the cultivation and processing of oil palm.

2014-15, the National Mission on Oilseeds and Oil Palm was launched. In 2018-19, it was merged with the National Food Security Mission.

In 2011-12, Oil Palm Area Expansion was included under the flagship scheme of UPA – Rashtriya Krishi Vikas Yojana.

About NMEO-OP

- It will **subsume the current National Food Security Mission-Oil Palm programme**.
- Under this scheme, it is **proposed to cover an additional area of 6.5 lakh hectare (ha.) for oil palm till** the year 2025-26 and thereby reaching the target of 10 lakh hectares ultimately.
- **Key features of the scheme**
  - It will have a special focus on **Northeast region** and the **Andaman and Nicobar Islands**.
  - **Price assurance to the oil palm farmers** on the lines of the minimum support price (MSP) for the Fresh Fruit Bunches (FFBs) from which oil is extracted by the industry. This will be known as the Viability Price (VP).
    - ✓ The assurance to the farmers will be **in the form of the viability gap funding and the industry will be mandated to pay 14.3% of the CPO price which will eventually go up to 15.3%.**
      - There is a sunset clause for the scheme which is 1st November 2037.
      - Palm oil farmers will be **paid the price difference via direct benefit transfer (DBT).**
    - ✓ To give **impetus to the North-East and Andaman, the Government will additionally bear a cost of 2% of the CPO price**.

- ✓ This will **protect the farmers from the fluctuations of the international CPO prices** and protect him from the volatility.
  - o **Assistance to farmers for planting materials** of Rs 29,000 per hectare, a steep increase from Rs 12,000 per hectare earlier.
    - ✓ Further substantial increase has been made for maintenance and inter-cropping interventions. A special assistance @ Rs 250 per plant is being given to replant old gardens for rejuvenation of old gardens.
    - ✓ **Special assistance will be provided for the North-East and the Andaman regions** in which special provisions is being made for half-moon terrace cultivation, bio fencing and land clearance along with integrated farming.
    - ✓ This assurance will **inculcate confidence in the Indian oil palm farmers to go for increased area and thereby more production of palm oil.**
  - o **Seed gardens will be provided assistance** up to Rs 100 lakhs for 15 hectares in the North-East and Andaman regions and Rs 80 lakhs for 15 hectares in the rest of India **to address the issue of shortage of planting material in the country.**
- **A financial outlay of Rs.11,040 crore has been made for the scheme**, out of which Rs.8,844 crore is the Government of India share and Rs.2,196 crore is State share and this includes the viability gap funding also.

Significance of the Scheme

- **Reduce the import dependence:** Annual edible oil demand in the country is around 25 million tonnes, 13 million tonnes of which is met by imports. Palm oil accounts for over 55% of these imports, making India the largest palm oil importer in the world.
  - o Under the scheme, **domestic production of crude palm oil (CPO) is expected to go up to 11.20 lakh tonnes by 2025-26 and up to 28 lakh tonnes by 2029-30.**
- **Cost competitiveness vis-à-vis other vegetable oils and animal fats:** Compared to other oil crops, the oil palm produces high yields, is easy to cultivate and bears fruit all-round the year.
  - o Oil palm produces **10 to 46 times** more oil per hectare compared to other oilseed crops and has yield of around **4 tons of oil per ha**.
- **Vast Potential:** As per assessment by **Indian institute of Oil Palm Research (IIOPR)**, India has potential **of 28 lakh ha** for palm oil production, out of which more than 9 lakh hectare in the north eastern region. At present only 3.70 lakh ha is under Oil Palm cultivation.
- **Reduce food inflation:** The price of palm oil increased by over 60 per cent in the past year to Rs 138/kg as of 1 June 2021 from Rs 86/kg on 1 June 2020.
- **Economic benefits:** It will increase capital investment, create employment generation and increase farmers' income.
- **Climate change management:** The crop has an appreciable level of carbon sequestration potential that makes the crop attractive with reference to climate change management.
- **Helps to meet Global demand:** Palm oil has emerged as the **main global source of vegetable oil due to adequate availability, versatility in usage and lower cost, as compared to other vegetable oils.** Palm oil forms ~ 33% of the world vegetable oil production mix.
  - o Global demand for vegetable oils is projected to **increase by 46% by 2050**.
  - o Concerns over the health hazards associated with trans-fatty acids (TFA) and genetically modified organisms (GMO) have also raised the demand for palm oil, as **palm oil is not derived from a GMO nor does it contain TFA.**

Challenges in domestic cultivation of Palm Oil

GEOGRAPHIC LOCATION

▶ The ideal locations for oil palm trees are within 8-degrees latitude north and south of the Equator. Therefore, India's geographical position is not ideal for oil palm cultivation.

▶ Palm oil is mainly produced in South East Asia with Indonesia and Malaysia contributing to more than 85% of the total production of palm oil globally.

DEFORESTATION

▶ Substantial tracts of tropical forests are cleared to make room for large plantations to service an ever increasing demand for palm oil.

▶ However, as reported current definition of a forest in India includes oil palm plantations, the potential loss of rainforest cover could go unaccounted for.

IMPACT ON BIODIVERSITY

▶ The palm is an invasive species. It's not a natural forest product of northeastern India. It may impact biodiversity as well as soil conditions.

▶ In January 2020, Indian Council of Forestry Research & Education (ICFRE), an autonomous institute under the Environment Ministry, recommended that introduction of oil palm "should be avoided" in biodiversity rich areas, including grasslands, without detailed studies on its ecological impact.

WATER FOOTPRINT

▶ An Oil Palm tree requires from 200 to 300 litres of water per day. Therefore, it is necessary to irrigate the plantation under taken and use available water resources judiciously.

DIFFERENT CONSUMPTION PATTERN:

▶ Edible oil consumption in India is traditionally region specific. While coconut, peanut, and sunflower oil are prevalent in south India, peanut and cottonseed oil are preferred in Gujarat. Rapeseed oil is prevalent in northeast India and soybean oil is preferred in central India.

LONG GESTATION PERIODS:

▶ Although Oil palm has very high productivity when compared to other oilseeds, but farmers have to wait for 3-4 years for trees to start yielding FFBs.

SMALL FARM HOLDINGS:

▶ Majority farmers have very small farm holdings (less than 2 ha). This makes investment in palm sector challenging which requires plantation style cropping.

Way forward

- **Eliminating incentives for palm oil production that lead to the destruction of forests.**
- **Man-made oil palm plantations shouldn't be included in the definition of a forest**, especially if they are going to replace forest cover, because they cannot support the same level of biodiversity.
  - o A 2020 Malaysian study found that **natural forests were much better carbon sinks compared to oil palm monocultures.**
- **Encouraging companies to use certified sustainable palm oil:** In response to international criticism of practices in the palm oil industry, various certification schemes have been set up in recent years.
  - o The aim of these schemes is to make oil palm cultivation more sustainable by imposing a variety of standards and criteria, thereby reducing rainforest clearance, slash-and-burn and human rights violations in the palm oil industry.

INITIATIVES FOR SUSTAINABLE PALM OIL PRODUCTION

ROUNDTABLE ON SUSTAINABLE PALM OIL (RSPO).
- It is a not-for-profit, international membership organisation that unites stake-holders from the key sectors of the palm oil industry.
- It was established in 2004 to promote the production and use of sustainable palm oil.
- It develops and implements global standards for sustainable palm oil.

GREENPALM
- It is a certificate trading programme that allows consumers the flexibility to purchase sustainable palm oil certificates.
- These certificates are issued to producers who are members of RSPO and certified to produce palm oil in a sustainable manner.

SUSTAINABLE PALM OIL COALITION
- It was formed in 2010, in India, to lobby with government for an incentive based platform to encourage imports of sustainable palm oil.

3.7. LIVESTOCK SECTOR OF INDIA

Why in News?

The parliamentary standing committee on agriculture, had submitted a report titled 'Status of veterinary services and availability of animal vaccine in the country' pointing out several impediments to growth of the livestock sector in India.


Status of Livestock Sector in India
- The Livestock Sector in India has been growing at a Compound Annual Growth Rate (CAGR) of **8.15%** from 2014-15 to 2019-20.
- Livestock provides **employment to about 8.8 % of the population** in India.
- It provides **livelihood to two-third of rural community**.
- It **contributed 16% to the income of small farm households** as against an average of 14% for all rural households.
- Livestock sector contributes to **34% of total Agriculture GDP (2019-20)**.
- Animal Husbandry is a State subject.
- **As per the 20th Livestock Census, India is-**
  - o **World's highest livestock owner, being** First in the total buffalo population, Second in the goat population and Third in the sheep population.
  - o **Second largest poultry market** in the world
  - o **Second largest producer of fish** and also second largest aquaculture nation in the world.

Impediments faced by Livestock Sector in India

- **Low productivity of farm animals**: This can be attributed to high incidence of animal diseases and low awareness among farmers about livestock technology related to increasing yield, vaccination, breeding etc.
  - o For instance, the average annual milk yield of Indian cattle is only about 50 per cent of the global average.
- **Inadequate and poor quality of veterinary infrastructure**: Growth in numbers of Veterinary Hospitals/ Polyclinics and Dispensaries, trained Veterinarians and other personnel staff in Veterinary Services, veterinary educational institutions etc. over the years has been inadequate.
- **Deficiency of vaccines and vaccination set-up**: Shortage of vaccine and cold storage facilities, limited manufacturing capacity and poor quality of vaccine has led to huge financial losses and pertinent delay in vaccination drives.
- **Shortage of nutritional fodder**: Hardly 5 per cent of the cropped area in India is utilized to grow fodder. India is a deficit in dry fodder by 11 per cent, green fodder by 35 per cent and concentrates feed by 28 per cent.
  - o Also, the common grazing lands to have been deteriorating quantitatively and qualitatively.
- **Lack of inclusivity in Veterinary Services**: Unconventional sources of milk such as camel, yak, etc. and that still fail to be included within policies and programmes of mainstream Veterinary Infrastructure, Education and Services.
- **Lack of access to markets**: Except for poultry products and to some extent for milk, markets for livestock and livestock products

are underdeveloped, irregular, uncertain, and lack transparency. Further, these are often dominated by informal market intermediaries who exploit the producers.

- **Adjustment pressure to the emerging market forces**: Though globalization has created avenues for increased participation in international trade, stringent food safety, and quality norms hinders potential export growth in the Indian livestock sector.
- **Weak institutional mechanisms to protect animals against risk**: Only 6 per cent of the animal heads (excluding poultry) are provided insurance cover.
- **Inadequate availability of institutional credit**: The share of livestock in the total agricultural credit has hardly ever exceeded 4% in the total (short-term, medium-term and long-term).

- **Weak extension services at field level**: This limits capability of Indian farmers to adopt the technologies developed by research institutions.
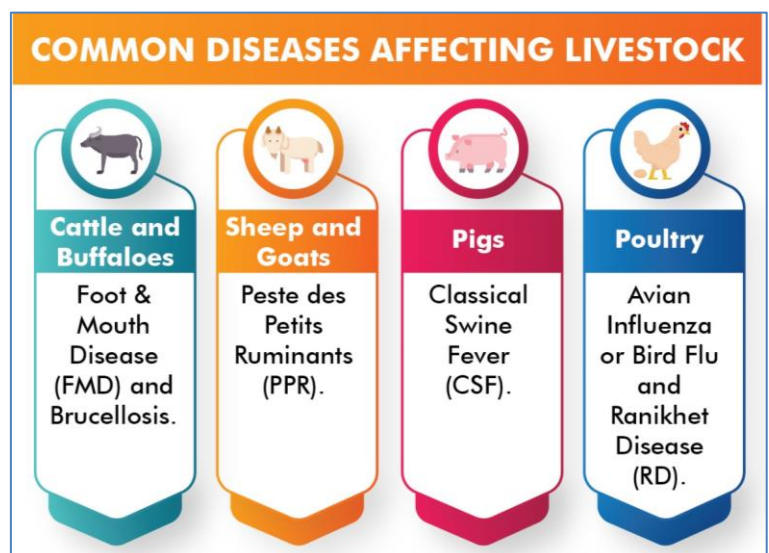
- **Other issues:**
  - Declining population of indigenous animals.
  - Slow development of Artificial Insemination services with Deficiency in quality germplasm, infrastructure, and technical manpower.
  - Water sources depletion.
  - Outdated veterinary education and lack of R&D in veterinary services.
  - Limited availability of quality breeding bulls.
  - Increasing contribution to greenhouse gases emission.
  - Diversion of feed and fodder ingredients for industrial use.

Way Forward

- **Strengthening of linkages between production and markets** through institutions such as co-operatives, producers' associations, and contract farming.
- **Promoting Livestock farm automation system** to save time, reduce labor requirements, and improve product quality, increase production, efficiency, accuracy, and safety.
- **Explore the possibility of availing more funds** under other Schemes such as Rashtriya Krishi Vikas Yojana (RKVY), Rural Infrastructure Development Fund (RIDF) including dovetailing with MPLAD funds etc. so as to cater adequate Veterinary Health Services in States / UT.
- **Expansion of extension services:** The emergence of new technologies and practices require linkages between stakeholders and developing a wider outreach to the farmers.
- **Establishing a network of Mobile Veterinary Clinic (MVC)** to provide doorstep delivery of veterinary services specifically for remote / border and inaccessible areas.
- **Increase the present number of Veterinary colleges/ Universities** in order to reduce the shortage of trained manpower in veterinary services.
- **Promoting Public Private Partnership (PPP)**: Investments made by Private companies, Cooperative Societies etc. can be used in augmenting Veterinary Infrastructure, such as in case of Mobile Dispensaries in Gujarat.
- '**One-stop Centre'** for solutions to livestock issues and dissemination of information to the remotest areas of the country **can ensure eradication of Infectious diseases**.

Major Government Schemes aimed towards growth of Livestock Sector	
Development Programmes	**National Livestock Mission:** It aims to enhance the level of nutrition and standard of living of livestock keepers and farmers especially small holders through sustainable, safe and equitable livestock development. It includes **Sub-Missions on Fodder and Feed Development, Skill Development, Technology Transfer and Extension etc.** **Rashtriya Gokul Mission (RGM):** for development and conservation of indigenous breeds through selective breeding in the breeding tract and genetic upgradation of nondescript bovine population. - Significant initiatives under the mission include- **Gopal Ratna awards and Kamdhenu awards** for encouraging farmers/breeder societies to rear Indigenous breeds of Bovines. - Establishment of **integrated cattle development centres 'Gokul Grams'** and National Kamdhenu Breeding Centres. **E-Pashu Haat portal** for connecting breeders and farmers. **Pashu Sanjivni:** An Animal Wellness Programme encompassing provision of Animal Health cards ('Nakul Swasthya Patra') along with UID identification. **National Programme for Dairy Development**: It aims to enhance quality of milk and milk products and increase share of organized milk procurement.
Disease Control programme	**Scheme on livestock health & disease control (LH&DC)**: Centrally Sponsored Scheme aimed at providing financial assistance as Central share to States / UTs for control & containment of animal diseases like Contagious Bovine Pleuropneumonia (CBPP), Classical Swine Fever (CSF) etc. **National Animal Disease Reporting System (NADRS)**: A Sub-component of LH&DC, it is a web based platform for reporting of animal disease from the level of block veterinary institution on a real-time basis. **National Animal Disease Control Programme for Foot & Mouth Diseases (FMD) and Brucellosis (NADCP):** Central Sector Scheme that envisages to control FMD and Brucellosis by 2025 and to eradicate them by 2030 through vaccination.

Infrastructure Development Funds	• **Animal Husbandry Infrastructure Development (AHIDF)** with corpus of Rs. 15000 crore for incentivizing investments by individual entrepreneurs, private companies, MSME, Farmers Producers Organizations (FPOs) etc. to establish the dairy and meat processing and value addition infrastructure and Animal Feed Plant. • **Dairy Processing & Infrastructure Development Fund** with a corpus of Rs. 8,004 crore to provide loan assistance to Eligible End Borrowers (EEBs) such as the State Dairy Federations, District Milk Unions, etc. to modernize the milk processing plants and machinery and to create additional infrastructure for processing more milk.
Other initiatives	• **Special Livestock Sector Package:** It envisages Central Government's support amounting to **Rs.9800 crore** over duration of 5 years for leveraging total investment of Rs. **54,618 crore** for 5 years. • **e-GOPALA application developed by National Dairy Development Board (NDDB):** It helps farmers manage their livestock including buying and selling of disease-free germplasm in all forms (semen, embryos, etc); informs about availability of quality breeding services and guides farmers for animal nutrition, treatment of animals using appropriate Ayurvedic ethno veterinary medicine. • **Supporting Dairy Cooperatives and Farmer Producer Organizations engaged in dairy activities**: Under it, dairy cooperatives and Farmer Producer Organisations engaged in dairy activities will be provided with 4% interest subvention for meeting their working capital requirements. • A Special Drive has been undertaken by the Department of Animal Husbandry and Dairying (AH&D) for providing **all dairy farmers of Milk Cooperatives and Milk Producer Companies with Kisan Credit Cards (KCC)**.

3.8. SMART METERS

Why in News?

Recently, State Electricity Regulators decided to mandate deployment of **prepaid smart meters** by DISCOMs.

More on News

- Aimed at **bringing down electricity losses**, the DISCOMs will deploy prepaid smart meters for below mentioned consumers by **December 2023**:
  - All UTs, electrical divisions with above 50% consumers in urban areas with power losses above **15%** in FY19-20 and other electrical division with above 25% losses in FY19-20.
  - In all **government offices at block and above level** and **all industrial and commercial consumers.**

> **About Advanced Metering Infrastructure (AMI)**
>
> - AMI is an **integrated system of various hardware and software components** like Smart Meters, Communication Network, Meter Data Acquisition System and Meter Data Management System which enables two-way communication between utilities and customers.
> - It offers several **operational** and **financial benefits** to **customers and utilities** like:
>   - Ability to **automatically and remotely measure** electricity use in real time, connect and disconnect service among others.
>   - **Enhanced monitoring** to detect tampering, mitigate potential cyber threat to grid.
>   - **Identify and isolate outages** for faster service restoration.
> - It also enables utilities to offer new **time-based rates** and **incentives-based programs** that encourage customers to reduce peak demand and manage energy consumption and costs.

- **In all other areas** (except for agriculturalists), the deadline has been set as **March 2025.**
- Also, all feeders will be provided with meters having **Automatic Meter Reading (AMR) facility by December 2022.**

About Smart Meters and Smart Meter National Programme

Smart meter is a digital meter with **ability to track and control energy consumption**. **Advanced Metering Infrastructure (AMI)** is one of the key essentialities for implementing Smart Metering.

- **Smart Meter National Programme (SMNP)**
  - The **Energy Efficiency Services Limited (EESL),** established in **2009** as a **JV** between **four CPSUs** (**NTPC, REC, PFC,** and **Power Grid**) is implementing the **Smart Meter National Programme** (SMNP) in India.
  - The programme aims to replace **25 crore** conventional meters with smart meters by **2022** at a cost of **Rs 3 lakh crore.**

- o All Capital and Operational expenditure for SMNP is done by EESL upfront (through **Build-Own-Operate-Transfer Model**), which is to be recovered from DISCOMs over a period.
- o With only **24 lakh smart meters** installed in India, the new measure will speed up the SMNP.

What are the benefits of using Smart Meters?

- **Greater System Reliability**, **reducing outage costs and inconveniences:** to customers through better load management and faster restoration.
- **Reduced costs for metering and billing:** by eliminating the manual monthly or quarterly meter readings and freedom to place smart meter anywhere in the house.
- **Replace manual revenue collection system:** through prepaid bills, overcoming low billing and poor collection efficiencies by higher collection and accurate billing. E.g., DISCOMs with smart meters have seen **Rs 200 to 500 higher revenue collections per meter per month.**

HOW SMART METERS WORK?

- **More control on consumption from consumers**: by using real time monitoring of supply quality and use by customers through web portals and smart thermostats for savings.
- **Reduced capital and operational costs**: through improved asset utilization, maintenance of infrastructure with fewer call-outs.
- **Remote monitoring:** of supply to households or commercial establishments, helping in prevention of theft/pilferage and remote shutdown of supply over non-payment of dues.
- **Design a more consumer-centric tariff structure**: i.e., equitable tariff structure with implementation of long-term objectives of **time-based rates** and **incentives-based programs** to overcome Variable Renewable Energy availability issue.

What are the potential challenges in adopting Smart Metering?

- **Higher Capital costs with Short-term operational costs rise** due to new technologies requiring-
  - o **Standardization**, i.e., interoperability standards for uniform technology.
  - o **Integration** of processes/systems along with their maintenance needs and training of employees.
- **Data management issues** due to big data generation, requiring infrastructure to store and data mining tools to communicate with consumers, along with additional responsibility of **responsible use** and **data security** from cyber-attacks**.**
- **Resistance from employees** due to job loss or technology replacing humans.
- **Likely resistance from customers** due to-
  - o **Short-term increase in bills** to recover cost of new meters or equipments.
  - o **Health risks** from exposure due to radiations used for two-way communication.
  - o **Risks of Right to Privacy violation** under lack of data privacy laws.
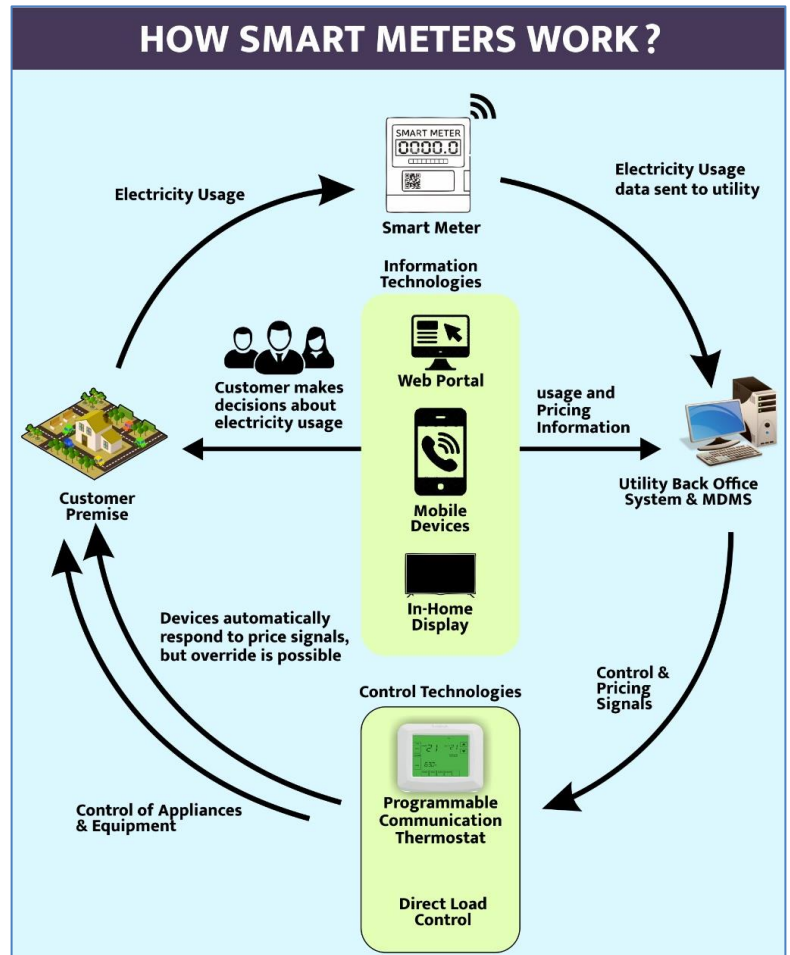
Way forward

To achieve **smart meter installation targets** and move towards **Advanced Metering Infrastructure**, following steps can be taken:

- **Frame robust policy and regulatory framework** to facilitate interoperability and integration environment for market players, utilities and consumers as well as ensure synchronization between policies at central and state level.
- **Creating a secure and accessible Internet of Things (IoT) platform**, creating confidence among consumers and utilities on secure data storage and its use for necessary accounting and billing purposes.
- **Robust electric and telecom connectivity**, allowing proper data collection for advanced analysis in order to provide more advanced and multi-purpose solutions.
- **Building indigenous capabilities and expertise in:**
  - **Smart Meter components** to reduce costs and dependence on imported goods,
  - **Demand Side Management Programmes/platforms** to ensure smooth integration with a strong ecosystem promoting innovation and security with an **active role for smaller players.**
- **Skill development** in order to utilize new opportunities created in the field of data analysis, cyber security etc.
- **Improve communication with people**, publicizing long-term benefits for them for demand-based target achievement.
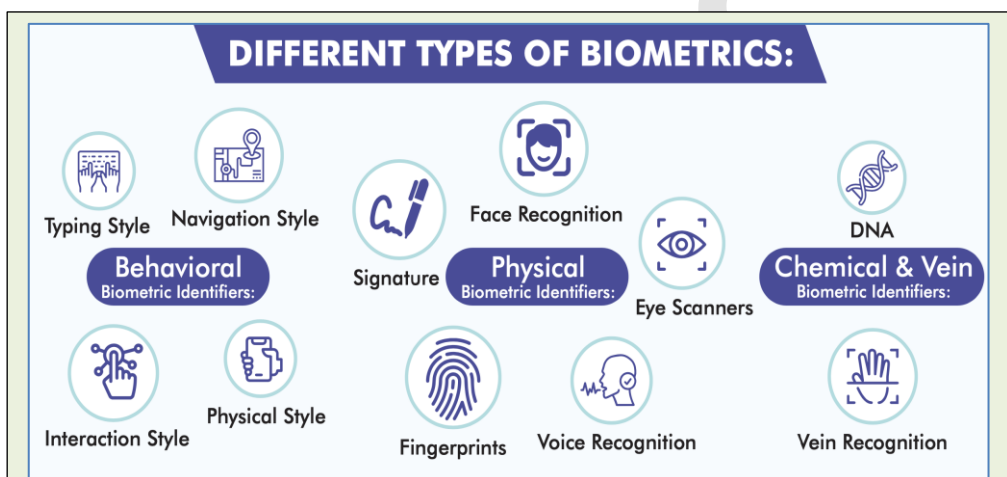
4. SECURITY

4.1. FACIAL RECOGNITION TECHNOLOGY

Why in news?

Recently, in order to empower the Indian police with information technology, Government has approved implementation of the **National Automated Facial Recognition System (NAFRS)**.

More on news

- Facial recognition is a way of **identifying or confirming an individual's identity using their face**. Facial recognition systems can be used to identify people in photos, videos, or in real-time.
- NAFRS is to be **used by police pan-India and will be issued by the National Crime Records Bureau (NCRB).**
- It would be a **mobile and web-based application hosted in Delhi** to help in crime prevention and detection, and fast track document verification.
- It is supposed to be **interlinked with other existing databases** like Crime and Criminal Tracking Network & Systems (CCTNS), Integrated Criminal Justice System (ICJS), State-specific database systems and the Khoya-paya portal.
- **It will use facial recognition technology**: to facilitate investigation of crime or for identifying a person of interest (e.g., a criminal) regardless of face mask, makeup, plastic surgery, beard, or hair extension.

How does facial recognition work?

- **Computer algorithms map unique facial-landmarks (biometric data)** such as shape of the cheekbones, contours of the lips, and distance from forehead to chin, and **convert these into a numerical code— termed faceprint.**

DIFFERENT TYPES OF BIOMETRICS:

Behavioral Biometric Identifiers: Typing Style, Navigation Style, Interaction Style, Physical Style

Physical Biometric Identifiers: Signature, Face Recognition, Eye Scanners, Fingerprints, Voice Recognition

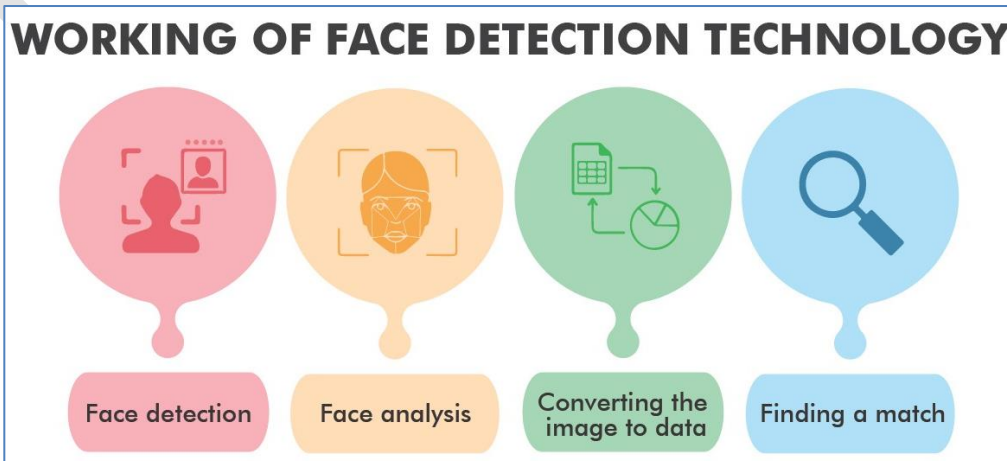**Chemical & Vein Biometric Identifiers:** DNA, Vein Recognition

Mechanisms of some of the identification methods-

- **Fingerprint:** Fingerprints are easy to capture, and can verified by comparing the unique loops, arches, and whorls in each pattern.
- **Voice Recognition:** Physically, the shape of a person's vocal tract, including the nose, mouth, and larynx determines the sound produced. Behaviorally, the way a person says something – movement variations, tone, pace, accent, and so on – is also unique to each individual.
- **Retina Scan:** Retinal scans capture capillaries deep within the eye (unique to each person) by using unique near-infrared cameras.
- **Keystroke dynamics:** Keystroke dynamics leverage the fact that people follow a definite pattern while typing on a keyboard or keypad.

Apart from the aforementioned indicators, other biometrics are also emerging like ear authentication, footprint and foot dynamics and gait recognition (style of walking).

WORKING OF FACE DETECTION TECHNOLOGY

Face detection | Face analysis | Converting the image to data | Finding a match

- For the purposes of 'verification' or 'identification', the system compares the faceprint generated with a large existing database of faceprints (typically available to law enforcement agencies) through a database on driver's license or police mugshots) **(Refer infographic for working of this technology)**

Significance of Facial Recognition technology

- **Increased security**: On a governmental level, facial recognition can help to **identify terrorists or other criminals.** On a personal level, facial recognition can be used as a security tool for locking personal devices and for personal surveillance cameras.
- **Faster processing**: The process of recognizing a face takes only a second, which has benefits for the companies that use facial recognition. In an era of cyber-attacks and advanced hacking tools, companies need both secure and fast technologies. Facial recognition enables **quick and efficient verification** of a person's identity.
- **Reduced crime**: Face recognition makes it easier to track down burglars, thieves, and trespassers. The sole knowledge of the presence of a face recognition system can serve as deterrence, especially to petty crime.
- **Removing bias from stop and search**: Public concern over unjustified stops and searches is a source of controversy for the police — facial recognition technology could improve the process. By singling out suspects among crowds through an automated rather than human process, face recognition technology could help **reduce potential bias** and decrease stops and searches on law-abiding citizens.
- **Greater convenience**: As the technology becomes more widespread, customers will be able to pay in stores using their face, rather than pulling out their credit cards or cash. This could save time in checkout lines.

Challenges associated with technology

- **Scope for error**: The real problem is that facial recognition does not return a definitive result — it 'identifies' or 'verifies' only in probabilities (e.g., 70% likelihood that the person shown on an image is the same person on a watch list).
  - Though the accuracy of facial recognition has improved over the years due to modern machine-learning algorithms, **the risk of error and bias still exists**.
  - For instance, there is a **possibility of producing 'false positives'** — a situation where the algorithm finds an incorrect match, even when there is none — resulting in wrongful arrest.
- **Inherent biasness**: Research suggests facial recognition software is based on pre-trained models. Therefore, if certain types of faces (such as female, children, and ethnic minorities) are under-represented or over-represented in training datasets, then this bias will negatively impact its performance.
  - For instance, with the element of error and bias, facial recognition can result in profiling of some overrepresented groups (such as Dalits and minorities) in the criminal justice system.
- **Massive data storage**: Facial recognition software relies on machine learning technology, which requires massive data sets to "learn" to deliver accurate results. Such large data sets require robust data storage. Small and medium-sized companies may not have sufficient resources to store the required data.
- **Impact on right to privacy**: As NAFRS will collect, process, and store sensitive private information: facial biometrics for long periods; if not permanently — it will impact the right to privacy.
  - **NAFRS fails each one of the three tests** (existence of law, guarantee against arbitrary state action and a rational nexus between objectives and means to achieve them) given by **Supreme Court in Justice K.S. Puttaswamy vs Union of India (2017) case.**
- **Lack of Research & Development**: Policing and law and order being State subjects, some Indian States have started the use of new technologies without fully appreciating the dangers involved.
- **Impacts Liberal Democracy**: As anonymity is key to functioning of a liberal democracy, unregulated use of facial recognition technology will dis-incentivise independent journalism or the right to assemble peaceably without arms, or any other form of civic society activism.

> **International practices**
> - **United States**: The Federal Bureau of Investigation uses facial recognition technology for potential investigative leads.
> - **United Kingdom**: police forces in England use facial recognition to tackle serious violence.
> - **China**: It uses facial recognition for racial profiling and mass surveillance in order to track Uighur Muslims.

