

VISION IAS

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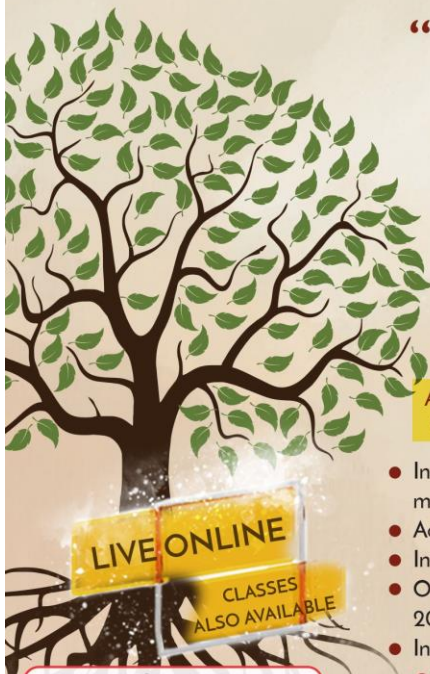

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18 Sept 9 AM	10 Oct 1 PM	13 Aug	18 July	12 Aug	25 July	20 Sept

1. POLITY & CONSTITUTION

1.1. NATIONAL POPULATION REGISTER

Why in News?

Recently, government has decided to prepare a **National Population Register (NPR)** by September 2020 to lay the foundation for rolling out a citizens' register across the country.

Background

- A group of ministers created after the Kargil war **recommended compulsory registration of all residents in India**, to facilitate the preparation of a national register of citizens and curb illegal migration.
 - It had said that all Indian citizens should be given a **multi-purpose national identity card (MPNIC)** and non-citizens should be issued identity cards of a different colour and design.
- In 2010 **Registrar General of India collected data for a National Population Registry during Census 2011 enumeration**.
 - **In 2015**, this data was further updated by conducting a door-to-door survey.
- However, **the government picked out Aadhaar** as the key vehicle for transfer of government benefits in 2016, while putting NPR on hold due to slow progress of NPR.
- Through **recent notification in August, 2019** by the RGI, the idea has now been **revived** and exercise of updating the 2015 NPR with additional data has begun and will be completed in 2020.

NPR vs Aadhar

The data collected in NPR will be sent to UIDAI for de-duplication and issue of Aadhaar Number.

- **Voluntary vs. Mandatory:** It is compulsory for all Indian residents to register with the NPR, while registration with the UIDAI is considered voluntary.
- **Number vs. Register:** UID will issue a number, while the NPR is the prelude to the National Citizens Register. Thus, it is only a Register.
- **Authentication vs. Identification:** The UID number will serve as an authenticator during transactions. It can be adopted and made mandatory by any platform. The National Resident Card will signify resident status and citizenship. It is unclear what circumstances the card will be required for use in.
- **UIDAI vs. RGI:** The UIDAI is responsible for enrolling individuals in the UID scheme, and the RGI is responsible for enrolling individuals in the NPR scheme.
- **Door to door canvassing vs. center enrollment:** Individuals will have to go to an enrollment center and register for the UID, while the NPR will carry out part of the enrollment of individuals through door to door canvassing.
- **Prior documentation vs. census material:** The UID will be based off of prior forms of documentation and identification, while the NPR will be based off of census information.

About National Population Register

- The NPR is a **list of "usual residents of the country"**.
 - According to the Ministry of Home Affairs, a "usual resident of the country" is one who has been **residing in a local area for at least the last six months, or intends to stay in a particular location for the next six months**.
- The NPR is being prepared under provisions of **the Citizenship Act 1955 and the Citizenship (Registration of Citizens and issue of National Identity Cards) Rules, 2003**.
 - The **Citizenship Act 1955** was amended in 2004 by inserting Section 14A which provides for the following:-
 - ✓ The Central Government may **compulsorily register every citizen of India and issue National Identity Card**.
 - ✓ The Central Government may maintain a **National Register of Indian Citizens (NRIC)** and for that purpose establish a National Registration Authority.
 - ✓ Out of the universal data set of residents, the subset of citizens would be derived after due verification of the citizenship status. Therefore, it is also **compulsory for all usual residents to register** under the NPR.
- NPR will be conducted at the local, sub-district, district, state and national levels.
- It will be conducted in conjunction with the first phase of the **Census 2021, by the Office of the Registrar General of India (RGI) under the Home Ministry**.
 - Only **Assam will not be included**, given the recently completed NRC.

- There is also a **proposal to issue Resident Identity Cards** to all usual residents in the NPR of **18 years of age**.

Benefit of NPR

- **Database of residents:** It will help to create a comprehensive identity database of its residents with relevant demographic details and also streamline data of residents across various platforms.
- **Better implementation:** It will help the government formulate its policies better and also aid national security.
 - Not only will it help target government beneficiaries in a better way, but also **further cut down paperwork and red tape in a similar manner** that Aadhaar has done.
 - Ministry of Home Affairs has argued that the NPR would be more suited for distributing subsidies than the UID, as the NPR has data linking each individual to a household.
- **Remove any errors:** For e.g. It is common to find different date of birth of a person on different government documents. NPR will help eliminate that.
- **Avoid duplication:** With NPR data, residents will not have to furnish various proofs of age, address and other details in official work. It would also eliminate duplication in voter lists, government insists.

Data collected in NPR

- The NPR will collect both **demographic data and biometric data**.
- There are 15 different categories of **demographic data**, ranging from name and place of birth to education and occupation.
- For **biometric data** it will depend on Aadhaar, for which it will seek Aadhaar details of the residents.
- It is working to **update the Civil Registration System of birth and death certificates**.
- While registering with the NPR is mandatory, furnishing of additional data such as **PAN, Aadhaar, driving licence and voter ID is voluntary**.

Issues regarding NPR

- **Privacy issue:** Even as issues of privacy associated with Aadhaar continue to be debated in the country, the NPR is on a drive to collect detailed data on residents of India. There is as yet no clarity on the mechanism for protection of this vast amount of data.
 - In the past, reports have stated that Aadhaar data has been compromised on multiple occasions even as the UIDAI continues to deny that there have been breaches.
- **Legality of sharing data:** Both the legality of the UID and NPR collecting data and biometrics has been questioned. For example, it has been pointed out that the collection of biometric information through the NPR, is beyond the scope of subordinate legislation.
- **National security:** It can raise national security threats, given the size of the databases that will be created, the centralized nature of the databases, the sensitive nature of the information held in the databases, and the involvement of international agencies.
- **Issues similar to NRC:** NPR will be the base for a nationwide National Register of Citizens and will be similar to the list of citizens of Assam. During the NRC exercise, there were several instances where some members of a family featured in the draft list while the others did not.
- **Duplication of projects:** It is unclear why the government would feel the need to subject India's citizenry to another identification drive when over 90 per cent of them are covered by Aadhaar, which was an elaborate, time-consuming exercise.
 - With these multiple projects like Aadhaar, NRC, NPR, census etc it has created **confusion regarding the idea of citizenship in the country**.
- **Uncounted people:** The census does not cover the entire population, which leaves unanswered the questions of the status of those citizens who are not visited by a census officer.

How is it different from census and NRC?

- The exercise is **different from the decennial Census and is not linked to the National Register of Citizens (NRC)**.
- **Census** doesn't ask for individual identity details, and at the end of the day, is a macro exercise. The NPR, on the other hand, is designed to collect identity details of every individual.
 - Census data is protected by a confidentiality clause. The government has committed that it will not reveal information received from an individual for the headcount. NPR would serve as the mother database to verify citizenship if a nationwide NRC is carried out later.
- Unlike the **NRC**, the NPR is not a citizenship enumeration drive, as it would record even a foreigner staying in a locality for more than six months.
 - Once the NPR is completed and published, it is expected to be the basis for preparing the National Register of Indian Citizens (NRIC), a pan-India version of Assam's National Register of Citizens (NRC).

- It also leaves ambiguity over migrant labour, who may well be citizens but would not qualify as “usual residents”.

Conclusion

There needs to be clarity over the privacy concerns surrounding the amount of data being collected in NPR and it also needs to learn lessons from such similar exercises in Assam i.e. NRC. Then only it will be able to serve as the mother database to verify citizenship if a nationwide NRC is carried out later.

1.2. ONE NATION ONE LANGUAGE

Why in news?

Recently, on the occasion of Hindi Diwas, the Union home minister had proposed to promote Hindi as the country's common language.

Background

- The debate over **One Nation One Language** started in the constituent assembly debates on the official language.
 - Hindi was voted as official language, however due to outpour and anti-Hindi agitation from various sections, **English** was also continued as an associated official language.
- Earlier **the draft National Education Policy 2019** also had some sections which were interpreted as imposition of Hindi language and had to be amended later.
- In this background, **the debate over one nation one language** has resurfaced in the country.

Key Debates on the issue

- **Understanding the Relation Between Language and Identity:** Language is intrinsically tied to identity, and this often includes the identity of a nation.
 - Thus, there is a close connection between language, identity and policy. Language is perceived as an important element of socialization, individual and collective, provides knowledge about feeling, aspirations.
- **Language vs Nationalism:** Language stands alongside, or perhaps above, architecture, flags and literature as an emblem of nationhood. The relationship between language and a nation is a fundamental one, as language is often used in the very creation of nations.
- **What is the Idea of having one Nation:** The meaning of one in ‘one nation’ cannot be based on quantity and has to be only a quality as majority does not create oneness. Thus, the oneness is the kind of oneness which is between the humans and the world, and oneness between each individual of nation, independent of the language we speak or the religion we practise.

Arguments in favor of One Nation One language

- **Removing barriers in the development:** There are various areas where there is a perceived lag only because of lack of national language, like trade, education and research, areas of national security like military, etc. Thus, the lack of national language acts as a barrier for the progress of nation.
- **For the creation of knowledge and thus creating a Public Sphere:** As we often see that, students avoid going to other places for education and research due to lack of understanding of local languages. There is difficulty to collaborate in various ideas in different spheres; non-participation in national affairs and hesitancy to relocate in other parts of India due to the absence of a national language.
 - Thus, a universal language which will be spoken and understood by everyone will be best suited to become the lingua franca of the country.

Basis for promoting Hindi language

- **Article 351:** It shall be the duty of the Union-
 - to promote the spread of the Hindi language,
 - to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India and
 - to secure its enrichment by assimilating without interfering with its genius, the forms, style and expressions used in Hindustani and in the other languages of India specified in the Eighth Schedule.
- **Article 120 and 210** regarding language to be used in Parliament and state legislature respectively gives the option of transacting business in Hindi as well in English.
- **Article 343** gives power to parliament to decide by law, the languages to be used for official work.
- **Article 344** provides for constitution of a parliamentary committee every 10 years to recommend to the President regarding progressive use of the Hindi language for the official purposes of the Union and restrictions on the use of English.

- **For effective administration:** The various people who works for central government or Armies etc. always face the language problem when they move to other regions of India. Therefore, the administrative machinery will not be able to deliver efficiently, if the language becomes a barrier in understanding people's aspirations and needs.
- **For Leveraging technology:** If India adopts a national language it might automatically become the largest spoken language thus giving numerous opportunities to software developers to make many applications which is unreachable today mainly due to lack of understanding of English language.
- **To give India a global Identity:** It is necessary that there is one language to represent India in the world. A uniform national language, will give us great advantage at global scale due to its large number of users thus forcing people of other nations to learn that language, in order to engage with India in trade, business, education etc.
- **False sense of glory attached with Multi Lingual Image of India:** India has always been shown having a great diversity such as having 22 different languages, 415 different dialects etc. But is it truly a matter of glory that the knowledge existing in one language can't be understood by a person of other language? We need to come out from this false sense of glory to the true sense of glory by adopting a single national language.

Can Hindi be the choice for "One Language, one nation"?

Arguments in Favour

- Hindi can serve as a crucial link to preserve **our ancient philosophy, culture and memory of freedom struggle.**
- Hindi is **most widely spoken** in the country across various regions thus can become the lingua franca.
- **In agreement with constitutional framers-** such as Mahatma Gandhi and Sardar Patel, who appealed to citizens to increase the use of the mother tongue and Hindi.
- **Most widely spoken language-** According to government's 2001 census data, the number of native speakers of Hindi language was 41% in 2001 besides many others speakers whose native language is not Hindi but still use Hindi as their second language
- **Safeguard the diverse language base-** of the country which comprise of 122 languages and more than 19,500 dialects. It is important that the culture is preserved from the foreign influence.
- **Suitable application of Hindi-** could be done such as in the areas of **law and science and technology.**

Arguments Against

- Hindi is spoken in pure form **even in the Hindi Heartland** (North and Central India) with several dialects of the language. Further, majority-spoken language is **Hinglish (a mix of Hindi and English)** while there are parts of the country where Hindi is hardly spoken or understood leave alone being the language of choice.
- **Similarly,** the history of Hindi is much more recent than many languages of India, say Tamil, Kannada, Telugu, and so on.
- Most of marginalized castes and indigenous communities of India prefer English, a language devoid of caste memory and a language that provides mobility.
- **Article 29** gives every Indian the right to a distinct language, script & culture.

Arguments against One Nation One Language

- **Idea of one country, one language: A colonial Construct:** The idea that a language represents a nation is one of the colonialism's construct. The complex process of modern nation building in colonial countries involved questions of cultural unity. Language and literature held the key to this project of cultural continuity from a unique and great past.
- **Delinking language from cultural Identity:** Often it is argued that a **national language** is considered a language which represents Indian culture; however, we can definitely preserve our culture in spite of adopting other language and also learning one more language beside our regional language would not ruin or destroy us or our culture. So, changing the medium of expression would not change our identity which can be understood by even an ordinary person.
- **Issue of consensus:** There is a lack of consensus among the population with respect to one language, as the whole construct of a national language seems more of an **imposition** of one language over others.

Three-language formula

- It is commonly understood that the three languages referred to are **Hindi, English and the regional language of the respective States.**
- Though the teaching of Hindi across the country was part of a long-standing system, it was crystallised into a policy in an official document only in the **National Policy on Education, 1968.**
- It was again mooted in NPE 2019 but later the idea was dropped from the draft.
- State has been following the **two-language formula for many decades**, under which only English and one regional language are compulsory in schools.

Therefore, any such efforts of imposing a language on the unwilling people is **hardly unifying, and rather it could turn out to be divisive.**

- **Diverse structure: A uniform language goes** against the idea of a diverse and federal structure of the country, where such common language may not be desirable. It also runs contrary to the spirit of the Constitution and our **country's linguistic diversity"**
 - All languages listed in the Eight Schedule of the Constitution are national languages and must be treated equally. Any attempt to impose any one language will lead to the **disruption of our country's unity and integrity.**
- **Against the spirit of three-language formula,** which should not be tinkered with and unnecessary controversies should be avoided on such 'emotive' issues.
- **Inevitability of English:** English is today's language of science and technology in the whole world. Even if we replace English from all technological usage in India with Hindi, still it will remain the language of science as it would be immensely difficult to translate all the scientific knowledge-base in Hindi language.
- **Significance of Language Diversity:** As there have not been enough **success stories globally-** e.g. the imposition of Mandarin, Russian or Urdu have rarely fulfilled such aims of unity and integration.

Conclusion

- To preserve our ancient philosophy, our culture and the memory of our freedom struggle, it's important that we **strengthen our local languages simultaneously** without being biased towards any one language.
- The need today is to **respect, protect and nurture diversity of our nation** so that unity is ensured and it lies in the quality of unity and togetherness. Those who talk about 'one nation' must realise that the true meaning of oneness lies in its quality of unity and togetherness.
- While the development of Hindi is undoubtedly a constitutional command the Union government cannot ignore, however, the manner in which it is done **should not give the impression to the States that there is creeping imposition of Hindi.** At the same time **three language policy** can also be pondered upon.

1.3. TRANSFER OF JUDGES

Why in News?

The unusual transfer of the Chief Justice of the Madras High Court, Justice Vijaya Kamlesh Tahilramani, to Meghalaya High Court has created a controversy around collegium system.

Why the controversy?

- Earlier, the collegium, headed by Chief Justice, had recommended transfer of Justice Tahilramani to the Meghalaya High Court.
- It was seen as a "punitive" transfer. The Madras High Court is the fourth largest high court with a sanctioned strength of 75 judges. The Meghalaya High Court is one of the few small High Courts, with a sanctioned strength of four judges—three permanent judges and one additional judge.
- Justice Tahilramani's request to reconsider the transfer proposal which was declined by collegium, in response to which Justice Thaliramani resigned from the post.
- While **sections of the Bar have questioned the transfer as well as the lack of transparency** about the real reason, the Supreme Court (SC) has issued an official statement that the Collegium indeed had cogent reasons and that these could be revealed, if necessary.

Procedure of transfer of judges

- **Constitutional provision:** The transfer of Judges from one High Court to another High Court is made by the President after consultations with the Chief Justice of India under Article 222 (1) of the Constitution.
 - Art 217 (1) provides that the President shall hold consultation with the Chief Justice of India, the Governor of the State, and in case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court.
- **Judicial Interpretation:** The Supreme Court derives its power to select, appoint and transfer judges from its verdicts in Three Judges Cases. From the SC decisions on the subject of judges' transfer, following points emerge:

- Transfer of a judge cannot be a punitive measure.
- Transfer can be ordered only on 'public interest' for the 'better administration of justice'.
- Transfer can be ordered by President only on the basis of concurrence of the CJI after effective consultation.

Steps to be taken

- **Need for judges' consent for transfer:** Judges of High Court are not subordinate to the CJI and the SC collegium judges. They enjoy equal status as judges of Constitutional Courts. The Constitution has not given the CJI and collegium judges any powers to have administrative superintendence over judges of High Court. Therefore, consent of judge should be required before transfer.
- **Recording of reasons for transfer:** Recording of reasons operates as a valid restraint on any possible arbitrary exercise of judicial and quasi-judicial or even administrative power.
- **Standard Procedure for transfer:** A standard procedure of transfer should be established in consultation with government. At present collegium need not to take any input from the government in case of mere transfer of judges. But in case of elevation as judge a Memorandum of Procedure is followed.

Conclusion

Any arbitrary transfer by the Supreme Court collegium reduces the High Court judges to a subordinate status. Further, the collegium system, by its opacity, has failed to build a fearless and strong judiciary and serve the public interest. Immediate steps should be taken to improve transparency in judiciary to maintain the trust of general public.

1.4. REGIONAL BENCH OF SUPREME COURT

Why in News?

Vice President of India has suggested setting up of four Regional Benches of the Supreme Court. Currently, the Supreme Court sits at Delhi.

Need for Regional Benches

- **Constitutional obligation:** Article 39-A directs the State to ensure that the operation of the legal system promotes justice on a basis of equal opportunity to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities. Thus, it is essential to ensure that the additional transaction cost of litigation for people of north-eastern states or southern states should be minimal.
- **High pendency of cases:** More than 65,000 cases are pending in the Supreme Court, and disposal of appeals takes many years.
- **Supreme Court as constitutional court:** The number of cases decided by constitution benches, benches comprising five or more judges,

Constitutional provision

Article 130: According to Article 130, the Supreme Court may sit at place(s) other than Delhi on the order of the Chief Justice of India with the prior approval of the President of India.

- Under Article 130, the chief justice of India acts as a persona designata and is not required to consult any other authority/person. Only presidential approval is necessary.
- Also, no constitutional amendment would be required in order to set up such benches.

Various committees and SC on the matter

- **Parliamentary standing committee:** Standing Committees of Parliament recommended in 2004, 2005, and 2006 that Benches of the court be set up elsewhere. In 2008, the Committee suggested that at least one Bench be set up on a trial basis in Chennai.
- **Law commission:** Law commission had recommended the division of the Supreme Court into 1) Constitutional court and 2) National court of appeal. Law Commission, in its 229th Report, **recommended that a Constitution Bench be set up in Delhi to deal with constitutional and allied issues, and four Cassation Benches** in Delhi (north), Chennai/Hyderabad (south), Kolkata (east) and Mumbai (west) to deal with all appellate work arising out of the orders/judgments of the High Courts.
- **Supreme Court:** The Supreme Court itself, as early as in 1986, had recommended establishment of National Court of Appeal with regional Benches at Chennai, Mumbai and Kolkata. In **V. Vasantha Kumar case, 2016** the Supreme Court referred the matter to a Constitutional Bench for decision on the National Court of Appeal.
 - **The National Court of Appeal with regional benches** in Chennai, Mumbai and Kolkata is meant to act as final court of justice in dealing with appeals from the decisions of the High Courts and tribunals within their region in civil, criminal, labour and revenue matters.

has steadily declined in recent times. With regional benches, Supreme Court of India situated in Delhi would only hear matters of constitutional law and public law.

- **Litigation as a measure of well-being:** An empirical study on litigation in India, finds that there is direct correlation between civil case filing and economic prosperity (more prosperous states have higher civil litigation rates). However, in recent years civil case backlog has discouraged civil case filings which may impact India's future economic growth. Thus, setting up regional bench is a step-in right direction.

Issues associated with setting up of regional benches

- **Dilute the authority of Supreme Court:** Setting up of regional benches may dilute superiority of the Supreme Court's decisions.
 - However, critics argue that **many High Courts in this country have different Benches for meting out justice without 'justice' being 'diluted'**. For example, the Bombay High Court has four Benches, in Mumbai, Aurangabad, Nagpur and Panaji (Goa).
 - Also, with the decentralisation being both functional and structural in nature, with only the bench in Delhi dealing with constitutional matters, such concerns may be put to rest.
- **Affect integrated judiciary system:** The Indian Constitution has established an integrated judicial system with the Supreme Court at the top and the state high courts below it. The setting up of regional court may dilute this unitary character. In 2010, the Full Court, comprising 27 judges and headed by Chief Justice of India had rejected law commission recommendation for regional Benches citing this reason.
 - However, it has been argued that High Court having different branches has not diluted the integrated judiciary system.

Conclusion

With the rising arrears of cases and practical difficulties being faced by poor litigants, it is about time that the idea of setting up regional benches be explored seriously. Setting up regional benches of the Supreme Court dealing with appeals and a constitutional bench in Delhi is the best way forward.

1.5. INTERNET AS BASIC RIGHT

Why in News?

Recently, in Faheema Shirin v. State of Kerala, the Kerala High Court declared the right to Internet access as a fundamental right.

More in News

- While the Kerala High Court judgment acknowledges the role of the right to access Internet in accessing other fundamental rights, it is imperative that **the right to Internet access and digital literacy be recognised as a right in itself.**
- In this framework the state would have
 - A positive obligation **to create infrastructure for a minimum standard and quality of Internet access** as well as capacity-building measures which would allow all citizens to be digitally literate and
 - A negative obligation **prohibiting it from engaging in conduct that impedes, obstructs or violates such a right.**

Right to Internet as human right

- The right to Internet access is the view that **all people must be able to access the Internet in order to exercise and enjoy their rights to freedom of expression and opinion and other fundamental human rights.**
- The United Nations Human Rights Commission has passed a **non-binding resolution that effectively makes internet access a basic human right.**
- This has been **acknowledged in the Sustainable Development Goals.** SDG 9 target significant increase in access to information

UNHRC resolution on Internet access

- People have the same rights online as well as offline, "in particular freedom of expression, which is applicable regardless of frontiers and through any media of one's choice".
- Any measures to "intentionally prevent or disrupt access" to internet are "condemned unequivocally," and all states should "refrain from and cease such measures".

and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020

- It was in the case of Sabu Mathew George v. Union of India and Ors. (2018) that **the Supreme Court declared that the Right to Access Internet is a basic fundamental right**, which could not be curtailed at any cost, except for when it "encroaches into the boundary of illegality."

How right to internet linked to other right?

- **Right to education:** Internet provided an avenue for the students to gather knowledge.
- **Right to freedom of speech:** Internet has become a powerful medium of expression. UN resolution says that the same rights people have offline must also be protected online.
- **Right to development:** The **right to development is a third generation right** recognized by the UN General Assembly. Access to internet would further enhance the economic development opportunities.
- **Right to freedom of assembly:** Internet has become a useful tool in the organization of protest movements and demonstrations. Internet and social media networks such as Twitter and Facebook had played a significant role to gather people online for political events such as the Arab Spring.

Three generation of Human Right

- First-generation, "civil-political" rights deal with liberty and participation in political life.
- Second-generation, "socio-economic" human rights guarantee equal conditions and treatment.
- Third-generation, "collective developmental" rights of peoples and groups held against their respective states aligns with the final tenet of "fraternity."

Issues with the right to Internet access as human right

- **Not qualify as human right:** Many critics argue that Technology is an enabler of rights, not a right itself.
- **Feasibility for developing nation:** There is a debate about considering the right to internet access a necessity given other priorities that developing and least developed countries face.
- **Issue of digital divide:** In India, there exists a huge digital divide. Thus, making internet as a right may not be a feasible idea due to infrastructural gaps, lack of digital literacy and accessibility.
- **Protecting free expression while fostering tolerance and civility:** Online, everyone has a voice. Hateful or defamatory words can inflame hostilities, deepen divisions, and provoke violence.
- Issues have also been raised due to **potential for misuse of internet**. For instance, terrorists and extremist groups use the internet to recruit members, and plot and carry out attacks. Additionally, there are issues related to data theft and privacy related concerns.

Conclusion

With the world increasingly moving into a digital space, the marginalised will be further left behind if they are unable to afford access to the internet. Therefore, government should take immediate measures to ensure free and equal access of internet.

1.6. RIGHT TO BE FORGOTTEN

Why in News?

Recently, the Court of Justice of the European Union ruled that **EU regulations on the right to be forgotten do not apply** beyond its boundaries.

Background

- In 2015, Commission nationale de l'informatique et des libertés (CNIL), an internet regulating agency in France, ordered Google to **delete links from its global database**.
- Google refused to abide by the order, arguing that following the same would **impede the free flow of information** across the world, after which CNIL imposed fine on Google.

GDPR and Right to be Forgotten

- GDPR states that individual shall have the **right to obtain from the controller the erasure (deletion) of personal data concerning him or her without undue delay** and the controller shall have the obligation to erase personal data.
- It has outlined the **circumstances under** which EU citizens can exercise this right under six conditions, **including withdrawal of consent to use data, or if data is no longer relevant for the purpose it was collected**.
- However, the request **may not be entertained in some situations** such as if the request contradicts the right of freedom of expression and information, or when it goes against public interest in the area of public health, scientific or historical research or statistical purposes.

- Google challenged the CNIL's order at the European Court of Justice (ECJ), and contended that **implementing the online privacy law beyond the EU would hamper access to information in countries** around the world, especially those ruled by authoritarian governments.
- Now, ECJ has now **restricted applying the privacy law beyond the EU**. It has also observed that the **EU cannot enforce the 'right to be forgotten' on countries which do not recognise such a right**.

About Right to be Forgotten (RTF)

- It refers to the **ability of individuals to limit, de-link, delete, or correct the disclosure of personal information on the internet** that is misleading, embarrassing, irrelevant, or outdated.
 - Such disclosure, may or may not be a consequence of unlawful processing by the data fiduciary.
- RTF traces its origin to the 'right to oblivion' in the French jurisprudence.
 - The right was utilized by former offenders, who had served their sentence, to object to publication of materials regarding their offense and consequent conviction. It was a right seen necessary to provide for easier social integration of erstwhile offenders.

Right to be forgotten (RTF) in India

- At present, **the right to be forgotten is not well-established in India**.
- The draft Personal Data Protection Bill, 2018 provides a limited right to be forgotten.
 - Unlike the GDPR, the Personal Data Protection Bill, 2018 only provides for prevention of continuing disclosure of personal data and not the deletion of personal data.
 - ✓ The grounds for exercising this right include cases where the disclosure of the personal data has served the purpose for which it was made or is no longer necessary; this **determination has to first be made by an Adjudicating Officer**.
 - ✓ The Adjudicating Officer also has to be **satisfied that the right to be forgotten overrides the right to freedom of speech and expression, and the right to information of any citizen**.
- In 2017, two separate Indian High Courts gave contrasting **judgments on this issue**.
 - In the first case before **the Gujarat HC**, the petitioner sought restraint on the online publication of an unreportable judgment in a case where the petitioner had been acquitted of culpable homicide amounting to murder.
 - ✓ The Gujarat HC dismissed the petition as the petitioner failed to show any legal basis for his claim and could not prove that his right to life and personal liberty had been violated because of the online publication.
 - **Karnataka High Court** ordered the removal of personal details from the judgment, while referring to the "right to be forgotten" in sensitive cases involving women in general.

Right to Privacy vs Right to be Forgotten vs Right to information

- The biggest challenge in implementing this right is the **trade-off between defamation and freedom of expression**.
- The right to be forgotten cannot be an absolute right and would be **objected to reasonable restrictions**.
- The right to be forgotten comes **within the purview of the right to privacy**, which would be at odds with Article 19(1)(a) — freedom of speech and expression.
- If the **information is of public interest**, the right to information of the public prevails over privacy rights.
- While implementing the right to be forgotten, a very **fine balance has to be struck between the right to freedom of speech and expression, public interest and personal privacy**.
- To balance these conflicting rights, the judiciary may consider implementing a system where personal information like names, addresses etc. of the litigants are redacted from reportable judgments/orders especially in personal disputes.
- The courts have, in the past, refrained from divulging the identities of parties in order to respect their privacy in many rape or medico-legal cases.

Issues with right to be forgotten

- **Conflict in situation where public interest information is more important:** In serious crimes such as sexual harassment, the public's interest in having information about an accused/perpetrator is much stronger than the individual's right to privacy.
 - It is in public interest that news containing sexual harassment allegations is not expunged from the internet. If there is a gross error in reporting by the media, then the accused should take recourse under defamation law instead of through right to be forgotten claims.
- **Against freedom of speech and expression:** It goes beyond a mere right to forget and seriously threatens freedom of speech and expression of the journalism etc.

- **Implementation challenges:** The success rate of governments across the world in banning or removing pornographic websites or torrent sites from the Internet has not been great, since there are various ways of circumventing such bans.
 - Further, the blocking or delinking of URLs by search engines does not guarantee that such information has been blocked or deleted from the Internet. There is also no way to ensure that such information is not uploaded again.
- **Cumbersome process:** With the growing recognition of the right to be forgotten, the number of requests that search engines receive for taking down or delinking is only likely to increase, making it extremely difficult and cumbersome to scrutinize such requests manually.
- **Misuse of the right:** Search engines are also likely to tread on the side of caution and accept such requests rather than face expensive legal challenges across jurisdictions for non-compliance.
 - This right may be misused by individuals as it will lead to artificial alteration of the content available online which may result in the delinking of pertinent information.

Way forward

- For now, there is no way to pin down how the right to be forgotten would be molded by the Indian courts; currently, it is a **nascent judicial concept** that will take some amount of debate and deconstruction to make sense.
- India still has no personal data protection law, let alone the right to be forgotten. We need a data protection law first.
 - Specific data protection rights must include the provision of know what data is stored about you, the right to update or delete out-of-date information, and the right to delete your private information
- Despite these difficulties, experts think such a provision in India would make companies that **use personal data accountable** and they may need to review how they gather, use, and share such information.

1.7. NGOS UNDER RTI

Why in News?

Recently, a Supreme Court ruling has brought the non-government organisations (NGOs) receiving funds from the governments under the ambit of Right to Information (RTI) Act, 2005.

More about news

- This judgment came while rejecting claims by some colleges and schools which contended that they are not public authority under the RTI Act.
- **Public authority under RTI:** Section 2(h) of the RTI Act states that “public authority” means any authority or body or institution of self-government established or constituted
 - By or under the Constitution;
 - By any other law made by Parliament;
 - By any other law made by state legislature;
 - By notification issued or order made by the appropriate Government, and includes any
 - ✓ Body owned, controlled or substantially financed
 - ✓ Non-Government organization substantially financed, directly or indirectly by funds provided by the appropriate Government.
- The RTI Act does not define substantial financing. Supreme Court in its judgement has widened the definition of substantial financing. **(Refer infographic)**

WHAT DOES THE ORDER SAY



Trusts and NGOs “substantially funded” by the government will be considered “public authorities” under the RTI Act



Whether an NGO/trust enjoys “substantial government financing” will be examined on a case-to-case basis



Substantial funding can be in both direct and indirect ways



Substantial funding does not necessarily have to be in the form of financial aid or be more than 50 per cent of funding



While determining substantial funding, the current value of land will also have to be evaluated.

- Currently, the NGOs are regulated under the provisions of Foreign Contribution Regulation Act (FCRA) and Foreign Exchange Management Act (FEMA Act).
- This ruling would mean that NGOs will have to **maintain records as provided under the RTI Act**, and every citizen will have the right to get information from them.

Arguments in favour of putting NGO's under RTI Act

- **Upholding Accountability:** Earlier, various reports, including reports of CBI and Intelligence Bureau, have shown the misappropriation of funds by a large number of NGOs, which could cost India around 2-3% of its GDP.
 - Many NGOs have come under the government scanner for alleged contravention of FCRA.
- **Independence and reliability of the organisational structures of NGOs:** For instance, questions are frequently raised regarding role and composition of the board, financial accounting, management structure, etc.
- **Constitutional Mandate:** Since the NGOs receive public funds, it is important that people have the **Right to Information** under Article 21, to know about the usage of those funds.
- **Effectiveness of NGOs as a social service delivery agent:** as many bodies such as hospitals and educational institutions on land given by government, will now come under the definition of 'public authorities' (Section 2(h) of the RTI Act).

- This usually have to do with the quality and quantity of the services offered like distribution of medicines, food etc.

Issues with such regulation

- **Curbing Dissent:** Government could use such regulations to stifle dissent and target right-based advocacy groups.
 - NGOs are contending that the government is wrongly using its discretionary powers under the act to suppress voices of dissent, especially those against government policy.

Regulation of NGO

Foreign Contribution Regulation Act (FCRA)

It was introduced in 2010, to consolidate the law to regulate the acceptance and utilization of foreign contribution by individuals or associations and to prohibit acceptance and utilization of foreign contribution or foreign hospitality for any activities detrimental to national interest and for matters connected therewith or incidental.

- It required all NGOs to apply for a **license to receive foreign funding**.
 - NGO must be in **existence for at least 3 years** and **spending at least Rs 1,000,000 over 3 years** preceding the date of its application on its activities
 - It must have **undertaken reasonable activity in its field** for which the foreign contribution is proposed to be utilised.
 - NGO with **permanent FCRA licenses** now have to get these renewed **every five years**.
 - NGO shall not spend more than **50% of Foreign Contribution received in a Financial Year** to meet administrative expenses without prior approval of Central Government.
- **Recent changes in FCRA**
 - Government barred several prominent NGOs from receiving funds from foreign countries after they failed to **file their annual returns for five consecutive years**.
 - NGOs are required to **validate the bank accounts in which they receive foreign funds**.
 - In 2017, the Ministry of Home Affairs issued circular under which all NGOs registered under FCRA **should receive foreign donations in a single designated bank account**.
 - NGO have to file an affidavit declaring that the **individual has not been involved in any act of religious conversion or prosecuted for communal disharmony**.

Foreign Exchange Management Act (FEMA)

- It was introduced to **consolidate and amend the law relating to foreign exchange** with the objective of facilitating external trade and payments.
- Certain NGOs are also registered under FEMA come under **Ministry of Finance**.

Other regulations

- **Labour Laws:** Any NGO employing more than 20 employees must comply with the **Employees' Provident Fund** (compliance is voluntary if an NGO has less than 20 employees).
- **GST laws:** It would apply if turnover of goods or commercial services exceeds a sum of two million Indian rupees in any fiscal year.
- **Accreditation:** Recently, New accreditation guidelines for NGOs had been formed on the basis of recommendations of **Vijay Kumar Committee**
 - **NITI Aayog** has been appointed as the **nodal agency for the purpose of registration and accreditation of NGOs seeking funding from Government**.

- **Lack of professionalism:** With large number of smaller NGOs which may lack the capacity to conform with such legal norms and rules. Such legal scrutiny may deter many philanthropists against starting an NGO.
- **Abuse of legal procedures:** Government could reject licenses non-objectively as has been observed by NHRC as well in the past.
- **Impacts Governance:** NGOs play an important role in the upliftment of the weaker sections of the society and their overall development, especially in case of India. Any misuse of regulation could hinder this process.

Conclusion

- It is now well established that NGOs have an important role to play in the development processes and that both the state and market need the collaboration of credible, active, and accountable NGOs.
- The time has come for NGOs to focus their energies at enhancing their own accountability.
- Government on its part should appoint commissions of enquiry or committees to cross check the misuse of funds by NGOs. The members of committee may supervise and monitor the activities of NGOs periodically.

फाउंडेशन कोर्स सामान्य अध्ययन प्रारंभिक एवं मुख्य परीक्षा 2020

इनोवेटिव क्लासरूम प्रोग्राम के घटक

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

2.1. KASHMIR ISSUE AT GLOBAL FORUMS

Why in News?

Abrogation of Article 370 has brought about **Kashmir issue at a global level** with both countries keeping their stand.

Background on Multilateral and bilateral engagement on Kashmir Issue

- On January 1, 1948, the **Government of India reported to the Security Council** over the Pakistan's Invasion in Jammu and Kashmir.
- The decision to set up a **United Nations Mission was taken on January 20** in which UN invoked Article 34 to mandate the mission to investigate facts of the situation, and to exercise any "mediatory influence...likely to smooth away difficulties".
 - **Article 34** empowers the Security Council to investigate any dispute, or any situation which might lead to international friction or give rise to a dispute, in order to determine whether the continuance of the dispute or situation is likely to endanger the maintenance of international peace and security.
- The **five-member Mission (Dixon Mission)**, which had members nominated by India and Pakistan, and three others, eventually brokered the cessation of hostilities from January 1, 1949
 - **Dixon Plan of 1950** led to partition of some areas of Jammu & Kashmir between India and Pakistan (Ladakh to India, PoK and Northern Areas to Pakistan, with Jammu divided between the two), plus a **plebiscite in the Valley** (that never happened).
- Further, framework for bilateral resolution of problems between India and Pakistan was written into the **1972 Simla Agreement** and reiterated 27 years later in the **Lahore Declaration in 1999**.
 - **Shimla Agreement of 1972:** It was signed by Prime Minister Indira Gandhi and President Zulfikar Ali Bhutto of Pakistan on 2nd July 1972 was much more than a peace treaty seeking to reverse the consequences of the 1971 war (i.e. to bring about withdrawals of troops and an exchange of PoWs).
 - ✓ It contains a set of guiding principles, mutually agreed to by India and Pakistan, which both sides would adhere to while **managing relations with each other**.
 - ✓ The two countries are resolved to settle their differences by peaceful means through **bilateral negotiations** or by any other peaceful means mutually agreed upon between them.
 - **Lahore Declaration of 1999:** It not only stressed the need to implement the Simla agreement in letter and spirit but also called upon the two nations to **combat terrorism and follow mutual non-interference in internal affairs**.
 - ✓ The declaration also agreed that the respective governments of both the countries shall intensify their efforts to resolve all issues, including the issue of Jammu and Kashmir.
- Nonetheless, **Pakistan has continued to view the "internationalisation" of the Kashmir issue** as its bet towards reversing J&K's accession to India, and has used every global forum to criticise India's "illegal occupation" of Kashmir.

Related information

Why plebiscite never happened?

- On 5 January 1949, UNCIP (United Nations Commission for India and Pakistan) resolution stated that the question of the accession of the State of Jammu and Kashmir to India or Pakistan will be decided **through a free and impartial plebiscite**.
- However, as a prerequisite it was required that Pakistani nationals and tribesmen, who had come to fight in Kashmir, be withdrawn. This never happened and both countries failed to arrive at a Truce agreement.

Article 35 & 51 of UN Charter Act

- It has been argued that had India taken the matter to the United Nations under **Article 51 of the UN Charter, instead of Article 35**, the outcome would have been different.
- **Article 35** says that any member of the UN may take a **dispute to the Security Council or General Assembly** if the **parties to a dispute are not able to resolve the matter** through negotiations between them
- **Article 51** says that a UN member has the "**inherent right of individual or collective self-defence**" if attacked, "till such time that the Security Council has taken measures necessary to maintain international peace and security".
- However, the outcome of this was setting up of a **United Nations Mission invoked under Article 34**.

India's stand on Kashmir issue

- **Article 370:** India's position that the abrogation of Article 370 is an 'internal matter'.
 - For India, not just the state of Jammu and Kashmir but even Pakistan-Occupied Kashmir (Pok) is an **integral part of Indian territory**. India believes that there is no scope for redrawing boundaries.
 - Absorption of J&K into the Indian Union is a **strictly domestic issue and does not affect India's external boundaries**— either the Line of Control with Pakistan or the Line of Actual Control with China.
- **Cross border terrorism:** India has reiterated its longstanding position that there is no room for mediation in Kashmir or on any other India-Pakistan issue and that all outstanding matters between the two countries would be resolved through bilateral dialogue — but only when Pakistan ends cross-border terrorism in India.
- **No third-party intervention:** The Indian position has historically stemmed from its mistrust of outsiders meddling in its internal affairs, the strongly felt need to protect its secular nationhood project.
 - India has strongly **objected to any kind of third-party intervention**.
 - India suggests that instead of third party mediation what suits both the terrain and the situation along the LoC is joint Indo-Pak patrolling.

How India has tackled Kashmir issue at Global level?

- **No mediation from other country:** India has mostly succeeded in conveying that it would brook no third-party mediation.
 - Diplomats of other countries and pundits familiar with South Asia recognise India's stance on Kashmir and that any third-party mediation is unacceptable to India.
 - India does not recognize the nine-country **UN Military Observer Group in India and Pakistan (UNMOGIP)**, which has been in existence since 1949 to monitor the ceasefire in the first Indo-Pak war
- **Diplomatic win:** India has been able to get its way mostly on this — the nuclearisation of South Asia and the growing global interest in India's economy.
- **United nations:** United Nations Secretary-General in January 2018 too ruled out any mediation for resolving the Kashmir issue unless all parties agreed to it -- and asked India and Pakistan to address all outstanding issues through talks.
- **Support from Gulf Countries:** The Gulf countries, with whom Pakistan has enjoyed a long-standing "brotherly" relationship for decades, have stayed away from condemning India's crackdown in Kashmir.
 - Recently, NSA Ajit Doval also met Saudi Crown Prince to discuss Kashmir issue.

How Pakistan has tried to internationalise Kashmir issue?

- **UNGA:** Pakistan has tried to raise Kashmir issue in various address in the United Nations General Assembly (UNGA)
- **UNSC:** Pakistan approached the United Nations Security Council and a closed-door meeting on the Kashmir issue upheld the stand that the contentious issue must be resolved bilaterally.
- **Portraying Muslim as victims:** Pakistan is placing the Kashmir issue within a context of "Islamophobia" and "injustice to Muslims."
- **Downgrading ties:** There has been repeated attempt of downgrading ties and dispatching India's ambassador home.
- **Support from China:** China has extended unhindered support to Pakistan over its Kashmir policy.
- **ICJ:** Pakistan has announced that they would challenge it in the **International Court of Justice (ICJ)**.
- **OIC:** Pakistan has urged the OIC to take the situation of Held Kashmir seriously to avoid a human tragedy.
- Highlighting the issue of **Communication blackout in Kashmir**

Why India's effort has been successful?

- **Converging interests:** Ever since after 9/11 attack there has been converging interests and collected voices against terrorism which India has been arguing against Pakistan.
 - Kargil attack, India has taken the moral high ground, keeping world opinion firmly on its side. Kargil was followed in 2002 by the attack on Parliament and finally the Mumbai attack in 2008.
- **Global scenario:** World is drowning in crises and western powers are preoccupied. From climate change to Brexit, from managing China's rise to the faltering Afghanistan peace process and tackling Iran, they don't have the bandwidth to get too deeply involved in Kashmir except to counsel restraint to both sides.
- **Diplomatically strong:** India's place in the world has dramatically changed which is engaged globally with a vast array of countries.
- **Role in Indo-Pacific region:** India has very important role in Indo-pacific region which already has multiple stakeholders across the world and any disturbance between two south Asian countries is not favorable for world.
- **Soft power:** India has got strong soft power across the world unlike Pakistan.

- **Highlighting Pakistan’s association with terrorists:** Pakistan is facing an imminent risk of being blacklisted by the Financial Action Task Force if it fails to meet its commitment on counter-terrorism financing.

Conclusion

The recent move for internationalization of Kashmir issue has been largely unsuccessful as India has been able to remain on its stand with support from international community. Indian security establishment is perhaps internationalizing the Kashmir terrorism but not the Kashmir problem.