Way forward

- **Need of a clear law**: In the interest of civil liberties and to save democracy from turning authoritarian, it is important to enact a strong and meaningful data protection law, in addition to statutory authorisation of NAFRS and guidelines for deployment.
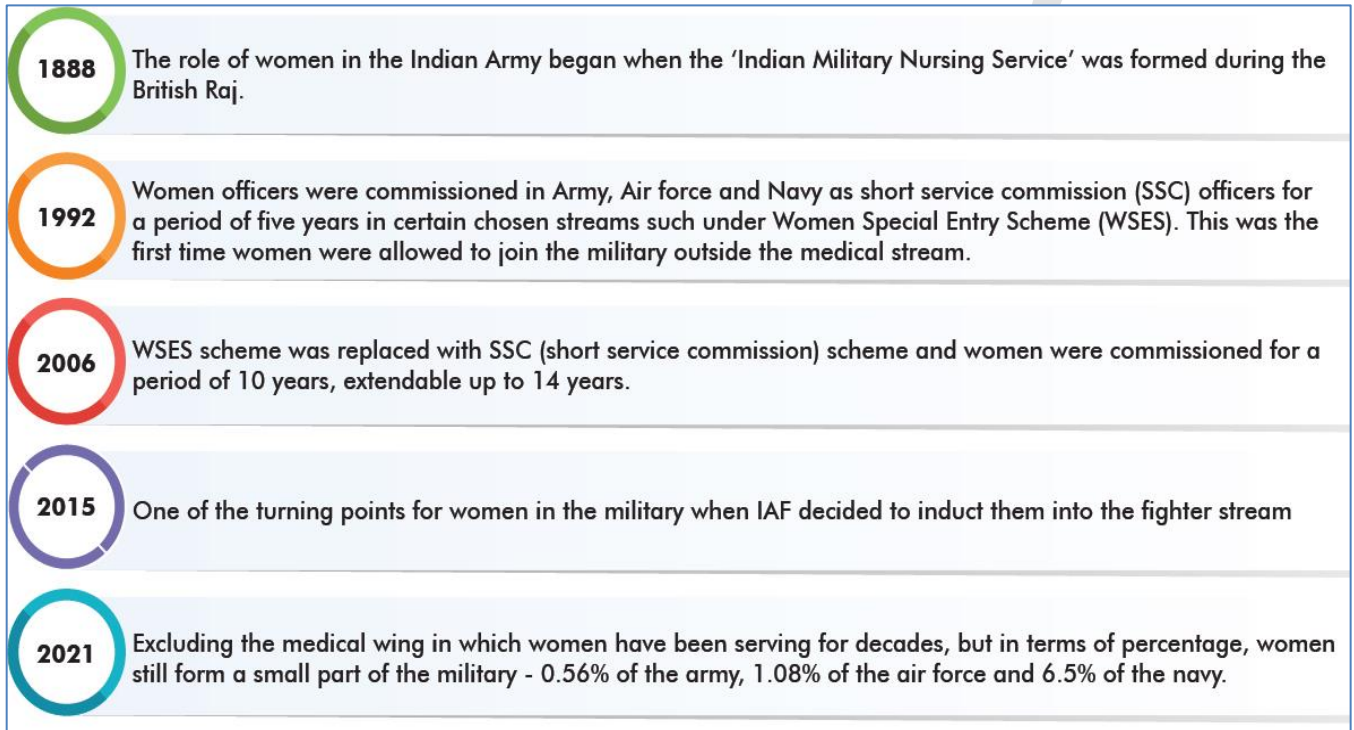
- **Required Expertise in the field**: The data collected from social media profiles has risk involved related to the authenticity of the data. Hence, experts are needed to verify such details before storing them who should be provided proper training to protect & avoid abuse and misuse of the collected data & database.
- **Adequate safeguards**: such as penalties, along with enhanced accountability of the law enforcing bodies and adequate oversight, to minimize the potential for misuse and abuse of the facial recognition technology.

4.2. WOMEN IN ARMED FORCES

Why in new?

Recently, for the first time ever, Indian Army's Selection Board has promoted five women officers to Colonel Rank.
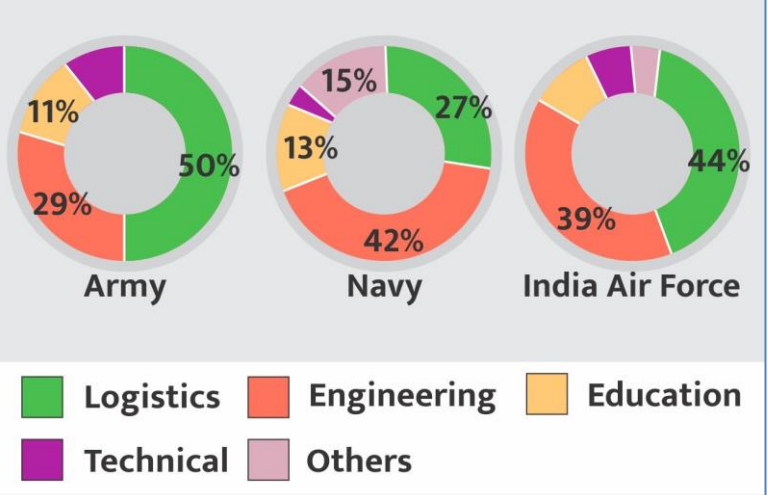
Brief Background of Women in Army

1888	The role of women in the Indian Army began when the 'Indian Military Nursing Service' was formed during the British Raj.
1992	Women officers were commissioned in Army, Air force and Navy as short service commission (SSC) officers for a period of five years in certain chosen streams such under Women Special Entry Scheme (WSES). This was the first time women were allowed to join the military outside the medical stream.
2006	WSES scheme was replaced with SSC (short service commission) scheme and women were commissioned for a period of 10 years, extendable up to 14 years.
2015	One of the turning points for women in the military when IAF decided to induct them into the fighter stream
2021	Excluding the medical wing in which women have been serving for decades, but in terms of percentage, women still form a small part of the military - 0.56% of the army, 1.08% of the air force and 6.5% of the navy.

Why women should be a part of the armed forces?

Women in different fields of defence services (as% of total women recruited, excluding medical roles)

Army — Logistics 50%, Engineering 29%, Education 11%, Technical

Navy — Logistics 27%, Engineering 42%, Education 13%, Technical 15%

India Air Force — Logistics 44%, Engineering 39%

Legend: Logistics, Engineering, Education, Technical, Others

- **Ability vs Gender:** If an applicant is qualified for a position, one's gender is arbitrary. It is **easy to recruit and deploy women** who are in better shape than many men sent into combat.
  - In modern high technology **battlefield, technical expertise and decision-making skills** are increasingly more valuable than physical strength.
- **Strong military forces**: Allowing a **mixed gender force keeps the military strong**. The all-volunteer forces are severely troubled by falling retention and recruitment rates. Recruitment of the women in the army who choose to become active combat soldiers can be addressed.
- **Leadership:** Women **encourage participation and share power and information** as they have learnt this since their childhood, and yet are ruthless when the situation demands.

- **Cultural Differences & Demographics:** Women are more effective in some circumstances than men. Allowing women to serve doubles the **talent pool for delicate and sensitive jobs that require inter-personal skills** not every soldier has.
- **Breaking the glass ceiling**: By denying women a PC, had created a glass ceiling. That ceiling has now been shattered with a Supreme Court ruling allowing permanent commission for women. This can indirectly shun the stereotype of treating female as a 'weaker gender'.

> **Some Initiatives to Induct Women in Armed forces:**
> - **Sainik schools** in the country will **admit girl cadets**. The decision was taken after the success of pilot project that was started by Union Ministry of Defence in 2018 for admission of girl children in **Sainik School Chhingchhip in Mizoram**.
> - The SC allowed women to take the examination for **admission to National Defence Academy (NDA),** is a major step towards gender equality.

- **To uphold Right to Equality:** Articles 14, 15, 16 and 19 of the Constitution, which uphold the values of equality and allow equal, non-discriminatory opportunities at work, were being violated by denying eligible women the opportunity.

> **Ministry of Defence v. Babita Puniya case: The Permanent Commission Issue**
> - Women **were not given permanent commission (PC)** initially in any of the armed forces.
> - **In 2003,** a PIL (Public Interest Litigation) was filed before Delhi High Court for grant of Permanent Commission (PC) to women SSC officers and equality of opportunity in the Army.
> - Delhi HC held that **women SSC officers of the Indian Air Force (IAF) and Army who had opted for PC, but not granted that status would be entitled to PC at par with male SSC officers** with all consequential benefits. Contempt proceedings were then initiated by the women officers against the Union of India for non- compliance with the HC judgment.
> - In 2020, the SC (in Ministry of Defence v. Babita Puniya case) upheld the Delhi HC judgement and directed that SSC women officers **granted PC in all ten streams of the Indian Army combat support arms and services**, bringing them on a par with male officers and **rejected the Centre's stand of their physiological limitations** as being based on "stereotypes" and "gender discrimination against women".
> - The women officers granted PC will undergo "**special training courses and challenging military assignments** to empower them for higher leadership roles in the Indian Army".

Issues associated with women in armed forces

- **Physical issues:**
  - **Physical Ability**: The standards of physical fitness have been set to suit men, and women attempting to overcome them could create biological hurdles.
  - **Feasibility:** While integration of women into combat is possible for those qualified, which is a small number versus the additional logistical, regulatory and disciplinary costs associated with integration may make integration of women a less feasible affair.
- **Administrative issues:**
  - **Morale & Cohesion:** Having women serving in direct combat may hamper mission effectiveness by hurting unit morale and cohesion as the mindset of an average soldier on the ground remains averse to having a woman leader.
- **Sociological issues:**
  - **Low acceptance**: Both male and female prisoners are at risk of torture and rape. There is low acceptance in societies to abuse woman prisoners of war by enemy.
  - **Family imbalance**: Centre said that armed forces require sacrifices and commitment beyond the call of duty by the entire family of service personnel involving **separation and frequent transfers, affecting the education of children and career prospects** of the spouse.

What can be done to overcome these challenges in the long run?

- **Equal opportunity**: The armed forces role must be made more broad-based. Women have to be given the equal opportunities and benefits as their male colleagues, including ranks, promotions and pensions, and are allowed to serve longer tenures without any gender discrimination.
- **Change in mindset**: Supreme Court (SC) has said if there is an "**administrative** will" and **"change of mindset"** on the part of the government, then women officers could be allocated command posts in the Army.
- **Infrastructure**: Indian Navy is examining ways to induct women sailors, as it requires proper infrastructure in command forces. It is the government's responsibility to create both administrative and social infrastructure for easy induction of women in army.

- **Code of conduct:** The framework for the induction of women in army should be incorporated into a policy. As for the concern of **preserving the female officers' modesty and dignity**, there should be elaborate codes of conduct to ensure no adverse incident occurs.

Conclusion

Recruitment of soldiers such as **Bhawana Kanth,** who became the **first woman fighter pilot** to qualify for undertaking combat missions and **Gunjan Saxena,** who was among the **first to fly in a combat zone during Kargil War** showcases what the Armed Forces have been missing.

With future war fighting becoming more sophisticated and technologically advanced, there is a need to exploit the large skilled women recruitment pool available and enhance their induction in 'All Ranks'. In order to increase representation and the appeal of military service for women, the idea of **capability first and not gender** needs to be voiced and amplified to reach the authorities as well as general populace.

5. ENVIRONMENT

5.1. IPCC'S SIXTH ASSESSMENT REPORT

Why in News?

The Intergovernmental Panel on Climate Change (IPCC) recently released its Sixth Assessment Report (AR6).

About the report

- The IPCC prepares comprehensive Assessment Reports about the **state of scientific, technical and socio-economic knowledge on climate change,** its impacts and future risks, and options for reducing the rate at which climate change is taking place.
- So far, five assessment reports have been produced, the first one being released in 1990.
- This AR6 will be an update of the **AR5 released in 2013**.
- **Improvements since AR5**:
  - **Improvements in observation-based estimates and information from paleoclimate archives** provide a comprehensive view of each component of the climate system and its changes to date.
  - **New climate model simulations, new analyses, and methods combining multiple lines of evidence lead** to improved understanding of human influence on a wider range of climate variables, including weather and climate extremes.

> **About IPCC**
> - Created in 1988 by **the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP)**, the objective of the IPCC is to provide governments at all levels with scientific information that they can use to develop climate policies.
> - The IPCC currently has **195 members including India**.
> - In 2007, the **IPCC and U.S. Vice-President Al Gore were jointly awarded the Nobel Peace Prize** for their efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change.

Key Findings

Observations	Related Data and Statistics
Current State of the Climate	

Human influence has unequivocally warmed the atmosphere, ocean and land:
- Observed increases in well-mixed greenhouse gas (GHG) concentrations since around 1750 are unequivocally caused by human activities.
- Human influence has been linked with widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere such as-
  - Global retreat of glaciers.
  - Sea level rise.
  - Drop in oxygen levels in many upper ocean regions.
  - Observed precipitation changes.
  - Changes in near-surface ocean salinity.
  - Global acidification of the surface open ocean.
  - Decrease in Northern Hemisphere spring snow cover.
	- **Global surface temperature was 1.09 °C higher in 2011– 2020 than 1850–1900**, with larger increases over land (1.59 °C) than over the ocean (0.88 °C).
	- Each of the last four decades has been successively warmer than any decade that preceded it since 1850.
	- **Human-caused global surface temperature increase** from 1850–1900 to 2010–2019 is estimated to be **1.07°C**.
	- The **Arctic Sea ice area has decreased (about 40%** in September and about 10% in March) in between 1979–1988 and 2010–2019.
	- **Global mean sea level increased by 0.20 m between 1901 and 2018**, with average rate of sea level rise increasing from 1.3 mm yr between 1901-1971 to 3.7 mm yr between 2006-2018.
	- **Climate zones have shifted poleward in both hemispheres**, and the **growing season has on average lengthened by up to two days per decade since the 1950s** in the Northern Hemisphere extratropics.

Scale of recent changes across the climate system are unprecedented.	
Human-induced climate change is already affecting many weather and climate extremes in every region across the globe: • It has been linked to extreme weather events such as heatwaves, heavy precipitation, droughts, and tropical cyclones etc.	• **Hot extremes (including heatwaves) have become more frequent** and more intense across most land regions since the 1950s. • Marine heatwaves have approximately doubled in frequency since the 1980s. • The frequency and intensity of heavy precipitation events have increased since the 1950s over most land area. • Tropical cyclone occurrence has increased over the last four decades.
Human-caused net positive radiative forcing causes an accumulation of additional energy (heating) in the climate system. • Heating of the climate system has caused global mean sea level rise through ice loss on land and thermal expansion from ocean warming.	• Human-caused radiative forcing of $2.72 \ W/m^2$ in 2019 relative to 1750 has warmed the climate system. o Radiative forcing is **the change in energy flux in the atmosphere caused by natural and/or anthropogenic factors** of climate change. Positive radiative forcing means Earth receives more incoming energy from sunlight than it radiates to space. • **Ocean warming accounted for 91% of the heating in the climate system,** with land warming, ice loss and atmospheric warming accounting for about 5%, 3% and 1%, respectively. • **Thermal expansion explained 50% of sea level rise** during 1971– 2018, while ice loss from glaciers contributed 22%, ice sheets 20% and changes in land water storage 8%. • The equilibrium climate sensitivity (the global mean surface air temperature increase that follows a doubling of atmospheric carbon dioxide) is estimated to be 3°C.

Possible Climate Futures: The report assesses the climate response to five scenarios based on the Shared Socioeconomic Pathways (SSPs), starting in 2015-

- **Scenarios with high and very high GHG emissions (SSP3-7.0 and SSP5-8.5)** and CO_2 emissions that roughly double from current levels by 2100 and 2050, respectively.
- **Scenarios with intermediate GHG emissions** (**SSP2-4.5**) and CO_2 emissions remaining around current levels until the middle of the century.
- **Scenarios with very low and low GHG emissions** and CO_2 emissions declining to net zero around or after 2050, followed by varying levels of net negative CO_2 emissions **(SSP1-1.9 and SSP1-2.6).**

|	
• **Global surface temperature will continue to increase until 2050 under all emissions scenarios**. • With every increment of global warming, changes get larger in regional mean temperature, precipitation and soil moisture. • **Continued global warming is projected to further intensify the global water cycle**, including its variability, global monsoon precipitation and the severity of wet and dry events. • With increase in CO_2 emissions, the ocean and land carbon sinks will become less effective at absorption of CO_2 from the atmosphere. • **Many changes due to past and future greenhouse gas emissions are irreversible**, especially changes in the ocean, ice sheets and global sea level.	• Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in carbon dioxide (CO2) and other greenhouse gas emissions occur in the coming decades.
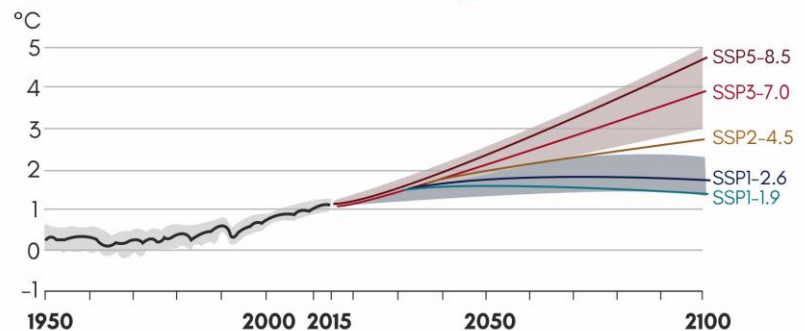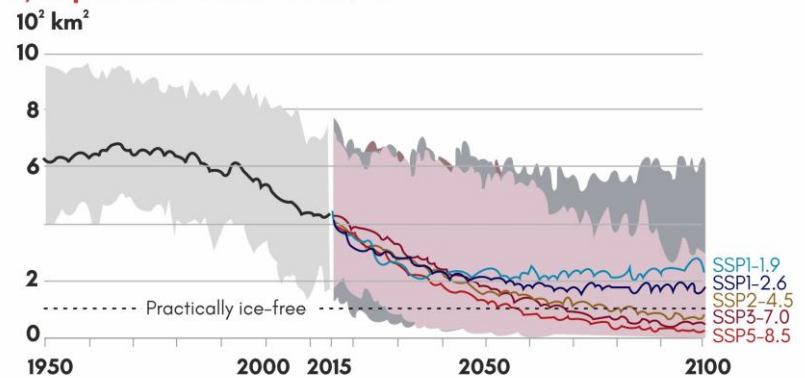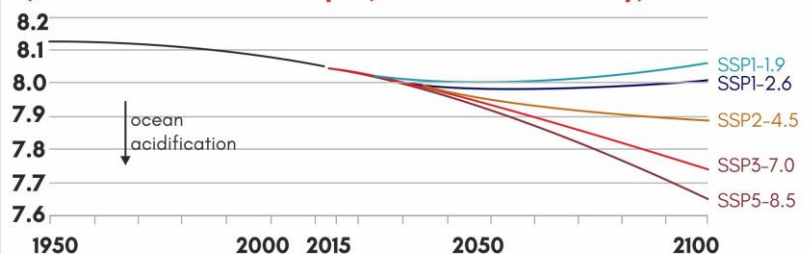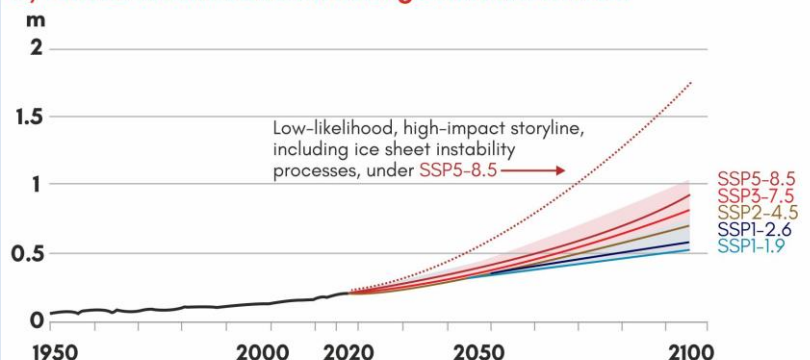
The proportion of CO_2 emissions taken up by land and ocean carbon sinks is smaller in scenarios with higher cumulative CO_2 emissions

Total cumulative CO_2 emission **taken up by land oceans** (colours) and remaining in the atmosphere (grey) under the five illustrative scenarios from 1850 to 2100

For scenarios with higher cumulative CO_2 emissions.

..the amount of CO_2 emissions taken up by land ocean carbon sinks is larger, but more of the emitted CO_2 emissions remains in the atmoshpere..

..meaning that the proportion of CO_2 emissions taken up by land and ocean carbon sinks from the atmosphere is smaller in scenarios with higher CO_2 emissions.
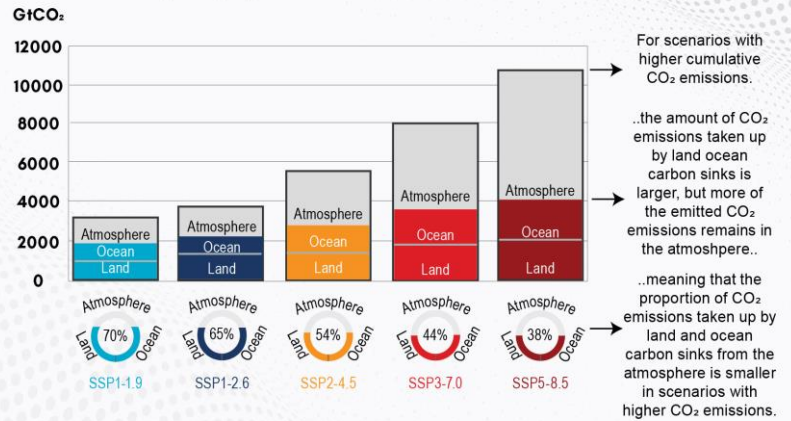
| Climate Information for Risk Assessment and Regional Adaptation |
| --- |

- **Multiple climatic impact-drivers are projected to change in all regions of the world** with changes being more widespread at 2°C compared to 1.5°C global warming.
  - Climatic impact-drivers (CIDs) are physical climate system conditions (e.g., means, events, extremes) that affect an element of society or ecosystem.
- **Low-likelihood outcomes**, such as ice sheet collapse, abrupt ocean circulation changes, some compound extreme events and warming **substantially larger than the assessed very likely range of future warming** cannot be ruled out and are part of risk assessment.

WITH EVERY INCREMENT OF GLOBAL WARMING, CHANGES GET LARGER IN REGIONAL MEAN TEMPERATURE, PRECIPITATION AND SOIL MOISTURE
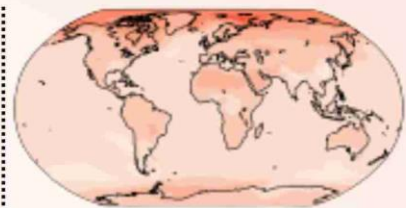
(a) Annual mean temperature change (°C) at 1 °C global warming

Warming at 1 °C affects all continents and is generally larger over land than over the oceans in both observations and models. Across most regions, observed and simulated patterns are consistent
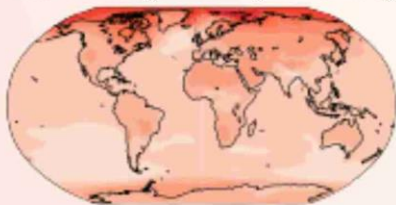
Observed change per **1 °C** global warming
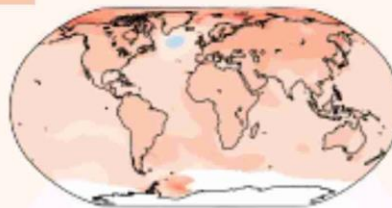
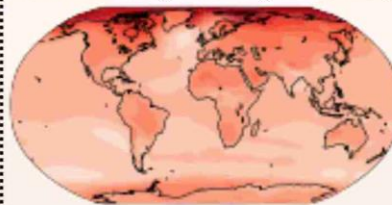Simulated change at **1 °C** global warming

(b) Annual mean temperature change (°C) relative to 1850-1900

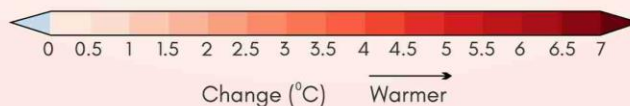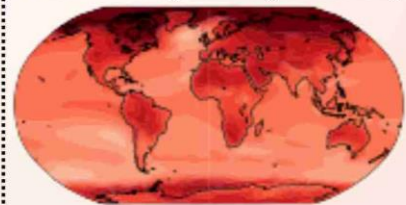Across warming levels, land areas warm more than oceans, and the Arctic and Antarctica warm more than the tropics

Simulated change at **1.5 °C** global warming

Simulated change at **2 °C** global warming

Simulated change at **4°C** global warming

Change (°C) → Warmer

Regional findings for India

Following impacts are likely to be seen in India (South Asian region)-

- **Heatwaves and humid heat stress will be more intense and frequent** during the 21st century all over South Asia.
- **Both annual and summer monsoon precipitation will increase** during the 21st century, with enhanced interannual variability.
- **Increases in precipitation and rivers floods**.
- **Fire weather seasons are projected to lengthen and intensify**.
- **Covered areas and snow volumes will decrease in most regions of the Hindu Kush Himalaya** during the 21st century and **snowline elevations will rise and glacier volumes are likely to decline** with greater mass loss in higher CO_2 emissions scenarios.
- **Regional-mean Sea level continues to rise** and will contribute to more **frequent coastal flooding** and higher Extreme Total Water Level (ETWL) in low-lying areas and **coastal erosion** along sandy beaches.

Way Forward

According to the report, limiting human-induced global warming to a specific level requires limiting cumulative CO_2 emissions, reaching at least net zero CO_2 emissions, along with strong reductions in other greenhouse gas emissions. Strong, rapid, and sustained reductions in CH_4 emissions would also limit the warming effect resulting from declining aerosol pollution and would improve air quality.
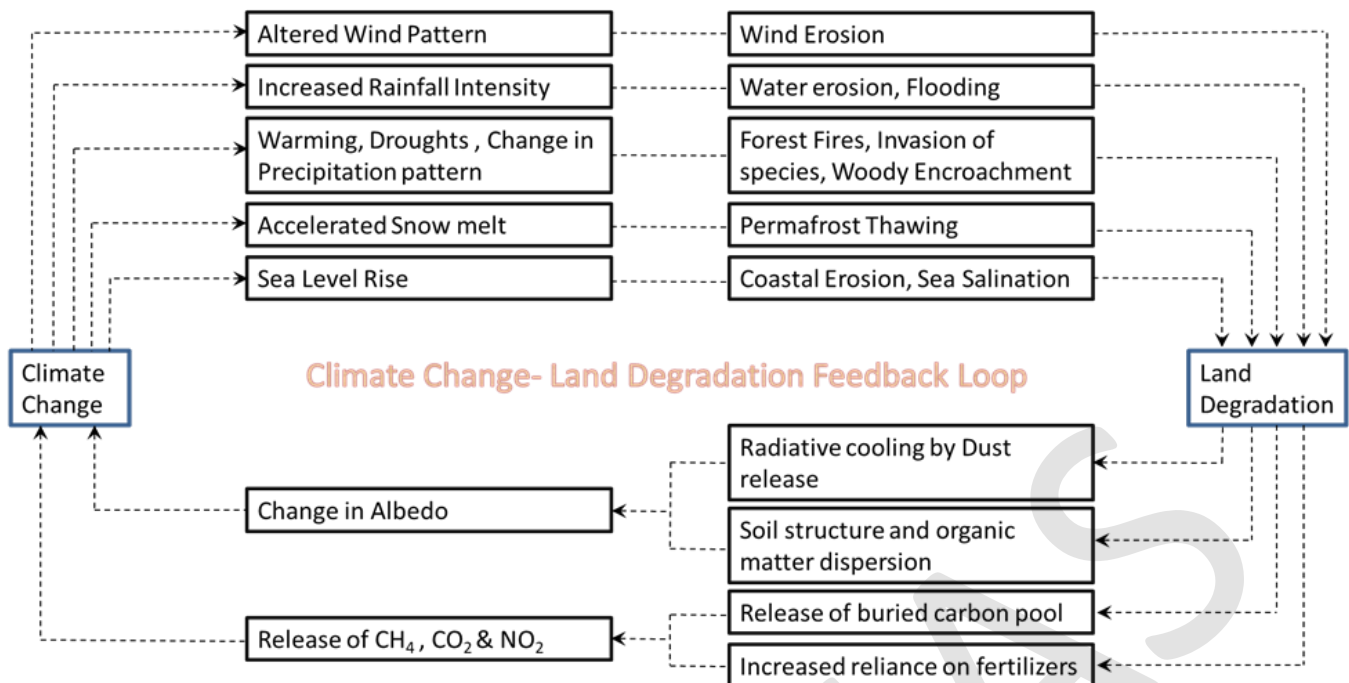
5.2. LAND DEGRADATION

Why in news?

The Desertification and Land Degradation Atlas of India for the year 2018-19 was recently released by Space Applications Centre (SAC), Ahmedabad (Indian Space Research Organization).

Land degradation and Desertification

- Land degradation is **defined as a negative trend in land condition, caused by direct or indirect human-induced processes** including anthropogenic climate change, expressed as long-term reduction or loss of at least one of the following: **biological productivity, ecological integrity, or value to humans**.
  - Forest degradation is land degradation that occurs in forest land.
  - **Land degradation within dryland regions (arid, semi-arid and dry sub-humid regions) is termed as Desertification,** which turns fertile land into desert.
- Its **major drivers** include natural processes such as wind and water erosion, water logging, salinity / alkalinity, mass movement, frost heaving and frost shattering etc. and anthropogenic activities such as land use change, mining/quarrying, livestock grazing, brick kiln, industrial effluents, pollution etc.
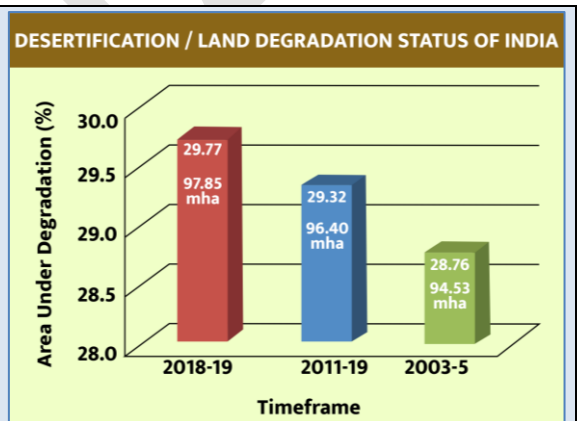
Impacts of Land Degradation and Desertification

- **Socio-Economic impacts:**
  - **Reduces land productivity threatening food security and livelihoods** of indigenous populations, small farmers etc.
  - **Reduces the land's ability to store water** resulting in water scarcity.
  - **Exacerbates existing societal tensions and forces migration**.
- **Impact on Human health:**
  - **Creates ground for zoonotic disease, water- and food-borne diseases and respiratory diseases**.
  - Higher threats **of malnutrition from reduced food and water supplies**.
- **Environmental impacts**:
  - **Causes extreme weather events**, **accelerates biodiversity loss** and disruption of ecosystem services.
  - **Contributes to Climate Change**: Land degradation is a driver of climate change through emission of greenhouse gases (GHGs) and reduced ability of land to act as a carbon sink.
    - ✓ Since climate change also exacerbates the rate and magnitude of several ongoing land degradation processes and introduces new degradation patterns, this creates a **positive feedback cycle**.

Climate Change- Land Degradation Feedback Loop

Status of Land degradation and Desertification in India: Key Findings of Desertification and Land Degradation Atlas of India

- I**ncrease in Area under Degradation and desertification**: Around 97.85 million ha, (29.77% of the Total Geographic Area (TGA) of the country) is undergoing land degradation during 2018-19, an increase from the findings for the years 2011-13 (see figure).
  - Also, 83.69 million ha area is observed as undergoing desertification for the years 2018-19, which is a cumulative increase of 1.05 million ha area from the timeframe 2011-13.
- **Prevalent processes responsible for desertification/ land degradation in the country**: **Water Erosion** (11.01% in 2018-19), followed by Vegetation Degradation (9.15% in 2018-19) and Wind Erosion (5.46% in 2018-19).
- **State wise findings**: In 2018-19, around 23.79% of the area undergoing desertification/land degradation was contributed by Rajasthan, Maharashtra, Gujarat, Karnataka, Ladakh UT, Jharkhand, Odisha, Madhya Pradesh and Telangana (in descending order).
  - States like Jharkhand, Rajasthan, Delhi, Gujarat, and Goa are showing more than 50% area under desertification/land degradation.

International efforts to combat Land degradation

- **United Nations Convention to Combat Desertification (UNCCD):** Established in 1994, it is the sole legally binding international agreement linking environment and development to sustainable land management.
- **Initiatives launched under the UNCCD to combat land desertification and degradation-**
  - **Land Degradation Neutrality (LDN) Target Setting Programme**: UNCCD in collaboration with multiple international partners, are supporting interested countries with their national LDN target setting process. To date, over 120 countries, **including India, have committed to setting LDN targets**.
  - **Land Degradation Neutrality Fund (LDN Fund):** Officially launched at UNCCD COP 13 in Ordos, China, it is the first-of-its-kind investment vehicle leveraging public money to raise private capital for sustainable land projects.
  - **Global Land Outlook (GLO)** is a strategic communications platform and associated publications of the UNCCD secretariat that demonstrates the central importance of land quality to human well-being.
  - **Land for Life Programme** was launched at the tenth UNCCD Conference of the Parties (COP10) in 2011 as part of the **Changwon Initiative**. The Programme seeks to address the challenges of land degradation, desertification and mitigation of drought.
- **Other initiatives:**
  - **Bonn Challenge:** Launched by the Government of Germany and IUCN in 2011, it is a global goal to bring 150 million hectares of degraded and deforested landscapes into restoration by 2020 and 350 million hectares by 2030. India has pledged to restore 21 million ha of degraded and deforested land by 2030.

- o **Global Initiative on Reducing Land Degradation**: It aims to strengthen the implementation of existing frameworks to prevent, halt, and reverse land degradation within G20 member states and globally.
- o **Reducing emissions from deforestation and forest degradation (REDD+):** It is a mechanism developed by Parties to the United Nations Framework Convention on Climate Change (UNFCCC).
  - ✓ It creates a financial value for the carbon stored in forests by offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development.

Steps taken by India to tackle the issue of land degradation

- **India is a party to the United Nations Convention to Combat Desertification (UNCCD),** which has pledged to reach land degradation neutrality targets by 2030 as a part of the Convention's Land Degradation Neutrality Strategy.
- India promotes **sustainable land management practices in agriculture sector** through schemes such as Pradhan Mantri Fasal Bima Yojana (PMFBY), Soil Health Card Scheme, Soil Health Management Scheme, Pradhan Mantri Krishi Sinchayee Yojna (PKSY), Per Drop More Crop, etc. which are helping to reduce land degradation.
- Ministry of Environment Forests and Climate Change (MoEFCC) consolidated the intervention on **participatory forest management** through the National Forest Policy, 1988, and then through enabling guidelines in 1990 on **Joint Forest Management (JFM).**
  - o JFM is a partnership involving both the forest departments and local communities in natural forest management.
- MoEFCC is implementing three major schemes for development of forest areas i.e*.,* **National Afforestation Programme (NAP)** scheme**, National Mission for a Green India (GIM)** and **Forest Fire Prevention & Management Scheme (FFPM).**

Way forward

Following measures can help tackle the issue of land degradation:

- **Utilizing Local and indigenous knowledge for addressing land degradation:** It can help to introduce, implement, adapt and promote the use of locally appropriate responses.
- **Promoting Agroforestry:** Agroforestry needs to be made an economically viable option through policy and institutional interventions such as R&D, development and provision of quality planting material, price support instruments and mechanisms, etc.
- **Improving Agronomic practices**: Agricultural practices that can help reduce land degradation through soil erosion, pollution etc. include-
  - o retention of residues and reduced tillage (or no-tillage)
  - o use of locally adapted varieties
  - o inter-cropping and crop rotations
  - o cultivation of cover crops (green manure crops and catch crops that are grown between the main cropping seasons)
  - o Integrated soil fertility management.
- **Land reclamation programmes:** They can help to reduce extreme weather conditions associated with desertification by acting as "green walls" that reduce sand and wind erosion.
  - o For instance, the **Great Green Wall initiative** launched in 2007 by the African Union, supported by UNCCD, is a game-changing initiative to restore Africa's degraded landscapes and transform degraded Sahel region.
- **Sustainable forest management (SFM):** SFM aimed at providing timber, fibre, biomass and non-timber resources can provide long-term livelihood for communities, reduce the risk of forest conversion to non-forest uses (settlement, crops, etc.), and maintain land productivity, thus reducing the risks of land degradation.