For more on Kashmir issue refer to August 2019 Current affairs

2.2. DISPUTE SETTLEMENT SYSTEM OF WTO

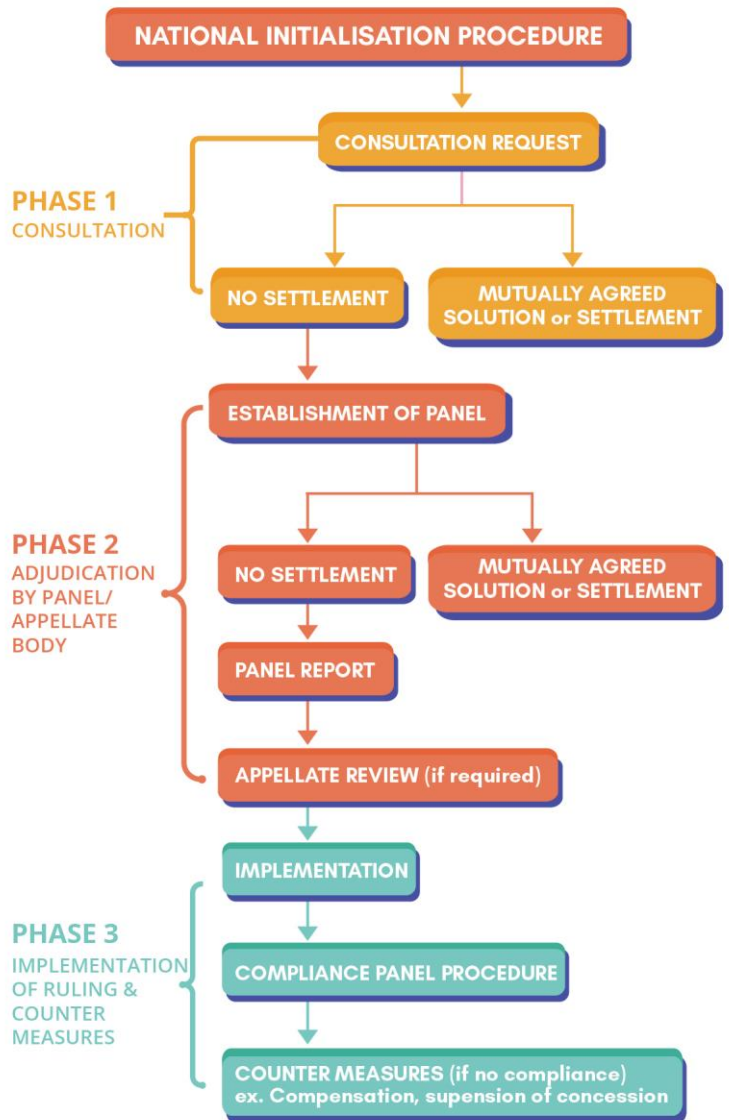
Why in news?

The Appellate body of the Dispute Settlement System of the WTO is on the verge of becoming dysfunctional due to delay in filling its vacant seats.

About Dispute Settlement System

- Dispute Settlement System (DSS) is a **mechanism to resolve trade disputes** between member states. It utilises both political negotiation and adjudication for dispute resolution.
- The **Uruguay Round negotiations** (1986-1994) culminated in the creation of the DSS and the adoption of the Dispute Settlement Understanding (DSU) to govern trade disputes between member states.
- The **DSU** embodies important **principles** for the functioning of the DSS:
 - to provide stability and predictability to the multilateral trading system
 - to establish a fast, efficient, dependable and rule-oriented system to resolve disputes
- **Dispute Settlement Body:** The General Council is WTO’s highest decision-making body and it also meets as the DSB.
 - It is essentially a **political body** and it administers rules and procedure of the DSU.
 - Decisions are taken here by the **reverse consensus method**. That is, the decision is adopted unless there is consensus against it.
- **Appellate Body (AB):** AB is a seven-member permanent organ that adjudicates appeals within the DSS.
 - Members are appointed by the DSB for four-year terms.
 - It follows the positive consensus mechanism.

OVERVIEW OF WTO DSS



Significance of the DSS

- In the 24 years of its functioning, the DSS has received over 500 complaints and has seen a **compliance rate** of around 90 percent in its cases, which is very high in comparison to other major international adjudicatory.

- DSS maintains the **stability** and **predictability** of the **rules based multilateral trading system**. This in turn supports a **stable trade policy** followed by different countries, which directly benefits farmers, manufacturers, industries, businesses and others.
- DSS protects the **interests of developing countries and LDCs** by continuing to be a rules-oriented system as opposed to a power-oriented one.
- By ensuring dispute resolution, it serves the main purpose of trade negotiations under WTO. Thus, it lends **practical relevance** to the **WTO** as a multilateral organisation.

Issues faced by DSS

Appointment of AB members		
Issue	Description	Proposed solution
Appointment of AB members	Appointment takes place through consensus. It is easy for one member state (US, in this case) to block appointments.	Appoint members by majority voting, and not consensus. However, consensus-based decision making is in all members' interest in the long term. <i>Additional reforms:</i> Increasing the number of AB members, the term of their office, and a provision for automatic launch of AB selection process before the expiry of their term of office.
Procedural issues		
AB treats its decisions as precedent	Panels follow these precedents despite the absence of cogent reasons to do so. Some countries have contested this, as there is no legal provision that allows the AB to do so.	<ul style="list-style-type: none"> • A better approach would be to allow the AB to consider the extent to which prior reports can be relevant and useful to the dispute, and furnish reasons in their reports for doing so. • Sometimes, referring to prior reports helps in clarifying the application of WTO law to future disputes, since Panels and AB cannot operate in a vacuum.
AB exceeds its judicial mandate	AB's jurisdiction is limited to reviewing "issues of law" and "legal interpretations developed by the panel". AB sometimes goes into factual questions, and this has been criticized.	<ul style="list-style-type: none"> • AB should exercise judicial economy and limit itself to only the issues raised by parties. • AB can explicitly include why it considers particular findings as necessary for the resolution of appeal. • A possible external review mechanism has been proposed to consider whether the AB has overstepped its mandate.
Systemic issues		
Delays in the DSS procedure	Despite overall decrease in DSS workload, the average time taken to complete disputes has steadily increased.	<ul style="list-style-type: none"> • Hiring more secretariat lawyers, streamlining translation process, reducing the length of panel etc. • Speedy resolution of disputes will reduce the economic harm that can be suffered by complainant states during pendency of cases.
Developing countries and LDCs' access to the DSS	The DSS has overall witnessed lesser participation from developing countries and LDCs.	<ul style="list-style-type: none"> • There is a need to give assistance to developing countries and LDCs in the negotiation stage, since most cases settle early with fuller concessions. • The ACWL (Advisory Centre on WTO Law) can be mobilized to give assistance to countries during negotiations and consultations. • Additionally, with increasing complexity of disputes and aging trade rules, it will be beneficial to use alternative mechanisms under the DSU like: (1) Consultation process, (2) Good offices, conciliation and mediation procedure, (3) arbitration.
No formal mechanism for dialogue between members and adjudicative bodies	Without a formal mechanism, there is no available forum for member states to raise and discuss new issues in the DSS.	<ul style="list-style-type: none"> • Proposal for initiating annual meetings between DSB and AB. • But there is a need for adequate transparency and ground rules for such proceedings, to avoid undue pressure on AB members.

India's experience with DSS

- India has been an **active participant** in cases before the DSS.
- India had lost some important **initial cases**, leading to far-reaching **law and policy reforms**:
 - The **"mail box" patents case** led to the enactment of the **Patents Amendment Act (1999)** to set up a legal basis for treatment of mailbox applications and for grant of exclusive marketing rights.
 - The decision against India in the **Quantitative Restrictions case** inspired India to bring several **reforms** in its **trade policies**.
- These losses also enabled India to increase its **human and institutional capacity**, enhance **involvement** of industry **stakeholders** and strengthen preparation of cases before the WTO.
- Some losses have enabled India to become a more **proactive litigant**:
 - After its defeat in the Solar Cells case, India complained and won against the US in a similar matter pertaining to domestic content requirement in the renewable energy sector.
- At the same time, India has initiated and **won** several important cases before the WTO, which have helped lay down **important jurisprudential principles for international trade law**:
 - For instance, in the **EC — Tariff Preferences** case, the panel's findings established some important principles regarding the non-discriminatory application of the Generalized System of Preferences (GSP).
- India has exhibited readiness to work on negotiated settlements if the ideal conditions exist. Majority of India's cases do not go further than the consultation stage, and are either mutually settled, terminated or withdrawn.

2.3. INDIA- ASEAN: REVIEW OF FREE TRADE PACT

Why in news?

Recently, India and Association of South-East Asian nations (ASEAN) agreed to review the **Free Trade Agreement (signed in 2009)**.

India- ASEAN Economic and Trade Relations: A background

- In 1992, India became ASEAN's **sectoral dialogue partner**, a **Full Dialogue Partner in 1995** and a member of the **ASEAN Regional Forum (ARF) in 1996**.
- In **2003**, a Framework Agreement – the **Comprehensive Economic Cooperation Agreement (CECA)** was signed to provide an institutional framework to enable economic cooperation;
- In 2009, **India-ASEAN Free Trade Agreement (AIFTA)** was signed in **Bangkok**. Under the pact, two trading partners **set timelines for eliminating duties** on the maximum number of goods traded between the two regions. In addition, **ASEAN-India Free Trade Area** entered into force by the ASEAN-India Agreements on **Trade in Service and Investments** on 1 July 2015.
- 2017 marked **25 years of dialogue partnership between India and ASEAN**, and five years of the strategic partnership.
- India has also engaged with ASEAN at both regional and sub-regional levels by signing economic cooperation agreements with its different members.

Impact of free trade agreement (FTA) on India

- **Positive Impacts**
 - **Global Trade Analysis Project (GTAP) database**, reveals that post-FTA, India's exports to ASEAN increased substantially, with the largest accesses gained in **Thailand, Cambodia, Vietnam, Malaysia, the Philippines and the Lao People's Democratic Republic**.

About ASEAN

- **ASEAN**, is a **geo-political and economic** organization with 10 member countries, formed in August 1967 by **Indonesia, Malaysia, the Philippines, Singapore and Thailand**.
- The membership expanded to include **Brunei Darussalam, Cambodia, the Lao People's Democratic Republic, Myanmar and Vietnam**.

Overview of India-ASEAN trade relations

- **ASEAN is India's fourth largest trading partner**.
- India's trade with ASEAN stands at US\$ 81.33 billion, which is approx. 10.6% of India's overall trade. India's export to ASEAN stand at 11.28% of our total exports.
- Between 1995 and 2016, trade between India and ASEAN grew at a compound average growth rate (CAGR) of about 11.9 percent.
- However, **India's goods trade deficit** has widened. The trade gap was \$22 billion in FY19, up from \$13 billion in FY18.
- Ships, boats, floating structures, mineral fuels, mineral oils and meat are India's largest exports to the grouping while telecom equipment, electrical machinery, mineral fuels, mineral oils and animal or vegetable fats and oils are the biggest imports.

- The **bilateral trade** between the two sides has increased to \$ 80.8 billion in 2018 from \$73.6 billion in 2017.
- The FTA has also been causing a significant **trade diversion in the India-ASEAN region** as the rest of the world experiences a significant market share loss in India and the ASEAN members. In particular, China is affected by a loss of market share in Cambodia, India, Malaysia, the Philippines, Thailand, and Vietnam.
- **Negative Impacts**
 - **Unequal benefit:** FTAs have adversely impacted India's manufacturing, which the government is trying to boost through its Make in India initiative in order to generate jobs.
 - Moreover, the surge in **goods import** into India is **accentuated** by instances of non-adherence to origin norms and lack of full cooperation in investigating and addressing such breaches. In contrast, the utilisation of preferential tariffs by India under the India-ASEAN FTA is below 30% because of **standards, regulatory measures and other non-tariff barriers in the region.**

India-ASEAN economic relations: Examining future possibilities

- **Promoting India-Southeast Asia regional value chain:** Regional value chains strengthen economic cooperation by expanding market access among nations. For example: Textiles manufacturers in India could benefit by engaging with less developed countries such as Cambodia, Laos, Myanmar and Vietnam, as the latter import cotton yarn (an input used in manufacturing of textiles) from India.
- **Connecting India with Southeast Asian economies:** In the areas of **physical, institutional and people-to-people connectivity.** Under the **agreement on trade in services signed in 2015**, India and ASEAN agreed to liberalise trade in telecommunications, financial and insurance services, while regulating the movement of natural persons.

Way forward

- **India's interest in collaborating** with Southeast Asia is linked to potential benefits in varied sectors such as agriculture, energy, and gas. As India has a comparative advantage in the services sector, especially information technology services, domestic regulations in ASEAN economies need to be liberalised to promote cross-regional cooperation.
- Further, ASEAN member countries and India have been working towards ratifying the **Regional Comprehensive Economic Partnership Agreement**, which is expected to improve trade and investment among all member countries. This process needs to be expedited.
- **Greater progress is envisioned** in India-ASEAN relations upon **liberalisation of the services trade (particularly Mode 4 – movement of natural persons).**
- **Trade facilitation measures**, thus would reduce the volume of documentation required – and thereby the time of transit – necessary to improve economic exchanges between India and Southeast Asian countries.

2.4. QUAD

Why in news?

- Recently, the four-way dialogue between the US, Japan, India and Australia - **for a free and open Indo-Pacific** - was held at the foreign minister's level for the first time on the side-lines of the UN General Assembly.
- This meeting is a "significant elevation" of the dialogue efforts by the partners countries to advance cooperation in the Indo-Pacific region as the Quadrilateral has so far met at the level of Joint Secretary-rank officials only.

Objective of the QUAD Ministerial Meeting

- To develop one mechanism, one architecture that complements and supplements, other formats to **promote the free and open Indo-Pacific.**
- To discuss collective efforts in group's shared commitments and close cooperation on counter terrorism, mentoring, assistance in disaster relief, airtime security, cooperation, development, finance and cybersecurity efforts.

About QUAD

- The Quadrilateral Security Dialogue (also known as the Quad) is currently an informal but increasingly being formalised, **strategic dialogue** between the **United States, Japan, Australia and India.**

- The Quad had its real genesis in the response to the 2004-2005 Asian Tsunami when India showed prowess in spearheading the relief and rescue effort in South East Asia.
- The dialogue was initiated in 2007 by Prime Minister Shinzo Abe of Japan. However, during the 2017 ASEAN Summits all four former members **re-joined in negotiations** to revive the quadrilateral alliance.

Significance of QUAD

- **To stabilise transition of power in the Indo-Pacific:** The shift in the epicenter of global politics from the trans-Atlantic to the Indo-Pacific marked by America's relative decline and the rise of China has significant geopolitical implications for the countries of the region as it inextricably linked to their own national security imperatives. India, Japan, and Australia are at the center of this strategic flux in the Indo-Pacific therefore making QUAD a geo-political reality.
- **A concert of democracies:** What binds these four countries together in the first place is **democracy**. A broader agenda encompassing the range of civilian security and technology issues is therefore one of the connecting links between these countries.
- **A Natural progression:** India and Japan had an institutionalized trilateral strategic dialogue partnership with the United States. A similar dialogue exists between the United States, Japan, and Australia. Similarly, at the level of **strategic convergence** between Delhi and USA, **Operation Malabar** got firmly institutionalised with Japan's participation. Thus, all these trilateral initiatives have a serious potential to transform into a **'quad' of democracies in the Indo-Pacific region**.
- **QUAD- A counter to China:** The concept of quadrilateral cooperation is inextricably linked to China's emergence as a great power. The fear of **China's growing unilateralism** drives major nations to strive to reduce the regional imbalance by banding together.
 - The quadrilateral is wary of China's assault on **maritime security and freedom of navigation** in the Indo-Pacific region.
- **Focus on countering violent extremism and deeper coordination on counterterrorism** as the grouping can be an effective platform to address these concerns. The four countries should further expand the agenda and make explicit the importance of deeper coordination on law enforcement and the specific challenges facing megacities as targets.
- **Recognising India's role:** The grouping also recognises India's emergence as a net security provider in the region and a global actor and India's contribution as vital to the safeguarding of a rules-based system in the Indo-Pacific region. This has led India to engage proactively with the United States and other major global powers like Japan and Australia in envisioning the Indo-Pacific order.
- **Recognising ASEAN Centrality:** The Quad countries are also "resolute" in their view of the centrality of ASEAN (Association of South East Asian Nations) in South East Asia. The emphasis on ASEAN centrality can be viewed as a way to **leverage its support** and make the ongoing deliberations on alternative security architecture more dynamic.

QUAD: Significance for India

- **Reaping benefits of Minilateralism:** QUAD gives India a significant and a powerful platform to form a grouping based on collective interests and aspirations. Thus, ushering into an era of Minilateralism where small yet powerful grouping unites for concentrated action.
- **Furthering India's Act East Policy:** QUAD help advancing India's interests in East Asia, as the grouping has given due recognition to ASEAN's centrality in the whole Indo-Pacific discourse.
- **Recognising India's Role in Indo-Pacific:** The geostrategic term "Indo-Pacific" as opposed to "Asia-Pacific" has been gaining currency in the contemporary geo-political narrative. At the same time, the grouping also recognises India's emergence as a net security provider and its importance in safeguarding the rules-based system in the Indo-Pacific region
- **Making India an important player in Asian Narrative vis a vis China:** Quad will further strengthen India's ties with democracies like US and Japan thus making India a force multiplier in the contemporary geo-political debates such as Afghan Peace Process and Expansionist policies of China in Indo-Pacific.

Concerns and Challenges

- **The China Question:** India has been hesitant about the Quad as India is the only country in the group sharing a land boundary with China and thus on the geo-political front it does not want to isolate China. For instance: India has not permitted Australia to participate in the Malabar Naval exercises, concerned about what message it would send to China, which is wary of the exercise. At the same time India has had a history

of staying clear of security alliances. Hence, New Delhi has exercised strategic caution while welcoming the Quad overtures.

- Questions have also been raised whether Australia in particular could sustain the effort due to close Sino-Australian relations.
- **QUAD- a work in progress:** The Quad remains a work in progress and its members are still in the process of defining its priorities in spite of the fact that structural changes in the Indo-Pacific over the last few years, have given this arrangement a new sense of urgency.
- **Acquiring a narrow dimension:** There are concerns that too much focus on militaristic zeal to secure the Indo-Pacific from Chinese unilateral aggression is making QUAD overladen with Chinese narrative.

Way Ahead

- **Re-purposing of QUAD's Agenda:** The Quad countries have an opportunity at this moment to find their purpose as a consultation of open democracies, and stake out an important civilian security agenda. The Quad should develop its own priority list for how best to elevate democracy and civilian security in its own consultative agenda.
- **Beyond maritime cooperation and more generally military-to-military cooperation,** the Quad states will have to identify areas of cooperation such as **connectivity, capacity building and cyber security**. It should focus on building a **robust regional consultation mechanism and coordinate with ASEAN nations** on issues of regional importance.
 - Initiatives like **the Indo-Pacific business forum** could be expanded and alternative institutions like Indo-Pacific Bank or Indo-Pacific infrastructure investment agency could be contemplated to encourage private investment in crucial sectors like energy, the digital economy, the blue economy, and infrastructure.
 - It will also be important to develop a track focused on emerging technologies, and security as the internet/digital economy has introduced new questions for regional and global governance.
- **India's future role:** India needs to be innovative in dealing with challenges and leveraging opportunities that arrangements like the Quad present. The Quad framework presents a unique opportunity for India to be an **active participant in shaping regional security architecture** with global undertones.
 - It can also play an important role in shaping the future trajectory of Sino-Indian relations.

2.5. INDIA-CHINA ECONOMIC RELATION

Why in News?

Recently, India hosted the **6th India-China Strategic Economic Dialogue**.

More about News

- India-China Strategic Economic Dialogue **focus on collaboration between two countries on areas** of infrastructure, energy, high-tech, resource conservation, pharmaceuticals and policy coordination.
- Mutual agreements signed were on **Policy Coordination, Infrastructure, High-Tech, Resource Conservation and Environmental Protection, Energy and Pharmaceuticals**.

Background

- In the year **1984, India and China entered into a Trade Agreement**, which provided them with the status of **Most Favored Nation (MFN)**.
- It was in **1992 that the India and China got involved in a full-fledged bilateral trade relation** and **double Taxation Agreement** was signed in 1994.
- In 2003, **Bangkok Agreement** was signed the two countries under which both India and China offered some trade preferences to each other. In 2003, India and China also entered into an agreement to initiate open border trade via the Silk Route.

India-China Strategic Economic Dialogue

- It is a **bilateral dialogue platform between the planning bodies** of India and China- the Planning Commission of India (now Niti Aayog) and the National Development and Reform Commission (NDRC) of China.
 - The idea of having such a dialogue was first floated by Premier Wen Jiabao on his visit to India **in 2010**.
- Other such India-China Economic and Commercial platform**
- **Joint Economic Group** led by the Commerce Ministers of both sides.
 - **Development Research Center Dialogue and the Financial Dialogue** led by Secretary Department of Economic Affairs of India and Vice Minister, Ministry of Finance of China.

- In 1987, **GDP (Nominal) of both countries** was almost equal. But in 2019, **China's GDP is 4.78 times greater** than India.
 - On ppp basis, GDP of China is 2.38x of India. China crossed \$1 trillion mark in 1998 while India crossed 9 year later in 2007 at exchange rate basis.

India-China Economic relations

- **Bilateral trade:** Today, **China is India's largest trading partner**; whereas India is within the top ten of China's trading partner.
 - A **trade deficit of \$51.11 billion USD with China** is a cause for concern for India because it signifies an inability to compete with Chinese manufactured goods.
 - A significant trade imbalance in favor of China, market access issues, and security considerations have kept **bilateral trade limited**.
 - Chinese exports to India include manufactured goods such as electrical machinery and power equipment while Indian exports comprise mainly of resource-based items such as iron ore and cotton.
 - India was the largest export destination of Fertilizers exports from China.
 - Even in sectors where India has a competitive advantage, such as pharmaceuticals where India accounts for 20 percent of global generic medication production, Indian firms find it difficult to enter Chinese markets.
- **Investment:** In 2014, China announced an investment of \$20 billion USD in India over the next five years, such as in industrial park projects in Gujarat, Haryana, and Maharashtra.
 - This investment was expected to scale up India's manufacturing capabilities and assist India in reducing its trade deficit with China.
 - There has been significant private investment from China in Indian start-ups, **especially those focused on technology and e-commerce**.
- **Banking:** Seven Indian Banks have a branch of representative office in China. Chinese bank, Industrial and Commercial Bank of China (ICBC) has one branch in India in Mumbai.
- **FDI:** China's foreign direct investment (FDI) into India between April 2000 and June 2017 stood at \$1.67 billion USD, which is only 0.49 percent of the total FDI inflows into India over the same period.
 - Still, India's continued emphasis on greater Chinese investment in manufacturing has yielded some results—60 percent of Chinese FDI into India from April 2000 to September 2015 went into automobile manufacturing and smartphone company.