Conclusion

In Banni region, in Rann of Kutch, Gujarat land restoration was done by developing grasslands, which helped in achieving land degradation neutrality. It also supports pastoral activities and livelihood by promoting animal husbandry. This illustrates how restoration of land can start a virtuous cycle of good soil health, increased land productivity, food security and improved livelihoods.

5.3. KIGALI AMENDMENT TO MONTREAL PROTOCOL

Why in News?

Recently, the Union Cabinet approved the ratification to the Kigali Amendment of the Montreal Protocol.

About Ozone layer, its depletion, and Montreal Protocol

- **Ozone (O$_3$) layer** is a high ozone concentration region in the **stratosphere** (**15-35 km** above earth surface), protecting life on earth by absorbing harmful ultraviolet radiations from the Sun.
- Though produced and destroyed continuously, in the mid-1970s, scientists first realized the **threat to ozone from gases containing halogens (chlorine and bromine).**

UV, ANNEXES TO MONTREAL PROTOCOL AND SPECIAL SITUATION DEVELOPING COUNTRIES

Types of UV Radiation	Susbstances Controlled by Protocol	Classification of Countries
1. UVA- long wavelength (315-400 nm), Good for Health and pass through atmosphere. **2. UVB-** Medium wavelength (280-315), harmful for skin, most of it is filtered by atmosphere. **3. UVC-** Short wavelength (100-280 nm), most damaging and competely absorbed by Ozone.	**1. Annexes A** (CFCs, halons) **2. Annexes B** (other fully halogenated CFCs, carbon tetrachloride, methyl chloroform). **3. Annexes C** (HCFCs). **4. Annexes F** (HFCs or Hydrofluorocarbons).	**1. Non-Article 5 parties:** Developed Countries. **2. Article 5 parties:** Developing Country and whose annual calculated level of consumption of the controlled substances in Annex A is less than 0.3 kilograms per capita on the date of the entry into force of the protocol for it.

- **Ozone depletion**, i.e., thinning of the ozone layer by ozone depleting substances was **confirmed in 1985** through formation of ozone hole over the **Antarctic** during the **Southern Hemisphere spring**.
- Growing evidence on ozone depletion and global consensus among scientists and policy makers **finally lead to the adoption of:**

Vienna Convention on Protection of Ozone Layer	Montreal Protocol on Substances that Deplete the Ozone Layer
Adopted in 1985 (entered into force in 1988), it: - **Promotes research and monitoring of human activities on the ozone layer.** - **Take concrete action against activities with adverse effects on ozone layer.**	**Adopted in 1987** (entered into force in **1989**), it: - Calls for **specific actions** to **protect ozone layer** by **phasing out** the **consumption** and **production** of **most chemicals** that deplete ozone. - Developing and developed countries have **equal but differentiated responsibilities,** but most importantly, both groups of countries have **binding, time-targeted and measurable commitments.** - The Montreal Protocol also led to the adoption of a **Multilateral Fund.** The objective of this fund is to **aid developing countries in implementation of the protocol.** - In 1990 the **Technology and Economic Assessment Panel (TEAP) was established as the technology and economics advisory body** to the Montreal Protocol Parties.

India and Montreal Protocol

- India became Party to the **Vienna Convention and the Montreal Protocol in 1991 and 1992** respectively.
- India has **proactively phased out the production and consumption of CFCs** except use in Metered Dose Inhalers (MDIs) used for treatment of Asthma and Chronic Obstructive Pulmonary Disease (COPD) ailments from 2008.
    - Subsequently, the **use of CFCs in MDIs has been phased out from 2012.**
- An **Ozone Cell has been setup** (under the Environment Ministry) **as a National Ozone Unit (NOU)** to render necessary services for effective and timely implementation of the Montreal Protocol and its ODS phase-out program in India.

TARGETS FOR REDUCTION

	As parties (Developing countries) - Group 1	As parties (Developing countries) - Group 2	Non parties (Developing countries)
Baseline formula	Average HFC consumption levels for 2020-2022 + 65% of hydrochlorofluacarbon (HCFC) baseline	Average HFC consumption levelsfor 2024-2026 + 65% of hydrochlorofluacarbon (HCFC) baseline	Average HFC consumption levels for 2011-2013 + 65% of hydrochlorofluacarbon (HCFC) baseline
Freeze	2024	2028	-
1st step	2029 - 10%	2032 - 10%	2019 - 10%
1nd step	2035 - 30%	2037 - 20%	2024 - 40%
3rd step	2040 - 50%	2042 - 30%	2029 - 70%
4th step			2034 - 80%
Plateau	2045 - 80%	2047 - 85%	2036 - 85%

*For Belarus, Russian Federation, Kazakhstan, Tajikistan, Uzbekistan, 25% HCFC component of baseline and different initial two steps (1) 5% reduction in 2020 and (2) 35% reduction in 2025.

Notes:

1. **Group 1:** Article 5 parties not part of Group 2
2. **Group 2:** Bahrain, India, the Islamic Republic of Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia and the United Arab Emirates.
3. Technology review in 2022 and every five years.
4. Technology review four to five years before 2028 to consider the compliance deferral of two years from the freeze of 2028 of Article 5 Group 2 to address growth in relevant sectors above certain threshold.

Hydrofluorocarbons (HFCs) and the Kigali Amendment to Montreal Protocol

HFCs are a group of industrial chemicals **primarily used for cooling and refrigeration as replacements for ozone-depleting substances**.

- Though they are **not ozone depleting substances, they are part of Short-Lived Climate Pollutants (SLCPs) with high global warming potential** (ranging from 12 to 14,000 of carbon dioxide Global Warming Potential).
- The **Kigali Agreement** (adopted in **2016** and **entered** into **force** in **2019**), dividing nations into **3 groups** with a **four-step path** to achieve 80% reduction in HFCs consumption by 2047.
  - It is a **legally binding agreement** designed to create rights and obligations in international law.
  - Up till July 2021, **122 countries have ratified** the Kigali amendment.

TIMELINE OF THE PROTOCOL

London Amendment
1990 Phase-out of CFCs and other harmful ODS is set at 2000 for A2 and 2010 for A5 countries.

Montreal Protocol
1987 The Montreal Protocol on substances that Deplete the Ozone Layer is signed.

Montreal Amendment
1997 Phase-out of HCFCs is established for A5 countries.

Montreal Meeting of the Parties
2007 Phase-out of HCFCs is accelerated for A2 and A5 countries.

Kigali Amendment
2016 Phase-down of HFCs is established.

Nairobi Meeting of the Parties
1991 The Multilateral Fund is established to finance phase-out projects in A5 countries.

Copenhagen Amendment
1992 Phase-out of CFCs is accelerated to 1996 and HCFC phase-out is targeted to being in 2004 for A2 countries.

Vienna Convention
1985 The Vienna Convention for the Protection of the ozone Layer is negotiated.

Vienna Meeting of the Parties
1995 Phase-out of methyl bromide is set to 2010 and HCFC phase-out is moved from 2030 to 2020 for A2 countries.

Bangkok Meeting of the parties
1993 Phase-out of HCFCs is accelerated for A2 countries to start 10 years earlier

Beijing Amendment
1999 Controls on the production and trade of methyl bromide and HCFCs are tightened.

- Being under **Group 2**, India will develop its **national strategy** for phasing down of **Hydrofluorocarbons by 2023** (after consultation with industry stakeholders).

The healing of the ozone layer with **99% phase out** of harmful ozone depleting substances and the **ratification of Montreal Protocol by all UN members** makes it a huge environmental success.

Also, from 1990 to 2010, the treaty's control measures are estimated to have **reduced greenhouse gas emissions by the equivalent of 135 gigatons of CO2.**

With many other ongoing efforts and plans to protect environment, it teaches some lessons for successful **multilateral negotiations** and putting policy into practice.

What are the lessons that can be learned from the success of Montreal Protocol?

- **Bring all stakeholders to same understanding through a clear message**, providing public support with commitment to the goals of the treaty.
- **Encourage Leadership and innovation** through flexible instruments. For instance, the flexibility of Montreal Protocol allowed moving from modest to strict controls.
- **Following principles** of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) to allow greater time limit for developing countries.
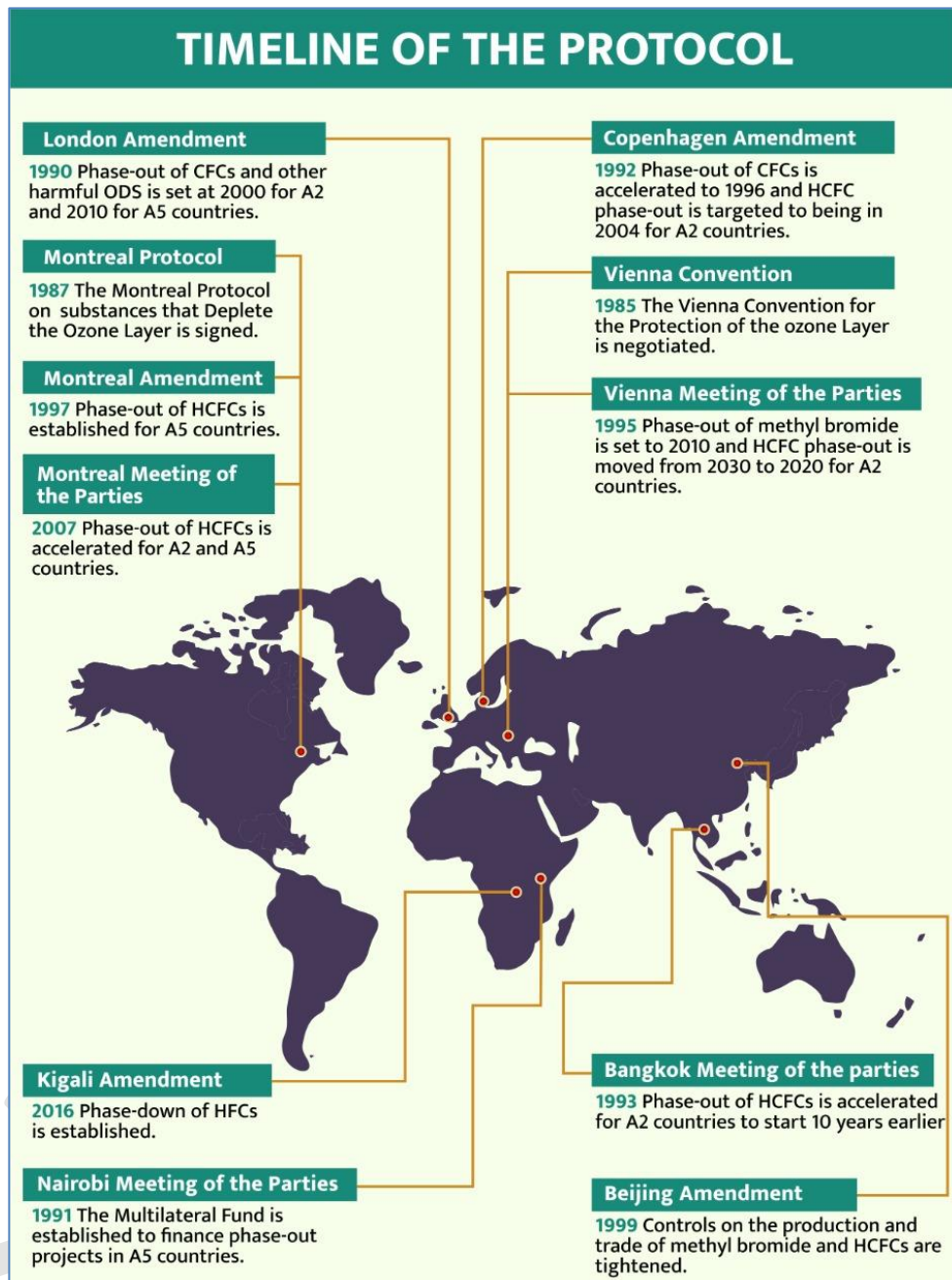
- **Transfer of Technology** or **substances** to assist developing countries in energy efficient and environment friendly technologies/products.
- **Incremental Funding** to promote performance and assist in capacity building.
- **Trade provisions** which limit restrictions between signatories only. E.g., once primary CFC producing countries signed, others had to sign up or face loss of access to associated technologies.
- Follow '**Precautionary Principle**' i.e., to take action even if science is still in doubt, preventing more damaging consequences if actions are postponed.
- **Provide a stable framework**, promoting long-term research and innovation from industry for mutual benefits.
- **Non-punitive compliance procedure** with **institutional support** to prepare action plans.

5.4. SINGLE USE PLASTICS

Why in news?

Recently, the **Ministry of Environment, Forest, and Climate Change (MoEF&CC)** has notified the **Plastic Waste Management Amendment Rules, 2021,** which **prohibits identified single use plastic items** which have low utility and high littering potential by 2022.

What are Single-use plastics (SUP) and why are they a threat?

- India has defined SUP as **"a plastic commodity intended to be used once for the same purpose before being disposed of or recycled"** in its Plastic Waste Management Amendment Rules, 2021.
  - These include plastic bags, straws, coffee stirrers, soda and water bottles and most food packaging.
  - The assessment of SUP was conducted by comparing **two pillars** — the **utility index of a particular type of SUP** and the **environmental impact of the same**.
  - The **product that scores low on utility and high on environmental impact** should be considered for immediate phase out.

9 REASONS TO BAN SINGLE-USE PLASTIC

1. Not easy to recycle
2. Huge carbon footprint
3. Made from fossil fuels
4. Can cause cancers
5. Leaches toxin into food & drinks
6. High energy usage in production
7. Kills wildlife & marine life
8. Pollutes our oceans
9. Enters our food chain

- **Plastic waste status in India:**
  - India generates approximately **9.46 million tonnes (MT) of plastic waste per year**. This figure is based on the Central Pollution Control Board's projection that **an estimated 25,940 tonnes per day** of plastic waste generated in the country.
  - Of this, **nearly 60 percent is collected and recycled** while the **remaining 40%** of the plastic waste remains **uncollected and littered in the environment**.
  - Pollution due to SUP items has become an important **environmental challenge** confronting all countries.
    - ✓ In the **4th United Nations Environment Assembly held in 2019**, India had piloted a resolution on addressing SUP products pollution, recognizing the urgent need for the global community to focus on this very important issue.

Key Provisions of Plastic Waste Management (PWM) Amendment Rules, 2021

The new rules will **replace the existing Plastic Waste Management Rule, 2016** (PWM Rules, 2016) that was amended in 2018.

- **Prohibition: Manufacture, import, stocking, distribution, sale and use of single-use plastic,** including polystyrene and expanded polystyrene, commodities shall be **prohibited with effect from 1st July 2022.**
  - The ban will **not apply to commodities made of compostable plastic**.
- **Thickness of plastic**: With effect from **30th September 2021**, **thickness of plastic carry bags has been increased** from 50 microns to 75 microns and to 120 microns with effect from the 31st December, 2022.
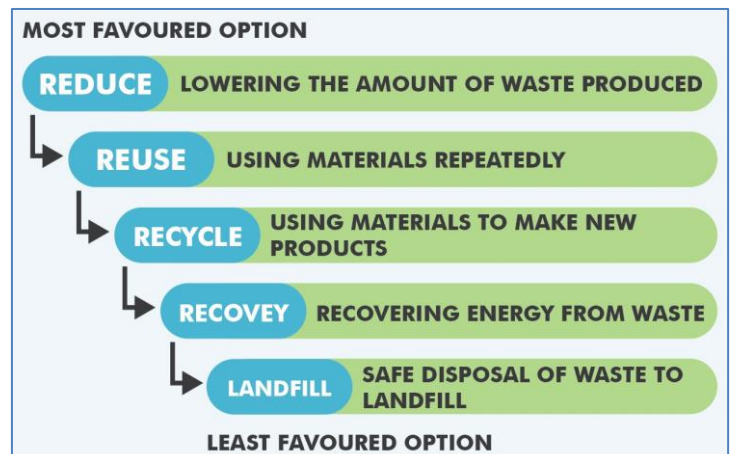
- **Extended Producer Responsibility (EPR):** Plastic packaging waste not covered under present notification shall be collected and managed in an environmentally sustainable way through **EPR of the producer, importer and brand owner (PIBO)** as per PWM Rules, 2016.
  - For effective implementation of EPR Guidelines, **they have been given legal force** through PWM Amendment Rules, 2021.
  - EPR is a policy approach in which producers take responsibility for management of the disposal of products they produce once those products are designated as no longer useful by consumers.
- **Implementing agency:** Along with state pollution bodies, **Central Pollution Control Board (CPCB)** will monitor the ban, identify violations, and impose penalties already prescribed under the Environmental Protection Act, 1986.
- **Task Force:** States and UTs had constituted the **special task force for elimination of SUP and effective implementation of the PWM Rules, 2016.**
  - Environment Ministry has also set up a **national-level task force** for making coordinated efforts in this direction.
  - State /UT Governments and concerned Central Ministries/Departments have also been requested to **develop a comprehensive action plan for elimination of SUP** and its implementation in a time bound manner.

Other Government initiatives to tackle Single Use Plastics (SUP)
- **India Plastic Challenge – Hackathon 2021**: It has been organized for students of higher educational institutions and startups recognised under the Startup India Initiative to **encourage innovation in the development of alternatives to SUPs as well as digital solutions** to plastic waste management.
- **India Plastic Pact (IPP):** India becomes first Asian country to launch IPP with the aim to tackle plastic pollution in the country, bringing together businesses from across the Indian plastics value chain to move towards a circular plastics system that aims to keep the material in the economy, and out of the environment.
- **Un-Plastic Collective (UPC):** It is a voluntary initiative launched by the UN-Environment Program-India, Confederation of Indian Industry and WWF-India to drive corporate action toward solutions on plastic leakage.
- **GloLitter Partnerships Project**: It was launched by the International Maritime Organization (IMO) and the Food and Agriculture Organization of the United Nations (FAO) to assists developing countries to **prevent and reduce marine plastic litter from the maritime transport and fisheries sectors** and identifies opportunities for the reduction of plastic uses in both fisheries and maritime transport sectors.


Challenges associated with ban of SUP

- **Easy availability**: Plastic carry-bags pose a special problem. Although they are strong, lightweight and useful and can be saved, cleaned and reused many times, this is mostly not done because they are **available very cheap** and are, therefore, not valued (often shops give plastic carry bags for free). They become, effectively, single-use plastics.
- **Large consumption:** India consumes close to 16.5 million tonnes of plastic, of which close to 30% constitute SUP. Transitioning in a short period i.e., by 2022 may turn out to be difficult.
- **Opposition by plastic indsutry:** The All India Plastic Manufacturers' Association (AIPMA), has requested the government to push the deadline for phasing out SUP products by a period of one year to 2023 owing to economic distress faced by manufacturing units due to the COVID-19 pandemic.
- **Lack of adequate infrastructure:** Inadequate infrastructure for segregation and collection is the key reason for inefficient plastic waste disposal. Most municipal corporations still do not have a proper system of collection and segregation, given their **lack of access to technology and infrastructure**, which are needed to dispose of plastic waste in a cost- and resource-efficient way.
- **Challenges in nudging the behavior:** Effective enforcement of ban would be dependent upon behavioral change of the users as along with economies of the suppliers. Strict and rapid enforcement could non-compliance and circumvention of the rules.

MOST FAVOURED OPTION
- **REDUCE** LOWERING THE AMOUNT OF WASTE PRODUCED
- **REUSE** USING MATERIALS REPEATEDLY
- **RECYCLE** USING MATERIALS TO MAKE NEW PRODUCTS
- **RECOVEY** RECOVERING ENERGY FROM WASTE
- **LANDFILL** SAFE DISPOSAL OF WASTE TO LANDFILL

LEAST FAVOURED OPTION

Way Forward

- **4Rs (Reduce, Rejuvenate, Reuse, and Recycle):** The focus should be on using 4Rs principle to conserve the environment from plastic waste disposal. (refer infographic).
- **Circular Economy:** With focus on resource efficiency and recovery, circular economy is the need of the hour as it is **restorative and regenerative by design**. This means materials constantly flow around a 'closed loop' system, rather than being used once and then discarded.
  - o In the case of plastic, this means simultaneously keeping the value of plastics in the economy, without leakage into the natural environment. (refer infographic)
- **Monetising the waste:** Source separation of waste, coupled with segregated collection and transportation, has been weak links in the waste supply-chain. Imposing penalties or fines is easier said than done in a democratic setup. One way to ensure better collection of plastic waste is to ensure that the 'junk' has a value attached that is 'redeemable' in the immediate future.
- **Infrastructure**: The key to efficient waste management is to **ensure proper segregation of waste at source** and to ensure that the waste

The Journey of Plastics from a Linear to a Circular Economy

goes through different streams of recycling and resource recovery through proper infrastructure and access to technology. There is a need for **collective efforts** from the Union/state governments and municipalities in developing and using the infrastructure.

- **Adopting affordable and viable alternatives**: There is need to promote alternatives like cotton, khadi bags and biodegradable plastics.
  - o Raise awareness among people to minimise their use of plastics.
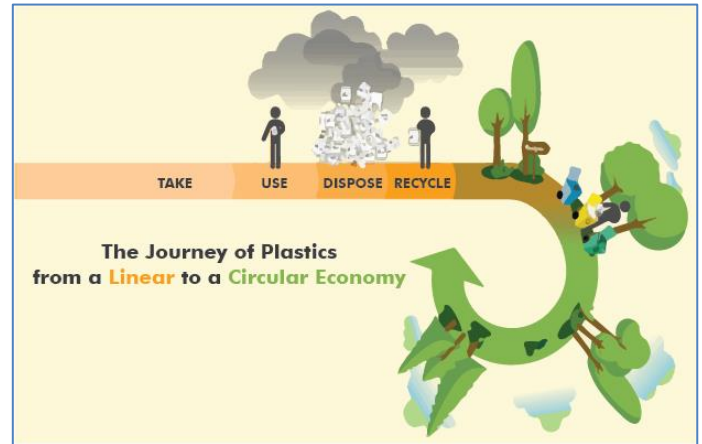
Conclusion

We need to stop thinking of plastic as 'waste,' but as **a renewable resource that needs to be disposed of correctly.** To move society away from the "take, make, dispose" mindset that has long-informed business models, a fundamental rethink is required. This will involve i**mproving recycling, promoting reuse, creating a market for recycled materials and redesigning products** with end of life in mind.

5.5. BIOMEDICAL WASTE

Why in news?

The report titled, "State of India's Environment 2021," released by the Centre for Science and Environment, said **2,03,000 kg of COVID-19 biomedical waste was produced daily in May** this year.

About Biomedical Waste (BMW)

- Biomedical waste means any **waste generated during diagnosis, treatment or immunization** of human beings or animals. Since the pandemic's first wave, India has generated **126 tonnes of COVID-19 waste a day** which is about **20 per cent of the 614 tonnes of BMW** that the country generates on any given day.
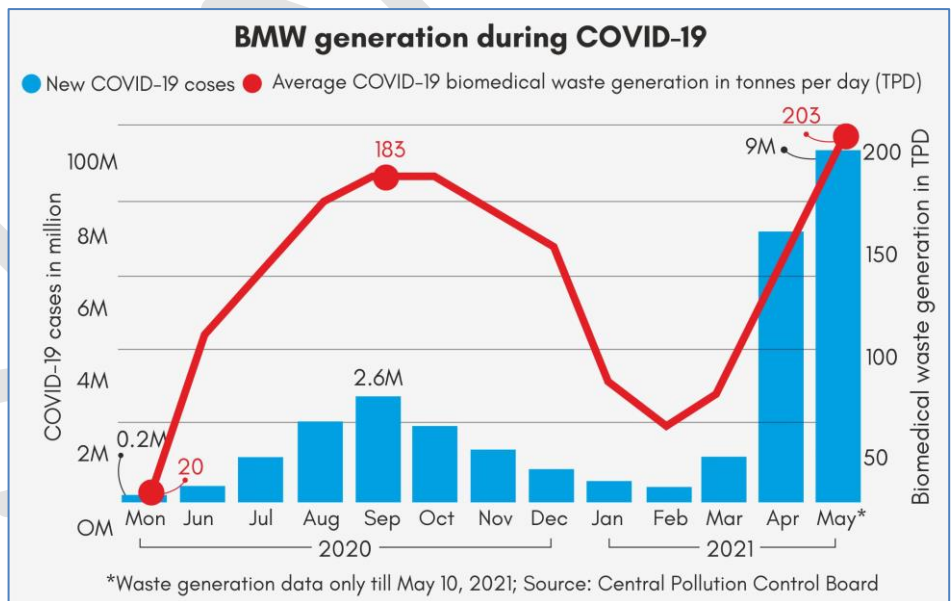

TYPES OF BMW
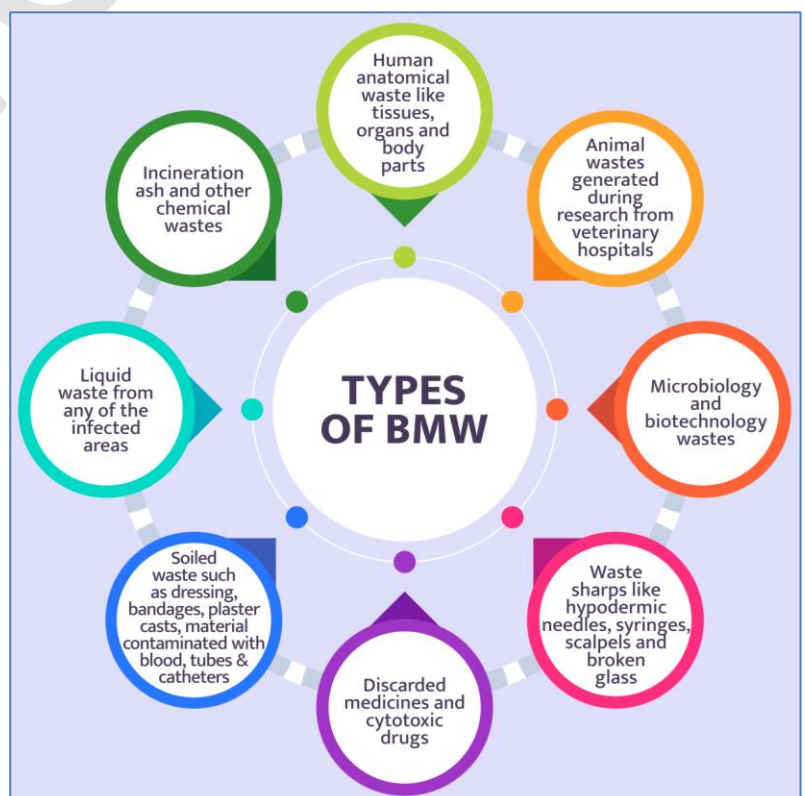
- **Sources** of BMW are:

Primary source	Other sources
Hospitals, nursing homes, veterinary hospitals, clinics, dispensaries, blood.	Households, Industries, education institutes and research centers.

Effects of BMW

Health risks	Environmental impact

• BMW contains potentially harmful microorganisms that can **infect hospital patients, health workers and the general public.**
• Adverse health outcomes associated with BMW waste include:
  o Potential infections caused by exposure to BMW.
  o **Rise of drug resistant microorganisms.**
  o Sharps-inflicted injuries and **radiation burns**.
  o **Toxic exposure** to pharmaceutical products, in particular, antibiotics and cytotoxic drugs and to substances such as **mercury or dioxins**, during the handling or incineration of health care wastes;
  o **Chemical burns** arising in the context of disinfection, sterilization or waste treatment activities;
  o **Thermal injuries** occurring in conjunction with open burning and the operation of medical waste incinerators;
	• Treatment and disposal of healthcare waste may pose health risks indirectly through the **release of pathogens and toxic pollutants into the environment.**
	  o Pathogens present in the waste can **enter and remain in the air** for a long period in the form of spores or as pathogens. Inadequate incineration or the incineration of unsuitable materials results in the **release of pollutants into the air and generation of ash residue**.
	  o The liquid waste generated when let into sewers can also lead to **water pollution** if not treated properly. BMW can also lead to **contamination of ground water** if landfills are not properly constructed.
	  o **Soil pollution** is caused due to infectious waste, discarded medicines, chemicals used in treatment.
	  o Heavy metals such as cadmium, lead, mercury etc. which are present in the waste may get absorbed by plants and **can then enter the food chain.**

Challenges with BMW management and how COVID-19 has exacerbated it

- **Inadequate capacity:** Analysis of CPCB's January and May 2021 reports suggests that 22 **of the 35 states and Union Territories generate more biomedical waste than they can handle.**
- **Non-uniform distribution of treatment facilities**: The capacity of facilities to treat biomedical waste is nearly saturated in

BMW generation during COVID-19

● New COVID-19 cases   ● Average COVID-19 biomedical waste generation in tonnes per day (TPD)

*Waste generation data only till May 10, 2021; Source: Central Pollution Control Board
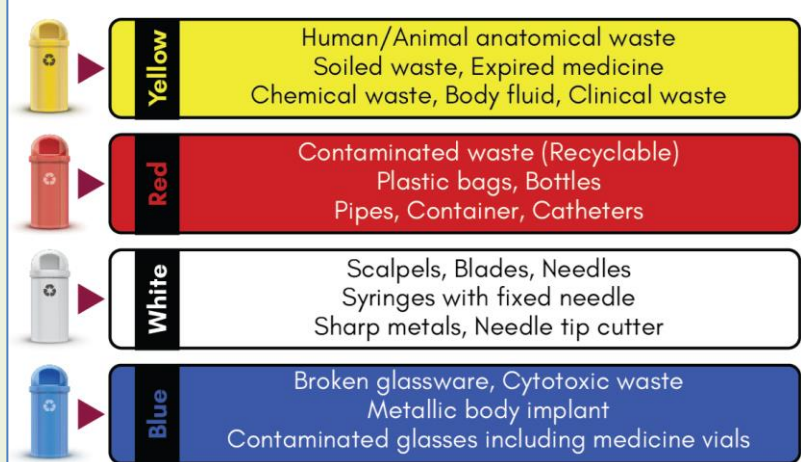
Maharashtra, Goa, Manipur, Andhra Pradesh, Meghalaya, Rajasthan and others.

- **Erroneous Data:** In its January 2021 report submitted to NGT, CPCB mentions that **Lakshadweep has a treatment capacity of 72 tonnes** a day, even though the board itself has stated that the **archipelago does not have a single common biomedical waste treatment facility**.

- **Disproportionate increase in BMW due to pandemic**: While new cases increased by 234%, COVID-19 **BMW generation went up by 11%** between the peak months of the two waves (Refer Graph).
  - Before the COVID-19 episode, an administration or a private emergency clinic would ordinarily **deliver 500 g of biomedical waste per bed, every day**. During COVID-19, that number has gone up to **between 2.5 to 4 kg per bed, daily.**

- **Difficulties in monitoring flow of waste:** A major challenge in monitoring the flow of COVID-19 waste is its **innumerable sources** that vary from individual households to isolation centres and makeshift quarantine camps.

- **Widely unreported:** Despite being mandatory, only **a small percentage of generators share details** on the government mobile application, COVID-19 BMW app. **Only 168 Common biomedical waste treatment facilities were using the app in May 2021**.

- **Poor segregation in home quarantine centres**: The BMW Management Rules, 2016 (refer Box), require healthcare facilities to

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Biomedical Waste Management (BMWM) rules in India

- In July 1998, first BMWM rules were notified by Government of India which were modified multiple times (latest in 2016).
- **Salient features of Biomedical Waste Management Rules, 2016 (**issued in exercise of the powers conferred by **Environment (Protection) Act, 1986**) are:
  - The scope of the rules has been expanded to include **various health camps** such as vaccination camps, blood donation camps, and surgical camps.

COLORCODE-BASED CATEGORIZATION OF WASTE

Yellow	Human/Animal anatomical waste, Soiled waste, Expired medicine, Chemical waste, Body fluid, Clinical waste
Red	Contaminated waste (Recyclable), Plastic bags, Bottles, Pipes, Container, Catheters
White	Scalpels, Blades, Needles, Syringes with fixed needle, Sharp metals, Needle tip cutter
Blue	Broken glassware, Cytotoxic waste, Metallic body implant, Contaminated glasses including medicine vials

  - Biomedical waste has been classified into **four categories based on color code-type** of waste and treatment options (see fig).
  - **Pre-treatment of the laboratory** waste, microbiological waste, blood samples and blood bags through disinfection or sterilization on-site.
  - **Provide training** to all health care workers and immunise all health workers regularly;
  - Establish a **Bar-Code System** for bags or containers containing bio-medical waste for disposal;
  - The new rules prescribe **more stringent standards** for incinerator to reduce the emission of pollutants in environment;
  - No occupier shall establish on-site treatment and disposal facility, **if a service of common bio-medical waste treatment facility is available at a distance of seventy-five kilometer**.
  - Operator of a common bio-medical waste treatment and disposal facility to ensure the **timely collection** of bio-medical waste from the Health Care facilities (HCFs) and assist the HCFs in conduct of training.

CPCB Guidelines for BMWM during pandemic

- CPCB issued separate guidelines for '**Handling, Treatment & Disposal of bio-medical waste generated during Treatment/Diagnosis/Quarantine of COVID-19 patients'** which gives guidance on management of COVID-19 related BMW including used masks and gloves.
  - As per Guidelines, used PPEs like face shields, goggles, used masks, head cover etc. generated from **COVID-19 isolation wards at Healthcare Facilities** shall be **segregated and sent to Common Facilities for disposal** as per BMWM Rules (2016).
  - However, used PPEs like masks and gloves generated in **Common Households, Commercial Establishments, Institutions, etc**., are required to store **separately for minimum 72 hours for disposal** along with solid waste after cutting or shredding. Such shredded used masks from household can be collected as **dry solid waste by Urban Local Bodies (ULBs).**
- CPCB has issued **directions under section 5 of Environment (Protection) Act** to all State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) to **ensure compliance** to guidelines.

follow a **colour-coded segregation system for waste disposal** and hand it over to treatment facilities within 48 hours. While healthcare facilities follow the protocol during disposal of COVID-19 waste, **no such segregation system is in place for home quarantine centres**.

- o Due to **poor awareness and lack of communication**, these facilities throw everything from food waste and disposable cutlery to masks, PPE kits and gloves **into yellow bags**, which are then sent for incineration. This leads to an alarmingly high quantity of plastic waste being incinerated.
- **Increase in wastage due to vaccination drive:** Every jab generates a **waste syringe**, and every 10 or 20 vaccinations, depending on the vaccine type, generate **one waste glass vial**.
    - o By the end of the vaccination drive, the country would have **generated over 1.3 billion used syringes, needles and more than 100 million discarded glass vials**, that would require careful disposal.