Challenges in economic relations

- **China's protectionist policies:** They hinder the ability of Indian companies to enter Chinese markets. India has been pushing China to open up its market to Indian IT, pharmaceuticals, and agri-products, as well as for increased Chinese investments to reduce their trade deficit.
- **Lack of Market Access:** Indian pharmaceutical firms that already have a presence in China complain about a lack of market access and overly restrictive regulatory procedures, which India has continually addressed with China, to little avail.
- **Land acquisition challenges:** Due to which some of the Chinese projects have moved slowly.
- **China's Belt and road initiative:** After India boycotted the BRI summit for the second time in a row, China tried to rope in India to his Belt and Road Initiative with vows to prevent debt risks.

Way forward

- China's vast size, its growing middle class, and its bid to move towards a domestic consumption-based economy mean it offers **great potential as a future market for Indian goods and services as well as a source of greater investments**.
- Overall, a stronger India-China economic relationship can be beneficial for both countries, especially considering that **India plans to strengthen its industrial sector** and China plans to move up the value chain with respect to its manufacturing sector.
- Investment by China in Indian firms provides them with much-needed capital to scale up their capabilities while China gains greater technological skills, especially considering **India's comparative advantage in sectors such as IT as well as other legal, consulting, and marketing services**.

- Challenges such as trade imbalance, market access issues, and a restrictive regulatory environment need to be addressed. More importantly, **geopolitical circumstances** will continue to pit India against China, which can impact economic opportunities for India.
- Both are required to **create an ease atmosphere of confidence** in which they can collaborate together and strengthen their relations.

2.6. INDIA SOUTH KOREA DEFENCE RELATIONS

Why in news?

India and South Korea concluded two agreements on defence educational exchanges and extension of logistical support to each other's Navies, during recent India defence minister's visit to Seoul.

About the agreements and significance for India

- India South Korea signed **Naval logistics sharing pact** to extend logistical support to each other's navies. It will significantly enhance Indian reach in the Indo-Pacific and will place South Korea amongst close partners of India like the US and France that have similar bilateral pacts.
- Another agreement on **defence educational exchanges** was signed, which will take forward the special strategic partnership between two countries.
- A **'forward looking roadmap'** was formulated to take India South Korea defence relations to next level. The roadmap listed a number of proposed areas of co-operation in sectors of Land Systems, Aero Systems, Naval Systems, R&D co-operation and collaboration in Testing, Certification and Quality Assurance.
- A **task force** was proposed to setup, that will identify military systems that can be locally produced in India and will be economically viable for Korean companies to participate in.
- This will enhance Korean companies' participation in India e.g. **the K9 Vajra mobile artillery guns are being made by L&T in collaboration with Hanwha Land Systems**. This will help reduce import bill for India.
- A delegation from Korean defence industries is to participate in **DefExpo 2020** which will be held in February, 2020, in Lucknow, Uttar Pradesh.

Drivers of defence relations between two countries

- India South Korea signed Strategic Partnership in January 2010 which was upgraded to the level of **'special strategic partnership'** in 2015 and defence cooperation lies at the heart of special strategic partnership.
- South Korea's **New Southern Policy (NSP)** attached primacy to strengthening the country's economic and strategic relations with India. **It is the first time that South Korea has clearly designed a foreign policy initiative for India and officially documented it.**
- Similarly, South Korea is a major player in India's **Act East Policy** under which aims to promote economic cooperation, cultural ties and develop strategic relationships with countries in the Asia-Pacific.
- South Korea would be the second country after China with whom India would undertake a **joint project in Afghanistan**.
- **Security concerns in Indo-Pacific** and changing geopolitics in the region has pushed Seoul to collaborate with India in maintaining peace and stability in the region. There is regular security dialogue between India's National Security Adviser and the intelligence agencies of Korea.
- Also, by aligning with India and the ASEAN, South Korea is making a subtle move **to endorse the 'Indo-Pacific' geopolitical construct** that helps Korea to mitigate its China-related risks.

New Southern Policy (NSP)

- NSP is part of South Korean government's broader strategy of promoting a 'Northeast Asia Plus Community for Responsibility-sharing' (NEAPC).
- The New Southern Policy intends to build stronger economic linkages with countries to Korea's south in Southeast Asia and India. The New Northern Policy, meanwhile, focuses on countries to Korea's north including Russia, Mongolia and Central Asian countries.

Other areas of engagement

- The South Korean President who visited India, in 2018 has coined a new acronym **'3P Plus'** for boosting bilateral ties between India and South Korea, through **cooperation for people, prosperity and peace**.
- **Buddhism** acts as common cultural connect between two countries. On a recent visit, highlighting the common Buddhist linkages, **India gifted a sapling of the sacred Bodhi Tree to South Korea**.

- India-South Korea have **signed the Comprehensive Economic Partnership Agreement (CEPA), 2010** which has facilitated the growth of trade relations. Current bilateral trade between India and South Korea is at USD 21 billion and the target that has been set is USD 50 billion by the year 2030.
- To facilitate investment from Korea, India has launched "**Korea Plus**" facilitation cell under 'Invest India' to guide, assist and handhold investors.
- Last year, **South Korea inaugurated Samsung's mobile manufacturing plant, touted as the biggest in the world, in Noida.**

Conclusion

India and South Korea will seize the opportunity for a **win-win situation by collaboration, cooperation, co-production and co-development.** There is a **growing synergy and complementarity** between South Korea's New Southern Policy and India's Act East Policy, both of which seek to establish a stable, secure and prosperous Indo-Pacific order.

2.7. RUSSIAN FAR EAST

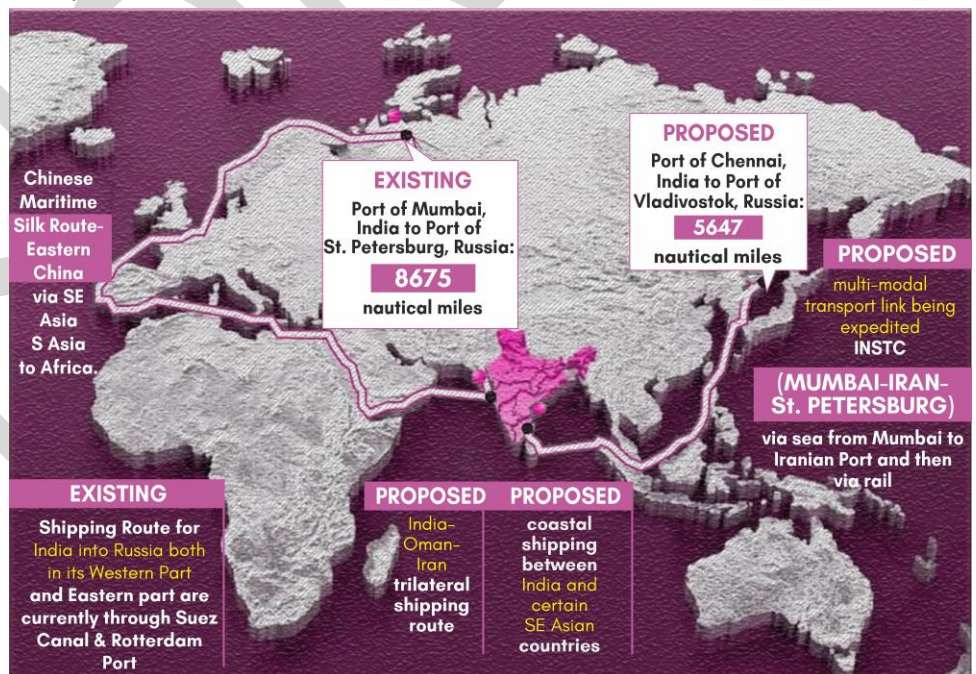
Why in News?

Recently, the **20th India-Russia annual summit** and the fifth meeting of the **Eastern Economic Forum (EEF)** was held in Vladivostok, Russia.

More about news

- The focus of the visit was on the **development of the Far East** for which India has extended a \$1 billion line of credit.
- The **Eastern Economic Forum (EEF)** established in 2015 aims to support the economic development of Russia's Far East, and to expand international cooperation in the Asia-Pacific region.
 - Among the participants in this fifth Summit are **India, Malaysia, Japan, Australia, and South Korea.**
 - In the last five years, as many as 17 different countries have invested in the Far East.

- ✓ These include regional and global countries like China, Japan, South Korea, Australia, New Zealand, and Vietnam.
- ✓ As a result, 20 advanced special economic zones and five free ports have been put in place.



Importance of Russian Far East for India

- **Resource Rich Region:** The region is sparsely populated and underdeveloped. With the centre of gravity of global economics shifting to Asia, India can play an active role in its development.
 - The region has 98 per cent of diamond and 50 per cent of gold are mined, is one the top priorities for the Russian government.
- **Investment Opportunities:** For Indian investors which can bring returns in the areas of oil and petroleum fields like Sakhalin-I and Vankorneft among other areas.
- **Connectivity:** A proposal for **maritime route between Chennai and Vladivostok** has been made.

- It will bypass Europe, which would enable to transfer cargo between Chennai and Vladivostok in 24 days in comparison to over 40 days currently taken to transport goods from India to Far East Russia via Europe
- **Crucial employment opportunities:** The lack of manpower is one of the main problems faced by the Far East and Indian professionals like doctors, engineers and teachers can help in the region's development.

Conclusion

With China increasing its impact in far east and Russia also wanting a competitor to China, there is need for India to step up on bilateral cooperation in the Russian Far East in partnership with the private sector from both the countries.

2.8. ATTACK ON SAUDIA ARABIA'S OIL FACILITIES

Why in news?

Recently, a drone strike on Saudi oil facilities has created uncertainties in the global oil markets.

More on news

- The attack was on the oil processing plant at **Abqaiq** and the country's second-largest oil field at **Khurais**, in the Eastern Province north of **Riyadh**.
- These facilities were owned by Saudi Aramco, Saudi Arabia's state-owned oil company, and it has led to more than halving of its output.
- This has led to volatility in oil prices, which has been further, accentuated the situation for India after the recent US sanctions on Iran.

Implications on India

- **Adverse impact on economic growth-** due to an extended period of high oil prices. Saudi Arabia is India second-biggest oil supplier after Iraq.
- **Widen the current account deficit:** A \$10 rise in Brent will lift India's annualised import bill by \$15 billion and a 10% rise in oil prices widens India's current account deficit by 0.4-0.5 per cent of GDP.
 - It further leads to weakening of rupee, which ultimately squeeze the government's ability to spend on social sector schemes or sops to revive the economy.
- **Coupling with Iran Sanctions:** The economy also trying to cover up for the loss of oil supply from Iran after the United States imposed sanctions. The economy expanded 5 per cent in the three months through June from a year earlier, the slowest pace since March 2013.
 - India used to import more than 10% of its oil from Iran. However, earlier this year, the US pressured India to stop buying Iranian oil after walking out of the nuclear deal.
- **Reliability on Saudi Arabia affected:** India viewed Saudi Arabia amongst safest suppliers in world. With this sophisticated attack India have now realised that their facilities are vulnerable.
 - The refineries in India like Reliance petroleum, Bharat petroleum, or other public sector refineries take oil from Saudi Arabia and as Saudi Arabia assured India that India's needs will be met hence there will not be any major disruptions for short term.
 - But for long term it could hamper oil supply of India because of complex geopolitics over the region. As due to Saudis influence OPEC has agreed to cut down the production. Therefore any disturbance and dislocation will affect India's supply adversely.
- **Other sectors and industries to be impacted:** Oil rise here would also affect many industries, including manufacturing and aviation, and can accelerate inflation. By-products of crude oil are also used in the production of items like plastic and tyres, which may become more expensive.

Implications on World

- **Global Oil Volatility-** The recent attack took out about 50% of Saudi Arabia's oil exports and 5% of total crude production in the world.
 - Given the status of largest oil producer, after such attack, the risk premium on Saudi's oil fields will increase. Saudi Arabia may install new missile shield system across their major oil fields. Increased risk premium and such defence mechanism will result in increase in Global oil prices.

- **Further conflict escalation possible-** If escalation between government and Houthis as well other radical groups increases, oil supplies and prices will further be affected.

Way Forward

- **Focus on diversification of sources-** Saudi oil quality is almost the same as the quality of oil from Iran and Iraq. In the last two years, Iraq has become India's largest supplier of crude oil, surpassing Saudi Arabia.
- **Harness the existing resources-** such as large coal resources. However, due to **mining problem and climate concerns**, India is not able to use it profitably. Hence, India should apply **better technology to coal processing**.
- **Maintain strategic autonomy-** Already countries like Russia, China are buying oil from Iran. India can also negotiate with US that it should also be allowed to buy Iranian oil as Iran is offering several concessions in terms of credit facility, insurance etc.
- **Develop capacity in renewable energy-** reduce its dependence on oil and petroleum imports.

2.9. US-TALIBAN TALKS

Why in news?

Recently, the United States cancelled the peace negotiations citing the terror attack, which took place in Kabul.

More on news

- Afghanistan has been ravaged by war since 2001 when a US-led coalition overthrew the Taliban.
- Since 2011, NATO forces started withdrawing. In 2014, US also declared withdrawal from Afghanistan.
 - After that the Taliban has steadily expanded and a continued turmoil has remained in Afghanistan.
 - According to the U.S., Afghan forces control just a little over half the territory today, down from nearly three-fourths in 2015. Taliban have demanded a complete withdrawal of foreign troops.
 - Since then various countries have been involved in bringing peace in the country, by negotiating with all stakeholders.
- Since October 2018, Taliban representatives and US officials have been meeting in Doha, Qatar trying to thrash out a peace treaty.
- Many security analysts in Afghanistan and elsewhere had criticised the US-Taliban talks as it had kept the Afghanistan government out. Many believe that the talks would legitimise the Taliban.
- But the quashing of these peace talks unilaterally by the US has implications for all the stakeholders.
- **Impact on Major Powers-** such as China, Russia would to surpass US in re-negotiations with all these stakeholders.
- **Impact on Pakistan-** It has been involved as a close partner in discussions with Taliban and has been favoured over India by western nations in the peace process. The annulling of talks is thus a huge setback.
- **Impact on India-** Traditionally, India has been in favour of democratically elected government in Afghanistan and has promoted its cause. India has argued that the Taliban are not elected and have no locus standi, as they do not represent the will of Afghan people.
 - But now, India seems to have adopted a flexible approach which can help Afghanistan emerge as a united, peaceful, secure, stable, inclusive and economically vibrant nation.
 - This was in sharp contrast to India's position over the last few years, where it had always supported **"Afghan-led, Afghan-owned, and Afghan-controlled"** process, with participation of the Afghanistan government.
 - With this annulment of talks, India's realistic approach following in recent years will have to be continued further. Now, since Taliban has been established as a stakeholder, experts believe India should engage with sections in Taliban also, forgetting its past history (Kandahar Plan Hijack).

For more details on Afghan Peace Process, refer July, 2019 VISIONIAS Current Affairs.

3. ECONOMY

3.1. MEASURES TO BOOST ECONOMY

Why in News?

Recently, various measures were announced to revive the economy.

Monetary Policy Measures	
Repo rate cut	Repo rate has been brought down to 5.4% to spur credit growth
Monetary Policy Transmission	<ul style="list-style-type: none"> Linking floating rate loans extended to both retail consumers as well as MSMEs to external benchmarks (e.g. repo rates, yield on 3/6 months treasury bill) to improve monetary policy transmission A floating interest rate moves up & down with rest of the market or along with an index. This contrasts with a fixed interest rate, in which interest rate of a debt obligation stays constant for the duration of loan's term.
Higher flow of funds to NBFC sector	RBI relaxed liquidity norms to allow more lending to non-banking finance companies (NBFCs) by banks

Measures to boost exports	
Exports	<ul style="list-style-type: none"> Scheme for Remission of Duties & Taxes on Export Product to replace Merchandise Exports from India Scheme (MEIS) for all goods exported. It will provide more incentives to the exporters than existing schemes put together Fully automated electronic refund for exporters
Exports Finance	<ul style="list-style-type: none"> Under the expanded Export Credit Insurance Scheme (ECIS), Export Credit Guarantee Corporation will offer higher insurance cover to banks lending working capital for exports. Govt. will provide ₹1700 cr annually. Priority Sector Lending norms for Export Credit revised to make available to banks an additional ₹36,000 cr to ₹68,000 cr for lending to the export sector Effective monitoring of export financing by an inter-ministerial working group under Department of Commerce, tracking disbursement of export credit through a public dashboard
Export Facilitation	<ul style="list-style-type: none"> Leverage technology to reduce Turn Around Time (TAT) at airports/ports/customs through process digitization and elimination of offline/manual services Annual mega shopping festivals to be organized in 4 places across 2020 March in 4 themes (G&J, Handicrafts/Yoga/Tourism, Textiles and Leather) on the lines of Dubai
Free Trade Agreements	<ul style="list-style-type: none"> Special FTA Utilisation Mission to promote awareness of preferential duties among Indian exporters and facilitate compliance requirements (Rules of Origin/Certificate of Origin etc.) Online "Origin Management System" for exporters to enable them to obtain Certificates of Origin – CoO (under Rules of Origin) to be launched by Directorate General of Foreign Trade (DGFT)
Engineering Standards	<ul style="list-style-type: none"> Time bound adoption of mandatory technical standards and their effective enforcement by setting up a Working Group on Standards in Department of Commerce Affordable testing and certification infrastructure to be adequately expanded and developed in PPP mode to enable exporters to get all internationally accepted tests done within India
Handicraft Export	Enable handicrafts industry to effectively harness e-commerce for exports through mass enrolment of handicraft artisans and cooperatives directly on e-commerce portals

Measures to boost housing sector	
Relaxation of External Commercial Borrowings (ECB) guidelines	Relaxation of External Commercial Borrowings (ECB) guidelines for affordable housing to facilitate financing of home buyers who are eligible under the Pradhan Mantri Awas Yojana
House Building Advance	Lower interest rates on House Building Advance and link it with 10 year G Sec yields
Special window for affordable and middle-income housing	Government announced a special ₹20,000 cr fund (₹10,000 cr from Government & roughly ₹10,000 cr from outside investors) as a last-mile funding for completion of ongoing housing projects that are not classified as non-performing assets (NPAs) or are facing bankruptcy proceedings under NCLT.

Measures to boost manufacturing sector	
Lower Corporate Tax	<ul style="list-style-type: none"> An amendment in Income Tax Act 1961 to give any domestic company an option to pay income-tax at the rate of 22% subject to condition that they will not avail any exemption/incentive Effective corporate tax rate for such companies shall be 25.17% and they will not be required to pay Minimum Alternate Tax (MAT)
Boost Make in India	A new provision inserted in Income Tax Act'1961 allows any new domestic company, incorporated on or after 1 st October 2019 & making fresh investment in manufacturing, an option to pay income-tax at the rate of 15%.
Expand the scope of CSR funding	Currently, 2% of the CSR fund can be spent on incubators, funded by Central/State Governments or PSUs and making contributions to public funded universities, IITs, National Laboratories and autonomous bodies engaged in conducting research in science, technology, engineering and medicine aimed at promoting SDGs.

Impact of the reforms

- Improve private investment:** Tax cuts, by putting more money in the hands of the private sector, can offer people more incentive to produce and contribute to the economy, which, in turn, will create employment.
- Helps to attract investors:** A cut in corporate taxation rate will India at parity with East Asian economies and will make India more competitive on the global stage
- Boost consumer demand:** With lower tax rates in place, the firms may cut prices in order to attract consumers, which in turn will boost consumer demand
- Increase in fiscal capacity:** The reforms have the potential to revive the economy, help boost tax collections and compensate for the loss of revenue.

Challenges associated

- Tax cut is expected to cause a yearly **revenue loss** of ₹1.45 lakh crore to the government which is struggling to meet its fiscal deficit target.
- Income tax cut should be preferred** as it would leave consumers with more disposable income and boost consumption demand. Although, the impact of an income tax cut would be limited as the number of tax payers in the country are few.
- To ensure operational profitability while making lending rates cuts, banks may start **cutting the interest rate they pay to deposit holders**. This might push the depositors towards non-liquid investments such as gold, real estate etc.
- Limited target:** The proposed special fund for housing sector, primarily targeted at affordable & mid-level housing projects that are 60% complete, has left out majority of the pending projects.
- Tax issues:** Recent measures don't address the key demands of developers such as tax rebate and lower interest rate for home buyers and developers.
- Global scenario:** An uncertain oil market could negate any impact in the short term. India imports 80% of its oil requirement and an increase in crude prices may put further pressure on the ₹, which has dropped 2% in the past three months.

For more information on Economic slowdown, refer VISIONIAS August 2019 Current Affairs.

3.2. AGRICULTURAL CREDIT

Why in news?

Recently, the report of the internal working group to review the agricultural credit was released by RBI.

Agricultural Finance in India – A brief history

- Phase 1 (1951-69):
 - Thrust on developing primary sector since 1st FYP in 1951.
 - National Credit Council in 1968 emphasized that commercial banks must increase financing to small scale industries and agriculture
 - Nationalization of banks in 1969 put thrust on opening of rural/semi-urban bank branches
- Phase 2 (1970-1990)
 - The decade of 1970s marked the entry of commercial banks into agricultural credit with Lead Bank Scheme and regulatory prescription of Priority Sector Lending (PSL).

- Regional Rural Bank Act, 1976 enacted to specifically provide banking and credit facility for agriculture and other rural sectors
- National Bank for Agriculture and Rural Development (NABARD) established in 1982 to promote agricultural and rural development, particularly by financing SHGs and MFIs
- RBI introduced in 1989 service area approach (SAA) & Annual Credit Plan (ACP) system to increase outreach to rural areas
- Phase 3 (1991-onwards)
 - Implementation of Narasimham Committee Report of 1991 to increase operational efficiency of banks
 - 1st major nationwide farm loan waiver in 1990
 - Establishment of Rural Infrastructure Development Fund (RIDF) with NABARD mainly meant for funding rural infrastructure projects
 - NABARD started a pilot project SHG-Bank Linkage Programme in 1992

Mechanisms of Agriculture Credit in India

- **Priority Sector Lending:** PSL was introduced to ensure that vulnerable sections of the society get access to credit and that there is an adequate flow of credit to employment intensive sectors like agriculture and MSME.
 - Besides the overall PSL targets, banks are required to achieve agriculture target of 18% and a sub-target of 8% of Adjusted Net Bank Credit (ANBC) for small and marginal farmers.
 - **Priority Sector Lending Certificates (PSL-Cs)** were introduced in 2016 to support comparative advantage of different banks in their respective areas of specialization.
- **Interest Subvention Scheme (ISS)** was launched for short term crop loans in 2006-07. 2% interest subvention is given to farmers, which is reimbursed to banks (through RBI and NABARD). Additionally, 3% prompt repayment incentive (PRI) is provided for good credit discipline.
 - Interest subvention is also available on loan against negotiable warehouse receipts issued on the produce stored in warehouses accredited with Warehousing Development Regulatory Authority (WDRA)
- **Kisan Credit Card (KCC) Scheme**, introduced in 1998, aimed at providing adequate and timely credit with flexible and simplified procedure for agriculture related and also consumption requirements of farmer households.
- **Self Help Group - Bank Linkage Programme (SHG-BLP)** aimed at harnessing the flexibility of an informal system with the strength and affordability of a formal system. The SHG-BLP model accepted informal groups as clients of banks – both deposit and credit linkage & allowed collateral free lending to groups.
- **Joint Liability Groups (JLG) Scheme** was initiated by NABARD in 2006 to enhance credit flow to share croppers/tenant farmers who do not have land rights.

Issues related to agricultural credit

- **Institutional vis-à-vis Non-Institutional Agricultural Credit:** Traditionally, rural agrarian credit needs were met primarily through money-lenders, which led to large scale indebtedness
 - According to National All India Rural Financial Inclusion Survey (NAFIS 2015), share of non-institutional credit still persists at **around 28%**.
 - Unavailability of credit for consumption purposes and to tenant farmers, sharecroppers and landless labourers, who are not able to offer collateral security, further pushes them towards non-institutional sources.
- **Skewed agency share in institutional credit:** Dependency on scheduled commercial banks in agricultural & allied credit is still large (~78-80% of the credit). Though co-operative institutions (~15%) and Regional Rural Banks (~5%) play a significant role in extending agricultural credit, their share is highly skewed geographically.
- **Absence of land leasing framework:** Restricted agricultural land leasing has led to informal/ concealed tenancy. While lack of documentary evidences in case of tenant farmers reduce accessibility to formal credit, absence of tenure rights and fear of eviction reduce the incentive to invest in agricultural land, reducing the demand of credit.
- **Regional Disparity in Agricultural Credit:** States falling under central, eastern and north eastern regions are getting very low agri-credit as % of their agri-GDP.
- **Poor deployment of agricultural credit to allied sectors (~6-7%)** despite a share of 38-42% in agricultural output indicates neglect of allied sectors by the banks.

- There is a lack of proper differentiation between a farmer growing crops and the one engaged in allied activities, as Census defines farmer based on landholding size.
- Banks insist on land records from a farmer seeking credit for agricultural activities.
- **Issues with Priority Sector Lending (PSL):**
 - Though at the aggregate level banks have been able to achieve the overall PSL target of 40%, so far they have failed to achieve the agriculture target of 18% at system-wide level.
 - Moreover, ~60% of Small & Marginal Farmers (SMFs) have not been covered by SCBs.
- **Interest Subvention Scheme (ISS)** on short term loans have skewed distribution of agricultural credit in favour of production credit against crop-related investment credit, which is important for long-term sustainability of agriculture sector.
- **Kisan Credit Card:** As per Agricultural Census 2015-16, only 45% of the farmers possess operative KCCs. Agricultural households are unable to get credit for their consumption requirements from and hence, they are compelled to go to money lenders. Existing 10% limit in KCC scheme for consumption requirements is inadequate.
- **Diversion of agriculture loans for non-agriculture purposes:** In many states like Tamil Nadu, Andhra Pradesh, Kerala etc, agri-credit is far higher than their agri-GDP, indicating the possibility of diversion of credit for non-agricultural purposes. Diversion accentuates the problem of debt overhang, fuels high level of indebtedness and deteriorates credit culture in long run.
- **Sanctioning of agricultural loans against gold collateral:** Predominance of agricultural loan against gold as collateral indicates that crop loan is not based on scale of finance and crop loan amount sanctioned may be higher than the actual credit requirement. This ultimately leads to diversion of funds and consequently, high incidence of indebtedness.

Impact of farm loan waiver on agricultural credit

- Economic rationale for loan waivers comes from alleviating debt overhang of beneficiaries thus enabling them to undertake productive investment and boost real economic activity (investment, production and consumption).
- Creates moral hazard as loan waivers lead to poor loan performance and destroy honest credit culture, as it incentivizes borrowers to default strategically in anticipation of future bailouts.
- Waivers skew credit allocation as banks reallocate lending to lower risk borrower segments
- Frequent write-offs impacts financial health of banking sector. Prompts banks to invest in Rural Infrastructure Development Fund rather than reaching out to cultivator to meet their PSL targets, reducing credit access.

Way Forward

- **Improve the Reach of Institutional Credit:**
 - Complete the digitization process and updation of land records in a time bound manner.
 - **Reforming of land leasing framework** by adopting policies like the Model Land Leasing Act proposed by NITI Aayog, which intends to make all lease agreements formal and enhance access to formal credit.
 - ✓ Under Andhra Pradesh Land Licensed Cultivators Act, 2011, Loan Eligibility Cards (LECs) were issued to tenant farmers, allowing them to approach banks for credit.
 - **Establish a federal institution in agriculture on the lines of GST Council** to enable consultation with states during formulation & implementation of reforms
 - Improve institutional credit delivery through technology driven solutions. Banks should explore collaborations with agri-tech companies/startups.
- **Addressing regional disparity:** PSL guidelines should be revisited for improving the credit off-take in central, eastern and north eastern states.
- **Increasing Credit Flow to Allied Activities:** Set separate targets for loans towards allied activities under Ground Level Credit (GLC) & Priority Sector Lending (PSL) guidelines.
- **Enhancing the sub-target of SMFs under PSL**
 - Considering that total operated area held by SMFs would amount to 51.85% by the year 2020-21, increase the share of agricultural credit under PSL to SMFs to 10% from current 8%.
 - Create a better mechanism to estimate oral lessees, sharecroppers and tenant farmers, which have significant presence across the states.
- **Interest Subvention Scheme:** Replace interest subvention scheme with DBT to targeted beneficiaries, on lines similar to PM-KISAN scheme. To check mis-utilization of interest subsidy, banks should provide crop loans only through KCC mode.

- **Agricultural Loans against Gold as Collateral:** Banks should develop an MIS to flag agricultural loans sanctioned against gold as collateral in CBS in order to segregate such loans for effective monitoring of end use of funds.
- **Utilizing Farmer Producer Organisations (FPOs):**
 - NABARD should promote women-oriented FPOs by identifying successful women SHGs
 - Government should expand the scope of its credit guarantee programme through Small Farmers' Agri-business Consortium (SFAC).
- **Database for Indian Agriculture sector:** Develop a centralized database capturing details related to crops cultivated, cropping pattern, output, sown/irrigated area, health of soil, natural calamity, etc. Besides, farmer-wise details like identity, land records, loan availed, subsidy given, insurance and details of crop cultivated etc. should also be captured.

Related information - Learning from Chinese experience

The agriculture sector of China is characterized by smallholders' economy where the arable land in terms of hectares per person is 0.086 as against 0.118 in India, yet the agricultural productivity in China is very high compared to India.

- Consolidation of small & fragmented farm operations into large-scale units such as large family farms, co-operatives, and farms run by agribusiness companies to bring about economies of scale in farming.
- Long-term (30 years) leasing of land, large scale farm mechanization / modernization, use of technology, high yielding seeds and R&D has contributed to high agricultural productivity in China and also improved the income levels of small-holding farmers.
- General-input subsidy with inflation indexation and direct income support to its farmers on per hectare basis
- Outsourcing major farming operations (e.g. ploughing, planting & harvesting) to farm service providers allowing small farmers to benefit from economies of scale in farm operations, reducing cost of capital inputs and allowing farmers to allocate more time to off-farm activities.

3.3. UREA SUBSIDY

Why in News?

Centre has drawn up a plan to **ease the controls on the retail prices** of urea.

More about news

- Govt plans to make the **release of the ever-rising subsidy on urea far more targeted** than now.
- Now, government is choosing **for direct transfer (DBT) of urea subsidy to the beneficiary farmers' bank accounts** instead of DBT to firms based on point of sale.
 - The farmer will pay the market price at the time of purchase of urea and promptly receive the subsidy **amount in his/her Aadhaar-linked bank account.**
 - This move will **reduce the leakage of fertiliser subsidy and black marketing.**
 - Ceiling might be put on the subsidised fertiliser so that the **alleged overuse of the nitrogenous fertiliser could be curbed.**
 - The fertilizer subsidy will be directly **transferred by the government to the farmer's e-wallet** and an e-wallet will be made available with the **Rupay Kisan Card.**
- A **formal proposal will be made by the department** soon to start pilot project in one state to be identified.
- The Government is also planning **over fixing a nutrient-based subsidy (NBS) rate for urea** in order to promote balanced use of the fertiliser and bring in efficiency in the industry, according to sources.
- Earlier, **mandatory neem-coated urea production** was done to slow down the dissolution of nitrogen into soil, resulting into less nutrient requirement.

Background

- Fertilizer was critical to India's Green Revolution, the government passed the **Fertilizer Control Order in 1957 to regulate the sale, pricing, and quality of fertilizer.**
- **Movement Control Order was added in 1973** to regulate the distribution of fertilizer as well.
- **No subsidy was paid on fertilizer before 1977.** The oil crisis in 1973 increased the price of fertilizer leading to a decline in consumption and an increase in food prices.
 - In 1977, the **government intervened by subsidizing manufacturers.**

- Aftermath of the economic crisis of 1991 Government decontrolled the import of complex fertilizers such as di-ammonium phosphate (DAP) and muriate of potash (MOP) in 1992. But, **urea imports continue to be restricted and canalized.**

Urea policy India

- Urea is the source of nitrogenous fertilizer and it is heavily subsidized by the Central Government. Today urea is the only fertilizer which remains controlled.
- Urea Subsidy is a part of **Central Sector Scheme of Department of Fertilizers** and is wholly financed by the Government of India through Budgetary Support.
- Urea subsidy also includes
 - It also includes **freight subsidy for movement of urea** across the country.
- The **New Urea Policy-2015 (NUP-2015)** has been notified by Department of Fertilizers in 2015, extended till 2019-2020, with **the objective of maximizing indigenous urea production, promoting energy efficiency in urea production and rationalizing subsidy burden on the government.**
 - It is **applicable to the existing 25 gas based units.**
 - The continuation of Urea Subsidy Scheme till 2020 will **ensure the timely payment of subsidy to the urea manufacturers resulting in timely availability of urea to farmers.**
 - Subsidy on **production costs is provided when their production is beyond a certain production capacity** as notified.

Issues involved

- **Availability:** Since sale of urea is controlled, the government needs to estimate demand in each of the regions. Inaccurate estimation of demand of urea had led to large shortages in the market.
 - **Delays in imports** also have led to unavailability of fertilizer around planting seasons when the need is most critical.
- **Over usage/misuse of urea due to pricing difference:** Growing price differential between urea and other fertilizers led farmers to substitute away from DAP and MOP to urea.
 - Data from the Department of Agriculture shows that since 2010, the ratio of consumption has worsened to 8:3:1 leading to diminishing crop yields and increased soil toxicity.
- **Inefficient Fertiliser Manufacturers:** The subsidy a firm receives is based on its cost of production: the greater the cost, the larger the subsidy. As a consequence, inefficient firms with high production costs survive and the incentive to lower costs is blunted.
- **Over regulation:** The urea sector is highly regulated which: creates a black market that burdens small farmers disproportionately; incentivises production inefficiency; and leads to over-use, depleting soil quality and damaging human health.

Fertilizer industry in India

- India is **second largest consumer of urea fertilizers after China.**
- India also ranks **second in the production of nitrogenous fertilizers** and third in phosphatic fertilizers whereas the requirement of potash is met through imports since there are limited reserves of potash in the country.
- It is **one of the eight core industries.**
- There are three fertilizer are classified as **Primary, Secondary and Micronutrients**
 - **Primary fertilizers** are further classified on the type of nutrients they supply to soil such as **nitrogenous (urea)**, phosphatic (di-ammonium phosphate (DAP)) and potassic (muriate of potash (MOP)) fertilizers.
 - **Secondary fertilizer** includes calcium, magnesium and sulphur while **micronutrients** include iron, zinc, boron, chloride etc.
- Fertiliser subsidy is estimated to be Rs 79,996 crore (Rs 53,629 crore for urea and Rs 26,367 crore for **nutrient-based subsidy**) for FY20.

Nutrient Based Subsidy scheme

- Under this, government announces a **fixed rate of subsidy (in Rs. per Kg basis), on each nutrient of subsidized P&K fertilizers**, namely Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S),
- It is **applicable to 22 fertilizers (other than Urea)** for which MRP will be decided taking into account the international and domestic prices of P&K fertilizers, exchange rate, and inventory level in the country.

Urea production and pricing mechanism

- Urea is made available to farmers at **statutorily controlled price**, which at present is Rs. 5360/- per MT (exclusive of the Central/State Tax & other charges towards neem coating).
- The difference between the delivered cost of fertilizers at farm gate and MRP payable by the farmer is given as **subsidy to the fertilizer manufacturer/importer** by the Government of India.
- At present, there are **31 urea manufacturing units**, out of which 28 urea units use Natural Gas (using domestic gas/LNG/CBM) as feedstock/ fuel and remaining 3 urea units use Naphtha as feedstock/ fuel.

- Almost 36% of the subsidy is lost through leakage to industry or smuggled across borders.
- Black market prices are, on average, about 61 per cent higher than stipulated prices, indicating that black marketing imposes significant pecuniary costs on farmers—in addition to creating uncertainty of supply.
- **Fiscal burden:** The government budgeted almost Rs. 730 billion for fertilizer subsidies in 2015, making it the largest subsidy in absolute terms after food. Urea, the most commonly used fertilizer, makes up almost 70% of the fertilizer subsidy allocation.

Way forward

- **Decanalising urea imports:** It would increase the number of importers and allow greater freedom in import decision—would allow fertiliser supply to respond flexibly and quickly to changes in demand.
 - Decanalisation means the end of public sector channelized imports and importers can import goods on their own.
- **Gas Price Pooling:** Since different urea plants get gas (main feedstock for most of the plants) at different prices, their cost of production differs.
 - It is important that all urea plants get gas at a uniform price. The GoI has recently moved in that direction by pooling gas prices.
 - The pooled price for gas to urea plants is now at USD10.5/MMBTU. This will encourage energy use efficiency amongst urea plants.
- **Under NBS scheme:** Bringing urea under the Nutrient Based Subsidy program currently in place for DAP and MOP would allow domestic producers to continue receiving fixed subsidies based on the nutritional content of their fertiliser, while deregulating the market would allow domestic producers to charge market prices.
 - This would encourage fertiliser manufacturers to be efficient, as they could then earn greater profits by reducing costs and improving urea quality. And this in turn would benefit farmers
- **Digitisation of land records to ensure timely reach of subsidy to farmers:** The process of digitisation of land records was launched in August 2008 but has not gathered momentum.
 - Without setting right the land records, it will be impossible to transfer the subsidy to beneficiaries.

3.4. PRICE FLUCTUATION OF AGRICULTURAL PRODUCTS

Why in News?

Recently, agricultural market has been witnessing the soaring price of onions.

More on news

The price fluctuation of agri-products particularly TOP (Tomato, Onion and Potato) in the last two years has been a major issue in Agri-market.

Why price of onion has increased?

- **Seasonal Phenomenon:** Onion price rise in September every year due to seasonality, and is further accelerated every alternate year due to storage and supply related constrains.
 - India has 3 crop seasons of onion: Kharif, Late Kharif and Rabi. This rabi crop (**harvested between April and May**) meets the export as well as domestic demand until the arrival of the Kharif crop in the months of October-November.
 - Thus, every year, there is a spike in prices starting in September which stretches until October and early November. This is because stocks of rabi onion are low and kharif onion is yet to arrive in the market.

Other reasons for price fluctuations

- **Distorted price support system:** Price Forecasting Mechanism for MSP (other than TOP) has been inadequate which leads to suboptimal production of agricultural products (bumper or poor production), which further leads to volatility in price of products.
 - Moreover, any increase in price support system (MSP and Procurement Price) may lead to rise in price of food products.
- **Global Trade:** Advancement of agricultural trade liberalisation lead to transmission of international price volatility into domestic markets.
- **Cascading Effect:** Multiple Intermediators in production chain of agri-product and various levy charges by agricultural market (Mandis) along the supply chain, have cascading effects on the prices of agricultural products.
- **Inadequate infrastructure:** High transportation cost (rising oil price, poor road connectivity), lack of cold storage facilities, high storage cost, inadequate food processing infrastructure especially for perishable Agri-products make them prone to price fluctuation.

- **Natural Factor:** Huge agricultural dependency on Monsoon, changing pattern of climate and Weather-induced harvest losses lead to demand-supply mismatch in Agri-products, which further distorts the price mechanism in Agri-market.
 - e.g. in the recent months- supply of onions mainly dropped owing to a drought-like situation in parts of Maharashtra and later on flood situation hampered the distribution chain.
- **Cobweb phenomenon:** Agricultural products show “cobweb” phenomenon, wherein production responds to prices with a lag, causing a recurring cycle of rise and fall in output and prices. This reflects the behaviour of farmers who base their sowing decisions on the prices observed in the previous period, and accordingly over- or under-produce crops, triggering price cyclicity.
 - Price crash of onion during last year in July triggered the under production of onions and compelled the distributors to rely on previous year stockholding of onions.

Government interventions in present situation

- **Export Restriction:** Government had banned the export of onion.
- **Stock limits on traders:** Under **Essential Commodity Act 1955:** & the Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Act, 1980 government has tightened the stock limits in onion traders.
- **Distribution through organised channels:** The central agency in charge of the buffer stock is distributing onions through Safal, and Mother Dairy outlets.
- Government conducted the **tax raids** on onion traders.

Way Forward

- **Rationalise the price stabilisation system** e.g. **NAFED** (entrusted with price stabilisation), should procure at least 2-3 lakh tonnes at the rabi harvest time (April-May). This will save onion farmers from a price-crash and give them reasonable profits.
- **Price Deficiency Payment System** Bhawanter Bhugtan Yojana of Mahdhya Pradesh and Telangana’s **Input support scheme** should be implemented on pan country scale.
- **Technology Driven price forecasting for agriculture products** is need of the hour. If

Effects of agri-products price volatility

- **On Farmer:** Since farmers have low propensity to save and poor access to efficient saving instruments, price volatility would further act as a disincentive to carry farming activities.
- **On Government:** It will complicate budgetary planning, increase farmer unrest, etc.
- **On Exporter:** Increase cash-flow variability and reduce **collateral value of inventories** and **increase borrowing.**
- **On consumer:** It will impact the **personal disposable income** as well as household budget.

Price Deficiency Payment System

- Farmers can be compensated through direct benefit transfer if prices fall below a predetermined threshold level.
- Compensation would be the difference between the government-announced MSPs for select crops and their actual market prices.

Government steps to stabilizes the price

- **Agricultural Produce Marketing Acts:** It provides a mechanism of **open auction** for the set-up of agro-Prices in agricultural market/Mandi.
- **Price stabilization Fund:** to help regulate the **price volatility** of Agri-horticultural commodities through the provision of a strategic buffer, discourage hoarding and speculation, promotes direct purchase from farmers/ at farm gate/Mandi and provides financial assistances to States.
- **Model Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act 2018:** This would help farmers in getting an assured price for the produce, which will act as a buffer against price volatility and market fluctuation.
- **SAMPADA** (Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters) – incorporates scheme such as Mega Food Parks, Integrated Cold Chain and Value Addition Infrastructure. Infrastructure for Agro-processing Clusters, Creation of Backward and Forward Linkages, Creation/Expansion of Food Processing & Preservation Capacities etc.
- **Operation Greens:** For enhancing production & **reducing price volatility** of fruits & vegetables (initially for tomatoes, onions and potatoes). It will also promote Farmer Producers Organisations (FPOs), agri-logistics, processing facilities, thus to achieve the aim of doubling the farmer Income 2022.
- **Budget 2018-19 announcement:** Linking Minimum support price with cost of production, **Income-tax concession to FPOs** for five years and Connecting 470 APMC promoted markets to the **e-nam market platform**, and development of **22,000 Gramin agriculture markets.**
- **Price Monitoring:** The price of Onion along with other 21 food commodities has been monitored by consumer affairs department in order to make effective intervention.

the prices are falling below the cost of production or the minimum support price, immediate intervention can be made.

- **Food Processing:** Ministry of Food Processing Industries (MoFPI) should be at the forefront to extensively promote the use of dehydrated onions, tomato and potatoes (flakes, powder, granules) among domestic households.
 - **On the similar line Draft National Food Processing Policy 2017** stressed the need of reduction of wastage, improving value addition, promoting crop diversification for better returns to farmers.
- **Infrastructure**-generates large **multiplier effects** in agriculture, thus, **Investment in agri-logistics** (to minimise the wastage) and reform in the **storage infrastructure** as mooted by **Shanta Kumar committee** are needed.
- **Cluster approach:** Smaller agro-processing clusters near production areas must be promoted and value addition units at strategic places would stabilise the Agri-product demand-supply equation, vis-à-vis its prices.
- **Future Trading:** Effective utilisation of futures exchanges in agricultural market is imperative for price hedging. However, there should be mechanism to ensure that agricultural futures markets do not threaten food security and it is based on global standard market practices.
- **Agri-Export Policy-2018** mooted the reforms in APMC Act and streamlining of Mandi fee. Moreover, simplification or uniformity of mandi/agricultural fee across states will create a transparent supply chain that will empower the farmer, and indirectly stabilised food inflation.