Way Forward

- Key elements in **improving BMW management** are:
    - o Building a **comprehensive system**, addressing responsibilities, resource allocation, handling, and disposal.
    - o **Raising awareness** of the risks and of safe practices;
    - o Selecting **safe and environmentally friendly** management options, to protect people from hazards when collecting, handling, storing, transporting, treating, or disposing of waste.
    - o Government support for **universal, long-term improvement**, although immediate action can be taken locally.
- **Minimization/Recycling of BMW:** The reduction of waste generation must be encouraged by the following practices:

Reducing the amount of waste at source	- Choosing products that generate **less waste**. - Choosing suppliers who **take back empty containers** for refilling (cleaning products). - Choosing equipment that **can be reused.**
Purchasing policy geared to minimizing risks	- Opting for the **least toxic** products. - Purchase of **mercury-free** equipment.
Product recycling	- Recycling of **batteries, paper, glass, metals, and plastic.** **Recycling of the silver** used in photographic processing.
Stock management	- Centralized purchasing. - Chemical and pharmaceutical stock management **aiming to avoid a build-up of expired or unused items**: "first-in—first out" stock management, expiry date monitoring. - Choice of suppliers according to **how promptly they deliver small quantities.**

5.6. LEADED PETROL: PHASED OUT GLOBALLY

Why in News?

Recently, **UNEP** announced the eradication of highly polluting **leaded petrol** from the world as **Algeria**- the last country to use this fuel, exhausted its supplies.

About Tetraethyl Lead and its use as an Additive

- **Tetraethyl lead** (TEL), or Organic lead, is a colorless liquid whose **antiknock properties** were first found in 1921.
- When mixed with petrol, called **Leaded Petrol**, it improves the **octane rating** of fuel as compared to unleaded petrol.

About Octane Rating

- **Octane rating, also known as Octane number or Octane Value**, is defined as the percentage or volume fraction of isooctane in a mixture of isooctane and normal heptane fuel where knock is initiated at the same compression ratio as in the fuel.
- It measures the **fuel's ability to resist unwanted sounds due to auto-ignition with higher octane number**. E.g., adding ethanol to petrol helps in reducing knocking as ethanol octane rating is around 109.
- For diesel fuel, **Cetane number** is used to measure the ignition delay property of the fuel, with higher cetane number meaning reduced ignition delay to avoid knocking.

- As a result, it became a popular **additive in petrol and jet fuels** as knocking in engine causes **loss of power** with risks of **damage to the engine.**

Health Impacts of Leaded Petrol

- **Tetraethyl lead** is toxic in nature, and it is **absorbed rapidly** by the skin, the lungs, and the gastrointestinal tract.
- A serious **environmental threat** to human health (identified as early as 1924), it **contaminates** the air, dust, soil, water, and crops on release through exhaust fumes, evaporation losses and accidental spills.
- Exposure to it can cause **Heart disease**, **Cancer**, **stroke,** and **lower IQ** (especially in children) by impacting brain development.

Partnership for Clean Fuels and Vehicles (PCFV) initiative by UNEP

Launched in **2002** at the World Summit on Sustainable Development, PCFV is a **global public-private** initiative to reduce vehicular air pollution through **promotion of cleaner fuels and vehicles** in developing countries.

- PCFV worked towards **global elimination** of leaded petrol (**graduated decline of Sulphur** as well) by providing support in different areas. (In India, it was phased out in **2000**).
- The successful elimination of leaded petrol elimination will prevent **more than 1.2mn premature deaths, better IQ among children** and global **saving of over $2.4tn annually.**
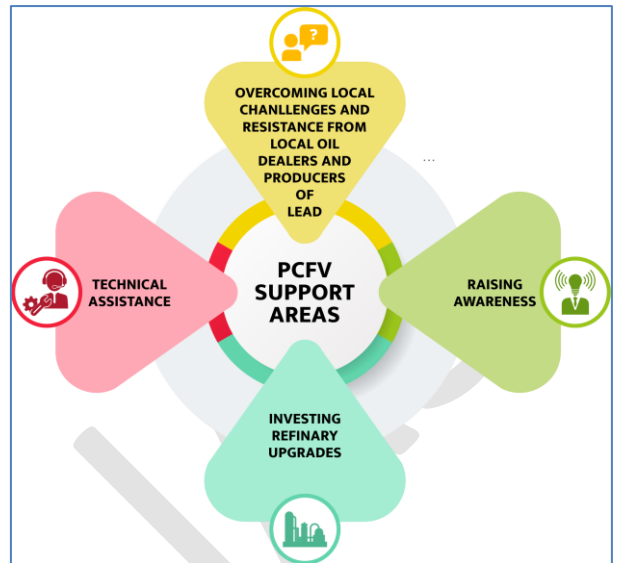
5.7. DAM SAFETY

Why in news?

Recently, **India and World Bank signed a $250 million project** for **Dam Rehabilitation and Improvement Project (DRIP Phase II)** to make existing dams safe and resilient.
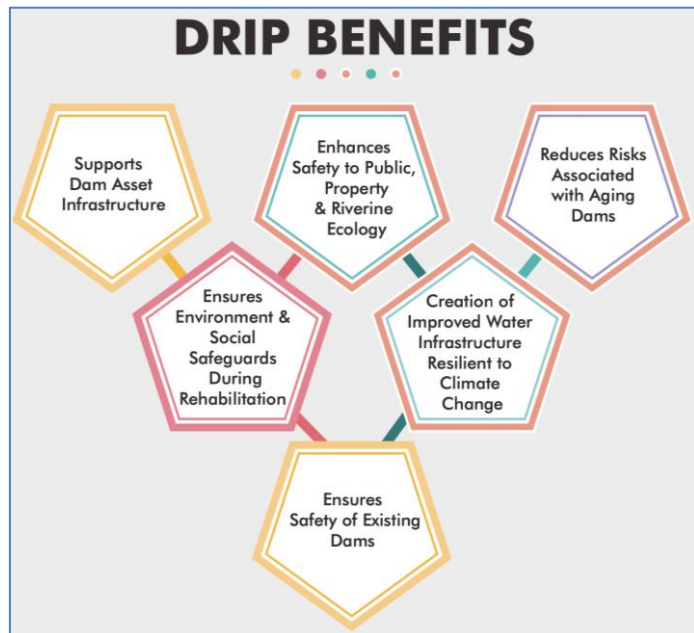
Dams in India

- **India ranks third globally** after China and U.S with 5334 large dams in operation and 411 under-construction. They are vital for **ensuring the water security of the country** and constitute a major responsibility in terms of asset management and safety.
  - As per the data of the National Register of Large Dam (NRLD) of 2018, **Maharashtra has maximum number of Dams** followed by Madhya Pradesh and Gujarat.
- **Major dams in India (refer map):**
  - **Highest Dam**: **Tehri Dam** in Uttarakhand is built on **Bhagirathi River**.
  - **Longest Dam**: **Hirakud Dam** in Odisha is built on **Mahanadi River**.
  - **Oldest Dam**: **Kallanai Dam** in Tamil Nadu is built on the **Cauvery River** is about **2000 years old**.
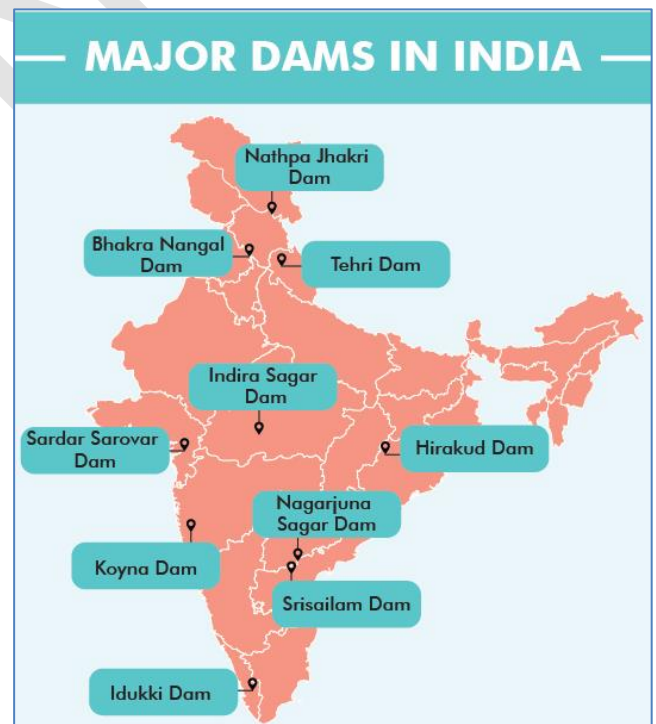
About Dam Rehabilitation and Improvement Project (DRIP)

- It is a **State Sector scheme** with a central component, **initiated in 2012** by Government of India with financial assistance from the World Bank to **bridge the funding gap** and **provide urgent finance to States for repair** and maintenance of dams.
  - 80% of the total project is provided by the World Bank as loan/credit and remaining 20% is borne by the States/ Central Government.

- o It is touted as the **World's largest dam management program.**
- **DRIP Phase-I:**
  - o It has comprehensively addressed hydrological, structural, and operational safety of **223 dams located in seven States** (Jharkhand, Karnataka, Kerala, Madhya Pradesh, Odisha, Tamil Nadu, and Uttarakhand) with 10 Implementing Agencies on board. Out of 223, major rehabilitation **works have been completed at 221 dams**.
  - o The **Central Water Commission (CWC)** had been entrusted with **overall coordination and supervision**.
  - o It was successfully **closed in March 2021**.
- **DRIP Phase II and Phase III:**
  - o Based on the success of DRIP Phase-I, **Ministry of Jal Shakti initiated** another **externally funded Scheme DRIP Phase II and Phase III**. This new Scheme has **19 States**, and **three Central Agencies** on board. It was approved in 2020 for rehabilitation provision of **736 dams**.
  - o The Scheme is of **10 years duration,** proposed to be implemented in **two Phases,** each of six-year duration with two years overlapping.
  - o DRIP Phase-II is being co-financed by two multi-lateral funding Agencies - **World Bank** and **Asian Infrastructure Investment Bank (AIIB)**, with **funding of US$ 250 million each**.
  - o The funding pattern of Scheme is **80:20**(Special Category States), **70:30**(General Category States) and **50:50**(Central Agencies). The Scheme also has provision of **Central Grant of 90% of loan amount for special category States** (Manipur, Meghalaya and Uttarakhand).

Issues associated with Dam Safety

- **Structural issues:**
  - o **Ageing of Dams**: Dams in India are designed to last 100 years. All large storage structures become **weak with time** because construction materials such as concrete and steel deteriorate due to abrasions caused by waves, silt, sand and gravel. Dams also **lose strength due to thermal expansion and cavitation**.
  - o **Forecasting systems:** Real time inflow forecasting systems are not in place even in important reservoirs. Such systems can add to dam safety measures besides improving operational efficiencies.
- **Implementation issues:**
  - o **Absence of monitoring**: Lack of systematic assessment and monitoring, coupled with inadequate resources, is the primary cause of poor maintenance of dams and appurtenant works.

- o **Lack of trained manpower:** Dam Safety Organizations (DSO) in states is short of adequate man power and need to be strengthened.
  - o **Lack of funds:** For repair and maintenance of dams.
- **Environmental issues:**
  - o **Flood detention**: Increased flow into reservoirs led to **flood risk**, increase in sedimentation during flood events could lead to **reduction in flood storage capacity** and/or **blockage of spillways** due to increased mobilisation of vegetation in flood flows.
  - o **Siltation**: It **reduces the water storage capacity** of the reservoir, **undermines its effectiveness for power-generation, irrigation and flood control** and renders it usefulness in the long term. De-siltation of reservoir is difficult in many cases owing to environmental concerns related to sediment disposal.
  - o **Soil erosion:** Dams hold back the sediment load normally found in a river flow, depriving the downstream of this. In order to make up for the sediments, the **downstream water erodes its channels and banks**. This lowering of the riverbed **threatens vegetation and river wildlife**.
  - o **Extinction of species**: Large dams have led to the extinction of many **fish and other aquatic species**, the **disappearance of birds in floodplains**, huge losses of forest, wetland and farmland, and erosion of coastal deltas etc.
- **Social issues:**
  - o **Human displacement**: Lack of regulatory framework in construction of Dams results into many homeless people due to submerging of large areas of human settlements, loss of life and property, and creates the problem of rehabilitation of the displaced population.

Government initiatives for Dam Safety

- **DHARMA (Dam Health and Rehabilitation Monitoring):** It is a **web tool to digitize all dam related data** effectively that will help to document authentic asset and health information pertaining to the large dams in the country, enabling appropriate actions to **ensure need-based rehabilitation**. It is a new stride in asset management aspect by India.
- **Seismic Hazard Assessment Information System (SHAISYS):** It is a **web based interactive application tool,** being developed in CWC (Central Water Commission) under Dam Safety Organisation (DSO) to estimate Seismic Hazard at a point in South Indian region.
- **Dam safety Act, 2019**: It provides for the **surveillance, inspection, operation, and maintenance** of all specified dams across the country.
  - o It constitutes **National Committee on Dam Safety** to **formulate policies and regulations** regarding dam safety standards and to analyse causes of major dam failures to suggest changes in safety practices.
  - o **National Dam Safety Authority** to **implements policies of the National Committee**, and resolves matters between State Dam Safety Organisations (SDSOs), or between a SDSO and any dam owner in that state.

Way Forward

- **Proper assessment**: It is important that the possible inflow and outflow of water is assessed. Maximum rainfall must be estimated while planning the project.
  - o Local factors such as climate and catchment areas etc. need to be taken into consideration.
- **Rehabilitation**: Restoration of old dams using the latest materials and technologies can enhance the life of a dam for many more decades.
  - o Inundation maps have been prepared which can be used for Emergency Actions Plans.
- **Timely monitoring**: Well-planned monitoring systems based on data collection and evaluation using modern instrumentation is the key to early detection of defects and ageing scenarios.
- **Capacity Building**: Training of Dam engineers for inspection & monitoring, operation & maintenance, construction supervision, and emergency action planning & latest know-how can ensure competence building in dam safety.
  - o **Institutional Capacity building is needed** in design flood estimation and flood routing for most of the states.
- **Technology upgradation:** Latest technologies should be adopted not only at the time of constructing the dam, but also during periodic review of the dams.
  - o The prevention and mitigation of ageing dams can be achieved best through carefully thought-out designs, and implementation of well-managed operation and maintenance programs.

5.8. ATLANTIC MERIDIONAL OVERTURNING CIRCULATION (AMOC)

Why in News?

According to the **Sixth Assessment Report of the Intergovernmental Panel on Climate Change**, it is very likely that AMOC will decline over the 21st century.

About AMOC

- The AMOC is a **large system of ocean currents**. It is the Atlantic branch of the ocean conveyor belt or Thermohaline circulation (THC) and distributes heat and nutrients throughout the world's ocean basins.
- **Two main features of the AMOC**:
  o **Flow of warm, salty water in the upper layers of the ocean northwards from the Gulf of Mexico** (red line). This is made up of the "Gulf Stream" to the south and the "North Atlantic Current" further north.
  o **Cooling of water in the high latitudes of the Atlantic**, which makes the water denser. This denser water then sinks and returns southwards towards tropics and then to the South Atlantic as a bottom current (blue line). From there it is distributed to all ocean basins via the **Antarctic circumpolar current**.

Thermohaline circulation (THC)

- The theory for the thermohaline circulation pattern was first proposed by **Henry Stommel and Arnold Arons in 1960**.
- While winds drive ocean currents in the upper 100 meters of the ocean's surface, ocean currents also flow thousands of meters below the surface. These **deep-ocean currents** are driven by differences in the water's density, which is controlled by **temperature (*thermo*) and salinity (*haline*).** This process is known as thermohaline circulation.
- It is also known as the **Global Ocean Conveyor** or **Great Ocean Conveyor Belt.**
- The ocean's global circulation system plays a key role in distributing heat energy, regulating weather and climate, and cycling vital nutrients and gases.
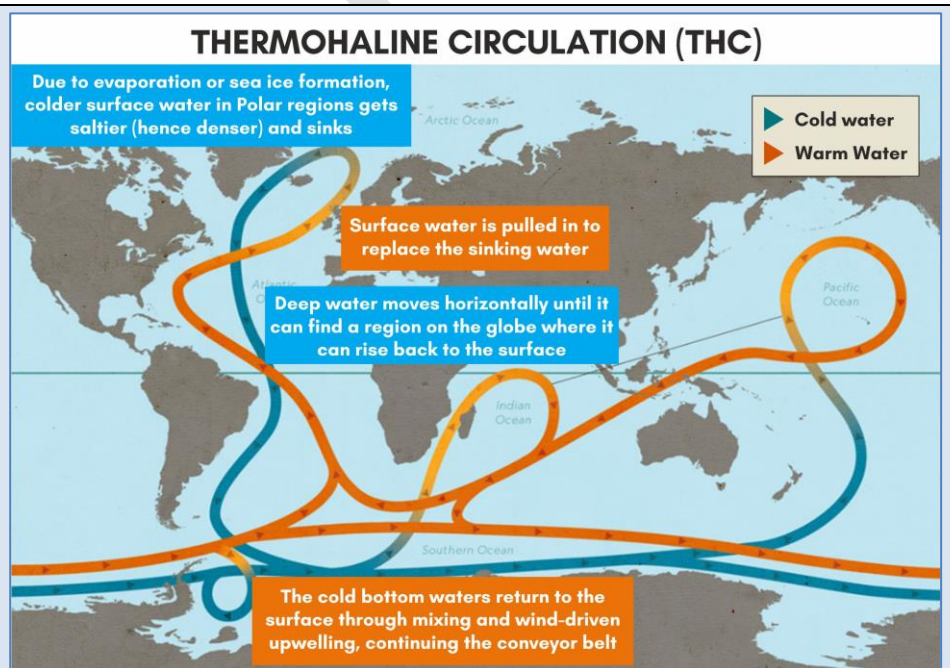
Difference between Surface Ocean Currents and THC

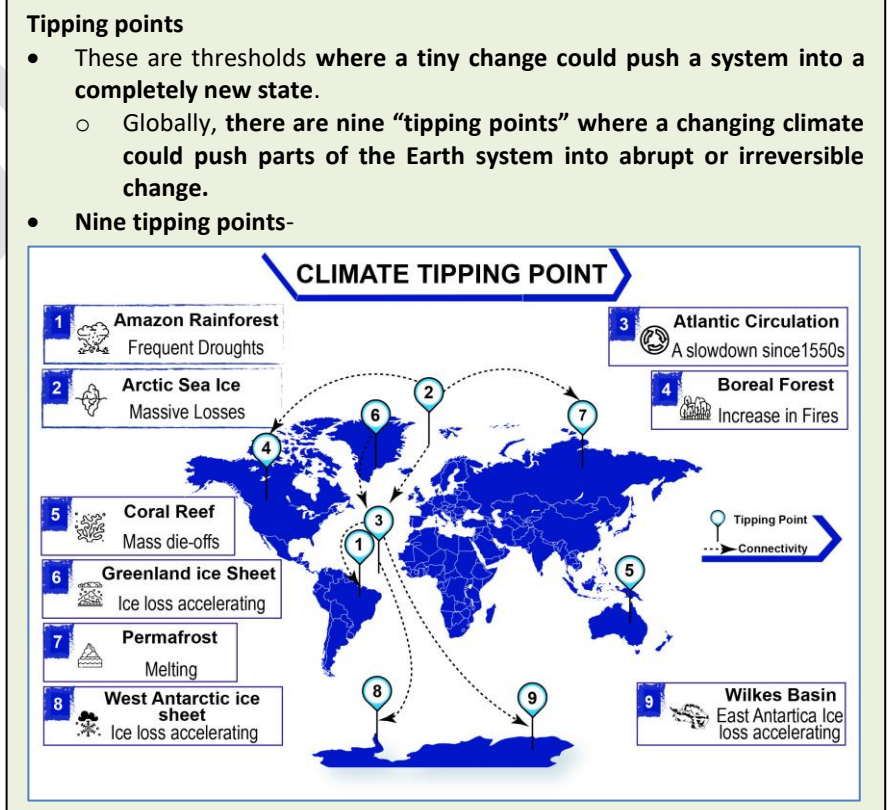|	Surface Ocean Currents	THC
Driven primarily by	Global wind systems that are fuelled by energy from the sun.	Horizontal differences in temperature and salinity
Speed	Relatively fast with speed of **about 5 to 50 cm per second**	Relatively Slow with typical speed of **1 centimetre per second**
Volume of water moved	Relatively less	Tremendous volumes of water are moved

Reasons for recent decline in the AMOC

The AMOC and THC strength has always been fluctuating. In the late Pleistocene time period (last 1 million years) during the extreme glacial stages, weaker circulation and slowdown in AMOC have been observed. But the **changes destabilising the AMOC** in the last 100-200 years are mostly anthropogenic and linked to Global warming, such as-

- **Freshwater from melting Greenland ice sheets and the Arctic region**: It can make circulation weaker as it reduces the salinity and density of the water, making it unable to sink to the bottom.
- **Weakening of Gulf Stream**: According to some estimates global warming can lead to weakening of the Gulf Stream System by 34 to 45 percent by 2100.
- **Dilution dues to increased rainfall and river runoff**.

Impact of decline of AMOC

- **Changes in regional Climate**: Gulf Stream, a part of the AMOC, is a warm current responsible for mild climate and rainfall at the Eastern coast of North America as well as Europe.
  o Weakening of AMOC and Gulf Stream, will trigger a cooling effect on climate and decrease rainfall over around the North Atlantic region, as the northward heat supply is slowed down.
  o It may also lead to increase in winter storms over Europe and stronger hurricanes in the US.
- **Sea level rise**: The northward surface flow of the AMOC leads to a deflection of water masses to the right, away from the US east coast. As the current slows down, this effect weakens and more water can pile up at the US east coast, leading to an enhanced sea level rise.
- **Socio-economic impacts**: On agriculture, wildlife, transport, energy demand and coastal infrastructure. For example, one study showed a 50% reduction in grass productivity in major grazing regions of the western UK and Ireland due to weakening of AMOC.
- **Severe consequences for Atlantic marine ecosystems**: The North Atlantic ecosystem is adapted to the existence of the overturning circulation, which sets the conditions – the seasonal cycle, the temperature, the nutrient conditions. Any changes in these conditions would disrupt fish populations and other marine life.
- **Collapse of AMOC**: AMOC is one of the **nine "tipping points"** where a changing climate could push parts of the Earth system into abrupt or irreversible change.
  o This means that **increase in the freshwater input could cause the AMOC to collapse into a state of reduced flow.** From this collapsed state, even if freshwater input into the oceans decreases to current levels, the AMOC may remain in a collapsed state. The ability of the system to not return to the initial state once the forcing is reversed is referred to as **hysteresis.**
  o This is mainly because the **AMOC is a self-reinforcing system**. The circulation itself brings salty water into the high-latitude Atlantic and the salty water increases the density. Thus, the water is able to sink because it is salty and it is salty because of the circulation.
- **Other impacts**: A collapse of the AMOC may induce causal interactions like changes in ENSO [El Niño–Southern Oscillation] characteristics, dieback of the Amazon rainforest and shrinking of the West Antarctic Ice Sheet due to

> **Tipping points**
> - These are thresholds **where a tiny change could push a system into a completely new state**.
>   o Globally, **there are nine "tipping points" where a changing climate could push parts of the Earth system into abrupt or irreversible change.**
> - **Nine tipping points**-
>
>
>
> **CLIMATE TIPPING POINT**
>
> 1. Amazon Rainforest — Frequent Droughts
> 2. Arctic Sea Ice — Massive Losses
> 3. Atlantic Circulation — A slowdown since 1550s
> 4. Boreal Forest — Increase in Fires
> 5. Coral Reef — Mass die-offs
> 6. Greenland ice Sheet — Ice loss accelerating
> 7. Permafrost — Melting
> 8. West Antarctic ice sheet — Ice loss accelerating
> 9. Wilkes Basin — East Antartica Ice loss accelerating
>
> Tipping Point · · · · Connectivity

seesaw effect, southern migration of the ITCZ [Intertropical Convergence Zone] and large warming of the Southern Ocean etc.

Way Forward

There is a need to reconcile climate models with the presented observational evidence to assess how far or how close the AMOC really is to its critical threshold. This can be achieved by-

- **Improve long-term monitoring of the AMOC**: This monitoring would likely include observations of key processes involved in deep water formation in the Labrador and Norwegian Seas, and their communication with the rest of the Atlantic (such as the Nordic Sea inflow, and overflow across the Iceland-Scotland Ridge), along with observing the more complete three-dimensional structure of the AMOC, including sea surface height.
- **Improve understanding of past AMOC changes:** through the collection and analysis of those proxy records that most effectively document AMOC changes and their impacts in past climates.
- **Accelerated development of climate system models** incorporating improved physics and resolution, and the ability to satisfactorily represent small-scale processes that are important to the AMOC.

6. SOCIAL ISSUES

6.1. PREVENTION OF BEGGING

Why in news?

The Supreme Court (SC) recently refused to ban begging.

About beggary

- Begging is defined in Indian law as **soliciting or receiving alms in public places** by exposing wound, injury, deformity, or disease, whether of oneself or of any other person or animal. It is the practice of **imploring others to grant a favor,** often a gift of money, with little or no expectation of reciprocation.
- It is the **consequence of destitution**, a situation of extreme vulnerability with multiple dimensions.

CONSTITUTIONAL AND LEGAL PROVISIONS ON BEGGING

Constitutional

- As per the 7th Schedule of the Constitution of India and under serial no. 9 of State List, the subject matter of **"Relief of the disabled and unemployable"** comes under the purview of State List.
- The **State are responsible for taking necessary preventive and rehabilitative steps.**

Bombay Prevention of Begging Act, 1959

- This law carries a penalty of **detention of 3 to 10 years in beggar homes.**
- It has been **adopted by about 20 states.**
- Activists argue that its is an opressive law, and allows the police to detain or arrest anyone who is poor.
- **Note:** India has no **federal law on begging and destitution.**

Juvenile Justice (Care and Protection of Children) Act, 2015

Under this Act, children found begging are treated as victims in need of care and protection to be dealt with by child welfare committees. Some of the states laws, on the other hand, treat them as criminals who can be sent to an institution.

Persons experiencing destitution live in a **vicious cycle of poverty, homelessness, powerlessness, stigmatization, discrimination, exclusion, and material deprivation**, all of which mutually reinforce each other.
- **A substantial percentage** of people who are found begging are **persons with disability, trans-genders, infirm or affected by illnesses such as leprosy.** Analysts argue that the condition is worsening due to lack of any comprehensive policy addressing the issue of beggary.

Why begging should not be criminalized?

- **Violation of Right to Life:** The provisions of the statutes criminalizing the act of begging puts people in a situation to make an unreasonable choice between committing a crime or not committing one and starving, which goes against the very spirit of the Constitution and violates Article 21 i.e. Right to Life.
- **Does not resolve the issue of deprivation:** In Harsh Mander & Anr. v. Union of India (2018), the Delhi High Court decriminalized begging and validated that the idea that poverty is a human rights issue.
- **Beggars are not the culprit:** The High Court of Jammu and Kashmir, in Suhail Rashid Bhat v. State of Jammu & Kashmir and Others (2019), has made it clear that begging is in fact evidence of the inadequacy of the Government as well as the society at large to protect its citizens from adverse effects of extreme poverty and to ensure to them basics of food, clothing, shelter, health and education.
  - **Mafia controlled begging:** It is reported that **almost 3,00,000 children are forced to beg everyday by human trafficking cartels,** most of whom are missing and are intentionally maimed so that they receive more money (out of sympathy).
- **Lack of Empathy:** Criminalization lacks empathy and absolves the welfare State of failing to provide citizens with their basic minimum requirements — food, housing, education, and health.
- **Lack of holistic policy to address the issue:** Analysts argue that the condition is worsening due to lack of any comprehensive policy addressing the issue of beggary. Beggary can be classified as exploitation and is also against Article 23 (right against exploitation) of the Constitution. Yet, at national level, India does not have a comprehensive policy to address the problem of poverty.

Way ahead

- **Identification of beggars:** Survey and identification of beggars including the leprosy affected and issuance of required certificates and multipurpose smart cards to them would help to know the level of problem associated with beggary.
- **Legislative measure: The Persons in Destitution (Protection, Care and Rehabilitation) Model Bill, 2016**, was introduced to address the issue of chronic beggary and homelessness in India. However, the bill is yet to be considered.
- **Dealing with associated crimes that fuel beggary:** Socio-economic marginalisation and poverty may frequently make people susceptible to exploitation. A criminal response to those who seek to take advantage of such vulnerability is a prerequisite to deal with such social evils.

> **Steps taken for rehabilitation of Beggars**
> - **SMILE - Support for Marginalized Individuals for Livelihood and Enterprise:** This scheme has been launched by the **Ministry of Social Justice and Empowerment** (MSJE).
>   - This includes sub-scheme - **'Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging'.**
>   - This scheme covers several comprehensive measures including **welfare measures for persons who are engaged in the act of begging.** The **focus of the scheme is extensively on rehabilitation, provision of medical facilities, counselling, basic documentation, education, skill development, economic linkages** and so on.
>   - The scheme would be implemented with the support of State/UT Governments/Local Urban Bodies, Voluntary Organizations, Community Based Organizations (CBOs), institutions and others.
>   - Scheme provides for the **use of the existing shelter homes available** with the State/UT Governments and Urban local bodies for rehabilitation of the persons engaged in the act of Begging. In case of non-availability of existing shelter homes, **new dedicated shelter homes are to be set up by the implementing agencies.**
> - **Skill development:** The MSJE has also released **fund to National Backward Classes Finance & Development Corporation (NBCFDC)** for skill development programmes for beggars on pilot basis.
> - **Integrated Child Protection Scheme (ICPS):** It is being implemented by the Ministry of Women and Child Development for creating a safe and secure environment for children in need of care and protection including those children who are found begging.

- **Meeting expectations of a Welfare State:** To make alternative, well-paying and dignified employment accessible to poor people, it is important to impart requisite education and skills, and to have social security nets.
  - This is **essential** not only to prevent exploitative practices, but also **to rehabilitate those who have been rescue**d (and/or those who would like an exit option) from such practices.
- **Emulating good practices of states:** The **Government of Odisha, as part of an integrated initiative for beggars promotes the new umbrella scheme "SAHAYA"** for protection, care and rehabilitation of beggars to be operated in a mission mode with manifold objectives. Similar scheme by the Centre should help prevention of begging.
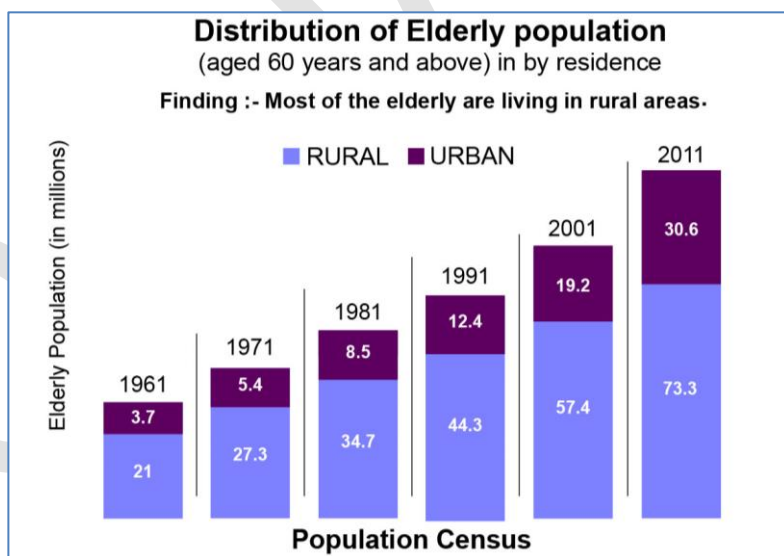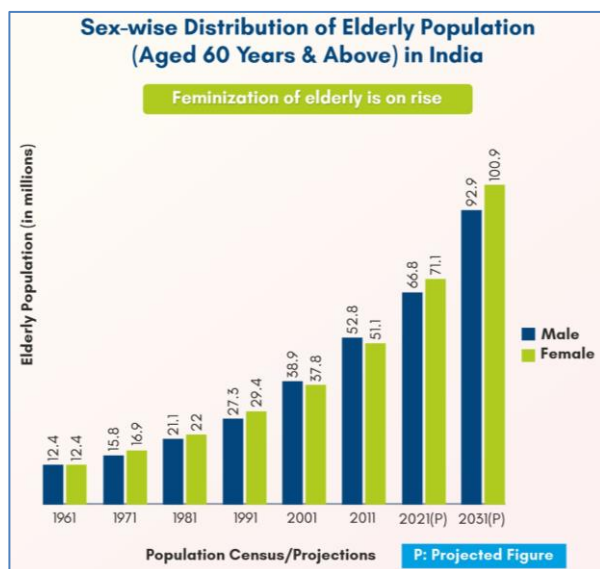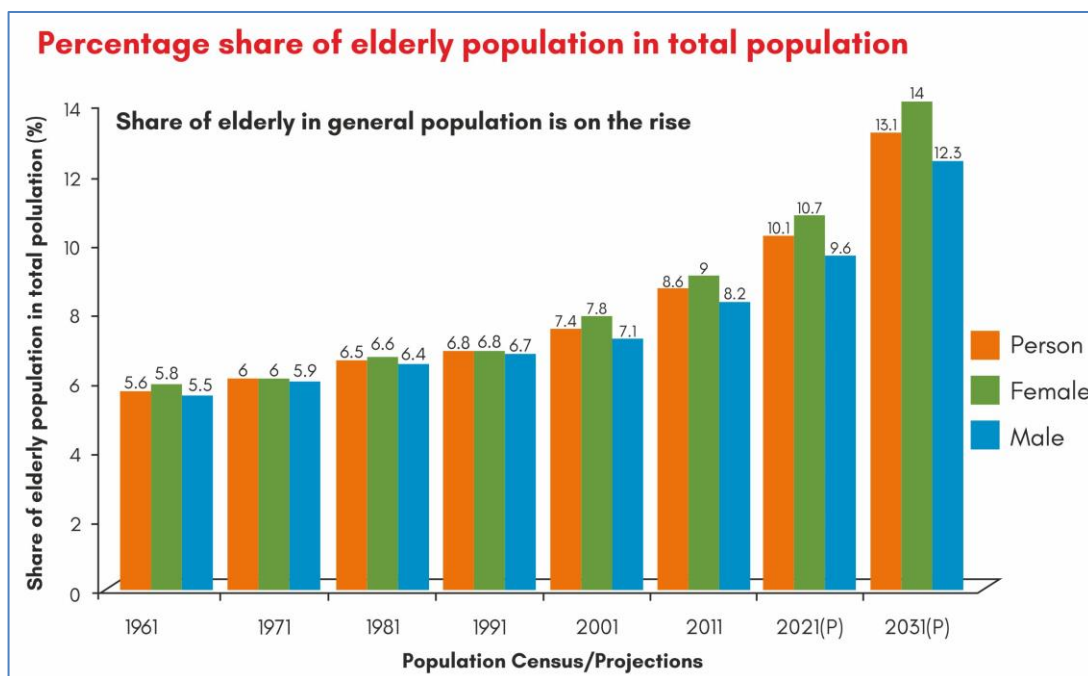
Conclusion

As India is a socialist welfare state, it is the responsibility of the government to develop policies so that all its citizens can achieve that wholesome life. India is also part of the International Covenant on Civil and Political Rights (ICCPR) which has a provision for right to living with dignity. Therefore, a concrete policy to deal with the issue of beggary and homelessness is need of the hour for India.

6.2. ELDERLY IN INDIA

Why in news?

The Ministry of Statistics and Programme Implementation **(MoSPI) has brought out its publication 'Elderly in India 2021'**. This is the 5th series of this publication that was started in 2001.

Key Statistical Findings of the publication

Percentage share of elderly population in total population

Share of elderly in general population is on the rise

Sex-wise Distribution of Elderly Population (Aged 60 Years & Above) in India

Feminization of elderly is on rise

Distribution of Elderly population (aged 60 years and above) in by residence

Finding :- Most of the elderly are living in rural areas.

Issues and challenges

- **Insufficient data systems:** The exclusion of the elderly population in National policies for developing countries like India is the result of insufficient data systems, including Health and Household Surveys.
- **Low digital literacy:** According to NSS 75th round on Education in India, only 5.3% of males of 60 years and above can operate a computer, and 5.8% of male persons can use the internet.
  - In comparison, only 1.7% and 1.9% of females can operate computers and use the internet, respectively. The gap is higher in rural areas and leads older women to social isolation in the nation's advancement.
- **Inadequate quality healthcare for elderly:** According to **the Longitudinal Ageing Study of India (LASI) 2020 report**, 75% of the elderly population of India suffers from one or more chronic diseases such as arthritis, hypertension, cataract, diabetes, asthma and heart disease, 40% have a disability, and 20% suffer from mental health issues.
  - India's Public Health Care System is unable to provide the required level of continuity of care, leading to the poor quality of care for the elderly in the country. On the other hand, **rehabilitative care is essentially non-existent in India's public health care system.** In certain metropolitan areas where we have rehabilitative care, it stands unaffordable for the poor and middle-income elderly.
- **Inadequate income security coverage:** Most states have scored low (in 'Quality of life for elderly) in utilising funds under the **National Programme for Health Care of the Elderly (NPHCE)** and providing benefits of

existing pension schemes for the elderly below poverty line. India has a limited pension system that is restrictive and does not cover the whole country.

- **Food insecurity:** According to LASI, 2020 report, 8% of the adults older than 45 years of age reported severe constraint in household food availability. As a result, they either reduced their meal size, did not eat despite being hungry, or even stayed hungry for an entire day.
- **Change in family structure:** The change in family structure from extended family setup to nuclear setup where parents and their children live separately from grandparents is on the rise. As a result of this, there is also a **decline in the capacity of the family to provide the required care** to their elderly family members.
- **Inadequate government owned old age home:** The '**Maintenance and Welfare of Parents and Senior Citizens Act, 2007**' mandates that every city should have a government-run old age home, but this is not the case. Majority of the old-age homes in India are privately owned institutions.

Schemes and Programmes for the Welfare of Elderly Persons
- **National Policy on Older Persons (NPOP), 1999:** The Policy envisaged State support to ensure financial and food security, health care, shelter and other needs of older persons, equitable share in development, protection against abuse and exploitation, and availability of services to improve the quality of their lives. Keeping in view the changing demographic pattern a **new National Policy for Senior Citizens** is under finalization.
- **Maintenance and Welfare of Parents and Senior Citizens Act, 2007:** The Act provides for: maintenance of parents/ senior citizens by children/ relatives made obligatory and justiciable through Tribunals; revocation of transfer of property by senior citizens in case of neglect by relatives; penal provision for abandonment of senior citizens; establishment of Old Age Homes for Indigent Senior Citizens; and adequate medical facilities and security for Senior Citizens.
- **National Action Plan for the Welfare of Senior Citizens (NAPSrC):** This Plan takes care of the top four needs of the senior citizens viz., financial security, food, health care and human interaction /life of dignity. It is an umbrella scheme, effective since 1st April 2020, has four sub-schemes under it, namely:
  - **Scheme of Integrated Programme for Senior Citizens (IPSrC)**
  - **State Action Plan for Senior Citizens (SAPSrC)**
  - **Convergence with Initiatives of other Ministries/Departments in Government of India in the field of Senior Citizens Welfare (CWMSrC)**
- **National Awards for Senior Citizens-Vayoshreshtha Samman:** To recognize the efforts made by eminent senior citizens and Institutions involved in rendering distinguished services for the cause of elderly persons, especially indigent senior citizens.
- **Rashtriya Vayoshri Yojana (RVY):** Scheme for providing Physical Aids and Assisted-Living Devices for Senior Citizens.
- **Senior Citizens Welfare Fund:** It was established in 2016 for such schemes for the promotion of the welfare of senior citizens, which are in line with the National Policy on Older Persons. The Fund comprises of the **amounts available under Saving Schemes** of the Central Government that remain **unclaimed for a period of seven years from the date of the account being declared as an inoperative account.**
- **National Council of Senior Citizens (NCSrC):** It was constituted in 1999 under the Chairpersonship of the Minister for Social Justice and Empowerment to oversee implementation of the Policy and advise the Government in the formulation and implementation of policies and programmes for the aged.
- **National Programme for Health Care of the Elderly (NPHCE):** Being run by Ministry of Health and Family Welfare (MoHFW).
- **Pradhan Mantri Jan Arogya Yojana (PM-JAY):** Under the Ayushman Bharat, launched by MoHFW.
- **Indira Gandhi National Old Age Pension Scheme (IGNOAPS):** Being implemented by the Ministry of Rural Development since 2007.
- **Pradhan Mantri Vaya Vandana Yojana (PMVVY):** It is a Pension Scheme launched in 2017 and extended up to 2023.

Way ahead

- **Data driven policy:** Collecting quantitative and qualitative data on the status of older persons and research to understand the economic and social implications of population ageing. Government can look at ways of improving the collection of more age inclusive data on older people.
- **Digital empowerment of elderly:** Governments at various levels and civil society needs to modify and implement policies integrating older persons into the digital era. They need to set a target for coverage and training on digital literacy to help them in the same, especially for elderly living below the poverty line and other remote areas, who can neither afford nor have access to smartphones and internet services.
- **Enhancing pension:** We need to provide elderly pension income between Rs 1500-2500, which roughly translates to Rs 45-Rs 83 per day. Pension income should be at least 50% more than the minimum wages for older persons.

- There is also a need to **improve Atal Pension Yojana's financial sustainability,** and its goal to bring many informal sector workers under its ambit also needs to be strengthened further. The pension amount needs to be adjusted to the rate of inflation through indexation.
  - **Universal pension schemes** could be one of those adequate steps with its inherent goal of providing **income security and broader reach to the elderly**. A developed pension sector would not only reduce the fiscal burden on the exchequer, but it will also have a stabilizing effect on the economy by promoting long-term savings combined with long-term investments. (CRISIL, 2017).
- **Affordable medical care:** Beyond expanding and strengthening networks of health care provision for older adults, a need and an opportunity exist to use technology, for example "telehealth", to aid people living in remote areas, or who have limited mobility.
  - **Community care: May a times f**amily members or domestic worker(s) provide care for elders in the family without much training and such service is largely informal. There is an urgent need to improve awareness, understanding, and recognition of Long-Term Care (LTC) in India.

> **Ageing population: India vs. world**
> - By the United Nations' population projections, the headcount of **people aged 65 and above,** which constituted **703 million people in 2019,** will double to **1.5 billion in 2050,** thus accounting for **16% of the world population**.
> - But developing countries like **India** are **experiencing ageing at a faster pace.**
> - According to the World Health Organization (WHO), India's **elderly population** will rise from its current 60 million **to over 227 million by 2050.** Accordingly, the **old-age dependency ratio will rise from 9.8 to 20.3.**

- **Maintenance and Welfare of Parents and Senior Citizens Act, 2007:** It contains no assurances for childless adults, and does not address what, if any, are the responsibilities of the Indian government toward its aging citizens. Such family-centered social welfare measures must be complemented and supported by appropriate government initiatives.
- **Women's and gender specific issues:** With an increasingly female and disproportionately vulnerable aging population, India must also implement programs and policies that ensure gender equity. These include ensuring women's property and inheritance rights are upheld and enforced, promoting the education of women and girls and encouraging female workforce participation, special attention must older widowed women and Transgender who may suffer from greater rate of discrimination and neglect.
- **Corporate Social Responsibility** (**CSR**): Every company coming under the statutory CSR norms should dedicate a proportion of their CSR fund to support the cause of the elderly.
- **Government owned old age home**: These homes with full-fledged daycare facilities, nurses, psychologists and counsellors who can help the older adults to cope with the singularity of old age, are needed.

Conclusion

India faces unprecedented population aging due to lengthening lifespans. This demographic shift poses complex challenges to Indian society in the form of a rising burden of non-communicable diseases, a vulnerable female-heavy older adult population, a changing family structure, and a lack of a social safety net. Successfully addressing these challenges will require equally complex and ambitious changes and innovations in health, fiscal, and social policies.

6.3. PRADHAN MANTRI UJJWALA YOJANA - PMUY

Why in news?

Government has launched Ujjwala 2.0 by handing over LPG connections, at Mahoba, Uttar Pradesh to achieve **universal access to LPG.**

More on news

- **Procedures have been simplified** with lesser paperwork.
- Under the new version, **migrants will not be required to submit ration cards or address proof.** A self-declaration for both **'family declaration' and as a 'proof of address' will suffice.**
- **Eligibility:** An adult woman belonging to a poor household and not having LPG connection in her household, will be eligible under UJJWALA 2.0. The beneficiaries should belong to any of the following categories:
  - Eligible as per **SECC 2011 list or**

- o Be a beneficiary of **Pradhan Mantri Awas Yojana (PMAY), Antyodaya Anna Yojana (AAY), Forest dwellers, Most Backward Classes (MBC), Tea and Ex-Tea Garden Tribes, People residing in riverIslands**
  - o If she is not falling in the above 2 categories, then she can stake her claim to be a beneficiary under Poor household by submitting 14-point declaration.
- Ujjawala 2.0 is being launched as the initial **target of providing 8 crore LPG connections under Ujjwala Yojana (PMUY) has already been achieved.**
  - o However, many studies show that **PMUY could not ensure sustained usage of LPG by poor family** who turned to alternative solid fuels.

Challenges in ensuring sustained usage of LPG

- **Affordability challenge:** As per the scheme, consumers could not access subsidised LPG until they have purchased 7-8 refills at unsubsidised prices to repay the loan. This limits the uptake of refills among many PMUY beneficiaries.
  - o Additionally, non-clean alternatives such as agricultural residue and firewood are cheaper than subsidised LPG in many parts of the country.
- **Reliable access challenge: Distributors have a financial disincentive in focusing on areas with low demand and sporadic refills** (which is the case in rural areas with significant PMUY beneficiaries) resulting in poor services in such areas.
  - o Also, India's **bottling capacity is not sufficient** to cater to sustained use by new PMUY consumers.
- **Behaviour change challenge:** Sustained uptake could also be slow due to taste preference for food cooked on traditional chulhas, gendered division of responsibilities, low value assigned to time and labour of women and girls, intra-household decision making practices and current cooking habits.
  - o **Other residential energy requirements** (preparation of cattle feed, water heating etc.) currently met by solid fuels may also deter LPG use. **Community factors** could also affect the extent of LPG uptake in parts of the country

> **About PMUY**
> - Launched in 2016, It is a scheme of the **Ministry of Petroleum & Natural Gas** for providing LPG connections to women from Below Poverty Line (BPL) households.
>   - o Later it was **expanded in 2018 to include seven more categories** (SC/ST, PMAY, AAY, Most Backward Classes, tea garden, forest dwellers, Islands).
> - **Cash assistance of Rs. 1600 is provided for PMUY connections.** This cash assistance covers security deposit of cylinder, pressure regulator, LPG hose, domestic gas consumer card, inspection, installation and demonstration charges.
> - Additionally, All PMUY beneficiaries are provided with **first LPG refill and Stove (hotplate) free of cost along with their deposit free connection** by the Oil Marketing Companies (OMCs).
> - Consumers are given the option to purchase **gas stove and refills on EMI** (zero interest), recovered through LPG subsidy received by the beneficiary.

PRADHAN MANTRI UJJWALA YOJNA
MINISTRY OF PETROLEUM AND NATURAL GAS

| Largest direct intervention for women of rural & urban households | 5,00,00,000 women to directly benefit from an allocation of Rs 8,000 crore | Free LPG connections to BPL households | Providing clean fuel to women | Directly address health hazards due to use of wood, cowdung, etc in cooking | Free women from drudgery of collecting fire wood | Smoke free house-to all including children |

Achievements

The target was achieved in September, 2019 - months before the set deadline of March 2020

While 8.01 crore LPG connections were distributed to poor hoseholds, 3 crore LPG connections were released to SC/STs as on 31st march 2020

Way Forward

- **Addressing barriers to continued use:**
  - o **Phase out the loan scheme and provide double bottle connections:** The loan scheme should be withdrawn for all future PMUY connections and the connection subsidy increased accordingly to account for the cost of the stove and first refill.
    - ✓ Moreover, the government can take over the pending dues against existing loans of PMUY consumers and write them off. Such a move could encourage refill purchases by some PMUY consumers.

- ✓ Also, PMUY consumers should be provided with free double bottle connections at subsidised price. Doing this would enable continued use of LPG, even when the 'primary' refill is exhausted.
  - o **Provide increased but tapering subsidy to PMUY and poor consumers:** The subsidy can begin at high levels to encourage LPG adoption, but then can be tapered off across the years. A **similar scheme seems to be working satisfactorily in Maharashtra**.
  - o **Reducing the consumption bill:** It is possible to increase the efficiency of LPG stoves by more than 10 percentage points, by introducing mandatory standards and labelling for LPG stoves, and expediting a market transformation to efficient stoves. Also, it would not only reduce subsidy but also have additional benefits such as reducing India's import bill and saving on GHG emissions.
  - o **Leverage digital technology to address cash flow challenges:** Subsidy reimbursement to a consumer's bank account currently takes a few days which could affect the cashflow of poor consumers. To address this, the central government can make advance subsidy payment to the OMCs based on sales estimates, which can be reconciled on a quarterly basis. This will enable the OMCs to transfer subsidies immediately to consumer accounts LPG refills per year on an average.

Performance of the scheme: The Comptroller and Auditor General (CAG) of India submitted a performance audit report on the PMUY in December, 2019. Its key findings are as follows
• **Leakage:** the identification of BPL households is based on the Social Economic and Caste Census (SECC) data. The report found cases of mismatch in the names of beneficiaries between the PMUY consumer database and the SECC data (12.5 lakh cases). Further, it noted of instances (1.9 lakh cases) where connections were released to men.
• **Lack of sustained usage of LPG:** The average annual refill consumption for PMUY beneficiaries has remained low, compared to non-PMUY consumers.
• **Delay in installation:** Under the scheme, new connections should be installed within seven days from the day of providing required details. CAG observed that only 72.7 lakh connections (19%) were installed within seven days.
• **Diversion of cylinders:** CAG noted that this points to risk of domestic cylinders being diverted for commercial purposes and recommended that high consumption cases should be regularly reviewed to curb diversion.
• **Lack of performance indicators:** CAG noted that there are no parameters to assess outcomes related to the scheme such as improvement in health of women and reduction in air pollution.

- • **Improving delivery services:**
  - o **Incentives for distributors:** Rural distributors can be given a performance-based incentive, based on refill sales to poor and PMUY consumers.
  - o **Public accountability for distributors:** The ministry should define a detailed document on standards of performance for distributors as well as oil marketing companies, which includes minimum service requirements, penalties and escalation mechanisms. Such data about the performance of distributors and oil marketing companies should be publicly available.
- • **Targeted subsidy:** The subsidy net for LPG is currently cast wide, with over 85% of customers being subsidized. There is room to improve targeting of subsidy and thus reduce subsidy requirements. Savings could be channelized to providing financial support to poor beneficiaries.
- • **Tackling behavioral issues:** A lot more research is needed to understand behaviours and socio-cultural barriers that prevent uptake. Further, context-specific strategies to ensure behaviour change towards sustained use will also be needed. Many more and larger pilots to assess the effectiveness of various strategies to ensure behavior change will be crucial in the coming years.

Conclusion

Along with making LPG accessible to poor households PMUY also has spill over benefits on public health, the environment, and societal development. Since the target of PMUY of releasing LPG connections has broadly been achieved, the PMUY 2.0 scheme should now be focused towards sustained usage.

6.4. FOOD FORTIFICATION

Why in news?

Prime Minister announced fortification of rice distributed under various government schemes including Public Distribution System (PDS) and Mid-Day-Meal scheme by 2024.

More about news

- The government distributes over **300 lakh tonnes of rice under various schemes covered** under the National Food Security Act, 2013.
    - For 2021-22, the Centre has allocated 328 lakh tonnes of rice under NFSA for schemes such as the Targeted PDS, MDM and Integrated Child Development Scheme (ICDS).
- The announcement is **significant as the country has high levels of malnutrition among women and children.**
    - According to the FSSAI norms, 1 kg **fortified rice shall contain iron** (28mg-42.5mg), **folic acid** (75-125 microgram) and **Vitamin B-12** (0.75-1.25 microgram).
    - In addition, rice may also be fortified with **micronutrients, singly or in combination**, at the level– **zinc** (10mg-15mg), **Vitamin A** (500-750 microgram RE), **Vitamin B1** (1mg-1.5mg), **Vitamin B2** (1.25mg-1.75mg), **Vitamin B3** (12.5mg-20mg) and **Vitamin B6** (1.5mg-2.5mg) per Kg.

About Fortification

- WHO defines Fortification as the practice of **deliberately increasing the content of an essential micronutrient**, i.e. vitamins and minerals (including trace elements) in a food, so as to improve the nutritional quality of the food supply and provide a public health benefit with minimal risk to health.
- Fortification has been **particularly successful for iodized salt:** 71 percent of the world's population has access to iodized salt and the number of **Iodine-deficient countries has decreased from 54 to 32 since 2003**.
- Other common examples of fortification include **adding B Vitamins, Iron, and/or Zinc to wheat flour and adding Vitamin A to cooking oil and sugar.**
- **Food fortification can take several forms like:**

Mass fortification: Addition of one or more micronutrients to foods commonly consumed by the general public, such as cereals, condiments and milk.	**Targeted fortification:** Foods aimed at **specific subgroups of the population** are fortified, thereby increasing the intake of that particular group rather than that of the population as a whole.	**Market-driven fortification:** Situations whereby a **food manufacturer takes a business-oriented initiative** to add specific amounts of one or more micronutrients to processed foods.

Benefits of food fortification

- **Addressing Hidden hunger:** The World Health Organisation defines 'hidden hunger' as a **lack of vitamins and minerals.** Over 70% of the Indian population consumes **less than half the daily recommended dietary allowance** of micronutrients a day. According to the **National Family Health Survey (NFHS-4)**:
    - **58.4% of children** (6-59 months) are anaemic,
    - **53.1% women** in the reproductive age group are anaemic,
    - 35.7% of children under 5 are **underweight**.
- **High Benefit-to cost ratio:** The Copenhagen Consensus (a thinktank) estimates that **every 1 Rupee spent on fortification results in 9 Rupees in benefits to the economy**. Even when all program costs are passed on to consumers, the **price increase is approximately 1-2%,** less than normal price variation.
- **Safe method:** Fortification is a **safe method of improving nutrition** among people. The addition of micronutrients to food **does not pose a health risk** to people.

> **Concerns raised over Food fortification**
> - **Can do more harm:** A group of health experts have recently argued that **India's programme on fortification of rice** to address chronic anaemia and micro-nutrient **deficiency ignores the central role of balanced and diverse diet.**
>   - They have cautioned **specifically against iron supplementation**. In India, Inappropriate methodologies for measurement of haemoglobin **inflates anaemia prevalence**. Consumption of **excess iron by pregnant women** can adversely affect foetal development and birth outcomes.
> - **Difficult to withdraw**: Mandatory fortification **will create markets that will be hard to withdraw** when we have achieved the target of reduced micronutrient deficiency. These foods can contribute to **nutrient overdoses**.
> - **May be misused to promote junk food:** It may be applied to junk foods, effectively **making unhealthy foods look better** than they are. It **undermines nutrition education** by blurring the boundaries of what's healthy and what's not-so-healthy.

- **Other Benefits:**
    - It does not require any changes in food habits of people. It is a **socio-culturally acceptable** way to deliver nutrients to people.

- It **does not alter the characteristics** of the food—the taste, the feel, the look.
- It can be **implemented quickly** as well as show results in improvement of health in a relatively short period of time.

Steps towards fortification in India

- The journey with **food fortification in India began in the 1950s** with vegetable oil fortification and salt iodization. Other commodities such as rice and wheat flour were finally **introduced in the 2000s,** after a 60-year gap between global evidence.
- India's **10th, 11th ,12th Five Year Plans, POSHAN Abhiyan** (National Nutrition Mission) and **Anaemia-Mukt Bharat Mission** recommend food fortification as an important strategy to tackle micronutrient malnutrition.
- In 2016, FSSAI had come out with **regulations on fortification for staples** like wheat flour, maida, rice, double fortified salt, milk, and oil.
  - The **'+F' logo has been notified to identify fortified foods.**

BENEFITS OF FOOD FORTIFICATION

- **Other Steps taken by FSSAI include:**
  - A dedicated unit called the **Food Fortification Resource Centre has been set up** for all **end-to-end technical and advocacy support** to both States/UTs as well as the open market.
  - Organising several **workshops, meetings, and consultations** with various stakeholders for consumers **to understand the benefits of fortification**.
  - Contributed towards various **capacity building trainings and developed Information Education & Communication (IEC) material** specifically for **POSHAN Maah.**
  - Further, one of the key messages in the **Eat Right India movement** is consumption of fortified foods.
- **In 2019, The Ministry of Consumer Affairs, Food and Public Distribution had launched a centrally sponsored pilot scheme on "Fortification of Rice and its Distribution under Public Distribution System (PDS**)" for a period of three years beginning 2019-20 with focus on 15 districts.
  - Government has also decided to scale up the scheme to cover the **Integrated Child Development Scheme (ICDS) and Mid-Day Meal (MDM) scheme** in 'aspirational districts'.
- Food Corporation of India (FCI) has made it mandatory for the rice millers in all states to **install blending infrastructure for the production of fortified rice.**
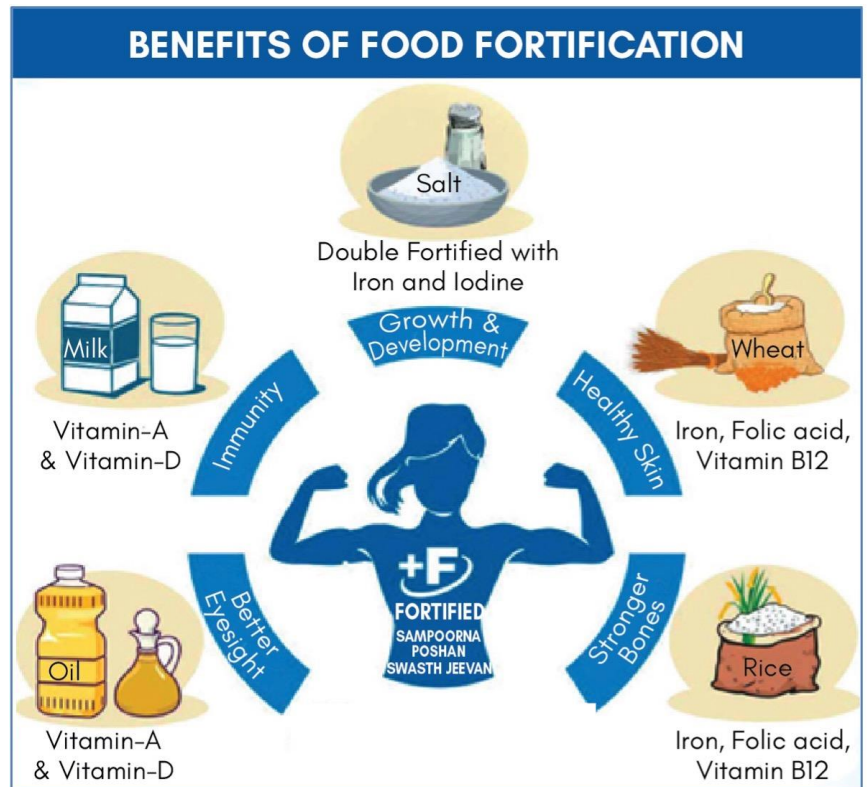
SMART QUIZ

You can scan this QR code to practice the Smart Quiz of Environment at our open test online platform for testing your understanding and recalling of the concepts.

7. SCIENCE AND TECHNOLOGY

7.1. QSIM – QUANTUM COMPUTER SIMULATOR TOOLKIT

Why in news?

Ministry of Electronics and Information Technology (MeitY) recently launched QSim – Quantum Computer Simulator Toolkit.

About QSim

- QSim toolkit allows researchers and students to write and debug Quantum Code that is essential for developing Quantum Algorithms.
- It aims to enable Researchers and Students to carryout research in Quantum Computing (QC) in a cost-effective manner.
- It is an outcome of the project **"Design and Development of Quantum Computer Toolkit (Simulator, Workbench) and Capacity Building",** one of the first initiatives in the country to address the common challenge of advancing the Quantum Computing research frontiers in India.
  - o This project is being executed collaboratively by IISc Bangalore, IIT Roorkee and C-DAC with the support of MeitY.

What is Quantum Computing?

- Quantum computers harness the unique behaviour of quantum mechanics and apply it to computing. This introduces new concepts to traditional programming methods.
- Quantum computing use **qubits** as its the basic unit of information.
- A quantum computer has **three primary parts**:
  - o An area that houses the qubits.
  - o A method for transferring signals to the qubits.
  - o A classical computer to run a program and send instructions.

Features of QSim

Intuitive User Interface (UI)
- It allows students / researchers to create Quantum programs, visualize the instant circuit generation and simulated outputs.

Simulate noisy Quantum logic circuit
- Helps simulate Quantum circuits with and without noise and test how well various algorithms work with imperfect quantum component in real-life conditions.

Pre-loaded Quantum algorithms and Examples
- It comes loaded with Quantum programs and algorithms providing a head start to the users. E.g. QFT, Deutsch Jozsa, Grovers etc.

Integrated with High Performance Computing (HPC)
- The quantum simulations are performed on powerful HPC resources allowing multiple users to submit jobs simultaneously with different QuBit configurations.

What are Qubits and how they differ from binary bits?
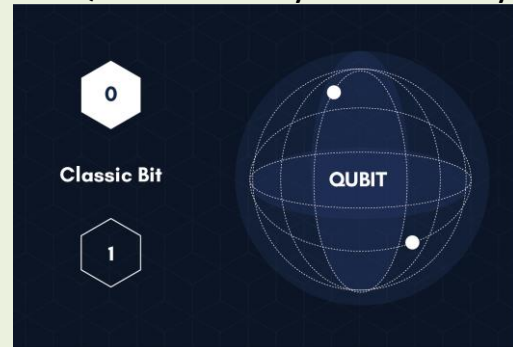
- **Qubits are typically subatomic particles** such as electrons or photons, while **a bit represents a stream of electrical or optical pulses** representing 1s or 0s.
- They play a similar role in quantum computing as bits play in classical computing, but they behave very differently.
- While **bits can hold only a position of 0 or 1**, qubits can **hold a superposition of all possible states**.
- Qubits have some quirky quantum properties (superposition and entanglement) that mean a connected group of them can provide way more processing power than the same number of binary bits.
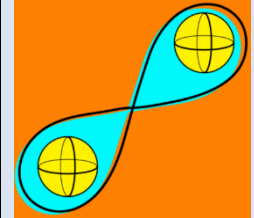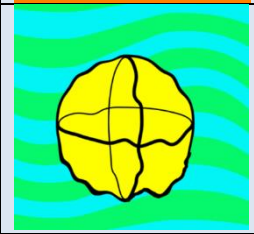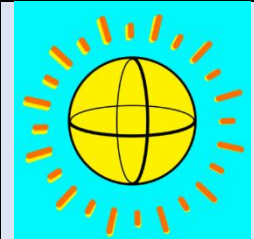
Quantum mechanics and related terms and concepts
- Quantum mechanics, developed in the early 20th century, explains the **nature and behaviour of matter and energy on the atomic and subatomic level**.
- In physics, a quantum is the smallest possible discrete unit of any physical property. It usually refers to properties of atomic or subatomic particles, such as electrons, neutrinos and photons.
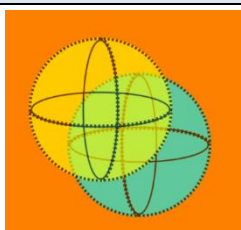
Superposition: In superposition, quantum particles are a combination of all possible states. They fluctuate until they are observed and measured.
- One way to picture the difference between binary position and superposition is to imagine a coin. Classical bits are measured by "flipping the coin" and getting heads or tails. However, if you were able to look at a coin and see both heads and tails at the same time, as well as every state in between, the coin would be in superposition.

	Entanglement: It is the ability of quantum particles to correlate their measurement results with each other. When qubits are entangled, they form a single system and influence each other. Thus, measurements from one qubit can be used to draw conclusions about the others. • By adding and entangling more qubits in a system, quantum computers can calculate exponentially more information and solve more complicated problems.
	Decoherence: The interaction of qubits with their environment in ways that cause their quantum behavior to decay and ultimately disappear is called decoherence. Their quantum state is extremely fragile. • The slightest vibration or change in temperature—disturbances known as "noise" in quantum-speak—can cause them to tumble out of superposition before their job has been properly done.
	Quantum supremacy: It's the point at which a quantum computer can complete a mathematical calculation that is demonstrably beyond the reach of even the most powerful supercomputer.

Applications of Quantum Computing and related technologies

It has potential to solve computational problems beyond the reach of classical computers and transform fields like drug discovery, weather prediction, securing transactions, cyber security, advanced manufacturing, etc.

Some key domains of application of quantum technologies

- **Quantum communication:** Quantum key distribution utilizes the unique properties of quantum mechanical systems to generate and distribute cryptographic keying material for secure communication.

- **Quantum simulation:** Quantum computers work exceptionally well for modelling other quantum systems. Examples of quantum systems that we can model include photosynthesis, superconductivity and complex molecular formations.

- **Quantum machine learning:** Research is ongoing to devise and implement quantum software that enables faster machine learning.

- **Optimisation:** It is the process of finding the best solution to a problem given its desired outcome and constraints. By running quantum-inspired optimisation algorithms on classical computers, we can find solutions ways to manage complex systems such as traffic flows, airplane gate assignments, package deliveries and energy storage.

- **Search:** A quantum algorithm developed in 1996 dramatically sped up the solution to unstructured data searches, running the search in fewer steps than any classical algorithm could.

- **Cryptography:** Classical cryptography relies on the intractability of problems such as integer factorisation or discrete logarithms. Many of these problems can be solved more efficiently using quantum computers.

Steps taken by Government of India for advancement of Quantum Computing
- **National Mission on Quantum Technologies and Applications (NM-QTA):** Budget 2020 allocated Rs 8000 Crore to the mission for a period of five years.
- **Quantum-Enabled Science & Technology (QuEST):** It is a research program to build quantum capabilities set up by the Department of Science & Technology.
- **Quantum Frontier mission**: It is an initiative of the Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC) which aims to initiate work in the understanding and control of quantum mechanical systems.
- **MeitY will establish a Quantum Computing Applications Lab** in the country, in collaboration with AWS, to accelerate quantum computing-led research and development and enable new scientific discoveries.

- **Defence Institute of Advanced Technology (DIAT) and Centre for Development of Advanced Computing (C-DAC) have signed a memorandum of understanding (MoU)** to collaborate for development of quantum computers.
- **Indian Space Research Organisation (ISRO) is collaborating With Research Institute to** develop secure quantum communications in space.

7.2. GENETICALLY MODIFIED CROPS

Why in news?

India will import genetically modified soyameal for the first time to be used as livestock feed.

More on news

- All India Poultry Farmers and Breeders Association (AIPFBA) has been **lobbying to the government for duty free imports of GM soyameal to tide over domestic shortages and reduce prices.**
- Ministry of Environment, Forest, and Climate Change (MoEFCC) cleared the proposal, **on the grounds that material was non-living**.
  - **Genetic Engineering Appraisal Committee (GEAC),** a special committee under the ministry entrusted to govern matters related to GM crops, **was bypassed, given the non-living nature of the material**.
- Soymeal is a protein-rich solid leftover raw material after extracting oil from soyabean seed. **It is a major ingredient of poultry feed.**
- Poultry feed makes up 65% of the cost of production for the farmer and poor harvest of soy have led to high prices of soymeal.

What is Genetically Modified (GM) Food crops?

- According to WHO, genetically modified organisms (GMOs) are organisms in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination.
  - Foods produced from or using GM organisms are referred to as GM foods.
  - **GM crops carry genes of other species artificially inserted into them.**

GENETIC ENGINEERING
Researchers isolate a gene from an organism that has the trait they want to impart to a plant.

1 Single gene is isolated and modified

2 Many copies of the gene are inserted into plant cells and induced to grow

3 Seeds from mature plants are studied for successful transformation

Cell with desired trait

Genetic Material

Isolated target gene

Plant tissue

Plant with new trait

Growth Medium

Sacramento Bee/Scott Flodin

- Globally **GM crops were commercially introduced in 1996.** Since then, their use has grown rapidly. Crops such as corn, cotton, and soybean have been engineered to resist insect pests and herbicides and are now planted widely in many parts of the world.
  - **USA, Brazil, Argentina, India and Canada** are top 5 GM crops growing countries, together accounting for approx. 90% area of the GM cultivation.
- **Bt cotton is the only genetically modified (GM) crop that has been approved for commercial cultivation in 2002** by the Government of India.
  - GM mustard Dhara Mustard Hybrid 11 (DMH 11) developed by Delhi University is pending for commercial release as GEAC has advised to generate complete safety assessment data on environmental biosafety, especially effects on beneficial insect species.
  - **Genetic Engineering Appraisal Committee (GEAC) has allowed biosafety research field trials of two new transgenic varieties of indigenously developed Bt Brinjal** – namely Janak and BSS-793, containing Bt Cry1Fa1 gene (Event 142) – **in eight states** during 2020-23 only after taking no-objection certificate (NOC) from states concerned and confirmation of availability of isolated stretch of land for this purpose.
    - ✓ These indigenous transgenic varieties of brinjal hybrids have been **developed by the National Institute for Plant Biotechnology, (NIPB, erstwhile National Research Centre on Plant Biotechnology, New Delhi), Indian Council of Agricultural Research (ICAR).**
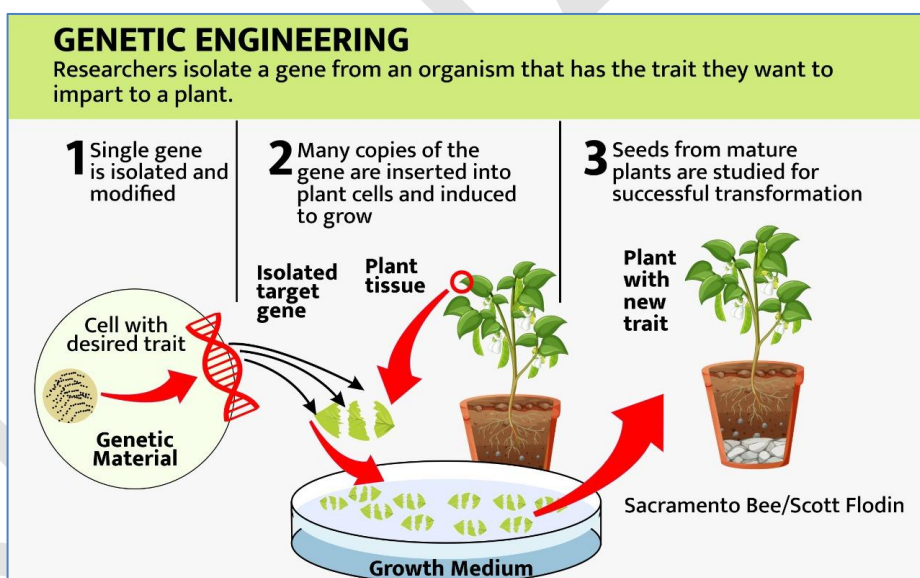
Benefits of GM food crops

- **Better tolerance:** GM crops are better tolerant to different harsh climatic conditions like cold, heat, drought salinity etc.
- **Improved Crop Protection**: The GM crops aims at an increased level of crop protection through the introduction of **resistance against plant diseases caused by insects or viruses or through increased tolerance towards herbicides.**
- **Increased food security for growing population**: Biotechnology holds a lot of promise in achieving food security in sustainable manner.
- **Improved agricultural performance (yields)** with less labour input and less cost input. It has led to an increase in production and the costs of cultivation have gone down.
- **Improved processing characteristics** leading to reduced waste and lower food costs to the consumer.
- **Prevention of loss of species to endemic disease**
- **Benefits to the soil of "no till" farming practice**
- Reduced usage of pesticides and herbicides

CONCERNS- GM CROPS

- ▶ **Ecological concerns:** Gene flow due to cross pollination for the traits involving resistance can result in development of tolerant or resistant weeds that are difficult to eradicate.
- ▶ They could lead to erosion of biodiversity and pollute gene pools of endangered plant species.