3.5. PRADHAN MANTRI KISAN MANDHAN YOJANA (PM-KMY)

Why in news?

Recently, Prime Minister Narendra Modi dedicated '**Pradhan Mantri Kisan Mandhan Yojana**' to the nation.

About Pradhan Mantri Kisan Mandhan Yojana (PM-KMY)

PM-KMY is an old age pension scheme for all land holding Small and Marginal Farmers (SMFs) in the country with a view to provide social security net as they have minimal or no savings to provide for old age and to support them in the event of consequent loss of livelihood.

- **Salient features:**
 - It is a **voluntary and contribution-based pension scheme** for farmers in the entry age group of **18 to 40 years** and a monthly pension of **Rs. 3000** will be provided to them on attaining the age of 60 years.
 - The beneficiary is required to contribute Rs 100 per month in the pension fund at median entry age of 29 years, with matching contribution of Rs 100 by the Central Government.
 - The **Life Insurance Corporation of India (LIC)** will be the Pension Fund Manager and responsible for Pension pay out.
 - In case of death of the farmer before retirement date, the spouse may continue in the scheme by paying the remaining contributions till the remaining age of the deceased farmer.
 - If the farmer dies after the retirement date, the spouse will receive 50% of the pension as Family Pension. After the death of both the farmer and the spouse, the accumulated corpus shall be credited back to the **Pension Fund**.
- **Eligibility**
 - Small and Marginal Farmer (SMF) of age of 18- 40 years - a farmer who owns cultivable land up to 2 hectares as per land records of the concerned State/UT.
 - **Farmers who are not eligible for the scheme:** The following categories of farmers have been brought under the exclusion criteria:
 - ✓ SMFs covered under **any other statutory social security schemes** such as National Pension Scheme (NPS), Employees' State Insurance Corporation scheme, **Pradhan Mantri Shram Yogi Maan Dhan Yojana (PM-SYM)** etc.
- **Synergy with other initiatives:**
 - An interesting feature of the Scheme is that the farmers can opt to allow his/her monthly contribution to the Scheme to be made from the benefits drawn from the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme directly.

- Alternatively, a farmer can pay his monthly contribution by registering through Common Service Centres (CSCs) under MeitY.
- **Other important features:**
 - The initial enrolment to the PM-KMY is being done through the **Common Service Centres (CSCs)** to provide the ease of access to the farmers.
 - There will be an appropriate **grievance redressal mechanism** of LIC, banks and the government.
 - An **empowered committee of secretaries** has also been constituted for monitoring, review and amendment of the scheme.

Need for Social Security Schemes for Farmers

- **Agriculture as a prime sector of the economy: Assured remuneration and social security measures for farmers** are the prerequisite to sustain the Agrarian economy. Farmers are vulnerable to **agricultural risks** and thus **need an assured income system**.
- **'Small farm' character of Indian Agriculture:** Small and marginal farmers with less than two hectares of land account for **86.2 % of all farmers in India but own only 47.3 percent of the crop area**. In India, such small average holdings do not allow for surpluses that can financially sustain families.
- **Rising Agrarian Crisis:** In recent years, **indebtedness, crop failures, non-remunerative prices and poor returns** have led to agrarian distress in many parts of the country.
- **Lack of formal credit: Commercialisation of agriculture** leads to an increase in credit needs, but most small and marginal farmers **cannot avail credit from formal institutions** due to the massive defaulting caused by repeated crop failure. Moneylenders, too, are apprehensive of loaning money, given the poor financial situation of most farmers.
- **Limited efficacy of crop insurance schemes in India:** Currently, **only about 35 % of farmers** are covered under crop insurance schemes. Crop insurance has failed to provide much-needed relief to farmers from destitution.

Conclusion

There is an urgent need for having a wholesome **financial safety net** that does not consist only of direct transfers and loan waivers—but a framework that is timely, consistent and improves agricultural productivity and, in turn, farmers' quality of life.

3.6. REFORMS IN MGNREGA

Why in news?

Centre is planning to link wages under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme to an updated inflation index (CPI-Rural), which will be revised annually.

Background

- MGNREGA is a flagship programme of the Ministry of Rural Development (MoRD) which addresses poverty in a holistic manner by overcoming social inequalities and creating a base for sustainable & long-term development.
- MGNREGA is transforming rural India into a more productive, equitable and connected society. It has provided nearly 235 crore person days in the last three years, each year.
- Over the last 4 years, the MoRD has completed major reforms in the MGNREGA to transform it into a resource for sustainable livelihoods for the poor.

Related news

- Starting October 2019, government intends to train 5 crore unskilled labourers.
- Government is set to pay a daily allowance of up to Rs 250 to a casual labourer undergoing skill training for specialised work.
- The Ministry of Rural Development has tied up with Krishi Vigyan Kendras to train the MGNREGA workers in preparation of organic manure and basic storage of crop produce. The government has prepared 40-day on-site module for mason training and plumbing work also.
- Such skill development opportunities for MGNREGS workers make a difference to poverty in the long run.

Reforms introduced and their benefits:

- **Transparency in wage payments, asset creation, and payment for materials:** Efforts were started for a 100% of geo-tagging of assets, AADHAAR linking of Bank Accounts, IT/DBT transfers for all wages, and material payments and Geographic Information System (GIS) based planning of works.
 - The **generation of payment within 15 days** has moved up from 26% in 2014-15 to **91%** in the current.
- **Durable Asset creation:** The **60:40 wage- material ratio** mandated at Gram Panchayat level often led to non-productive asset being created simply because 60% had to be spent on unskilled wage labour in that Gram Panchayat. **The first big reform was to allow 60:40 at the District level rather than at the Gram Panchayat level.**
 - In spite of this reform, the ratio of expenditure on unskilled wage labour to overall expenditure remains higher than 65%. This has **enabled a new thrust on durable assets** that generate incomes. It allows the **flexibility** to undertake only those assets that are productive.
- **Creation of durable community and individual beneficiary assets:** A very large number of Individual Beneficiary Schemes like goat sheds, dairy sheds, Pradhan Mantri Awaas Yojana - Gramin (PMAY-G), farm ponds, water soak pits etc. have also been taken up. These assets have **helped the under privileged** to have access to alternative sustainable livelihood.
 - Similarly, building of **Anganwadi Centres (AWC)** has been a significant effort towards creation of durable community assets. Nearly 1,11,000 AWCs are being constructed in convergence with Ministry of Women and Child Development.
 - **Solid Waste Management works** have also been taken up on a large scale leading to cleaner villages, higher incomes, and more diversified livelihoods for the poor.
 - The **study conducted by Council for Social Development** of individual beneficiary schemes under MGNREGS in 2018 has also confirmed the **gains in incomes and diversification of livelihoods** on account of MGNREGS.
- **Mission Water Conservation Guidelines:** were drawn up in 2015-16 in partnership with the Ministry of Water Resources, River Development & Ganga Rejuvenation and Department of Land Resources to focus on the dark and grey blocks where the ground water level was falling rapidly.
 - This **partnership allowed to avail the technical knowledge** of engineers, scientists from Central Ground Water Board to build a robust technical manual and implement capacity development programme for the frontline workers.
 - A special **Barefoot Technicians programme** was rolled out to ensure better technical supervision.
- **Natural Resource Management (NRM):** Over 60% of the resources are spent on NRM. The NRM works are focused on ensuring higher incomes to farmers by improving both the area under cultivation and yield of crops. This is done by improving the productivity of land and increasing the water availability.
 - The major works taken up under NRM include check dam, ponds, renovation of traditional water bodies, land development, embankment, field bunds, field channels, plantations, contour trenches etc.

Some Initiatives to streamline MGNREGS

- **NREGAsoft** is a local language enabled work flow based e-Governance system which makes available all the documents like Muster Rolls, registration application register, job card/employment register etc.
- **GeoMGNREGA** uses space technology to develop a database of assets created under MGNREGS using technological interventions like mobile based photo geo-tagging and a GIS based information system for online recording and monitoring.
- **Support for Drought Proofing:** In 2015-16, provision of additional employment of 50 days in drought affected areas over and above 100 days per household under MGNREGS was approved.
- **Increased accountability:** Various citizen centric mobile Apps like **Gram Samvaad Mobile App** and **JanMnREGA** (an asset tracking and feedback app for MGNREGS assets) have been developed, which aim to empower the rural citizens by providing direct access to information and improve accountability to the people.
- **Project 'LIFE-MGNREGA' (Livelihood In Full Employment)** aims to promote self- reliance and improving the skill base of the MGNREGA workers, and thereby improving the livelihood of the workers, so that they can move from current status of partial employment to full employment status.

Challenges with MGNREGA which must be tackled to make it more efficient:

- **Low Wages:** The **national average wage** of an MGNREGA worker is **₹178.44 per day**, less than half of the ₹375 per day national minimum wage recently recommended by a Labour Ministry panel under the chairmanship of Anoop Satpathy.

- **Wage Disparity:** Wages being paid under the MGNREGA have **fallen below the minimum wage in 34 of the 35 states and union territories.**
 - Presently, five states have a daily minimum wage of Rs 375 or above while the **highest MGNREGA wage is Rs 284 a day in Haryana.** Uttar Pradesh pays among the lowest NREGA wages at Rs 182/day (which is 95% of the notified Rs 192).
- **Wage Revision method:** The wages paid under the scheme are **tied to the consumer price index (CPI) for agriculture work (CPI-AL). This is problematic.**
 - **CPI-AL gives over 72.94 % weightage to Food, Beverages and Tobacco** and has not been updated for at least three decades. This may effectively end up **understating the price pressures** facing rural households.
 - The **wage hike has been progressively declining** in the last few years. From a 5.7% hike in 2015-16, it fell to 2.7% in 2017-18. The average annual MGNREGA wage hike of 2.16% for the financial year 2019-20 is **the lowest** since the social security scheme was started in 2006.
 - The government plan to link wages under MGNREGS to an updated inflation index CPI-Rural (CPI-R) is a progressive reform because **CPI-R gives only 57.44% weightage to food and beverages (including Pan, tobacco and intoxicants),** with the remaining weightage given to expenses incurred on education, transport, health thus **better captures** the shifting consumption pattern and related price pressure.
- **Insufficient Budget:**
 - In the proposed Budget 2019-20, MGNREGS was allocated Rs 60,000 crore compared to Rs 61,084 crore (revised estimate) in the Budget 2018-19.
 - In all years since 2014-15 actual expenditure has been more than the approved budgetary allocation.
- **Underemployment:**
 - As per the official numbers available on the MGNREGA website, in FY18 average days of employment provided per household was 45.77 which was only 46 in FY17 and 40.17 days in FY15.
 - An RTI application revealed that about 13.17 crore people were registered under the MGNREGA in FY18, out of these 5.73 crore workers sought work. Only 5.11 crore people were given work under the MGNREGA and only 29.60 lakh workers got full 100-day employment.
- **Workers penalised for administrative lapses:** The ministry withholds wage payments for workers of states that do not meet administrative requirements within the stipulated time period e.g., submission of the previous financial year's audited fund statements, utilisation certificates, bank reconciliation certificates etc.
- **Too much centralisation weakening local governance:** A real-time MIS-based implementation and a centralised payment system has further left the representatives of the Panchayati Raj Institutions with literally no role in implementation, monitoring and grievance redress of MGNREGA schemes.
- **Lack of Public Accountability: Social Audit had a very limited approach** and its implementation needed to be extended to the whole country. Social Auditing Standards had to be developed, certified Social Auditors had to be trained, and women Self Help Group (SHG) members had to be brought in for faster roll out.

Conclusion

The government intends, in the coming years, to shift the poor from hard physical manual labour to higher forms of livelihoods by equipping them with better skills. Ideally, if the MGNREGA objective of creating sustainable livelihood works well, the number of households depending on MGNREGS should come down. On an average **5 crore households demand work under MGNREGS each year.** Success criteria for MGNREGA could be a reduction in number of households depending on unskilled wage labour. In its provision for work for the disabled and for women, MGNREGS has only improved further in the recent years where more than half the workforce is women and over 4 lakh disabled persons get work every year.

3.7. LAND POOLING

Why in news?

Recently, the Central Government notified the Delhi Development Authority's **Policy on Land Pooling** to enhance economic opportunities and housing development in the city under Master Plan-21.

Land Pooling: Concept and Significance

- **What is land pooling?** Also known as land readjustment or land reconstitution – It is a land **acquisition strategy** where ownership rights of privately held land parcels are transferred to an appointed agency, with these land parcels being pooled as a result.
 - The agency uses some of the pooled land for infrastructure development and sale, while the rights to new parcels in the pooled land are transferred back to the original landowners in some proportion to their original property.
- **Why land pooling?** A number of **flagship urban development projects** have been delayed owing to issues with **land acquisition**, which often stem from problems with **compensation, rehabilitation and resettlement** for persons affected.
 - **States are often unable to finance the necessary compensation for land acquisition.** As per Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013, States are required to pay close to four times the market value in case of land acquisition in rural areas and twice in case of urban areas.
 - For example, the **Delhi-Mumbai Industrial Corridor (DMIC) project** has been running behind schedule due to land acquisition issues, with Rajasthan not being able to acquire any land in the first five years since the project was announced, **owing to limited funds for land compensation.**
- In this context, Land pooling has emerged in India as a viable and popular alternative to direct land acquisition, with States amending laws to allow for this mechanism to be utilised.

Land pooling: Recent Examples

- It has been utilised in **Gujarat** under the mechanism of Town Planning Schemes (TPS), The TPS has allowed for a 76-km long ring road to be built in Ahmedabad and is also key to amassing the land needed for developing the **Dholera Special Investment Region.**
- In **Andhra Pradesh**, land pooling has been done on an exceptionally large scale for the development of its new capital city of Amaravati. More than 33,000 acres of land were acquired from thousands of landowning farmers, and over 59,000 plots have been returned.

Benefits of Land Pooling

- **For Landowners**
 - **Increase in Value of land:** Unfair distribution of land values in land acquisition is the primary cause of increasing land conflicts. Land pooling projects distribute the newly created incremental value among the land owners and the government/developer entities.
 - **Non-Displacing Strategy of Land Assembly:** Land Pooling provides for a mechanism whereby land owners retain their land and hence the sense of belonging.
 - **Conversion of irregular land parcels into plots of regular sizes and shapes:** Planned development through land pooling not only eliminates this particular hurdle but also promotes better land use to the land owners which in turn promotes the efficiency.
- **Government**
 - **No Upfront Costs:** Land pooling is a unique assembly strategy that has the advantage of no initial monetary outlay to purchase the land.
 - **Relatively less Conflict-Ridden Process:** Though land pooling does not eliminate the possibility of landowner resistance, the strategy may be offering a stronger protection of property rights as the landowners share the opportunity to share in the development potential and in a way treat the landowners like investors in the future project.
 - ✓ Land pooling **looks to fast-track the traditional land acquisition** process while still addressing social concerns.
 - **Higher tax base with increase in property prices:** The revenue base of the local bodies increases owing to increased land values and enlarged tax base.
- **Other Benefits**
 - **A transformative step for Urbanisation:** Given the pressing need for urban development in India, land is needed for variety of infrastructure projects. Land pooling policy based on public private partnership in land assembly in urban development represents a paradigmatic shift.
 - **Social Capital Creation:** Social capital refers to the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions. The creation of social capital is an extremely important benefit of the land pooling strategy.

- **Increase of public-private cooperation and trust:** Through land pooling, a wider community participation in land development and public-private partnership is fostered. On the benefit side, the strategy ensures a three-way win; for the private players to put their skills to use; the government to facilitate the development and ultimately the land owners who benefit from the development.

Challenges with Land Pooling Policy

- **Compensation and resettlement issues:** While land pooling offers a much more participatory vision of development than direct land acquisition, **compensation and resettlement** under land pooling is still a source for concern for the people affected.
- **Issue of consent:** Whether or not proper consent for land pooling has been given by landowners is also debatable, with the speed needed for development often pressuring agencies to make land pooling compulsory. This has been the case for the Navi Mumbai Airport Influence Notified Area (NAINA) development, whereby **land pooling was made mandatory instead of voluntary** owing to delays.
- **Concerns of landless:** More must also be done to ensure that compensation and resettlement provisions extend to tenant farmers and agricultural labourers, as compensatory packages are often insufficient for the landless. For example, the land pooling scheme for Amaravati for tenant farmers and landless families only includes a monthly payout of Rs 2,500.
- **Issue of land records:** Furthermore, being able to pool land is reliant on there being clearly **documented land ownership records**, which is often not the case.

Way Ahead

More work needs to be done to both **study land pooling and its associated legal framework** so that it can be a true alternative to land acquisition in India.

- The authorities must be **clear and transparent** with the people affected about how exactly **compensation, resettlement and rehabilitation** will be done under land pooling, and not let the urgency of land acquisition override social concerns.
- If done well, land pooling can possibly enjoy greater legitimacy and trust among stakeholders than conventional land acquisition, truly allowing India to have inclusive development where all can benefit.

Related Information- Other Mechanisms to Unlock Urban Land for Affordable Housing

- **Smart, transit-oriented development:** Development around rapid-transit routes has several advantages, including improving labor mobility and, potentially, providing a mechanism for funding both affordable housing and transportation infrastructure.
- **Releasing public land:** Governments often own significant shares of undeveloped land in cities, and this land is frequently valued below market prices. This land can be developed in partnership with private developers under a revenue-sharing scheme.
- **Unlocking serviced idle land:** In many cities around the world, significant amounts of serviced residential land (with access to utilities and infrastructure) within urban areas are unused or under-developed. Tax and regulatory policy can unlock idle land through incentives (property tax exemptions for new development, for example)
- **Ensuring clear titles and formalising informal land use:** Informal land can be formalized through legal structures that facilitate individual or collective ownership. Simply establishing who actually owns land can make it accessible to the market.
- **Improving urban land-use rules and using inclusionary planning:** By changing land-use rules, cities can significantly lower the amount of land used per housing unit, usually by adjusting the permitted floor-area ratio.

3.8. NATIONAL ANIMAL DISEASE CONTROL PROGRAMME (NADCP)

Why in news?

Recently, Prime Minister launched the **National Animal Disease Control Programme (NADCP)** in Mathura (UP).

About National Animal Disease Control Programme (NADCP)

- The programme aims to control the livestock diseases the foot and mouth disease and brucellosis in livestock by 2025 and eradicate these by 2030.

- It seeks to vaccinate over 500 million livestock including cattle, buffalo, sheep, goats and pigs against **the Foot and Mouth Disease (FMD)**.
- It also aims at vaccinating 36 million female bovine calves annually in its fight against the **brucellosis disease**.
- **Funding:** 100% funding from the Central Government, for a period of five years till 2024.
- The PM also launched the **National artificial Insemination Programme** and country wide workshop in all **Krishi Vigyan Kendra's (KVK)** on vaccination and disease management, artificial insemination and productivity.

Related information

- **FMD:** It is a highly infectious **viral disease** of cattle, swine, sheep, goats, and other cloven-hooved ruminants.
 - FMD is generally not fatal in adult animals but **leaves them severely weakened**, and results in a drastically reduced production of milk (milk loss is up to 100% for 4-6 months).
- **Brucellosis:** This is a zoonotic disease caused due to **bacteria "Brucella"** that causes early abortions in animals, and prevents the addition of new calves to the animal population.
 - It also **spreads from animals to people** due to eating of raw or unpasteurized dairy products or either through the air or direct contact with infected animals.
 - In case of Brucellosis, the **milk output reduces by 30%** during entire life cycle of animal and also causes infertility among animals.

3.9. MULTI-MODAL TERMINAL

Why in news?

Recently the second riverine multi modal terminal on River Ganga was inaugurated at **Sahibganj, Jharkhand**.

More on news

- It has been built under the **Jal Marg Vikas Project**.
- This is the **second riverine multi-modal terminal** in the country, the first has been built in **Varanasi** and was inaugurated in November, 2018. The last Terminals is also being constructed in **Haldia**.
- The **objective** behind the scheme is to promote inland waterways, primarily for cargo movement.
- **Inland Waterways Authority of India** is the **project Implementing Agency** for the project.

About Multi-Modal Transport

- Multimodal transport is the movement of good from point A to point B **using different modes of transport** by a single transport operator. It is an effective mode in a large and diverse country like India where an end to end delivery is a humongous task.
- The **Multimodal Transport Act** was passed by the Indian Parliament in 1993 to establish a standardized regime for the multimodal transport operators (MTOs).

Benefits of multimodal transport

- **Minimizes time loss at trans-shipment points:** Multimodal transport operator maintains its communication links and coordinates that interchange onward carriage smoothly at transshipment points.
 - The burden of issuing multiple documentation and other formalities connected with each segment of the transport chain is reduced to a minimum.
- **Provides faster transit of goods:** The faster transportation of goods is made possible under Multimodal transport. It also reduces the **disadvantages of distance from markets**.

About Jal Marg Vikas Project

- The Government is implementing this project for the capacity augmentation of navigation on the **Haldia-Varanasi stretch of National Waterway-1 (Ganga)** with the technical and financial assistance of the **World Bank**.
- Under this project, construction of **three multimodal terminals, two intermodal terminals**, one new navigational lock and works for fairway development, River Information System (RIS), vessel repair and maintenance facilities and RoRo terminals are envisaged to be completed.

Significance of Second MMT at Sahibganj

- The MMT at Sahibganj will **open up industries** of Jharkhand and Bihar to the global market and provide **Indo-Nepal cargo** connectivity through waterways route.
- It will play an important role in transportation of domestic coal from the local mines in Rajmahal area to various thermal power plants located along NW-1.
- Other than coal, stone chips, fertilisers, cement and sugar are other commodities expected to be transported through the terminal.
- It will also help to create **direct employment** of about 600 people and **indirect employment** of about 3000 people in the region.
- The **convergence of Road-Rail-River Transport** at Sahibganj will connect this part of the hinterland to Kolkata, Haldia and further to the Bay of Bengal.

- **Increases competitiveness:** The inherent advantages of Multimodal transport system will help to reduce the cost of exports and improve their competitive position with pricing in the international market segment.
- **Establishes only one agency to deal with:** The consignor needs to deal with only the Multimodal transport operator in all matters relating to goods, or delay in delivery of goods at destination. This has direct implications for ease of doing business.