- ▶ **Biosafety concerns:** Gene transfer involves risk of toxicity due to nature of the product or changes in the metabolism of organisms.
- ▶ Newer proteins in GM crops, which have not been consumed as foods, have the risk of becoming allergens.
- ▶ Genes used for antibiotic resistance have led to transfer of such genes to microorganisms, thereby aggravating health problems such as antibiotic resistance in bacteria.

- ▶ **Socio-Economic concerns:** Risk of patent enforcement can oblige farmers to depend on giant engineering companies such as Monsanto for strains when their crops are cross pollinated.
- ▶ These plants may be viable for only one growing season and would produce sterile seeds that do not germinate. Farmers would need to buy a fresh supply of seeds each year.

Regulatory Procedure involved in the development and approval of GM crops in India

- The rules governing the handling of genetically modified organisms (GMOs) and products thereof **were notified in 1989 under Environment Protection Act 1986 and guidelines issued later**.
- Two government agencies, the **Ministry of Environment and Forests (MoEF) and the Department of Biotechnology (DBT),** Ministry of Science and Technology, are responsible for implementation of the regulations.
- There are **basically 6 authorities to handle different aspects of the regulation**.
  - These are Recombinant **DNA Advisory Committee, Institutional Bio Safety Committee, Review Committee on Genetic Manipulation, Genetic Engineering Approval Committee (GEAC), State Biotechnology Coordination Committee and District level Committee**.

Global regulation of GM food

- **Codex Alimentarius Commission (Codex), a joint FAO/WHO intergovernmental body, is responsible for developing the standards, codes of practice, guidelines and recommendations** that constitute the Codex Alimentarius, meaning the international food code.
  - **Codex principles do not have a binding effect on national legislation** but are referred to specifically in the Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization (SPS Agreement), and WTO Members are encouraged to harmonize national standards with Codex standards.
- **Cartagena Protocol on Biosafety**, an environmental treaty legally binding for its Parties which took effect in 2003, regulates transboundary movements of Living Modified Organisms (LMOs). GM foods are within the scope of the Protocol only if they contain LMOs that are capable of transferring or replicating genetic material.

- **A series of guidelines for safety assessment procedures to be followed** at various stages of development of GMOs i.e., research, confined field trials, food safety assessment, and environmental risk assessment have been adopted under Rules, 1989 from time to time.
- **GEAC shall have powers to revoke approvals in case of:**
  o Any new information on harmful effects of GMOs.
  o GMOs cause such damage to the environment as could not be envisaged when approval was given.
  o Non-compliance of any conditions stipulated by GEAC.

Conclusion

A focused GM research agenda vis-a-vis agriculture development priorities along with **capacity building on GM research**, development and regulation will aid in **increasing public awareness with reliable evidence-based information** on GM crops and products. Also, **science based and consistent regulatory policy and simplified modules for risk assessment and management** is the need of the hour.

8. CULTURE

8.1. JALLIANWALA BAGH MASSACRE

Why in News?

Prime Minister of India recently unveiled the plaque and dedicated the renovated complex of Jallianwala Bagh Smarak at Amritsar to the nation and inaugurated Museum/Galleries.

More on the news

- The Jallianwala Bagh Smarak commemorates the Jallianwala Bagh Massacre that occurred on **April 13, 1919.**
- The memorial was set up by the Jallianwala Bagh National Memorial Act, 1951 (recently amended in 2019), making it the first national monument of the country governed by an Act of Parliament that had the **Prime Minister as its chairperson**.
- It was recently renovated by NBCC under the supervision of five-member committee headed by DG, Archaeological Survey of India (ASI) and the funds were provided by the Ministry of Tourism under the scheme on "Assistance to Central Agencies".

The massacre wasn't an isolated incident, rather an incident that happened with a multitude of factors working in the background.

EVENTS THAT LED TO THE MASSACRE

Passage of Rowlatt Act and Initiation of Rowlatt Satyagraha	• The Rowlatt Act (Black Act) authorized the government to imprison or confine, without a trial, any person associated with seditious activities. This led to nationwide unrest. • Gandhiji initiated **Satyagraha** to protest against the Rowlatt Act and the British issued to **prohibit him from entering Punjab.**
Arrest of leaders in Amritsar and Unrest in Punjab	• **Dr Saifuddin Kitchlew and Dr Satyapal,** the two prominent leaders organised a peaceful protest against the Rowlatt Act in Amritsar and were subsequently arrested. • Soldiers fired upon demonstrators demanding release of the 2 leaders, resulting in violent outbreaks where railway lines, telegraph posts and government buildings were destroyed and Europeans and Indians killed.
Punjab placed under Martial law	• Most of Punjab was under martial law and civil liberties, including freedom of assembly, were curtailed. • **Brigadier-General Dyer** banned gatherings of more than four people.
Gathering at Jallianwala Bagh	• A crowd of around 10,000 had gathered at Jallianwala Bagh to celebrate the festival of Baisakhi on **April 13, 1919** and to protest against the arrest of the 2 leaders.
The Massacre	• **Brigadier-General Dyer,** headed to the Bagh with his troops, blocked the only exit and ordered them to open fire without giving any warning. • The firing continued for 10–15 minutes and ceased only after the ammunition had run out. • The total estimated figure of the dead as given by General Dyer and Mr Irving was 291. However, other reports including that of a committee headed by Madan Mohan Malviya put the **figure of dead** at over 500.

Aftermath of the Massacre

- The news of Jallianwala Bagh spread and led to widespread demonstrations to which the government responded with brutal repression. Seeing the violence, Mahatma Gandhi called off the **Anti-Rowlatt Satyagraha**.

- **Rabindranath Tagore renounced his Knighthood in protest**.
- In **October 1919, the Disorders Inquiry Committee,** also known as the **Hunter Commission**, was formed to inquire about the massacre.
- In 1920, the Commission censured Dyer for his actions, directed **him to resign** from his appointment as Brigade Commander and informed him that he would receive no further employment in India.
- Later in **1940**, at Caxton Hall in London, **Udham Singh, an Indian freedom fighter, killed Michael O'Dwyer,** the Lieutenant Governor of Punjab during the massacre, who had approved of Dyer's action and imposed martial law in Punjab after the firing, thereby ensuring that the news did not get out.
- The **shock and outrage led to the non-cooperation movement of 1920-22**, which proved a step in the direction of ending the British rule of India 25 years later.

8.2. MALABAR/MOPLAH REBELLION

Why in news?

Malabar Rebellion leaders Variamkunnath Kunhamed Haji, Ali Musaliar and 387 other "Moplah martyrs" will be removed from the **Dictionary of Martyrs of India's Freedom Struggle**.

More on the news

> **Indian Council of Historical Research (ICHR)**
> - It is an **autonomous organization under the Ministry of Education** established in 1972.
> - It was registered under Societies Registration Act.
> - The primary aim and objective of the ICHR is to promote and give directions to historical research and to encourage and foster objective and scientific writing of history.

- A three-member panel, which reviewed the entries in the fifth volume of the dictionary, brought out by the **Indian Council for Historical Research (ICHR),** is understood to have recommended the deletion as it felt that the 1921 rebellion was never part of the independence struggle but a **fundamentalist movement**.
- It concluded that Haji was a rioter who had established a Sharia court and a large number of "Moplah martyrs," who were under-trial prisoners, died due to diseases such as cholera and natural causes hence cannot be treated as martyrs.

About Malabar rebellion

- Malabar rebellion, also known as the Moplah riots, was an armed uprising of Muslim tenants against British rulers and local Hindu landlords in 1921.

> **About Moplahs**
> - Moplahs/Mappilas were the **Muslim tenants (kanamdars)** and **cultivators (verumpattamdars)** inhabiting the Malabar region where most of the landlords (**janmi or jenmies**) were upper caste Hindus.
> - Moplahs had gained some prominence over their landlords during the Mysorean invasions by Hyder Ali and Tipu Sultan. But after the British occupation of Malabar in 1792 (following the 3rd Anglo-Mysore war), the domination of the Hindu landlords was re-established.
> - In this scenario, the Mappilas soon found themselves at the mercy of their Hindu landlords who were sustained by the British authority as their agents.

- It has often been perceived as one of the first nationalist uprisings in southern India and has even been described as a **peasant revolt**.
- It occurred within the broader spectrum of the **Khilafat/Non-cooperation movement (1920-1922)** led by Mahatma Gandhi.

Causes of The Revolt

History of feudal conflicts in the Malabar region	○ Peasant–landlord relations were historically strained in the region. ○ Evidently, about **32 uprisings were organized by the Moplahs**, between 1836 and 1919, against high caste Hindu landlords, their relatives or assistants and British officials.
Agrarian discontent	○ The economic condition of Mappila tenants had deteriorated overtime due to oppressive British policies resulting in increased taxation, insecure tenancy, rack renting, forced evictions etc. ○ This had given rise to anti–British and anti–feudal sentiments.
Political mobilization of mappilas	○ The **Congress reached out to the Mappila cultivators to mobilize support for independence through Khilafat movement** and support agrarian reforms in the region. • A Khilafat committee was formed in Malabar in June 1920, which became increasingly active. • In August, 1920, Gandhi along with Shaukat Ali (the leader of the Khilafat movement in India) visited Calicut to spread the combined message of non–cooperation and Khilafat among the residents of Malabar. • By January 1921, the Mappilas, under their religious head Mahadum Tangal pledged support to the non–cooperation movement.
Immediate cause	○ Mappilas under the leadership of Variyamkunnath Kunjahammed Haji took up arms in August 1921 due to the arrest of Khilafat leader Ali Musaliyar and a widespread rumour that a prominent mosque in Thirurangadi has been raided.

Course of the rebellion

- It largely took the shape of guerrilla-type **attacks on janmis, police and troops**.
- Symbols of the colonial state – telegraph lines, train stations, courts, post offices etc. and homes of landlords were attacked.
- When the rebellion spread across the Malabar district, British officers and the local police escaped, leaving **vast tracts of territory firmly under the control of the local rebels**.
  - The territory was declared an 'independent state' in August 1921 with Haji as its ruler.
  - For nearly six months, he ran a **parallel Khilafat regime headquartered in Nilambur**, with even its own separate passport, currency and system of taxation.
  - Tenants were granted the power over the lands they cultivated along with tax incentives.
- Although the movement started off largely as a protest against British authorities, it acquired communal overtones that culminated into **communal violence**.
  - Massacres, forcible conversions, desecration of temples etc. became a part of the revolt.

British suppression of the revolt

- The British government responded to the movement with much aggression, bringing in **Gurkha regiments** to suppress it and imposing **martial law**.
  - **Wagon tragedy**: Approximately 60 Mappila prisoners on their way to a prison, suffocated to death in a closed railway goods wagon.
- By January 1922, they had taken back the areas held by the rebels and captured all their key leaders.
  - Haji was arrested and was sentenced to death along with his compatriots.

Errata- Article 8.1.2, July 2021- Due to a typographical error, the location of Rakhigarhi was shown in Punjab whereas **the actual location of the same should've been in Haryana.**

You can scan this QR code to practice the Smart Quiz of Culture at our open test online platform for testing your understanding and recalling of the concepts.

9. ETHICS

9.1. REFUGE: A RIGHT OR A FAVOR?

Introduction

In a recent incident, an Afghan Refugee posted a photo of food served at US camp on Twitter and was met with severe criticism combined with sympathy from some corners.

The above post and the comments generate some questions- Is decent food a right of a refugee or a favor from the host country for which they should be grateful? Does the country granting asylum have any obligations towards the refugee? Should human rights of refugees and that of citizens be different? In essence the moot question becomes- is refuge a right of the refugee or a favor from the host nation?

Not complaining but this is what I got last night for dinner and the next meal is 12 hours later. Refugee life might be safe but never easy & favorable. Fort bliss El Paso Texas.
#AfghanRefugees #afghanistan

How about "thank you"? Be grateful. Have some humility and exhibit some dignity. No one owes you anything. I'm a refugee from Lebanon and I'm forever grateful.
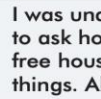
I was unable to reach a homeless veteran to ask how they like their free meals and free housing because they don't get those things. Also they don't have iPhones.

This is complaining. People from many nations died rying to improve your country and then to get you out - where you have freedom to complain. Think of them & those grieving for them before tweeting these complaints.
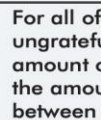
For all of he people saying this person is ungrateful, seriously ask yourself if this amount of food would fill you up?? Tha 's the amount most of us eat as a snack in between meals. It's not enough food for a meal, especially if that's it for 12 hours.

The lack of compassion in the responses to you is frightening. You have had your life uprooted. No one chooses to start over with nothing unless desperate. America didn't "rescue" you, it performed its hard minimum duty after bringing war to your country for 20 years. Take care.
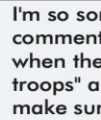
I'm so sorry for the heartless people commenting. it shows how cruel they are when they pulling a "what about our troops" argument, as if it's impossible to make sure both are looked after. ft's not one or the other.

Who is a refugee and what are their rights?

According to UN High Commissioner for Refugees (UNHCR), a refugee is someone who **has been forced to flee his or her country because of persecution, war, or violence.**

- A **refugee is different from a migrant**, who is not forced to flee but has **voluntarily left their source country** seeking better opportunities. Also, a refugee is different from an **Internally Displaced Person (IDP),** who though has been **forced to flee but has not crossed the national border.**

The primary international legal instrument dealing with the issue of refugees is: **The 1951 Convention relating to the Status of Refugees and the associated 1967 Protocol.** These instruments provide protection to refugees via the principle of non-refoulment i.e., a refugee should not be returned to a country where he or she faces serious threats to his or her life or freedom.

Growing global refugee crisis

The global refugee crisis has been growing with increasing conflict within countries like Syria, Venezuela, Myanmar etc. and most recently Afghanistan.

By the end of 2020, **26.4 million became refugees** because of persecution, conflict, violence, or human rights violations. That was an increase of 2.9 million people over the previous year. **68% of those displaced across borders come from just five countries: Syria, Venezuela, Afghanistan, South Sudan, and Myanmar.**

The issue is further compounded by the outbreak of COVID-19 which made finding asylum in countries all the more difficult.

OTHER RIGHTS CONTAINED IN THE 1951 CONVENTION INCLUDE:

» The right not to be expelled, except under certain, strictly defined conditions (Article 32);	» The right to housing (Article 21);	» The right to access the courts (Article 16);
» The right not to be punished for illegal entry into the territory of a contracting State (Article 31);	» The right to education (Article 22);	» The right to freedom of movement within the territory (Article 26); and
» The right to work (Articles 17 to 19);	» The right to public relief and assistance (Article 23);	» The right to be issued identity and travel documents (Articles 27 and 28).
	» The right to freedom of religion (Article 4);	

Apart from the 1951 Convention, there are several region-specific instruments for protection of the Rights of Refugees.

Who gives these rights and in what way?

The **international community in general and the host states in particular** hold the responsibility of providing these rights. This predicament gives the host states following responsibility-

- **Providing the asylum seeker with the status of a Refugee:** The 1951 convention guarantees the Rights of a refugee but who qualifies as a refugee is subject to the procedures laid down by the host nation.
- **Creating conditions for fulfillment of these rights:** Access to resources and services is dependent upon the host nation providing the same or creating an enabling environment which provides this access through civil society and international organizations.
- **Preventive action through 'Responsibility to Protect (R2P)':** R2P is an international norm that seeks to ensure that the international community prevents crimes against humanity in every form. This indirectly makes states a preventive force for securing the rights of the refugees.
- **Balancing domestic responsibility with responsibility towards refugees:** States have the task of balancing both i.e., securing the rights of the refugees without compromising domestic needs or disturbing the socio-economic-political situation.

Despite these rights, the ground situation indicates that only a selected few are granted asylum and provided with the associated rights, treating these rights as a favor which is at the discretion of the host states.

Why are refugee rights becoming a favor on part of the states?

The core issue in in this scenario stems from the **lack of empathy within the public** of the host nation and **limited resources at the ground level**. These core reasons manifest themselves in following ways-

- **Mistrust as a norm:** Lack of empathy with the refugees creates **mistrust about the culture, situation, and genuineness of their claim at asylum.** This translates to a general policy of rejecting claims, making grant of refuge a special favor.
- **Perception as an economic competitor:** Limited opportunities combined **image of a refugee as a 'freeloader from the other nation'** creates a perception of them being unworthy of rights. This makes 'grant of rights' a favor which is subject to collective sympathy.
- **Viewed as a security threat:** The mistrust combined with **lack of awareness and misinformation creates fear** and makes the local population view refugees as a security threat. This indirectly increases the conditionalities on grant of rights, thus making it more like a favor by states.
- **Issue of legal enforcement limits enforceability of rights:** The **limitation of international laws** makes refugee rights contingent upon the discretion and perception of the host country. For example, many European countries tend to be more sympathetic to LGBTQIA+ refugees when compared to victims of war crimes in African countries.
- **Limited capacity of the host:** Fulfillment of all rights of refugees is dependent upon the capacity of resources within the host countries. For example, in **many developing countries Right to Housing cannot be fulfilled for the domestic population**, guaranteeing the same claim for refugees becomes difficult and hence becomes selective.
- **Politicization of the issue:** The image of the refugees, the associated **fear psychosis**, and political implications of assimilating the refugees leads to politicization of the issue. It leads to creation of a political question- '**Should we grant refuge?'**. Deliberation on this question **changes the context from 'Right of the Refugee' to 'Decision of the state'.**

Absence of enforceability and ambiguity in the asylum-seeking process has made it extremely discretionary in nature. This has led to emergence of the **idea of selective humanitarianism**.

> **Where does India stand on this debate?**
>
> India has **neither acceded to the 1951 Refugee Convention nor enacted any legislation** for the protection of refugees, although it has always been willing to host the forcibly displaced persons from other countries without adopting legalistic approaches to the refugee's issues. This stance can be seen in the issue of **Chins and Chakma refugees** among others.
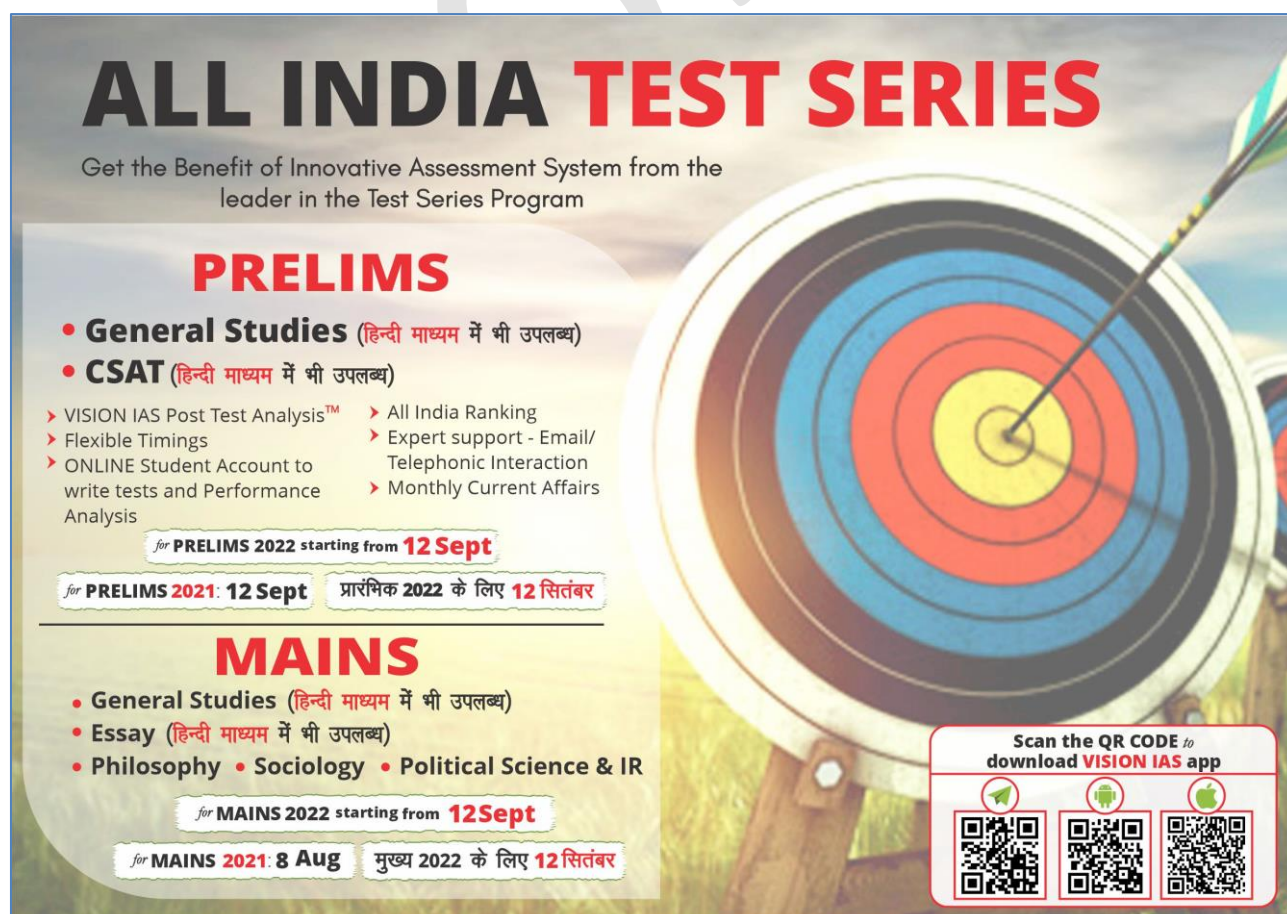>
> In the recent times, India has enacted the Citizenship Amendment Act (CAA) which indirectly provides refuge to selected communities from selected countries. Despite the idea of humanitarian aid being in the right place, India's system does not provide a legitimate refugee a right to asylum. **The asylum is granted as a favor to refugees who are worthy** according to the collective moral inclination.

What can be a way forward to securing the rights of refugees?

- **Generating awareness about refugee situation and their rights:** Creating awareness about the situation would translate to empathy for refugees and fading of the prevalence of fear against them. This may lead to more social acceptance and faster assimilation.
- **Making procedures objective and authorities accountable:** The anxiety and uncertainty faced by the refugees can be ameliorated to a large extent if procedures for granting asylum be made objective and clearly communicated.
  o Also, making the criteria objective could be a first step in holding the authorities accountable and thus moving towards a rights-based approach.
- **Creating an effective transition mechanism:** The resolution of the refugee issue remains complicated considering its social, economic, and political implications and thus takes time. In this scenario, it becomes important that an effective transition mechanism is created which can provide at least limited rights to refugees.
  o **Reforming and strengthening the system of refugee camps:** The system of refugee camps has emerged as an effective solution and hence should be adequately funded and managed.
- **Adopting a multistakeholder and multilateral approach:** States have a limited capacity with regard to fulfillment of refugee rights. In this context, it becomes important that the host country, the source country, the group of refugees and the entities engaged on the ground like NGOs, social groups etc. come together for realization of these rights.
- **Integrating efforts with Sustainable Development Goals (SDGs) for making rights accountable:** Non-fulfillment of rights directly affects the realization of SDG 16 (Peace, Justice, and strong institutions) and indirectly affects other SDGs. Efforts should be made make the authorities more accountable by linking refugee rights to the SDG targets.

Conclusion

The essence of resolution of the refugee crisis lies **political economy of providing refuge** (i.e., economic cost of refuge and its socio-political implications) and the **moral economy of asylum** (the values and effects attached to the internationally recognized principle of providing protection to refugees and extent of humanitarianism among the host). Managing these two factors could render a long-term solution to this crisis.

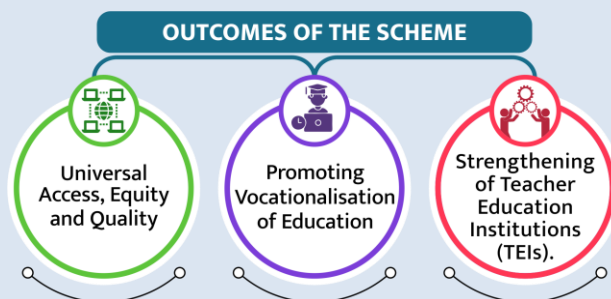# 10. GOVERNMENT SCHEMES IN NEWS

10.1. SAMAGRA SHIKSHA SCHEME

Why in News?

Recently, Union Cabinet approved continuation of Samagra Shiksha Scheme for School Education from 1st April, 2021 to 31st March, 2026.

About Samagra Shiksha Scheme

Objective	Features

• **Quality education and enhancing learning outcomes** of students;
• **Bridging Social and Gender Gaps** in School Education;
• **Ensuring equity and inclusion at all levels of school** education;
• **Ensuring minimum standards** in schooling provisions;
• **Promoting Vocationalisation of education;**
• Support **States in implementation of Right of Children to Free and Compulsory Education (RTE)** Act, 2009 and **recommendations of the National Education Policy 2020.**
• **Emphasis on activity-based Curriculum and Pedagogy** to impart 21st-century skills to the students.
• **Strengthening and up-gradation of SCERTs/State Institutes of Education** and DIET as a nodal agencies for teacher training.
	• Samagra Shiksha or Integrated Scheme for School Education, was launched in **2018** by **subsuming the erstwhile Centrally Sponsored Schemes** of **Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE).**
	• The Samagra Shiksha scheme is **an integrated scheme for school education covering the entire gamut from pre-school to class XII**.
	  ○ The scheme **treats school education as a continuum and is in accordance with Sustainable Development Goal for Education (SDG-4).**
	• The Scheme will be implemented as a Centrally Sponsored Scheme by the Department through a **single State Implementation Society (SIS) at the State/UT level.**
	• **At the National level, there would be a Governing Council** headed by Minister of Human Resource Development and a Project Approval Board (PAB) headed by Secretary, Department of School Education and Literacy.
	  ○ The Governing Council will be empowered to modify financial and programmatic norms and approve the detailed guidelines for implementation within the overall Framework of the scheme.
	• The fund sharing pattern for the scheme **between Centre and States is at present in the ratio of 90:10 for the 8 North-Eastern States and 3 Himalayan States and 60:40 for all other States and Union Territories with Legislature**.
	  ○ It is 100% centrally sponsored for Union Territories without Legislature.
	• The major interventions, across all levels of school education, proposed under the scheme are: (i) Universal Access including Infrastructure Development and Retention; (ii) Foundational Literacy and Numeracy, (iii) Gender and Equity; (iv) Inclusive Education; (v) Quality and Innovation; (vi) Financial support for Teacher Salary; (vii) Digital initiatives; (viii) RTE Entitlements including uniforms, textbooks etc.; (ix) Support for ECCE; (x) Vocational Education; (xi) Sports and Physical Education; (xii) Strengthening of Teacher Education and Training; (xiii) Monitoring; (xiv) Programme Management; and (xv) National Component.
	• The scheme covers 11.6 lakh schools, over 15.6 crore students and 57 lakh Teachers of Govt. and Aided schools (from pre-primary to senior secondary level).
	• The **new interventions which have been incorporated in the revamped Samagra Shiksha scheme based on the recommendations of the National Education Policy 2020** are as follows:
	  ○ **Pre-Primary**: Training of Master Trainers for training of Anganwadi workers and In-service teacher training for ECCE teachers.
	    ✓ **Provision of upto Rs 500 per child for Teaching Learning Materials,** indigenous toys and games, play based activities per annum for pre-primary sections in Government Schools.
	    ✓ **Support for pre-primary sections** in government primary schools.
	  ○ **Support for NIPUN Bharat:** The **National Mission on Foundational Literacy and Numeracy** to ensure that every child achieves the desired learning competencies in reading, writing and numeracy at the end of grade III and not later than grade V.
	    ✓ **Specific training modules under NISHTHA to train Pre- primary and Primary teachers on Foundational Literacy and Numeracy**.

- o **Elementary level:** Financial support for State Commission for Protection of Child Rights @ Rs 50 per elementary school in the state, for protection of child rights and safety.
  - ✓ Greater emphasis on Direct Benefit transfers so that the various benefits reach directly to the students in the shortest time.
- o **Secondary level:** Universalization of access upto senior secondary level.
  - ✓ Addition of new subjects instead of Streams in existing senior secondary schools.
  - ✓ For out of school children at 16 to 19 years of age, support will be provided to SC, ST, disabled children, upto Rs 2000 per child per grade to complete their secondary/senior secondary levels through NIOS/SOS.
- o **Quality and Innovation for all levels:** Holistic, 360-degree, multi-dimensional report showing progress/uniqueness of each learner in the cognitive, affective, and psychomotor domains will be introduced in the form of Holistic Progress Card (HPC).
  - ✓ Support for activities of PARAKH, the National Assessment Centre.
- o **Equity and Inclusion**
  - ✓ **All KGBVs to be upgraded to class** XII.
  - ✓ **Enhanced financial support for existing Stand-alone Girls' Hostels** for classes IX to XII (KGBV Type IV) of upto Rs 40 lakh per annum (earlier Rs 25 lakh per annum).
  - ✓ **Provision of Incinerator and sanitary pad vending machines in all girls' hostels.**
- o **Vocational Education: Support under Vocational Education extended to Government aided schools** also in addition to Government Schools and grant/number of job roles/sections linked to enrolment and demand.
- o **ICT and Digital Initiatives:** Provision of ICT labs, Smart classrooms including support for digital boards, smart classrooms, virtual classrooms and DTH channels have been provided.
- o **Support for Social Audit** covering atleast 20% of schools per year so that all schools are covered in a period of Five years.
- o **Appointment of Language Teachers:** components of training of teachers and bilingual books and teaching learning material added, besides support for salary of Hindi and Urdu teachers.

10.2. SAMRIDH SCHEME

Why in News?

Ministry of Electronics and Information Technology (MeitY) launched a new scheme, namely "Start-up Accelerators of MeitY for product Innovation, Development and growth (SAMRIDH)".

Objectives of the Scheme	Salient Features
• **Support existing and upcoming Accelerators** to select and accelerate IT-based startups to scale. • **Accelerating the startups** by providing customer connect, investor connect, international expansion, and overall business growth in terms of revenue, users, and valuation parameters.	• To be implemented by **MeitY Start-up Hub (MSH)**, the SAMRIDH programme will **develop Startup Accelerator ecosystem in India** through its **two components** as: **About MeitY Start-up Hub (MSH)** • It is a **nodal entity** under MeitY to **facilitate MeitY's vision** of promoting technology innovation, start-ups and creation of Intellectual Properties. • It acts as a **national coordination, facilitation and monitoring centre** to integrate all the incubation centres, start-ups and innovation related activities of MeitY. a) **Providing administrative** cost to Accelerators for providing acceleration services to startups. b) **Matching equity seed funding** provided to startups for scaling their business. To support around **300 startups** through nearly **40 cohorts** in next **three years**, the accelerators will develop customized acceleration programs to fit startup needs in the cohort with- • **Services** ranging from customer connect, investor connect, capacity enhancement, product enhancement, international immersion, revenue growth etc. • Up to ₹ **40 lakh** investment in a start-up based on current valuation and growth stage of the Start-Up through selected accelerators. • Facilitate **equal matching investment** by accelerator/investor.

	• Encourage accelerators to **utilize the investment vehicle which is most conducive to the startup for its growth.**
	• **A maximum of 10 and minimum of 5 startups** in each cohort.
	The formulation of **process to support** existing and upcoming startup accelerators and the **implementation supervision** of the scheme will be done by a **10 member committee** under the **Secretary** (MeitY).

10.3. UBHARTE SITAARE FUND

Why in News?

Recently, the finance minister launched '**Ubharte Sitaare Fund**' at Lucknow, an **Alternative Investment Fund** to help **future champions** among **export-oriented firms** & **startups**.

Objectives of the Fund	• **To identify** Indian enterprises with potential advantages by way of technology, products, or processes, along with **export potential**, but which are currently underperforming or unable to tap their latent potential to grow.
	• **To enhance India's export competitiveness** in select sectors through finance and extensive handholding support to Indian companies with potential to be future champions in the domestic arena while catering to global demands.
Fund Corpus	• **₹ 250 crore** with a **greenshoe** option of **₹ 250 crore.**
	o In the context of an initial public offering (IPO), **greenshoe option is a provision that grants the right to sell investors more shares than initially planned** by the issuer **if the demand for a security issue proves higher than expected.**
Setup by	**Exim Bank** and **Small Industries Development Bank of India (SIDBI).**
Nature of Assistance	A **mix of structured support** to export-oriented units in manufacturing and services. i.e. **financial** and **advisory services** in the form of:
	• investments in **equity** and **equity-like instruments**,
	• **debt** (funded and non-funded)
	• **Technical Assistance**.
Other Features	Based on model followed by other nations like Germany, i.e., identifying champion sector and provide support or handhold them through necessary technological help or funds to emerge as champion, the fund will help:
	• **Micro, Small and Medium companies** with annual turnover of up to ₹ 500 crore with ability to penetrate global market,
	• **SEBI and EXIM bank have jointly identified over 100 potential proposals from diverse sectors**, such as pharmaceuticals, auto components, engineering solutions, agriculture, and software.

11. NEWS IN SHORTS

11.1. THE CONSTITUTION (ONE HUNDRED AND TWENTY-SEVENTH AMENDMENT) BILL, 2021

- Aim of the Bill is **to clarify some provisions in the 102nd Constitutional Amendment Act, 2018** to help **restore power of states to identify backward classes.**
- **102nd CAA, 2018** had given **constitutional status to the National Commission for Backward Classes (NCBC)** under **Article 338B.**
  - **It also inserted two new articles** - **Article 324A** which deals with Central List of the socially and educationally backward classes and **article 366(26C)** which defines socially and educationally backward classes.
  - However, **issue arose when** while scrapping quota for Marathas, **Supreme Court ruled that after 102 CAA 2018, only the Centre can notify socially and educationally backward classes, not the states.**
- In India, **separate OBC lists** are drawn up by the Centre and each state concerned since 1993.
  - **Articles 15(4), 15(5) and 16(4) expressly conferred power on a state** to identify and declare the list of socially and educationally backward classes
- Thus, by amending 338B, 324A and 366(26C), the **127th Amendment Bill seeks to clarify that State Government and Union territories are empowered** to prepare and maintain their own State List/ Union territory List of SEBCs.

11.2. RAJYA SABHA PASSES CONSTITUTION (SCHEDULED TRIBES) ORDER (AMENDMENT) BILL, 2021

- The Constitution **empowers the President to specify the Scheduled Tribes (STs)** in various states and union territories.
  - Further, it **permits Parliament to modify this list** of notified STs.
- The Bill seeks to modify Part-XVIII of the Schedule to the Constitution (Scheduled Tribes) Order, 1950 relating to **State of Arunachal Pradesh** like:
  - Deletion of 'Abor',
  - Inclusion of **'Mishmi-Kaman (Miju Mishmi)', 'Idu (Mishmi)' and 'Taraon** (Digaru Mishmi)' in lieu of 'Mishmi, Idu, Taroan';
  - Inclusion of **'Monpa', 'Memba', 'Sartang', 'Sajolang (Miji)'** in lieu of 'Momba'; etc.

11.3. COMMEMORATION OF 100TH YEAR OF MADRAS LEGISLATIVE COUNCIL (MLC)

- The MLC was established in 1921 which **continued to function as the legislative assembly of the then Madras state post 1947 and thereafter Tamil Nadu from 1969.**
- It was **set up under the Government of India Act 1919**.
  - The **proportion of elected members was increased to over 70%.**
  - The **concept of dyarchy came into being** which divided the administrative subjects into Central and Provincial Lists.
  - It was then that the **office of the Chief Minister, also called Premier, got instituted**.
  - One seat in each territorial plural-member constituency (28 in all) was reserved for non-Brahmins.
- Justice Party formed the government after the **first election with just 3% of the population as electors (only men).**
  - **Congress boycotted this election**.
- The MLC's centenary celebration is historic as the House had **passed several landmark legislations like**
  - **Voting rights for women in 1921.**
  - Muthulakshmi Reddy was the first woman member of the Council.
  - Hindu Religious Endowment Act (1926).
  - Abolition of the Devadasi system.
  - Issuing free pattas to the poor for housing sites.

11.4. ELECTORAL BONDS WORTH ₹3,429.56 CRORE REDEEMED BY PARTIES IN 2019-20: ASSOCIATION FOR DEMOCRATIC REFORMS (ADR)

- According to ADR report, **four national parties (out of seven)** namely BJP, INC, AITC and **NCP collected 62.92% (₹2,993.826 cr) of their total income from donations through electoral bonds** for FY 2019-20.
- **About Electoral Bonds:**
  - Announced in the **2017 Union Budget**, **electoral bonds** are **interest-free bearer instruments** used to donate money **anonymously** to political parties.
  - The bonds are **sold in multiples** of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore, and the **State Bank of India (SBI) is the only bank authorised** to sell them.
  - Any party that is **registered under Representation of the Peoples Act, 1951** and

has secured **at least one percent of the votes polled** in the most recent General elections or Assembly elections is **eligible to receive electoral bonds**.
- o Donors can purchase and subsequently **donate the bonds to their party of choice**, which the party can then cash through its verified account **within 15 days**.
- o There is **no limit on the number of bonds** an individual or company can purchase.
- o SBI deposits bonds that a political party **hasn't encased within 15 days into the Prime Minister's Relief Fund.**

11.5. CABINET APPROVES CONTINUATION OF CENTRALLY SPONSORED SCHEME FOR FAST TRACK SPECIAL COURTS

- The scheme has been **extended for 2 years** from 01.04.2021 to 31.03.2023 **with an outlay of Rs. 1572.86 crore.**
- **Central share (Rs.971.70 crore)** is to be **funded from Nirbhaya Fund.**
  - o The **Nirbhaya Fund Framework provides for a non-lapsable corpus fund for safety and security of women** to be administered by the Department of Economic Affairs.
- **Fast Track Special Courts** are dedicated courts for swift justice for victims of sexual offences and strengthen the deterrence framework for sexual offenders.
  - o They were **introduced under Criminal Law (Amendment) Act, 2018** for expeditious disposal of **Cases of Rape and POCSO Act.**
  - o A total of **1023 FTSC were set up for the purpose** out of which **389 FSTC were exclusively for POCSO Act cases.**
  - o Each FSTC has one judicial member and seven staff members.
  - o The **responsibility** of setting up FSTCs **lies with state and UT government.**
    - ✓ Currently covering **28 States**, it is proposed to be expanded to **cover all 31 states** which are eligible to join the Scheme.
- **Protection of Children from Sexual Offences (POCSO) Act, 2012**
  - o Enacted to protect children from offences of sexual assault, sexual harassment and pornography and provide for establishment of Special Courts for trial of such offences.
  - o Act was amended in 2019, to make provisions for enhancement of punishments for various offences.

11.6. MARITAL RAPE A GROUND FOR DIVORCE, RULES KERALA HC

- Kerala High Court, in a significant judgment, **upheld that marital rape, although not penalised in India, is a good ground to claim divorce.**
  - o Court observed that a spouse in a marriage has a choice, a choice not to suffer, **which is fundamental to the autonomy guaranteed under natural law and the Constitution**.
  - o Law cannot compel a spouse to suffer against his or her wish by denial of divorce by the court.
- Section 375 (Exception) **of the Indian penal Code (IPC) exempts** unwilling sexual intercourse between a husband and a wife **over fifteen years of age from Section 375's definition of "rape" and thus immunizes such acts from prosecution.**
- **India is one of only 36 countries where marital rape is not a legal crime.**
  - o In 2013, the UN Committee on Elimination of Discrimination Against Women (CEDAW) recommended that the **Indian government should criminalize marital rape**.
  - o The **JS Verma committee** set up in the aftermath of nationwide protests after 2012 gang rape case had also recommended the same.
- **Legal provisions available to women**
  - o **Section 498A deals** with women being subjected to cruelty by her husband or any relative of her husband.
  - o **Domestic Violence Act, 2005 recognises** forced sexual activity as punishable under the Indian law.
    - ✓ However, a magistrate under the law has absolutely no power to criminalise the act of a man raping his wife, neither can the man be sentenced.

11.7. INDIA TAKES OVER UNITED NATIONS SECURITY COUNCIL (UNSC) PRESIDENCY FOR AUGUST

- This is **India's first presidency in the UNSC during its 2021-22 tenure**. India's two-year tenure as a non-permanent member began on January 1, 2021 (This is the 8th tenure as non-permanent member in the UNSC).
  - o The **presidency of UNSC rotates on a monthly basis among each of the 15 members**, following the English alphabetical order of the Member States names.
- As president, **India will decide the agenda whose resolutions and directives are binding on all member states.**

- India has set its agenda to hold high-level meetings on **three priority areas**: **maritime security, counter-terrorism, and peacekeeping.**
  - Also expects to **deploy a mobile app-UNITE AWARE-** that will provide terrain information and "improve situational awareness" for peacekeepers.
- UNSC is one of the **principal organs of the United Nations with the primary responsibility of maintaining international peace and security.**
  - Other principal organs are **General Assembly, the Economic and Social Council, the Trusteeship Council, the International Court of Justice and the Secretariat.**
- India has been **campaigning for a permanent seat at the UNSC along with Germany, Japan and Brazil** (known as G4).

UN Security Council members

5 Permanent Members (having Veto Powers)

US CHINA UK RUSSIA FRANCE

10 Non-Permanent Members (no Veto Powers)

Africa — Asia

China
France
Russian
USA
UK

Latin America & Caribbean

Western Europe

Eastern Europe

Each year, the General Assembly elects five non-permanent members for a two year term by a two-thirds majority.
- 5 from African and Asian States
- 2 from Latin America States
- 1 from Eastern Europe States
- 2 from Western Europe and other States

11.8. INDIA TO HOST INTERNET GOVERNANCE FORUM

- To be hosted in India for the first time, it will reflect **country's growing influence on international policy formulation around internet.**
  - **India is the second-largest broadband subscription country** in the world and also has highest data consumption per user per month.
  - Theme of the events is '**Inclusive Internet for Digital India'.**
- **IGF is an UN-based forum for Internet Governance policy discussion**. It brings together representatives from various groups, considering all at par to discuss public policy issues related to Internet.

11.9. FINANCE MINISTER UNVEILS ANNUAL REPORT FOR EASE 3.0 FOR 2020-21 AND PSBS REFORM AGENDA-EASE 4.0 FOR FY 2021-22

- **Started from FY19**, **Enhanced Access and Service Excellence (EASE)** is part of Public Sector Banks (PSBs) **reforms Agenda**, based on a unique **Reforms Index**.
  - It allows **objective assessment** of PSBs performance in **key areas** like governance, prudential lending, risk management, technology and data driven banking and outcome-centric HR practices.
  - The EASE reforms also **aim to bring in collaborative banking through tie-ups between PSBs and with broader financial services ecosystem** such as NBFCs for the coordinated handling of co-originated loans.
- **EASE index provides all PSBs a comparative evaluation** showing where banks stand vis-à-vis benchmarks and peers on the Reforms Agenda.
- **EASE 3.0 compares PSBs on five themes**:
  - Smart lending for Aspiring India,
  - Tech enabled ease of banking,
  - Institutionalising Prudent Banking,
  - Governance and outcome centric HR and
  - Deepening Financial Inclusion and Customer Protection.
- **EASE 4.0** aims to further the agenda of customer-centric digital transformation and deeply embed digital and data into PSBs' ways of working. Two new themes have been introduced:
  - New Age **24x7 banking** with resilient technology and
  - **Collaborative banking** for synergistic outcomes.
- **Major benefits of Reforms**
  - Enhanced and easy **access to credit via digital means**
  - Accelerated adoption of **home and mobile channels for banking needs**
  - Continued **improvement in coverage of Financial inclusion initiatives**
  - Large PSBs have also instituted **advanced analytics capabilities for sensing the credit needs of existing customers** to make proactive credit offers.

11.10. E-RUPI

- "e-RUPI" is an **electronic voucher based digital payment system** which is **person-specific and purpose-specific payments system.**
  - These vouchers are like e-gift cards, which are prepaid in nature.
  - The code of the cards can be shared either via SMS or the OR code can be shared.

- e-RUPI is **backed by existing Indian rupee as underlying asset** and it's **specificity of purpose makes it different from a virtual currency** and puts it **closer to a voucher-based payment system.**
  - **E-RUPI is not a platform.**
- It has been **developed by the National Payments Corporation of India on its UPI platform**, in collaboration with the Department of Financial Services, Ministry of Health & Family Welfare and National Health Authority.
- **Significance**
  - Being pre-paid in nature, it assures **timely payment to the service provider without involvement of any intermediary.**
  - **No digital or bank presence required** - Consumer redeeming the voucher need not have a digital payment app or a bank account
  - **Ensures leak-proof delivery** of various welfare services.
  - **Corporates can issue these vouchers for their employees**.
  - **Voucher redemption can be tracked** by the issuer.

11.11. "TURNING AROUND THE POWER DISTRIBUTION SECTOR" REPORT

- The report was released by **Niti Aayog and Rocky Mountain Institute**.
- Most distribution companies (DISCOMs) are making major losses (estimated at Rs 90,000 cr for FY 21) as a consequence of **expensive long-term power purchase agreements, poor infrastructure, inefficient operations etc.**
- **Key reforms/suggestions highlighted in report**
  - **DISCOM (Distribution company) Restructuring**
    - For state-owned utilities to succeed, there should be a **clear separation between utility and state.**
      - Insulating regulatory functions from political pressures by **creating regional electricity regulatory commissions with participation of central government.**
    - **Higher private participation for greater efficiency.** For ex: Franchise models implemented in Odisha and Maharashtra.
    - **PPP model can be useful in loss-making areas,** where commercial operation might not be feasible without government support.
  - **Operational Reforms**
    - **Improve their billing efficiency** by using prepaid or smart meters.

- **Encourage the use of solar pumps** for agriculture.
  - **Renewable Energy (RE) Integration Reforms**
    - Discoms may need to **deploy large-scale energy storage** by providing battery systems or pumped hydro-storage systems.
    - **Mini-grids** with decentralised small-scale generation from locally available RE sources **for remote and sparsely populated areas.**
- **Government schemes to help DISCOMS**
  - **Ujjwal DISCOM Assurance Yojana (UDAY), Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY), and Integrated Power Development Scheme (IPDS).**
  - Revamped Distribution Sector Scheme: A Reforms based and Results linked Scheme was approved by the Cabinet in June 2021.

11.12. IMF APPROVES LARGEST EVER MONETARY RESERVES DISTRIBUTION TO SOFTEN COVID HIT

- International Monetary Fund approved **$650 billion allocation of IMF Special Drawing Rights (SDR)** for member countries **in proportion with their existing quota shareholdings** in the fund.
  - India's quota is 2.75 per cent and China's is 6.41 per cent, while the US' quota is 17.46 per cent.
- **Significance**
  - Allocation will benefit all members, **address the long-term global need for reserves,** build confidence, and **foster resilience and stability of global economy**.
  - **It will help most vulnerable countries** struggling to cope with impact of COVID-19 crisis.
- **About SDR**
  - It is an **international reserve asset,** created by the IMF in 1969 to **supplement its member countries' official reserves.**
  - **Value of SDR is based on a basket of five currencies**—the U.S. dollar, the Euro, the Chinese renminbi, the Japanese yen, and the British pound sterling.
  - It is **neither a currency nor a claim on the IMF**.
    - It is a potential claim on the freely usable currencies of IMF members.
    - **SDRs can be exchanged for these currencies**.
  - **Voting power** of IMF member countries **is directly related to their quotas.**

11.13. PAYMENT BANKS

- SEBI has allowed **payments banks to act as investment bankers**.
  - o An investment banker is primarily concerned with raising capital for corporations, governments, or other entities like Goldman Sachs, Morgan Stanley.
- **About Payment Banks**
  - o Suggested by **Nachiket Mor committee,** it is a bank operating on a smaller scale **without involving any credit risk (can't advance loans or issue credit cards.)**
  - o It can **accept demand deposits (up to Rs 1 lakh), offer remittance services, mobile payments/transfers/ purchases** and other banking services.

11.14. PAYMENTS INFRASTRUCTURE DEVELOPMENT FUND (PIDF) SCHEME

- The RBI has decided to extend the coverage of PIDF scheme by including street vendors identified as part of the PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi Scheme) in **tier-1 and tier-2 centres as beneficiaries**.
- **About PIDF scheme**
  - o PIDF intends to **subsidise deployment of payment acceptance infrastructure** in Tier-3 to Tier-6 centres with special focus on North East.
  - o It envisages creating **30 lakh new touch points** every year for digital payments.

11.15. RBI ISSUED FRAMEWORK FOR PAYMENT SERVICE OPERATORS (PSOS)

- Framework, issued under provisions of Payment and Settlement Systems Act 2007, **is for payment and settlement related activities by PSOs.**
- A PSO means a **person who operates an authorised payment system.**
  - o Clearing Corporation of India Ltd., National Payments Corporation of India, VISA etc. are some of the **authorized PSOs in India.**
- Framework **places minimum standards to manage risks in outsourcing of payment and/or settlement-related activities**.
- Earlier, **RBI also allowed PSOs to take direct membership of Centralised Payment Systems,** such as RTGS and NEFT.

11.16. FLOATING RATE FUNDS

- Floating rate **funds buy bonds whose interest rates change according to the changing rates in the economy.**

- o This feature is thus supposed to **insulate them from losses because of rate hikes and can even increase their returns as rates rise.**
- According to Securities and Exchange Board of India rules, **65% of the corpus of floating rate funds must be invested in floating rate instruments.**
  - o Floating rate funds have seen huge inflows in recent months as investors expect interest rates to rise.

11.17. DEPOSIT INSURANCE AND CREDIT GUARANTEE CORPORATION (DICGC) (AMENDMENT) ACT, 2021

- Recently, the DICGC (Amendment) Bill, 2021 was passed by both Houses of Parliament and stands to amend the DICGC Act, 1961.
- The Act seeks to **provide depositors time-bound access to their insured deposit amount**, in case they are restricted from accessing their bank deposits.
  - o The amendment will allow **customers of failed or stressed banks, placed under moratorium**, to get their deposits (up to INR 5 lakh) **back within 90 days** of start of moratorium.
- Under the Act, the **Corporation is liable to pay the insured deposit** amount to depositors of an insured bank.
  - o Such liability arises when an insured bank undergoes:
    - ✓ **liquidation,** i.e., sale of all assets on closing down of the bank,
    - ✓ **reconstruction** or any other arrangement under a scheme, or
    - ✓ **merger or acquisition** by another bank, i.e., transferee bank.
- Under the Act, **insured banks are required to pay a premium to the Corporation on their deposits**.
  - o The rate of premium for a bank is notified by the Corporation with the prior approval of RBI.
  - o The Act **limits the rate of premium (per annum) for a bank at 0.15%** of its total outstanding deposits.
- The Act provides that the **Corporation may charge a penal interest for delay in repayment.**
  - o The penal interest rate may be up to two percent points higher than the repo rate (the rate at which RBI lends money to banks).
- It will **provide immediate relief to lakhs of depositors with money parked in stressed lenders** such as the PMC Bank and other small cooperative banks.
- **About DICGC**
  - o It is a wholly-owned subsidiary of the RBI that provi**des an insurance cover on bank deposits**.

- It insures all bank deposits, such as saving, fixed, current, recurring, etc. except the following types of deposits:
  - ✓ Deposits of foreign Governments
  - ✓ Deposits of Central/State Governments
  - ✓ Inter-bank deposits
  - ✓ Deposits of the State Land Development Banks with the State co-operative banks
  - ✓ Any amount due on account of and deposit received outside India
  - ✓ Any amount which has been specifically exempted by the corporation with the previous approval of the RBI.
  - It was created under the DICGC Act, 1961. The **Deputy Governor of RBI is its ex-officio Chairman**.
  - **All commercial banks** including the branches of foreign banks functioning in India, Local Area Banks, Co-operative Banks and Regional Rural Banks are **covered by deposit insurance scheme**.

11.18. PLATFORM FOR REGULATED ENTITIES FOR INTEGRATED SUPERVISION AND MONITORING (PRISM)

- The Reserve Bank of India (RBI) has put in place PRISM, a **web-based end-to-end workflow automation system, to strengthen compliance by supervised entities** (SEs), including banks and non-banking financial companies.
  - PRISM will have **various functionalities** (inspection; compliance; incident functionality for cyber security; complaints; and returns functionalities), **with built-in remediation workflows, time tracking, notifications and alerts**, management information system (MIS) reports and dashboards.
- This is **aimed at helping SEs to strengthen their internal defences, resilience and bringing focus on root cause analysis** (RCA).

11.19. SWEAT EQUITY

- Securities and Exchange Board of India (SEBI) has **relaxed the quantum of sweat equity** that can be **issued by new-age technology companies listed** on the **Innovators Growth Platform** (IGP)
  - Sweat equity refers **to shares issued by a company to its employees for non-cash consideration.** Startups and promoters typically use it to fund their companies.
  - By amending the Issue of Capital and Disclosure Requirements Regulations, 2019, **SEBI launched IGP for listing of issuers which are in intensive use of technology**, IT, IPR, data analytics, biotechnology or nano-technology to provide products, services or **business platforms** with substantial value addition.

11.20. E-SHRAM PORTAL FOR REGISTRATION OF UNORGANISED WORKERS

- The labour ministry has launched the **National Database for Unorganised Workers (NDUW) or e-Shram portal.**
  - According to the **Economic Survey (2018-19)**, **93 per cent of the total workforce** in India is in the unorganised sector.
  - They **are often deprived of any social security benefits** like pension, insurance etc.
- **Key Features**
  - **All registered workers shall be issued an e-Shram card with Universal Account Number (UAN)** to avail benefits of various social security schemes of the government (like PM-Shram Yogi Maan-DhanYojana).
  - Provision of **accidental cover of Rs. 2 lakh in case of death or permanent disability** and Rs. 1 lakh in case of partial disability.
  - The database will serve as a **reference point for the authorities to track and reach out** to unorganised workers and offer them relief in times of crisis.
- **Unorganised workers' Social Security Act, 2008** defines the unorganised sector as a **production or service oriented enterprise owned by individuals or self-employed workers** and if workers are employed, then the total number of workers cannot exceed 10.
- **Related News: Pradhan Mantri Shram Yogi Maan-DhanYojana (PM-SYM),** a pension scheme for the unorganised sector has hit **stagnation point**, with fresh enrolment of the current financial year at mere 15,283.
  - PM-SYM provides for a **minimum assured pension of Rs. 3000 per month** after 60 years of age.
  - **Age of entry is 18 years and it also has the feature of family pension** to spouse incase the subscriber dies.
  - It is a **matching scheme** where an amount equal to subscriber's contribution is matched by the govt.
  - Eligibility- not covered in any such govt schemes like NPS, ESIC and he/she shall not be an income taxpayer.

e-SHRAM PORTAL

→ A National Database of **Unorganized Workers**

→ Database authenticated with Aadhaar **(97% coverage)**

→ **38 Crore unorganized workers will be registered on eSHARM Portal**

→ **Construction Workers, Migrant Workers, Street Vendors, Domestic Workers, Milkmen, Truck Drivers, Fishermen, Agriculture Worker and similar other workers to be covered**

→ Registration starting from **26th August, 2021**

11.21. NATIONAL AUTOMOBILE SCRAPPAGE POLICY

- **Launched by Prime Minister at Investor Summit in Gujarat** to give a **new identity to the auto sector and to mobility of New India.**
  - o It will help **scrap and phase out unfit and polluting vehicles in an environment friendly manner** to create a viable circular economy (recycle and reuse).
    - ✓ Vehicle scrapping is the process **in which End of life – vehicles are disposed of** and its parts are recycled.
  - o India has 51 lakh light motor vehicles that are more than 20 years old and 34 lakh over 15 years old.
- **Key highlights**
  - o **De-registrations of vehicles**
    - ✓ **Commercial vehicles to be de-registered after 15 years** in case of failure to get fitness certificate.
    - ✓ **Private Vehicles be de-registered after 20 years if found unfit** or in case of failure to renew registration certificate.
    - ✓ **All government vehicles** may be de-registered and scrapped after 15 years from date of registration.
  - o **Provides incentives to owners of old vehicles to scrap unfit vehicles** through registered scrapping centres.
  - o **Setting up specialised Registered Vehicle Scrapping Facilities (RVSFs)** across India.

For more details kindly refer Article 3.7: VEHICLE SCRAPPING POLICY in March 2021 VisionIAS Current Affairs.

11.22. SCHEME FOR ACCREDITATION OF PRIVATE EXPLORATION AGENCIES FOR UNDERTAKING PROSPECTING OPERATIONS OF MINERALS

- Ministry of Mines recently adopted Scheme for Accreditation of Private Exploration Agencies for Undertaking Prospecting Operations of Minerals.

- Developed by **National Accreditation Board for Education and Training of the Quality Council of India (QCI-NABET)**, it is a major regulatory reform to **unleash the economic potential of the mineral sector by bringing in private agencies.**
  - o QCI is a non-profit society **set up jointly by the Government of India and the Indian Industry** to establish and operate **national accreditation structure and promote quality t**hrough National Quality Campaign.
  - o NABET is one of the constituent Boards of QCI
- The **Mines and Minerals (Development and Regulation) Act, 2021 empowers Central Government to notify entities,** including private entities, that may undertake prospecting operations, subject to such terms and conditions as may be specified by the Central Government.
  - o The government has also **proposed to fund the private explorers through the National Mineral Exploration Trust.**
  - o At present, **only government agencies** are involved in exploration and the pace of exploration is limited by their capacity.
- **Significance**
  - o The scheme will also **help in encouraging new entrepreneurs in the field of exploration**
  - o **Bringing latest technology and expertise** to the sector.
  - o Increase the **pace of exploration**
  - o create **new employment opportunities** in the sector.

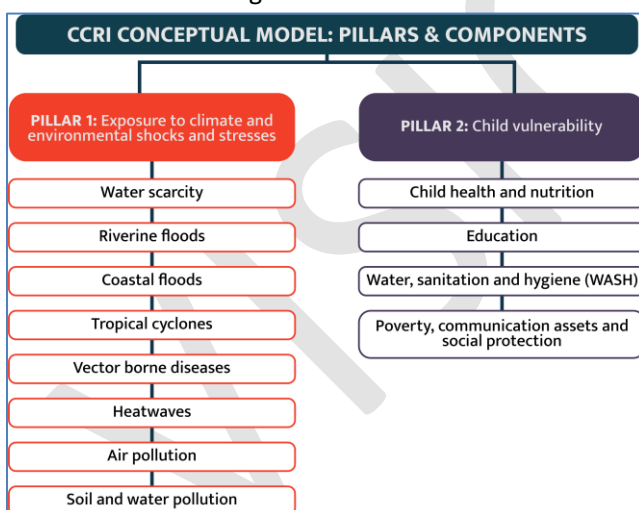## 11.23. GLOBAL MANUFACTURING RISK INDEX

- In Cushman & Wakefield's 2021 Global manufacturing risk index, India has overtaken the United States (US) to become the **second-most sought-after manufacturing destination** globally.
  - o **China** remains at number one position.
- **About Global Manufacturing Risk Index**
  - o The index **assessed the most advantageous locations** for global manufacturing among 47 countries **in Europe, the Americas and Asia-Pacific (APAC).**
  - o The rankings in the report is based on a **range of factors** including
    - ✓ Risk and cost factors,
    - ✓ Political and economic risk,
    - ✓ Market conditions and labor costs,
    - ✓ Market Access.

11.24. THE CLIMATE CRISIS IS A CHILD RIGHTS CRISIS: INTRODUCING THE CHILDREN'S CLIMATE RISK INDEX' (CCRI): UNICEF REPORT

- The report presents a **conceptual framework, a tool and an initial assessment** at a global level of

children's exposure and vulnerability to climate and environmental hazards in order to help prioritize action for those most at risk.

- Report introduces CCRI which **ranks countries based on how vulnerable children are to environmental stresses and extreme weather events.**
  o CCRI is structured according to **two central pillars** (Refer infographic).
  o **Central African Republic tops the index** of 163 countries.
  o Pakistan(14th), Bangladesh (15th), Afghanistan(25th) and India(26th) are among **four South Asian countries where children are at extremely high risk of the impacts of the climate crisis.**
- **Key Highlights:**
  o **Children are more vulnerable than adults**.
    ✓ **Children lack access to essential services**, such as health, nutrition, education and social protection.
  o Globally, approximately **1 billion children (nearly half of all children) are at 'extremely high risk'** of the impacts of climate change.
  o **Climate change is deeply inequitable**. While the most vulnerable regions will be hardest hit by climate change, they contributed least to the problem.
  o **Climate policy often does not address the specific risks** that children face because of climate change.

CCRI CONCEPTUAL MODEL: PILLARS & COMPONENTS

PILLAR 1: Exposure to climate and environmental shocks and stresses
- Water scarcity
- Riverine floods
- Coastal floods
- Tropical cyclones
- Vector borne diseases
- Heatwaves
- Air pollution
- Soil and water pollution

PILLAR 2: Child vulnerability
- Child health and nutrition
- Education
- Water, sanitation and hygiene (WASH)
- Poverty, communication assets and social protection

11.25. ALL INDIA ELEPHANT AND TIGER POPULATION ESTIMATION EXERCISE

- On occasion of World Elephant Day, Minister for Environment, Forest and Climate Change **has announced joint exercise for the All-India elephant and tiger population estimation in 2022.**
- **Current Population Estimation Techniques**
  o **For tigers, the MSTrIPES (Monitoring System for Tigers: Intensive Protection and Ecological**

Status) that uses GPS, remote sensing, GPRS technologies for tiger estimation.
  o **Elephant:** Largely based on States directly counting the number of elephants.
  o **Other techniques-** Camera sightings and trappings, counting footmarks, etc.
- **About Asian Elephants**
  o There are **three subspecies** of Asian elephant which are **Indian, Sumatran and Sri Lankan.**
  o **IUCN Status: Endangered (Indian).**
  o **Wildlife (Protection) Act, 1972: Schedule I.**
  o **Project Elephant:** It is a centrally sponsored scheme and was launched in 1992 for the protection of elephants, their habitats, and corridors.
  o **Elephant census** is conducted **once in 5 years**
    ✓ There are around **32 Elephant Reserves** in India.
    ✓ **Karnataka** has the **highest number of elephants**, followed by Assam.
- **About Tigers**
  o **IUCN status: Endangered**
  o **Wildlife (Protection) Act, 1972: Schedule I.**
  o **Project Tiger** was launched in 1973 as an ongoing Centrally Sponsored Scheme of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States for tiger conservation in designated tiger reserves.
  o **Tiger census** is conducted every 4 years by National Tiger Conservation Authority.
    ✓ In 2018 estimation, **Madhya Pradesh** had the highest number of tigers **followed by Karnataka.**

11.26. DECLINE IN POLLINATOR POPULATION MAY HIT FOOD PRODUCTION

- Findings are part of **first-ever global level study to index causes and effects of decline in ecosystem services** provided by pollinator species.
- **Key Findings**
  o Top three global causes of pollinator loss are **habitat destruction, land management — primarily grazing, fertilisers and crop monoculture of farming — and widespread pesticide use.**
  o **Biggest risk to humans is crop pollination deficit** – fall in quality and quantity of food and biofuel crops.
    ✓ Study points out that **China and India being heavily reliant on fruit and vegetable crops that need pollinators, now require people to pollinate some fruits/vegetables by hand.**
- **About pollinators**

- A pollinator **helps carry pollen from the male part of the flower (stamen) to the female part** of the same or another flower (stigma).
  - ✓ Movement of pollen **must occur for plant to become fertilized** and produce fruits, seeds, and young plants.
- **Some plants are self-pollinating,** while others are **fertilized by pollen carried by wind or water.**
- Still, other flowers are **pollinated by insects and animals** - such as bees, wasps, moths, butterflies, birds, flies and small mammals, including bats.
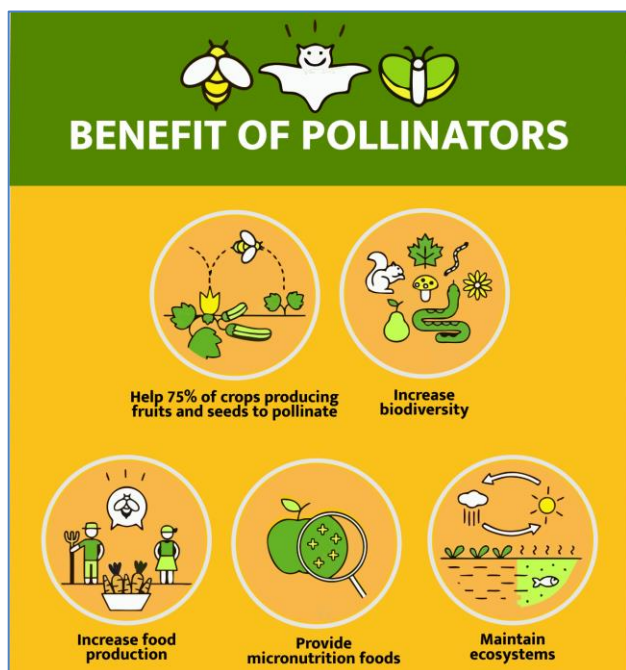
11.27. WATER PLUS CITY

- Indore, the country's cleanest city, has now been **declared as the first 'water plus' city of India** under the Swachh Survekshan 2021.
  - A city can be declared as Water Plus provided, **all wastewater** released from households, commercial establishments etc. is **treated to a satisfactory level** before releasing the treated wastewater to the environment.
- Swachh Survekshan is an **annual survey of cleanliness, hygiene and sanitation** in cities and towns across India launched as part of the Swachh Bharat Mission.

11.28. FORUM FOR DECARBONIZING TRANSPORT

- NITI Aayog and World Resources Institute (WRI) India Jointly Launch 'Forum for Decarbonizing Transport' in India.
- It is part of the **Nationally Determined Contribution-Transport Initiative for Asia (NDC-TIA) project**.

- **NDC-TIA** is a joint programme of seven organisations that will engage **China, India, and Vietnam** with the objective to **facilitate a paradigm shift to zero-emission transport across Asia.**
  - ✓ The project is part of the International Climate Initiative (IKI) and NITI Aayog is the implementing partner for India.
  - ✓ Transport in India is **the third most CO2 emitting sector.**
- **Major steps towards de-carbonization**
  - Focus on the adoption of **electric vehicles (EVs)** via the **National Mission on Transformative Mobility and Battery Storage.**
  - Production-linked incentive scheme for the automobile and auto-component industry **for development of advanced cell chemistry battery storage manufacturing.**
  - FAME India scheme.
  - 20% ethanol blending of petrol by 2025.

11.29. IMPACTS OF PLASTIC POLLUTION ON FRESHWATER AQUATIC, TERRESTRIAL AND AVIAN MIGRATORY SPECIES

- Report is the result of collaboration between **Conservation of Migratory Species and the UN Environment Programme** as part of the **Japan-funded CounterMEASURE II project** to identify sources and pathways of plastic pollution in river systems in Asia.
  - It identifies the impacts of plastic pollution on land and freshwater migratory species **protected by the Convention on the Conservation of Migratory Species of Wild Animals (CMS).**
- **Key highlights**
  - Study noted that **53 million tonnes of plastic could enter aquatic systems annually by 2030,** which could eventually increase to 90 million tonnes.
  - Report highlighted case study of **Ganges and Irrawaddy dolphins, dugong or sea cow, Asian elephants and various avian species** that were adversely impacted.
  - **Major threats highlighted by report include** - entanglement in plastic waste such as fishing nets; ingestion of plastic impacting food web; Space constraint and hindrance for species living on air-water interface owing to plastic waste etc.
  - Migratory birds such as the **Black-faced Spoonbill and the Osprey had been observed making nests out of plastics,** often resulting in the entanglement of their chicks.

- **About CMS or Bonn Convention, 1979**
  - It is an **environmental treaty of the United Nations** to promote cooperation and action for species and habitat conservation.
  - Species of conservation need are listed within Appendices I and II.
    - ✓ **Appendix I** species are those that are threatened with extinction.
    - ✓ **Appendix II** species are those that would benefit from international cooperation for their conservation.