3.10. LEADS INDEX

Why in news?

Gujarat has retained the highest place in the second edition of the Logistics Ease Across Different States (LEADS) index.

More on news

- Among the union territories, Chandigarh occupied the top position followed by Delhi and Puducherry.

About LEADS index

- The index is developed by the **Commerce and Industry Ministry** along with **Deloitte**.
- The indicators covered in the index are:
 - Quality of Transport & Logistics Infrastructure
 - Quality of services offered by Logistics Service Providers
 - Efficiency of regulatory processes
 - Favourability of operating environment
 - Ease of arranging logistics at competitive rates
 - Timeliness of cargo delivery
 - Safety/Security of cargo movement
 - Ease of Track & Trace
- LEADS index makes a **perception-based assessment** of international trade logistics across Indian states and UTs – focusing on users and stakeholders.
- The 2019 edition has expanded its focus to look at both domestic and international trade.
- Along with an overall composite assessment of logistics performance across states, LEADS also provides indicator-level assessments of performance on specific dimensions.

EFFICENCY PAYS		
LEADS 2019		
Aim: To rank states based on ease of logistics	Result: Top 3 states retain position from last year	Parameters: Infra availability, quality; delivery time, tracking
Top 5	Bottom 5	
1. Gujarat	18. Jammu & Kashmir	
2. Punjab	19. Uttarakhand	
3. Andhra Pradesh	20. Bihar	
4. Maharashtra	21. Goa	
5. Tamil Nadu	22. Himachal Pradesh	

3.11. OCCUPATIONAL SAFETY

Why in news?

Recently, the Union Ministry of Labour and Employment introduced the **Occupational Safety, Health and Working Conditions Code, 2019**.

Background

- The International Labour Organisation (ILO) defines the **Occupational Safety** as the science of control of hazards arising in the workplace that could impair the health and well being of workers, taking into account the possible impact on the surrounding communities and the general environment.
- In the recent times, there have been events such as fire at the Oil and Natural Gas Corporation gas facility in Navi Mumbai or at firecracker factory in Batala, which remind the need to focus on occupational safety in India.
- The **second National Commission of labour** had recommended simplification, amalgamation and rationalisation of Central Labour Laws and following 4 Labour Codes have been drafted on the same lines:
 - Labour Code on Wages Bill,
 - Labour Code on Industrial Relations Bill
 - Labour Code on Social Security & Welfare, and
 - Labour Code on Occupational Safety, Health & Working Conditions,

- The **proposed code on occupational safety** is the first single legislation prescribing standards for working conditions, health and safety of workers and it will **apply on factories with at least 10 workers and to all mines and docks**. It does not apply to apprentices.

Key Provisions of the Occupational Safety, Health and Working Conditions Code, 2019

- **Consolidation of laws-** by repealing and replacing 13 labour laws relating to safety, health and working conditions, such as the Factories Act, 1948, the Mines Act, 1952, and the Contract Labour (Regulation and Abolition) Act, 1970.
- **Regulatory Authorities-** All establishments covered by the Code must be registered with registering officers.
 - Further, Inspector-cum-facilitators may inquire into accidents, and conduct inspections of establishments.
 - Both these authorities are appointed by the central or state government.
 - Additionally, the government may require certain establishments to set up safety committees comprising representatives of employers and workers.
- **Occupational Safety and Health Advisory Board-** at national level and similar bodies at state level, have been proposed to advise the central and state governments on the standards, rules, and regulations to be framed under the Code.
- **Duties of employers:** Employers must provide a workplace that is free from hazards that may cause injury or diseases and provide free annual health examinations to employees, as prescribed. In case of an accident at the workplace that leads to death or serious bodily injury of an employee, the employer must inform the relevant authorities.
- **Rights and duties of employees:** such as taking care of their own health and safety, complying with the specified safety and health standards, and reporting unsafe situations to the inspector. Every employee will have the right to obtain from the employer information related to safety and health standards.
- **Working Conditions-** Central and state governments will provide rules for working hours for different classes, overtime work and provisions for female workers. No employee may work for more than six days a week. However, exceptions may be provided for motor transport workers.
- **Offences and penalties-** An offence that leads to the death of an employee will be punishable with imprisonment of up to two years, or a fine up to five lakh rupees, or both. Further, courts may direct that at least 50% of such fine be given as compensation to the heirs of the victim.

Occupational Safety Architecture in India

- **Constitutional Provisions-** ensures occupational health and safety for workers in the form of three Articles i.e. **24, 39(e)** (health and strength of workers are not abused) and **42** (just and humane conditions of work and maternity relief).
- **Union List-** The regulation of labour and safety in mines and oil fields.
- **Concurrent List-** The welfare of labour including conditions of work, provident funds, employers' invalidity and old age pension and maternity benefit.
- The Union **Ministry of Labour** and Labour Departments of the States and Union Territories are responsible for safety and health of workers.
- **National Safety Council (NSC)-** It is an apex **non-profit making** to generate, develop and sustain a **voluntary movement** on Safety, Health and Environment (SHE) at the national level. It works under the overall guidance of **Ministry of Labour**. It is registered under the **Societies Registration Act 1860** and the **Bombay Public Trust Act 1950**.
- Directorate General of Mines Safety (**DGMS**) and Directorate General Factory Advice Services & Labour Institutes (**DGFASLI**) assist the Ministry in technical aspects of occupational safety and health in mines and factories & ports sectors, respectively.
- In the field of occupational safety and health and working environment, ILO has framed 13 conventions and equal number of recommendations out of which Govt. of India has so far ratified many conventions such as Radiation Protection Convention (No. 115) and Benzene Convention (No. 136).

Issues in Occupational Safety in India

- **Lack of implementation of National Policy on Safety, Health and Environment at the Workplace (NPSHEW)-** which had called for a comprehensive legal framework. However, only the manufacturing, mining, ports and construction sectors are covered by existing laws
 - **Many acts not implemented in right spirit-** including the Factories Act, Contracts Act.
 - **Legal framework for Agriculture-** which is the largest sector in the economy activity is inadequate.
 - **Dilution of laws-** including the journalists' law, transport workers law.
- **Limited research on occupational safety-** as there are less research institutions, which are also not equipped for carrying out their activities effectively.
- **Lack of effective coverage-** In India, occupational health is not integrated with primary health care.

Conclusion

Occupational safety and health should be non-negotiable and is fit to be enshrined as a fundamental human right, for these spills beyond the workplace and into larger spaces affecting people and the environment. The government's approach should change from a reductionist to taking it as a challenge, and engage in serious reform.

3.12. SARAL INDEX

Why in news?

Karnataka has topped in the **State Rooftop Solar Attractiveness Index (SARAL)** ranking which was released recently by **Ministry of New and Renewable Energy**.

Background

- Cumulative rooftop solar installation as of March 2019 is 4.37 GW. This has to grow ten-fold so as to achieve the target of **40 GW by 2022**.
- Various states have different rooftop solar policies, incentives, metering regulations and rooftop availability. Their electricity tariffs, consumer mix and the robustness of distribution infrastructure also vary.
- Therefore, a standardized tool that can assess and evaluate various states for their preparedness to support rooftop solar deployment is critical.

About SARAL index

- **Karnataka** leads with a SARAL score of 78.76. Telangana stands at the second position followed by Gujarat, Andhra Pradesh and Rajasthan.
- The index aims to objectively **assess** states based on several **parameters** critical for establishing strong solar rooftop markets. These parameters belong to five broad categories:
 - Robustness of policy framework
 - Effectiveness of policy support/implementation environment
 - Consumer experience
 - Investment climate for rooftop solar sector
 - Business ecosystem
- The index serves as an **important tool** to:
 - Benchmark development and deployment of solar rooftop in states.
 - Identify states that require more hand holding in terms of policy and investment push.
 - Identify investment opportunities.
 - Recognize the states that need financing support for development of solar rooftop.
 - Gradually, establish a knowledge sharing platform where the progressive states can share their experiences with the other states.

3.13. UNCTAD REPORTS

3.13.1. COMMODITIES AND DEVELOPMENT REPORT 2019

Why in news?

Recently **UNCTAD** launched the **Commodities and Development Report 2019**.

The report analyzed-

- **Interactions between commodities and climate change**, and their implications for the development of Commodity dependent developing countries (CDDCs).
 - There is a **two-way relationship between commodities and climate change**. On the one hand, production, transportation, processing and consumption of commodities are among the main sources of anthropogenic GHG emissions.

UNCTAD (United Nation Conference on Trade and Development)

- It is a permanent intergovernmental body established by the United Nations General Assembly in 1964.
- It is part of the UN Secretariat and the principal body dealing with trade, finance, investment and developmental issues.

- On the other hand, **climate change is a key source of a range of risks affecting commodity sectors**. In this regard, both rapid-onset disasters, such as extreme weather events, and slow-onset effects, such as sea level rise, pose risks to oil and natural gas supply chains, agricultural production and mining operations.
- **Commodity sector strategies for climate change mitigation and adaptation**
 - **Diversification of production and exports is necessary** because it is ultimately the only way to mitigate risks associated with dependence on one or a narrow range of commodities.
 - These countries are generally poor and ill-equipped to adopt the required climate change adaptation measures. Thus, funding and required technology transfers are needed from non-CDDS and developed countries.

CDDCs

- CDDCs are a group of 88 developing countries where the commodity sector accounted for at least 60 per cent of their total merchandise exports, on average and in value terms, over the period 2013–2017.
- Most CDDCs depend on one or more commodities within the following major commodity groups: agriculture; forestry; minerals, ores and metals; and fossil fuel-based energy.
- Although India is not a CDDS, in 2018-2019, share of commodities accounted for about 46 percent of India's total export.

3.13.2. TRADE AND DEVELOPMENT REPORT

Why in news?

Recently, UNCTAD released Trade and Development Report, 2019.

About the report

The report sets out a series of measures and reforms that would give the lead in financing a **Global Green New Deal** to the public sector and calls on the international community to find the political will to advance such an agenda.

Global Green New Deal (GGND)

- This report was **commissioned by UNEP in response to the multiple global crises of 2008** related to fuel, food and financial.
- It **calls on governments to allocate a significant share of stimulus funding to green sectors** and sets out three objectives:
 - economic recovery;
 - poverty eradication; and
 - reduced carbon emissions and ecosystem degradation;
- National actions proposed for the GGND include:
 - US, the EU and other high-income OECD economies, as well as middle and high income economies of the G20, should spend over 2 years at least 1% of their GDP on reducing carbon dependency;
 - Developing economies should spend at least 1% of GDP on improving clean water and sanitation for the poor, should develop safety net programs and health and educational services, and should adopt other national actions for improving sustainability of their primary production activities.
 - All economies should consider removing water subsidies and other distortions, adopting market-based instruments or similar measures to enhance water management.

3.14. TRAVEL AND TOURISM COMPETITIVE REPORT

Why in news?

World Economic Forum (WEF) recently released the biennial **Travel and Tourism Competitive Report**, subtitled **Travel and Tourism at a tipping point**.

About the study

- The study scored 140 countries on four indicators:
 - enabling environment,
 - travel and tourism policy and enabling conditions,

- infrastructure,
- natural and cultural rankings
- The four broad indicators looked at 14 variables, which were further subdivided into 90 indicators such as property rights, efficiency of the legal framework, quality of electricity supply, female labour force participation, visa requirements and the number of World Heritage cultural sites, etc.

India's Performance

- India is ranked 34th, up six places from 2017. It has made the greatest improvement since 2017 among the top 25 per cent of the countries that were previously ranked.
- India's highest improvement was in enabling environment indicator, by 10 places to 98. The least improvement is in infrastructure as well as in natural and cultural rankings, by just three places each, but India's rank was already high in the latter.

HOW INDIA COMPARES WITH THE BEST (SCORE IN BRACKETS)

Basis	Rank 1 in 2019	India rank in 2019	India rank in 2017
Enabling Environment	Switzerland (6.2)	98 (4.4)	108 (4.1)
T&T policy and enabling conditions	New Zealand (5.1)	69 (4.5)	79 (4.1)
Infrastructure	United States (5.8)	55 (3.8)	58 (3.7)
Natural and cultural rankings	China (6.1)	9 (5.0)	12 (4.8)
Overall rank	Spain (5.4)	34 (4.4)	40 (4.18)

“ The Secret To Getting Ahead Is Getting Started ”



ALTERNATIVE CLASSROOM PROGRAM *for*

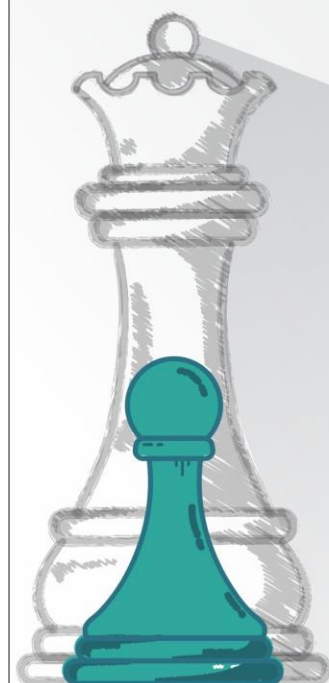
GENERAL STUDIES

PRELIMS & MAINS 2021 & 2022

DELHI

Regular Batch	Weekend Batch
18 Sept 9 AM	10 Oct 1 PM
	6 July 9 AM

- Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains examination
- Includes comprehensive coverage of all the topics for all the four papers of GS Mains , GS Prelims and Essay
- Includes All India GS Mains, Prelim, CSAT and Essay Test Series of 2020, 2021, 2022
- Our Comprehensive Current Affairs classes of PT 365 and Mains 365 of year 2020, 2021, 2022 (Online Classes only)
- Includes comprehensive, relevant and updated study material
- Access to recorded classroom videos at personal student platform



4. SECURITY

4.1. SMART POLICING

Why in News?

Recently, Vice President advocated for SMART policing complemented by a high-tech police force to deal with terrorism, Maoism and insurgency.

What is SMART policing?

- The concept of SMART Policing was articulated by Prime Minister in the DGP / IGP Conference 2014 held at Guwahati.
- Broadly, smart policing involves interventions incorporating application of **evidence-based** and **data-driven** policing practices, strategies and tactics in order to **prevent** and **control** crime.

'SMART'

S - Strict and Sensitive
M - Modern and Mobile
A - Alert and Accountable
R - Reliable and Responsive
T - Techno-savvy and Trained

Benefits of SMART Policing

- It **promotes pro-active policing** by preventing criminal activity through enhanced police visibility and public engagement.
- Smart policing **encourages a system-wide and strategic view of police operations**.
- It **encourages focus on outcomes** i.e. reduced crime & safer communities in cost effective ways.
- Smart policing paradigm **promotes integration & interoperability of information & communication systems**.
- These initiatives help to **protect civil rights and to make police force more citizen friendly**.

Challenges to SMART policing

- **Overburdened police force:** As of January 2016, 24% of the sanctioned police posts in India were vacant. This indicates that existing workforce may be overburdened, which may have negative consequences on their efficiency and performance.
- **Lack of techno-savvy personnel:** The police lack training & expertise required to combat technology related crimes.
- **Police Infrastructure:** The existing police infrastructure is inadequate to cater to the needs of the police force.
 - CAG audits have found shortages in weaponry with state police forces. E.g. Rajasthan & West Bengal had shortages of 75% & 71% respectively in required weaponry with the state police.
 - Bureau of Police Research & Development has also noted a 30.5% deficiency in stock of required vehicles (2,35,339 vehicles) with the state forces
- **Lack of funds:** Police is under state list. Many states lack or underutilize funds to modernise their police force

Recent initiatives towards SMART policing

- **Modernisation of Police Forces Scheme:** The scheme focuses on strengthening police infrastructure by construction of secure police stations, training centres, police housing (residential) and equipping police stations with required mobility, modern weaponry, communication equipment and forensic set-up etc.
 - Ministry of Home Affairs launched this scheme to gradually reduce the dependence of the State Governments on Army and Central Armed Police Forces to control internal security and law & order situations
- **Administrative changes:** On the administrative side, changes include **separation of investigation from law and order**, **specialized wings** for Social and Cyber Crimes are initiated in several states.
- **Technological reforms:** Various technological reforms are pushed including modernization of the control room, fast tracking **Crime and Criminal Tracking Network and System (CCTNS)**, pushing for **National Intelligence Grid (NATGRID)** and pushing for incorporation of new technology into policing

Steps to be taken to implement SMART policing

- **Legislative reforms:** Legislative changes include, enactment of **Organized Crimes Act**, a **single police act** for country, moving **Police to Concurrent List**, declaration of **Federal Crimes**, measures regarding **registration of crimes**, **statutory backing for CBI** and changes in **criminal procedure** and **evidence** systems.

- **Recruit specialized personnel:** Specialized crimes require specialized approach and personnel to deal with them. There should be core technical team to handle modern technology related crimes.
- **Community policing** improves interface with citizens and makes police more sensitive. E.g. (i) **Janamaithri Suraksha Padhathi, Kerala** (ii) **Friends of Police Movement (FOP), Tamil Nadu** (iii) **Suraksha Setu – Safe City Surat Project**
- **Improve communication network:** There should be sharing of information & knowledge to improve the functioning of police force.
- **Better Surveillance and Monitoring** with standardisation, deployment and integration of private security surveillance system.

Conclusion

The needs for a fast-growing economy like India for safe environment particularly in light of the complex security threats in present times are imminent. Therefore, the Indian Police will have to continually evolve and develop efficiencies to keep crime under control, maintain public order, and provide safety and security to public.

PERSONALITY DEVELOPMENT PROGRAMME

Starting 12th Nov

CIVIL SERVICES EXAMINATION 2019

Programme Features

- ★ DAF Analysis Session with senior faculty members of Vision IAS
- ★ Mock Interview Session with Ex-Bureaucrats/ Educationists
- ★ Interaction with Previous toppers and Serving bureaucrats
- ★ Performance Evaluation and Feedback

INTERVIEW

QR codes for Apple, Android, and Telegram.

5. ENVIRONMENT

5.1. THE OCEAN AND CRYOSPHERE IN A CHANGING CLIMATE

Why in news?

Recently the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC) was released.

Background

- The SROCC is the second special report that the IPCC has published this year and the third of the IPCC's sixth assessment cycle. The report on climate change and land was released in August 2019, while the 1.5°C report was published in October 2018.
- The next special report will be on "climate change and cities", which will be published during the seventh assessment cycle of the IPCC – and so will come after its sixth assessment report (AR6) in 2021-22.
- It covers **how the ocean and cryosphere have and are expected to change** with ongoing global warming, the risks and opportunities these changes bring to ecosystems and people, and mitigation, adaptation and governance options for reducing future risks.

- **The global ocean** – comprising the Arctic, Pacific, Atlantic, Indian, and Southern oceans, as well as their marginal seas – covers 71% of the Earth surface.
 - It contains about 97% of the Earth's water, supplies 99% of the Earth's biologically-habitable space, and provides roughly half of the primary production on Earth.
 - **The cryosphere** refers to frozen components of the Earth system that are at or below the land and ocean surface. These include "snow, glaciers, ice sheets, ice shelves, icebergs, sea ice, lake ice, river ice, permafrost and seasonally frozen ground".
 - **Coastal Community:** Coasts are the most densely populated areas on Earth. As of 2010, 28% of the global population (1.9 billion people) were living in areas less than 100km from the coastline and less than 100m above sea level, including 17 major cities, which are each home to more than five million people. Small island developing states are together home to around 65 million people.
 - **Declines in ocean health and services** are projected to cost the global economy \$428bn per year by 2050, and \$1.979tn per year by 2100.
- Abrupt changes and 'tipping points':** SROCC highlights these as follows
- **"Tipping points"** are a critical threshold when global or regional climate changes from one stable state to another stable state. These tipping points are associated with rapid and abrupt changes even when the underlying forcing changes gradually.
 - **"Abrupt"** means a large-scale change that takes place over a few decades or less, persists (or is anticipated to persist) for at least a few decades, and causes substantial disruptions in human and natural systems.

Focus Areas of the Report

5.1.1. HIGH-MOUNTAIN REGIONS

High-mountain regions are **home to around a tenth of the world's population**. Their glaciers, permafrost and snow are also the site of critical cryosphere changes.

Projections related to impact of global warming

- By the end of the century, glaciers are projected to lose around 18% of their mass compared to 2015 levels under a low-emissions scenario and around a third under a high-emissions scenario.
- The accompanying sea level rise resulting from these glacier losses is projected to be around 94mm and 200mm for the low-and high-emissions scenarios, respectively.
- **Non-polar regions with relatively little ice cover**, such as Central Europe and North Asia, are projected to **lose on average more than 80%** of their current glacier mass by 2100.
- Due to a "pronounced imbalance" between current glacier mass and climate, **glaciers will continue to melt even with no further climate change**, thus asserting the IPCC AR5 findings.

Impacts

- **River runoff:** Following a period of increased runoff due to more ice melting, a turning point known as **"peak water"** would occur after which runoff declines. In several regions this point has already passed.
- **Mountain Slopes:** Retreating glaciers and thawing permafrost have already **destabilised** mountain slopes and there has been an increase in **"wet snow" avalanches** (water saturated snow).
- **Water Quality:** Glaciers hold a significant **store of toxic human-derived chemicals** including DDT, heavy metals and black carbon, all of which **could diminish drinking water quality** in surrounding areas as they are released from the ice.

- **Energy:** Hydropower, which contributes almost 100% of electricity generation in some mountainous nations, such as Albania and Peru, is also at risk **due to changes in runoff** from glaciers and snow cover.
- **Cultural Activities:** Many local populations view mountains with reverence and often see glacial retreat as a sign of their **failure to show respect** to sacred beings or to follow proper conduct.
- **Habitability:** Threats to habitability will likely increase in the decades to come limiting adaptation for mountain communities as temperatures rise. Some populations, such as those occupying Peru’s Santa River drainage, have already seen declines that can be linked to cryosphere processes.
- **Far-reaching consequences for alpine ecosystems:** Overall biodiversity has increased at higher elevations due to more habitable areas being opened up by snow and ice retreating. However, this comes at the expense of more specialist mountain-dwelling species, some of which are expected to decline in numbers.