11.30. SWAVALAMBAN CHALLENGE FUND

- Small Industries Development Bank of India (SIDBI) in partnership with Foreign, Commonwealth & Development Office, United Kingdom (FCDO UK) has launched **'Swavalamban Challenge Fund' (SCF)**.
- A challenge fund **is a fund support mechanism to allocate funds for specific purposes using competition among organisations**. It also provides solution platform for piloting or scaling-up of ideas that lack funds.
- SCF aims to provide financial support to non-profit organisations/educational institutions/social start-ups which have **focus on sustainable livelihood, financial inclusion, and access to financial services besides promoting the culture of entrepreneurship in the country**.
- The **total outlay of fund will depend on number of proposals selected in various themes** and category- wise amount allocated is up to Rs. 20 lakh for the 'Pilot Category' and up to Rs. 35 lakh for the 'Scale- up Category'.
- To operationalize the fund, the **project period shall be more than 6 months and up to 2 years.**

About SIDBI
- It was set up in **1990** under The Small Industries Development Bank of India Act passed by Parliament.
- It acts as the Principal Financial Institution for **promotion, financing and development** of the Micro, Small and Medium Enterprise **(MSME) sector**.

11.31. SONCHIRAIYA

- **Ministry of Housing and Urban Affair (MoHUA) launched 'SonChiraiya'** – (A brand and logo) **for marketing of urban Self-Help Group (SHG) products**.
  - It will increase visibility and global access for products made by urban SHG women.
- **Deen Dayal Antodaya Yojana - National Urban Livelihood Mission,** under MoHUA **mobilises women from urban poor households into SHGs** to create a support system for these women.
  - Over 5.7 lakh SHGs have been formed across various States/ UTs with almost 60 lakh members.

11.32. REITS AND INVITS CAN NOW BE PART OF NIFTY INDICES

Recently, the **National Stock Exchange (NSE)** revised the eligibility criteria for inclusion in **Nifty indices**, paving the way for inclusion of **REITs** and **InvITs** in Nifty Indices.

Potential benefits of the move-

- Wider investor participation including small investors.
- Increased volumes and liquidity with efficient price discovery of REITs and InvITs.
- Help government in **National Monetization Pipeline** which includes use of investment mechanisms like InvITs.

About REITs and InvITs

Real Estate Investment Trusts (REITs)	Infrastructure Investment Trusts (InvITs)
It is an investment vehicle that owns/manages investment grade and income-producing real estate properties such as offices, malls etc and almost any asset that can produce an annuity revenue stream. • It is **regulated** by **SEBI (Real Estate Investment Trusts) Regulations, 2014**	InvITs are like mutual fund, which enables direct investment into the infrastructure sector (e.g. roads, power transmission etc.) by pooling money from individual and institutional investors to earn a portion of the income as return. • It is **regulated** by **SEBI (Infrastructure Investment Trusts) Regulations, 2014**

As of **March** end**,** a **total** of **15 InvITs** and **4 REITs** are **registered** in India, including the **6 InvITs** and **3 REITs** listed on the stock exchanges with net assets of nearly ₹**1.64 lakh crore.**

11.33. EXERCISES/OPERATIONS IN NEWS

- **Malabar Exercise:** Indian Navy is participating in **Exercise Malabar 2021 along with the US, Japan and Australia.**
  - Malabar series of maritime exercise **commenced in 1992 as an India-USA Exercise.**
  - In 2015, Japan joined Malabar as a **permanent member**. The 2020 edition witnessed **participation of Australia.**
- **Exercise Konkan 2021:** Recently the **annual bilateral Indo-UK Naval Exercise was conducted in the English Channel** with the participation of INS Tabar and HMS Westminster.
- **KAZIND-21:** It is the **5th edition of Indo-Kazakhstan joint training exercise** and will be held at Training Node, Aisha Bibi, Kazakhstan.
- **Southeast Asia Cooperation and Training (SEACAT) military exercise:** The Indian Navy

demonstrated its maritime maneuvers **in U.S. Navy-led** Southeast Asia Cooperation and Training (SEACAT) military exercise in **Singapore.**

- **Zayed Talwar exercise:** Naval exercise **between India and the United Arab Emirates (UAE)** off the Abu Dhabi coast to increase bilateral military cooperation.
- **Operation Devi Shakti:** It is India's evacuation mission from Afghanistan**.**

11.34. MANTHAN 2021 HACKATHON

- It is **unique national initiative to identify innovative concepts and technology solutions for addressing the security challenges** of the 21st century **faced by our intelligence agencies.**
  - o Challenges like Fake Content Identification, predictive Cyber Crime data analytics, etc.
- It is **organized** by the **Bureau of Police Research and Development** (BPR&D) under Ministry of Home Affairs in coordination with the **Innovation Cell of the Ministry of Education and AICTE.**

11.35. DEFENCE INDIA STARTUP CHALLENGE 5.0

- Launched under **Innovations for Defence Excellence - Defence Innovation Organisation (iDEX-DIO)**
- iDEX aims to **achieve self - reliance and foster innovation and technology development in Defence and Aerospace by engaging Industries** including MSMEs, start-ups, individual innovators, R&D institutes and academia.
  - o **DIO** is a "not for profit" company to administer the iDEX framework.
  - o Department of Defence Production (DDP) will release funds to DIO for setting up and managing the iDEX network.

11.36. GLOBAL YOUTH DEVELOPMENT INDEX, 2020

- It is a **triennial** index **released by the Commonwealth Secretariat in London.**
- It measures **the condition of young people** (between the age of 15 and 29) across 181 countries using five main domains (refer to the infographics).
  - o This scoring system is the same as the one that underpins the **HDI produced by the UNDP's Human Development Report Office (HDRO).**
  - o The index **ranks countries between 0.00 (lowest) and 1.00 (highest).**
- **Key findings**
  - o **India ranked 122nd** making it **one of the top five risers** (others were Afghanistan,

Russia, Ethiopia, and Burkina Faso on the index) between 2010 and 2018.
  - o **Singapore ranked topmost** and Niger came last.
- **The Commonwealth**
  - o The Commonwealth is a **voluntary association of 54 independent (Rwanda became 54th Member in 2009) and equal countries.**
  - o **Its roots go back to the countries under the British Rule but now any country can join it.**
  - o Commonwealth members work together to **promote prosperity, democracy, and peace,** amplify the voice of small states, and protect the environment.

11.37. HUNGER HOTSPOTS

- Recently, Food and Agriculture Organisation and World Food Programme have released a report on "Hunger Hotspots" for a period of 3 months between August-November 2021.
- **Key findings of report**
  - o Hunger is expected to **rise in 23 global hotspots** in the **given 3 months**. The highest alert – **"catastrophic"**- has been given for **Ethiopia, Madagascar, Yemen, South Sudan and Nigeria.**
  - o **Acute hunger** is **increasing** both in scale and severity.
  - o **Primary drivers** of acute hunger are – **Conflict, Economic shocks (including secondary impacts of COVID-19) and natural hazard risks**.
  - o Transmission of **higher international food prices** onto domestic food prices is further constraining **vulnerable households' access to food**.

- o Due to the ongoing **increase of climate hazards and weather extremes**, livelihoods are being affected in several parts of the world.
- The report provides country-specific recommendations for emergency response and anticipatory action to address existing humanitarian needs. They are as follows:
  - o **Improve access to livelihood opportunities** and **rehabilitate food security assets** and infrastructure in areas with high levels of food insecurity.
  - o **Distribute emergency agricultural, livestock or fisheries kits** to severely food-insecure households, to increase food availability and enhance capacity to sustain productive assets.
  - o An additional funding of **USD 1.7 billion for food security and agriculture** and **USD 442.9 million for nutrition interventions** is required.
  - o Provide **high-nutrient animal feed and animal-health treatments** to **vulnerable livestock herders**.

11.38. CENTRE REMOVES 4% QUOTA FOR DIFFERENTLY ABLED IN POLICE FORCES

- Considering nature and type of work, Government **exercising its power under section 34 of Rights of Persons with Disabilities Act (PwDA), 2016** removed quota from
  - o All posts of IPS,
  - o Railway Protection Force,
  - o Police force for Delhi, Andaman and Nicobar Islands, Lakshadweep, Daman, Diu, Dadra and Nagar Haveli,
  - o All combatant posts of Central Armed Police Forces.
- PwDA **provides for 4% quota in government jobs for persons with disabilities** as specified.
- Earlier in 2018, **government had exempted all categories of posts of combatant personnel in the Armed Forces** from the provision.

11.39. SUJALAM CAMPAIGN

- The **Jal Shakti Ministry has launched a campaign to create a million soak pits** in villages across the country over the next 100 days, **to help manage grey water and prevent the clogging of water bodies.**
  - o Although the Central government does not have any comprehensive estimate of the total number of soak pits needed countrywide, **the States have been asked to develop their own targets.**
- The **Campaign would boost the momentum of SBMG phase II activities** through community participation and it will increase awareness about ODF-plus activities.

11.40. NITI AAYOG RELEASES NORTH EASTERN REGION DISTRICT-SDG INDEX AND DASHBOARD 2021–22

- The first of its kind Index is a **collaborative effort by NITI Aayog and Ministry of development of North East region (DoNER),** with technical support from **United Nations Development Programme.**
  - o The release of the index **aligns with the approach of taking the SDGs from "global to national to local".**
- Index is based on **NITI Aayog's SDG India Index** and measures performance of districts of eight States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura and **ranks districts accordingly to foster competition.**
  - o States and Union Territories are **classified in four categories** based on their SDG India Index score: Aspirant, Performer, Front-Runner and Achiever.
  - o Out of 103 districts considered for ranking, **64 districts belonged to the Front Runner** category while 39 districts were in the Performer category.

11.41. FIVE-MINUTE YOGA PROTOCOL

- It has been developed by the Ministry of Ayush.
- The five-minute protocol intends to introduce people at the workplace to yoga.
  - o It **promotes the idea of a break of five minutes from the work schedule to practice yoga to refresh, de-stress and re-focus.**
- Also, the **Y-Break mobile application** has been developed by MDNIY (Morarji Desai National Institute of Yoga) through which yoga and meditation can be done anywhere in just 5 minutes.

11.42. AROGYA DHARA 2.0

- Event was conducted by National Health Authority (NHA) **to mark the milestone of 2 crore hospital treatments** under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY).
  - o Objective is **to increase the reach and create more awareness about AB PM-JAY.**
- **NHA also launched three initiatives**
  - o **Ayushman Mitra:** To encourage citizens to participate in motivating eligible beneficiaries to get verified under the scheme and to help them get Ayushman Cards issued.
  - o **Adhikaar Patra:** A welcome note containing information about the rights of AB PM-JAY beneficiaries.
  - o **Abhinandan Patra:** A thank you note to the beneficiary.

11.43. BCG (BACILLUS CALMETTE-GUERIN) VACCINE

- It has been 100 years since the BCG vaccine was first used in humans in 1921 against tuberculosis (TB).
- It was developed by two Frenchmen, Albert Calmette and Camille Guerin, by modifying a strain of Mycobacterium bovis that causes TB in cattle.
- Currently, **BCG is the only licensed vaccine available for the prevention of TB**.
- In India, BCG was first introduced in a limited scale in 1948 and became a part of the **National TB Control Programme in 1962**.
- The efficacy of BCG is higher in geographic locations farther from the equator.
  - This may be because regions near the equator also have a higher prevalence of environmental mycobacteria which may interfere with the protective effect against TB.
- The protective effect of the vaccine against severe forms of TB appears to wane with age.
- BCG is also used against **respiratory and bacterial infections of the newborns**, and other **mycobacterial diseases like leprosy and Buruli's ulcer** and as an **immunotherapy agent in cancer of the urinary bladder and malignant melanoma**.
- **About tuberculosis (TB)**
  - TB is caused by a bacterium called Mycobacterium tuberculosis, belonging to the **Mycobacteriaceae family** consisting of about 200 members, some of which cause diseases **like TB and leprosy in humans** and others **infect a wide range of animals**.
  - According to the WHO's Global TB Report, 10 million people developed TB in 2019 with 1.4 million deaths. India accounts for 27% of these cases.
  - India is committed to eliminate TB as a public health problem by 2025.
  - Indian Council of Medical Research is undertaking clinical trial of two vaccines against TB- a **recombinant BCG called VPM 1002 and Mycobacterium indicus pranii (MIP).**

11.44. ISRO'S GEO-IMAGING SATELLITE GISAT-1 LAUNCH FAILED

- Launch was supposed to **place EOS-03, an earth observation satellite, into a geosynchronous Transfer Orbit (GTO) ultimately reaching Geostationary Orbit (GEO) via GSLV-F10 rocket.**
  - Mission failed due to the **Cryogenic Upper Stage (3rd Stage of GSLV) ignition did not happen due to technical anomaly.**
  - **Cryogenic stage i**s the last stage of space launch vehicles which makes use of **Liquid**

Oxygen (LOX) and Liquid Hydrogen (LH2) as propellants.
- **About GSLV**
  - Geosynchronous Satellite Launch Vehicle (GSLV) is a 3-stage **expendable space launch vehicle designed, developed, and operated by ISRO** to launch satellites and other space objects into GTO.
- **About GTO and GEO**
  - Satellites in **GEO circle Earth above the equator from west to east** following Earth's rotation by travelling at exactly the same rate as Earth.
  - Transfer orbits are a **special kind of orbit used to get from one orbit to another**.
    - ✓ By using relatively little energy from built-in motors, the satellite or spacecraft can move from one orbit to another.
  - This allows a **satellite to reach a high-altitude orbit like GEO** without actually needing the launch vehicle to go all the way to this altitude, which would require more effort.

11.45. ONLINE APPLICATIONS TO OFFER GEOSPATIAL DATA FREELY TO CITIZENS AND ORGANISATIONS IN INDIA

- Ministry of science and technology launched **three web portals to offer geospatial data** collected by Survey of India and National Atlas and Thematic Mapping Organization **either free or at a nominal cost for the first time.**
- **Applications launched**
  - **Survey of India (SOI) Geo Spatial Data Dissemination Portal**provides in various downloadable formats 4,000 maps with national, state, district, and tehsil level data.
  - **SOI's WEB Geographic Information System, SARTHI,** help users in creating applications for geospatial data visualisation, manipulation, and analysis without a lot of resources at their end.
    - ✓ **Geospatial information systems (GIS)** is the physical mapping of data within a visual representation. For example, when hurricane map is overlaid with another layer showing potential areas for lightning strikes.
  - **MANCHITRAN Enterprise Geoportal of National Atlas & Thematic Mapping Organisation (NATMO)** makes available thematic maps such as the cultural map of India, the climactic map, or the economic map.
- **Significance**
  - G**enerate employment and accelerate economic growth** as it unlock tremendous

opportunities for our country's start-ups, private sector etc.

- o Locally available and locally relevant maps and geospatial data would also **help in improved planning and management of resources**.
- Geospatial data is used to describe data about objects, events, or phenomena (man-made or natural) that have a location on the surface of the earth.
  - o It typically **combines location information** (usually coordinates on the earth) and **attribute information** (characteristics of the object, event concerned) **with temporal information** (time or life span at which the location and attributes exist).
- **New geospatial policy was launched in February 2021 erasing all regulations** on surveying and mapping leading to liberalisation and democratisation of geospatial data.

11.46. GEOLOGICAL SURVEY OF INDIA LISTS GEO-TOURISM SITES IN NORTH EAST

- Twelve locations in Northeast are included in 32 approved **geo-tourism or geo-heritage sites in the country.**
- **About the sites**
  - o **Majuli, Assam** - River "island", among world's largest, Majuli in river Brahmaputra.
  - o **SangetsarTso, Arunanchal** - Famous for Madhuri Lake formed due to damming of river during major earthquake in 1950.
  - o **Loktak Lake, Manipur** - largest freshwater lake in Northeast which hosts ' phumdis' or floating biomass and 'phumsangs' or huts of fishermen on them.
    - ✓ **KeibulLamjao National Park**, only floating wildlife habitat on earth, is on southwestern part of lake and is last natural habitat of sangai or brow-antlered dancing deer.
  - o **Mawmluh Cave, Meghalaya** - Stalagmite caves providing important records of Holocene paleo-climate and paleo-monsoon.
  - o **Mawblei or God's Rock, Meghalaya** - huge balancing sandstone rock slanting at angle of 45 degrees in south-southeast direction on hill slope overlooking Wahrashi River valley.
- **Other significant sites include -** Stromatolite Park (Sikkim), Naga Hill Ophiolite, ReiekTlang (Mizoram), SangetsarTso (Arunanchal), Unnakoti and Chabimura (Tripura), Umananda (Assam) and Theriaghat (Meghalaya).
- **Globally too, UNESCO declares Global geoparks.** Currently, there are **no Global geo parks in India.**
- Geological Survey of India (GSI) declares geo-heritage sites/ national geological monuments for protection and maintenance. GSI or the respective

State governments take necessary measures to protect these sites.

11.47. INDIGAU

- It is **India's first Cattle Genomic Chip for the conservation of pure varieties of indigenous cattle breeds** and helps towards doubling farmers' income by 2022.
  - o It is the **largest cattle chip in the world** with 11,496 markers.
- Till now India's dairy development program has been referring to chips which are developed for foreign western breeds of cattle.
- This **indigenous chip** was **developed** by the **National Institute of Animal Biotechnology** (Hyderabad), an autonomous institution under the aegis of the Department of Biotechnology.
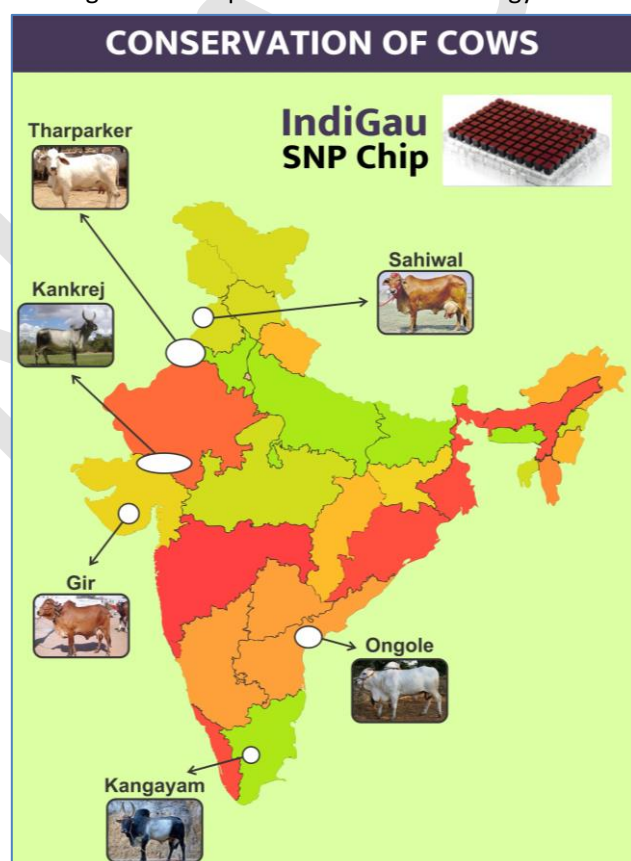
11.48. BHARAT SERIES (BH-SERIES)

- Ministry of Road Transport and Highways has notified Bharat series of "BH" series of registration to facilitate free movement of personal vehicles across States/UTs of India upon relocation to a new State/UT.
  - o Under **section 47 of Motor Vehicles Act, 1988**, a person is allowed to **keep vehicle for not more than 12 months in any state other than the state where the vehicle is registered**.
- BH-series will be available on voluntary basis to Defense personnel, Government employees and private sector companies/organizations, which have their offices in four or more States/UTs.

Places in News: India

UTTARAKHAND
- India's Highest Herbal Park inaugurated in Chamoli district

NEW DELHI
- Smog Tower at Connaught Place.

HARYANA
- Sultanpur National Park, Gurugram and Bhindawas Wildlife Sanctuary, Jhajjar added to Ramsar List.

GUJARAT
- Banni Grasslands encroached by invasive tree species.
- Thol Lake Wildlife Sanctuary, Ahmedabad and Wadhwana Wetland, Vadodara added to Ramsar List.
- Foundation stone of multiple projects in Somnath.
- Regional connectivity under UDAN has been started in Jamnagar.

MADHYA PRADESH
- Buffer main safar programme has earned the state 26 lakh revenue.

MAHARASHTRA
- Launched Vrushka Bandhan Project in Aurangabad.

CHHATTISGARH
- Government recognised Community Forest Resource rights in an urban area and in the core area of Sitanadi Udanti Tiger Reserve.
- India's first tribal food park has opened in Jagdalpur in Bastar district.

UTTAR PRADESH
- Government imposed a complete ban on the sale of meat and alcohol in Mathura.

SIKKIM
- National Board of Wildlife cleared construction of roads near Pangolakha Sanctuary.

WEST BENGAL
- Haldibari – Chilahati (Bangladesh) rail link have started regular operation of freight trains.

ODISHA
- INS Khanjar has become the first Indian Navy ship to call at heritage coastal port of Gopalpur.

ANDHRA PRADESH
- Pulichintala Dam gate broke.

LADAKH
- Talks for disengagement at Gogra and Hot Springs in Eastern Ladakh.
- Pensilungpa Glacier retreating.
- Ladakh administration has scrapped Inner Line Permit system for all Indian nationals.
- Operation Blue Freedom flagged off.
- National Board of Wildlife cleared construction of roads near Changthang Wildlife Sanctuary

ARUNACHAL PRADESH
- Government approved the North East Frontier Railway proposal for a 'Toy Train Project' in Tawang.

ASSAM
- Signed agreement with Nagaland to simultaneously withdraw security forces from borders.
- Kaziranga first National Park in India to have been equipped with satellite phones.
- Ministry of Environment, Forest and Climate Change notified the eco-sensitive zone of the Deepor Beel Wildlife Sanctuary.

MANIPUR
- Science Museum at Chandel, an Aspirational District of Manipur.

MIZORAM
- Mizoram and Assam have signed agreement to keep their respective police and forest guards away from the troubled inter-state border.

ANDAMAN & NICOBAR
- Amidst COVID-19, few Great Andamanese tribes have been shifted to their tribal settlements at Strait Island.

Places in News: World

LEBANON
Israel shot artillery fire in retaliation to Iranian–backed Lebanese group Hezbollah.

NORWAY
Maritime Partnership Exercise with the Royal Norwegian Navy at Berger.

MYANMAR
Myanmar objects to Border Roads Organisation presence in trilateral road project.

ALGERIA
National mourning over deaths due to wildfires.

JERUSALEM
Government has allowed increasing numbers of Jews to pray there.

AFGHANISTAN
U.S. troops withdrew from Afghanistan.

UAE
Dubai will open the world's largest and tallest observation wheel 'Ain Dubai'.

ZAMBIA
Opposition leader Hakainde Hichilema became President.

MOROCCO
Israel opened its diplomatic mission.

HAWAII, USA
Hawaiian Volcano Observatory noticed a surge of earthquakes and the ground swelling at the southern part of the crater at Kilauea's summit.

TAIWAN STRAIT
QUAD included Taiwan Strait in talks for peace and stability.

CHINA
- Partially shut down one of its biggest cargo ports (Ningbo).
- Notifies new rules to regulate foreign ships in its waters.

HAITI
Hit by 7.2 magnitude earthquake.

IVORY COAST
Recorded its first Ebola Virus case in nearly 3 decades.

YEMEN
Houthi rebels attacked Yemen's largest airbase (Al-Anad air base).

ST. VINCENT & THE GRENADINES
Attack on Prime Minister.

MALDIVES
Greater Male Connectivity Project contract signed.

MALAYSIA
Incumbent PM Muhyiddin Yassin tendered resignation.

INDONESIA
- Mount Merapi, most volatile and active volcano erupted.
- Archaeologists discovered a 7,200 year old female hunter–gatherer skeleton at South Sulawesi.

JAPAN
- August 6 is observed solemnly as Hiroshima Day.
- Fukushima Nuclear Power Plant to be decommissioned.

SUDAN
Sudan will hand autocrat Omar al-Bashir to international Criminal Court over Darfur conflict.

MAURITIUS
- Mauritius denies report of allowing Indian military base on Agalega island.
- Universal Postal Union's banned British stamps from being used on the Chagos archipelago.
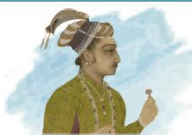
PAPUA NEW GUINEA
Banned flights from India indefinitely

SOUTH CHINA SEA
China begins naval exercises in South China Sea.

Personalities in News

Personality	About	Ethical Values Exhibited by the personality
Dhara Shikoh	• He was the **eldest son of Shah Jahan** and was **killed after losing the war of succession against his brother Aurangzeb.** • He is **described as a "liberal Muslim"** who tried to find commonalities between Hindu and Islamic traditions. • He **translated into Persian the Bhagavad Gita as well as 52 Upanishads**, which were earlier known only to a few upper caste Hindus. • He showed keen **interest in Sufi mysticism** and was **initiated** into the **Kadiri order of Sufis**.	**Assimilation and Harmony** ▷ He developed a deep understanding and knowledge of major religions, particularly Islam and Hinduism, is known as a pioneer of the academic movement for interfaith understanding in India. ▷ He not only discovered commonalities but even said that the foundation of the two religions is the same, which is the belief, **"One Reality and One God".**
Maharaja Ranjit Singh	• Born in in Gujranwala (in modern Pakistan) he was the Misalder (chief) of Sukerchakia Misl from 1792 to 1801, and also the **first Maharaja of the Sikh empire(founder) for 38 years from 1801 to 1839.** • He was a secular leader with a modern army and had signed **two treaties with the British - Treaty of Amritsar and Treaty of Lahore** • He owned the **koh-i-noor diamond** and reconstructed the Golden Temple at Amritsar.	**Bravery and Tolerance** ▷ He is also known as the Sher-e-Punjab (Lion of Punjab) for his bravery and is respected as one of the most revered heroes in the Indian history. ▷ As he presided over a multi-ethnic, multi-faith, multi-caste empire, he promoted every religion equally and did not discriminate people on any unjustified grounds. His rule consisted of remarkable toleration and inclusivity.
Sree Narayana Guru	• He **revolted against the Brahmin ascendancy and advocated for social equality, education for all, and spiritual enlightenment.** • One of his **famous sayings** in Malayalam was '**One caste, one religion, one god for all.'** □ **One of his disciples, Sahadaran Ayyapan, changed into 'no religion, no caste and no God for mankind.** • He lent **support to the Vaikkom Satyagraha for temple entry** (1924-25) in Travancore for the lower castes. • **Shri Narayana Dharma Paripalana Yogam (SNDP)** was founded in 1903 by Dr. Padmanabhan Palpu **under his guidance.**	**Egalitarianism and Pluralism** ▷ He was the champion of the rights of lower caste oppressed in the twentieth century Kerala. He overturned the social system of entire Kerala, while following simple means of ethical writings and social mobilization. ▷ He played a significant role in reforming the society by asserting his pluralist view with equality and liberty.
Abanindranath Tagore	• Celebrations have begun to mark 150 years of this iconic artist. • He was the **nephew of Rabindranath Tagore** and was the first major supporter of swadeshi values in Indian art. • He First created '**Indian Society of Oriental Art'** and later established **Bengal school of art** with the aim to counter English influence on Indian artists. • He is widely hailed as the '**Father of Modern Indian Art'**	**Pioneering and creative spirit** ▷ He emerged as the first Indian artist to gain international recognition for his paintings. ▷ He modernized the traditional Indian art and developed new Indian style of painting.
Pingali Venkayya	• He was **Indian freedom fighter who designed the Indian National Flag.** • The flag was officially adopted by the Indian National Congress in 1931. • In 1921, acknowledging the need for a national flag, **Gandhi asked Venkayya to design it**. • Initially, **he presented a green and red flag, but it later evolved with a spinning wheel at the centre and a third colour-white.** • The flag was officially adopted by the Indian National Congress in 1931.	**Dedication and Enthusiasm** ▷ He showed immense dedication to the cause of freedom struggle and contributed significantly to it. ▷ He was very fond of 'flags' as a means of symbolic representation of a nation. He even write a booklet," a National Flag for India" in 1916.
Khudiram Bose	• Tributes were paid to fearless freedom fighter Khudiram Bose at Muzaffarpur central jail in Bihar on his death anniversary. • Bose was born in 1889 at a small village in **Midnapore district.** • Being inspired by a series of public lectures given by **Sri Aurobindo and sister Nivedita**, he was **drawn towards revolutionary activities**. • Bose joined the **Anushilan Samiti**, an early 20th century organisation that propounded revolutionary activities in Bengal. • In 1908, he, along with another revolutionary, **Prafulla Chaki, attempted to assassinate the British judge, Magistrate Douglas Kingsford**, which ultimately led him to be sentenced to death at the young age of 18.	**Fearlessness and determination** ▷ At the very young age of 18, he decided to take arms for the revolutionary cause. When he was sentenced to death by the British judge, he smiled and happily accepted the verdict. ▷ He was known for his determination when given the responsibility of carrying out revolutionary tasks.

Subhadra Kumari Chauhan	• Google Doodle celebrates **India's first woman Satyagrahi** (1923) Subhadra Kumari Chauhan's birth anniversary.
	• She **joined Mahatma Gandhi's Non-Cooperation Movement** against the British.
	• A trailblazing writer whose work rose to national prominence during a male-dominated era of literature.
	  □ Her poem, **Jhansi ki Rani**, is regarded as one of the most recited poems in Hindi literature.
	  □ She wrote in the **Khariboli dialect** of Hindi.
	• Her poems also **depicted the hardships and challenges faced by Indian women** during the freedom movement of India.
		Patriotism and Zeal
		▷ Through her prolific writing, she inspired the generations on the theme of patriotism and nation building. Her poems are considered to have played significant role in creating awareness about freedom struggles.
		▷ She demonstrated utmost dedication by participating in various freedom struggle movements.

Major Dhyan Chand	• **India's highest sporting honour Khel Ratna Award** has been been renamed Major Dhyan Chand Khel Ratna Award. • It was earlier named after **former Prime Minister Rajiv Gandhi**. • He played an important role in **helping India complete their first hat-trick of Olympic gold medals with wins at the 1928, 1932 and 1936 Summer Olympics.** • He was awarded **Padma Bhushan in 1956**. • **National Sports Day** is celebrated on Dhyan Chand's birthday on August 29 to honour the hockey legend.	**Perfection and Mastery** ▷ His control over ball and goal scoring during the game was considered as magical and unbelievable. ▷ He dominated the sports for almost two decades as no other player emerged anywhere who can match the talent of Dhyan Chand.

Shivaram Rajguru	- As a revolutionary he became a **member of the Hindustan Socialist Republican Army (HSRA).** - HSRA was established in 1928 at Feroz Shah Kotla (New Delhi) by **Chandrasekhar Azad, Bhagat Singh, Sukhdev Thapar** and others. - Along with Bhagat Singh and Sukhdev, he participated in the assassination of British officer John Saunders on 17 December 1928. - Saunders was killed to avenge the death of **Lala Lajpat Rai, who was injured during the Simon Commission** Protest (1928). - The three revolutionaries were later captured and sentenced to death at Lahore.	**Fearlessness and Dedication** - All through his life, he was known among fellows as a very courageous and dedicated person to the cause of freedom and anti-imperialism. - He dedicated his life for the cause of justice as he was sentenced to death at the very young age of 22.
Mother Teresa	- Born in Macedonia, Mother Teresa was a **renowned nun and missionary**. - In 1928 she came to India to devote herself to helping the needy. - In 1948 she became an Indian citizen and founded the **order of Missionaries of Charity in Kolkata (Calcutta) in 1950, which became noted for its work among the poor and the dying in that city.** - She received the prestigious **Nobel Peace prize award & Bharat Ratna.** - United Nations observes **September 5th, her death anniversary as the International Day of Charity.**	**Compassion and tender-heartedness** - She has cultivated a great capacity to help and heal the poor through her charitable work. She totally dedicated her life in the service of poor and downtrodden. - After seeing the miserable condition of poor, she decided to stay back in India and give care to the neediest people.
Sarla Thakral	**India's first woman to ever fly an aircraft,** was honoured by Google on her 107th birth anniversary with a unique doodle. - She **completed 1,000 hours of flight time to gain her 'A licence',** another first for Indian women. - She was also **an accomplished painter and designer.**	**Courage and Passion** At the time, when women are not allowed to step outside home, she followed her passion to become a pilot and showed immense courage in her personal life when met with numerous tragedies.
Baba Saheb Purandre	- The Prime Minister **paid rich tributes** to Babasaheb Purandare on **entering the 100th year of his life**. - He has been **awarded** Padma Vibhushan (2019) and Maharashtra Bhushan Award (2015) - He also **contributed** to the Goa Mukti Sangram and the Dadar Nagar Haveli freedom struggle.	**Devotion and Commitment** - He happens to be highly impressed by the life of Shivaji, so he devoted his life by writing about him. - He committed his life to the cause of history and drama writing. His most popular work is the piece of drama on Shivaji.
Dr Balaji Tambe	**He was** an Ayurveda practitioner and proponent of Yoga, died in Pune. - He has achieved worldwide repute for the **treatment of diseases such as heart ailments, diabetes, blood pressure and other chronic ailments.** - He has received many awards in recognition of his work and has served as a **member of the Pharmacopoeia Committee** with the Government of India.	**Pioneer and Care** - He gave the scientific re-interpretation of the Ayurveda and pioneered Ayurveda physician practice for forty-five years. - He founded a world-renowned holistic healing centre named 'Atmasantulana' in Maharashtra.

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Sustainable Development Goals: The Pathway to The Future	The 2030 Agenda for Sustainable Development is more than the sum of measurable Goals, targets, and indicators. It provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. With less than a decade left, countries across the world, including India, still remain off track to achieve the Sustainable Development Goals, with the pandemic threatening to reverse years of progress. This document provides an assessment of India's current actions and progress towards achieving the SDGs, whilst listing the obstacles it faces in its way and suggesting measures to overcome these barriers.	
Sui Generis Indian Federalism: Evolving Dynamics and Emerging Concerns	The founding fathers of the Indian Constitution envisioned a unique federal structure to serve distinctive needs of the diverse nation. A well-designed and well-functioning system of federal governance, by virtue of its manifold benefits, plays a key role in promoting the stability and prosperity of any nation. However, the working of the Indian federation during the past decades clearly depicts friction in the relations between the Centre and the States. Cataloguing the evolving nature and significance of India's federal structure, this document highlights emerging threats and changes impacting it. Moving forward, it prescribes manoeuvres to strengthen the fabric of Indian Federalism which preserves its unique characteristics.	

7 IN TOP 10 SELECTIONS IN CSE 2019

FROM VARIOUS PROGRAMS OF VISION IAS

2 AIR JATIN KISHORE

3 AIR PRATIBHA VERMA

6 AIR VISHAKHA YADAV

7 AIR GANESH KUMAR BASKAR

8 AIR ABHISHEK SARAF

9 AIR RAVI JAIN

10 AIR SANJITA MOHAPATRA

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