5.1.2. SEA ICE AT THE EARTH’S POLES

Focus Area	Observations and Projections
Arctic Ice	<ul style="list-style-type: none"> • Arctic sea ice has seen a decline in extent, volume and age since 1979. Arctic sea ice melt season has extended by 3 days per decade since 1979 due to earlier melt onset, and 7 days per decade due to later freeze-up. • Arctic sea ice is also generally younger. Ice “at least five years old” declined from 30% to 2% between 1979 and 2018. Over the same period, first-year sea ice proportionally increased from nearly 40% to 60–70%. • Arctic surface air temperatures over the past two decades have increased at more than double the global average. This rapid phenomenon is known as “Arctic amplification”. In part, it stems from the rapid loss of sea ice cover in the region resulting into decreasing albedo. • Approximately half of the observed Arctic summer sea ice loss is due to human-caused climate change, with the remainder being caused by natural variability.
Antarctic Ice	<ul style="list-style-type: none"> • In contrast to the Arctic, the Antarctic continent has seen less uniform air temperature changes over the past 30-50 years, with warming over parts of West Antarctica and no significant overall change over East Antarctica. Multiple factors contribute to this regional variability in Antarctic sea ice extent including the “meridional winds”, which flow north-to-south or vice versa. • Human-caused warming at the surface in Antarctica is delayed by the Southern Ocean circulation, which transports heat downwards into the deep ocean. This, and other factors, may explain the weak response of Antarctic sea ice cover to increased atmospheric greenhouse gas concentrations compared.
The Southern Ocean	<ul style="list-style-type: none"> • It is important for the transfer of heat from the atmosphere to the global ocean, including heat from anthropogenic warming - accounted for nearly 75% of the global ocean uptake of excess heat during 1870-1995. • Between 2005 and 2017, the heat gained by the Southern Ocean south of 30 degrees south was 45-62% of the global ocean heat gain. • Multi-decadal warming of the Southern Ocean has been attributed to anthropogenic factors, especially the role of greenhouse gases but also ozone depletion.
How are the Earth’s ice sheets responding to warming?	
<ul style="list-style-type: none"> • Greenland ice sheet currently losing mass at around twice the rate of its Antarctic counterpart. Melting in Greenland has increased up to five times greater than the level seen in preindustrial times becoming the largest terrestrial contributor to global sea level rise between 2005 and 2016. • The combined sea-level rise contribution from both ice sheets (Greenland and the Antarctica) was around 1.2mm each year between 2012 and 2016, a 700% increase from two decades previously. • Despite the clear trends in ice loss and sea level rise, there is uncertainty in the projections, particularly true for Antarctica. One such area of significant concern and uncertainty for those monitoring polar ice sheets is the prospect of “marine ice sheet instability” in parts of Antarctica – the point beyond which underwater melting of ice sheets becomes self-sustaining and out of control. 	
Wider implications of changes at the Earth’s poles	
On Marine Habitat and biodiversity	<p>Climate change is projected to alter the distribution and properties of both Arctic and Antarctic marine habitats with associated implications for species composition, production and ecosystem structure and function. There are various examples to this effect.</p> <ul style="list-style-type: none"> • Blooms in phytoplankton occurring earlier in the year and even happening in autumn - a phenomenon rarely observed in Arctic waters previously. • Negative effect on Arctic species, such as polar cod due to shortened ice-covered season, increased predatory pressure, reduced prey availability, and impaired growth and reproductive success.

	<ul style="list-style-type: none"> For Antarctic fish, many species have a narrow thermal tolerance as a result of physiological adaptations to cold water, which makes them vulnerable to the effects of increasing temperatures. E.g. icefish and Antarctic silverfish.
Socioeconomic impacts on indigenous communities	<ul style="list-style-type: none"> The food insecurity risks are on the rise due to declining lake ice affecting fishing, changes to snow conditions making “travel more difficult and dangerous” and limiting access to hunting grounds, and reduced “reliability of permafrost for natural refrigeration”. Shipping activity will continue to rise across the Arctic as northern routes become increasingly accessible. This will have “significant socio-economic and political implications”, related to safety (marine accidents, local accidents, ice as a hazard), security (trafficking, terrorism), and environmental and cultural sustainability (invasive species, release of biocides, chemicals and other waste, marine mammal strikes, fuel spills, air and underwater noise pollution, impacts to subsistence hunting).

5.1.3. PERMAFROST

Introduction

- Permafrost is defined as** “ground (soil or rock containing ice and frozen organic material) that remains **at or below Zero degrees Celsius for at least two consecutive years**”. The northern hemisphere has an area of permafrost thrice larger than Antarctica’s.
- It occurs on land in polar and high-mountain areas, and also as submarine permafrost in shallow parts of the Arctic and Southern oceans. The thickness of permafrost ranges from less than one metre to more than a kilometre. Typically, it sits beneath an “active layer” that thaws and refreezes every year.
- There is **approximately twice as much carbon in permafrost than is currently in the Earth’s atmosphere**.

Projections and Impact

- A warming climate increases the emission of CO₂ and methane as permafrost thaws, “thus accelerating the pace of climate change”.
- By 2100, **near surface permafrost area will decrease** by 2-66% and 30-99% under various projections releasing up to as much as 240 GtC (gigatons) of permafrost carbon as CO₂ and methane to the atmosphere with the potential to accelerate climate change.
- The **stimulated plant growth in permafrost areas** - from warmer conditions and CO₂ fertilisation could help sequestering new carbon into plant biomass and increasing carbon inputs into the surface soil.

5.1.4. OCEANS

Future Sea Level Rise

- The current rate of **Sea Level Rise (SLR)** is now larger than the mean rate of the previous two millennia. Human-caused climate change is “very likely” to have been the “dominant cause” of SLR seen since 1970.
- The vast ice sheets in **Antarctica and Greenland currently hold about 66 metres of potential global sea level rise**.
- If global temperatures are limited to well-below 2 degree Celsius in 2100, then the rate of SLR will still increase from around 4mm per year today to 4-9mm/year by 2100 and 0.43m in total, relative to the late 20th century average, with a “likely” range of 0.29-0.59m.

Impacts for coastal regions and small island states

- Climate change has the potential to drastically alter the **size and direction of migration flows**.
- Vulnerable coastal communities** will be affected not only by rising average sea levels, but also by increasingly severe extreme events such as storm surges.
- Coastal megacities with over 10 million inhabitants** and lying within areas less than 10m above sea level include “New York City, Tokyo, Jakarta, **Mumbai**, Shanghai, Lagos and Cairo”. Without adaptation, sea level rise, population growth and subsidence could push **flood losses in the 136 largest coastal cities from \$6bn per year today to \$1tn by 2050**.

How else is climate change affecting the ocean and marine life?

- Overall, the **oceans are thought to have taken up more than 90% of the excess heat** in the climate system.
- Marine heatwaves** around the world have **doubled in frequency since 1982**, becoming longer-lasting, more intense and more extensive.
- Changes in salinity, oxygen content and acidification** are already impacting the ocean life and, by extension, the millions of people who rely on them for food and income.
- Surface warming** combined with a **surge in freshwater runoff** entering the top layer of the oceans is making the **oceans more stratified** – meaning the **top is less dense** than the deeper parts, and there is **less mixing** between the different levels.
- In general, **future increases in stratification will trap nutrients** in the ocean interior and reduce upper ocean nutrient levels.

- The areas known as **oxygen minimum zones**, where only specially adapted organisms can survive, are **projected to grow larger** in the future as the overall levels of oxygen in seawater drops.
- These chemical changes are posing a particular threat to some **Eastern Boundary Upwelling Systems**, highly productive areas of the ocean where nutrient rich waters are brought up from the depths. E.g. California Current and Humboldt Current.
- Projections of “**net primary productivity**” (the rate at which plants and algae produce organic materials by photosynthesis) declining by 4-11% under a high-emissions scenario. This may cause decline of around 15% in the total mass of marine animals by 2100 and up to a 25.5% drop in “maximum catch potential” of fisheries.
- **Coral reefs are particularly threatened:** Almost all coral reefs will degrade from their current state, even if global warming remains below 2 degree Celsius, and the remaining shallow coral reef communities will differ in species composition and diversity from present reefs.
 - These declines in coral reef health will greatly diminish the services they provide to society, such as food provision, coastal protection and tourism.

Extreme events

- The proportion of the **most damaging Category 4 and 5 tropical cyclones “will increase” globally** and the rainfall associated with each storm will also rise, by at least 7% per degree of warming at the sea surface.
- The **strongest El Niño and La Niña events** since the pre-industrial have occurred during the last fifty years. Extreme El Niño events are projected to occur about twice as often in the 21st century compared to the 20th century.

Socioeconomic implications of a changing ocean

- **Changes to fisheries:** Gross revenues from the world’s marine fisheries were around \$150bn in 2010 USD, providing jobs for around 260 million people. As stocks are depleted and critical species are forced to migrate, there will be a need to adapt to a less reliable future.
- **Food Security: Seafood is an essential contributor to humanity’s health**, as over 4.5bn people in the world obtain more than 15% of their protein intake from seafood. Many of the populations at risk from climate-related marine food insecurity, such as in the Pacific Islands and West Africa, reside in areas where land-based food production is also at risk.
- **Potential for conflicts** resulting from climate change, particularly as certain species move into waters controlled by different territories.
- **Risk to livelihood: Around 121 million people each year participate in ocean-based tourism**, spending \$47bn in 2003 USD and **supporting one million jobs**. Extreme events and coral bleaching etc. are placing tourism at risk, particularly for nations in Caribbean islands that rely on it as main source of foreign revenue.
- **Health:** Warming waters are also expected to **expand the range of certain bacteria and harmful algal blooms**, with potentially severe consequences for human health. Cholera is highlighted as one disease likely to become more of a threat that have already been observed spreading to the poles.

5.1.5. STRENGTHENING RESPONSE OPTIONS

- **Networks of protected areas** help maintain ecosystem services, including carbon uptake and storage, and enable future ecosystem-based adaptation options.
- **Terrestrial and marine habitat restoration, and ecosystem management tools** such as assisted species relocation and coral gardening, can be locally effective in enhancing ecosystem-based adaptation. Such actions are most successful when they are community-supported, are science-based whilst also using local knowledge and Indigenous knowledge.
- **Strengthening precautionary approaches**, such as rebuilding overexploited or depleted fisheries, and responsiveness of existing fisheries management strategies reduces negative climate change impacts on fisheries, with benefits for regional economies and livelihoods.
- **Restoration of vegetated coastal ecosystems**, such as mangroves, tidal marshes and seagrass meadows (coastal ‘blue carbon’ ecosystems), could provide climate change mitigation through increased carbon uptake.
- **Integrated water management approaches** across multiple scales can be effective at addressing impacts and leveraging opportunities from cryosphere changes in high mountain areas. These approaches also support water resource management through the development and optimization of multi-purpose storage and release of water from reservoirs, with consideration of potentially negative impacts to ecosystems and communities.
- **Prioritising measures to address social vulnerability and equity** underpins efforts to promote fair and just climate resilience and sustainable development, and can be helped by creating safe community settings for meaningful public participation, deliberation and conflict resolution.
- **Sustained long-term monitoring, sharing of data, information and knowledge and improved context-specific forecasts**, including early warning systems to predict more extreme El Niño/La Niña events, tropical cyclones, and marine heatwaves, help to manage negative impacts from ocean changes such as losses in fisheries, and adverse impacts on human health, food security, agriculture, coral reefs, aquaculture, wildfire, tourism, conservation, drought and flood.

Conclusion

- Enabling climate resilience and sustainable development depends critically on urgent and ambitious emissions reductions coupled with coordinated sustained and increasingly ambitious adaptation actions.
- Key enablers for implementing effective responses to climate-related changes in the ocean and cryosphere include intensifying cooperation and coordination among governing authorities across spatial scales and planning horizons.

5.2. ATLANTIC MERIDIONAL OVERTURNING CIRCULATION (AMOC)

Why in news?

Recently, a study analysed that **warming up of the Indian ocean is likely to boost a system of currents in the Atlantic Ocean** (known as AMOC), that plays a key role in determining the weather across the world.

About Atlantic Meridional Overturning Circulation (AMOC)

- It is also known as **Atlantic Conveyor Belt**.

- It is part of the Earth's largest water circulation system known as **Thermohaline circulation**.

- In this ocean currents move warm, salty water from the tropics to regions further north, such as western Europe and sends colder water south.

- It **transports a substantial amount of heat** from the Tropics and Southern Hemisphere toward the North Atlantic, where the heat is transferred to the atmosphere.

- It also aids in **absorbing and storing atmospheric carbon**.

- It has been observed that since the past 15 years, this circulation has been **weakening mainly due to global warming**.

- Changes in this circulation have a profound impact on the global climate system.

- These include changes in African and Indian monsoon rainfall, atmospheric circulation of relevance to hurricanes, and climate over North America and Western Europe.

Role of Indian Ocean in strengthening AMOC

- Researchers have found that rising temperatures in the Indian Ocean can help strengthen the AMOC and delay its slow down.

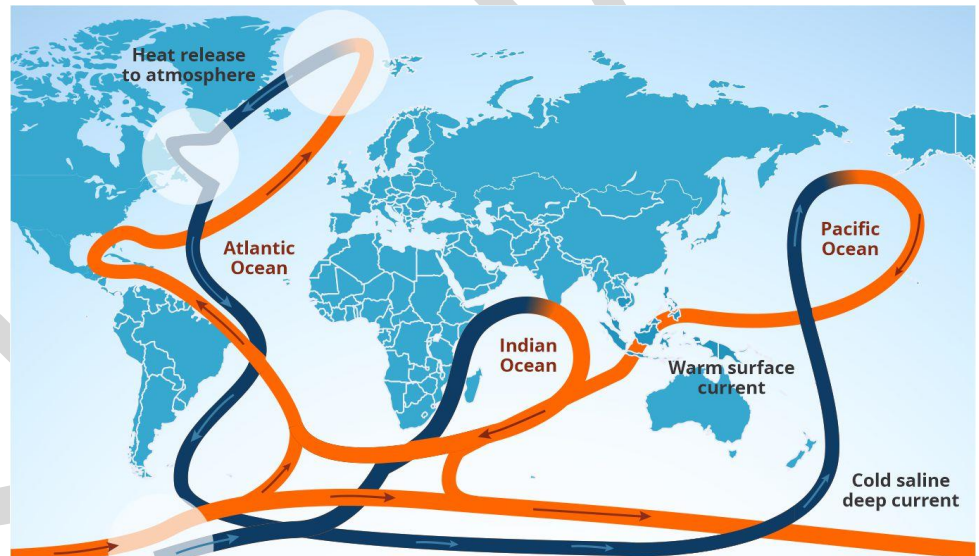
- **Warming in the Indian Ocean generates additional precipitation, which, in turn, draws more air from other parts of the world, including the Atlantic.**

- The higher level of precipitation in the Indian Ocean will reduce precipitation in the Atlantic and increase salinity in the waters.

- This saline water in the Atlantic, as it comes north via AMOC, will get cold much quicker than usual and sink faster, acting as a jump start for AMOC, thus intensifying the circulation.

Thermohaline circulation

- These are **deep-ocean currents** driven by differences in the water's density, which is controlled by temperature (*thermo*) and salinity (*haline*).
- Thermohaline circulation begins in the Earth's polar regions. When ocean water in these areas gets very cold, sea ice forms. The surrounding seawater gets saltier, increases in density and sinks.
- The sinking water spreads around all the oceans.
- Surface water is pulled in to replace the sinking water, which in turn eventually becomes cold and salty enough to sink. This initiates the deep-ocean currents driving the global conveyor belt.



5.3. SINGLE USE PLASTIC

Why in News?

India has **held off imposing a blanket ban** on single-use plastics to combat pollution.

More about news

- **A blanket ban would not take place**, contrary to expectations that were raised after the Prime Minister's mention of single-use plastics on August 15, 2019.
- Centre proposal to collect and dispose of 10,000 tonnes of single-use plastic items from all over the country was part of a **broader campaign to rid India of single-use plastics by 2022**.
- The ban on single use plastic was **seen as too disruptive for industry** at a time when it is coping with an economic slowdown and job losses, hence this blanket ban was shelved.
- For now, government will ask **states to**

enforce existing rules against storing, manufacturing and using some single-use plastic products such as polythene bags and Styrofoam.

- It asked states / UTs to **play a key role in promoting eco-friendly alternatives, projects** that look into upscaling or recycling single-use plastics and small-scale or micro enterprises including focus on behavioural change and raising awareness.

Impact of single use plastic (SUP)

- **Marine life & climate change:** Plastic waste is at epidemic proportions in the world's oceans with an estimated 100 million tonnes dumped there to date.
 - Scientists have found **large amounts of micro plastic in the intestines of deep-dwelling ocean mammals like whales**.
 - Single-use plastics make up on **average 49% of beach litter**.

About single use plastic

- It refers to **disposable plastics** that are commonly used for plastic packaging and include items intended to be **used only once before they are thrown away or recycled**.
- There is a **no fixed definition** for single use plastic and it varies from country to country (**India is in process of giving statutory definition to single use plastic**)
 - **European Union describes 'single-use plastics'** as plastics as products made of plastic such as cotton-bud sticks, cutlery, plates, straws, sticks for balloons, cups, food, beverage containers made of polystyrene and products made of oxo-degradable plastic, etc.
 - **Industry gives a different definition** like plastic below 50 microns with less than 20 per cent recycled content makes for single-use plastic.
- This single-use material makes up **between 26% to 36% of the world's plastic** and problems caused by single use plastics (SUPs) were first recognised in 2007.
- The issue of **single use plastic becomes more dangerous** due to the fact that it is least reused, no proper disposal process, difficult segregation, micro plastic (small size) etc.
 - **Ex:** Due to light weight and balloon-shaped design, plastic bags are easily blown in the air, eventually ending up on land and in the ocean.

Steps taken by Govt

- **Plastic Waste Management Rules, 2016 (as amended in 2018)**
 - **Defines minimum thickness of plastic carry bags** i.e. 50 microns. This would increase the cost and the tendency to provide free carry bags would come down.
 - **Responsibility of local bodies:** Rural areas are brought under the rules since plastic has reached rural areas as well. The gram sabhas have been given responsibility of implementation.
 - **Extended Producer Responsibility:** Producers and brand owners have been made responsible for collecting waste generated from their products.
 - **Producers are to keep a record of their vendors** to whom they have supplied raw materials for manufacturing. This is to curb manufacturing of these products in unorganised sector.
 - **Responsibility of waste generator:** All institutional generators of plastic waste shall segregate and store their waste as per Solid Waste Management Rules, and handover segregated wastes to authorized waste disposal facilities.
 - **Responsibility of street vendors and retailers:** Not to provide such carry bags or fine would be imposed. Only the registered shopkeepers on payment of a registration fee to local bodies would be allowed to give out plastic carry bags on charge.
 - **Promote the use of plastic for road construction or energy recovery.**
 - A Central Registration System for the registration of the producer/importer/owner.
 - **Phasing out of Multi-layered Plastic (MLP)** is applicable only to MLP that are "non-recyclable or non-energy recoverable or have no alternate use".
- **National Marine Litter Policy:** To identify the source of litter, especially the plastic waste that flows into India's coastal waters.

Global steps

- United Nations Environment Program (UNEP) had declared the theme for **World Environment Day 2018 as 'Beat Plastic Pollution'**.
- **G20 Implementation Framework for Actions on Marine Plastics Litter** which is aimed at facilitating further concrete action on marine waste, though on a voluntary basis.

- **Human health:** The toxins, poisons and persistent pollutants present in some of these plastic products leach and enter human bodies where they cause several diseases, including cancer and can damage nervous systems, lungs and reproductive organs.
 - Humans may be consuming anywhere from 39,000 to 52,000 microplastic particles a year **through fish (contaminated with microplastics) alone.**
- **Environmental pollution:** A staggering total of it remains uncollected causing choking of drainage and river systems, littering of the marine ecosystem, soil and water pollution, ingestion by stray animals, and open air burning leading to adverse impact on environment.
- **Less reused:** A United Nations report on environment states that only 9% of all plastic waste ever produced has been recycled. About 12% has gone through incineration, while the rest — 79% — has piled up in landfills, dumps or the natural environment, leading to slow poisoning of the earth.
- **Increasing Carbon dioxide:** If the production, disposal and incineration of plastic continues on its present day growth trajectory, by 2030 these global emissions could reach 1.34 gigatonne per year — equivalent to more than 295 coal-based power plants of 500-MW capacity.
- **More impact on developing countries:** The ubiquitous plastic seems to be a curse for the third world countries, because poor countries, especially in Asia, not only have their own plastic dump to deal with but also the plastic trash that lands on their shores from developed countries.
 - India has imported 99,545 MT plastic flakes and 21,801 MT plastic lumps from South America, Africa, Middle East, Europe and Asia.
 - Recently, Malaysia has decided that 450 tonne of contaminated plastic waste would be shipped back to where it came from — Australia, Bangladesh, Canada, China, Japan, Saudi Arabia and the US.
- **Disposal issue:** They do not biodegrade instead they slowly break down into smaller pieces of plastic called microplastics which again causes more issues. It can take up to thousands of years for plastic bags and Styrofoam containers to decompose.

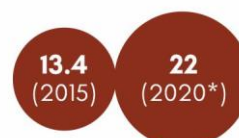
Why banning single use plastic is difficult?

- **No immediate alternatives:** It is difficult to ban the product which is of immense use to the public, without thinking of a sustainable and equally utilitarian alternative product.
 - For e.g. Single-use plastic helps keep medical equipment sterile and safe to use.
 - There is no alternative to plastic yet and sectors like pharmaceuticals, hardware, toys, food processing, food delivery will be in total chaos.
 - While there is increased awareness in urban area, the challenge will be to find a suitable cost effective alternatives in tier II and tier III towns and remote locations.
- **Impact on packaging industry:** It impacts most industries since SUP forms part of packaging and hence is linked to all industries directly or indirectly.
 - If plastic sachets made from multi-layered packaging are banned, it can **disrupt supplies of key products** such as biscuits, salt and milk etc which has made life easier for the poor in terms of affordable small packs and convenience.
 - Ban will **increase the price of most FMCG products** as manufacturers would try and shift to alternative packaging (which can be costlier).
- **Loss of jobs and revenue:** Ban can lead to loss of revenue as well job loss in the plastic manufacturing industry.
 - India's plastic industry officially employs around 4 million people across 30,000 processing units, out of which 90% are small to medium-sized businesses.
 - Plastics also support thousands employed informally such as ragpickers as well as street food and market vendors who are reliant on single-use plastic.

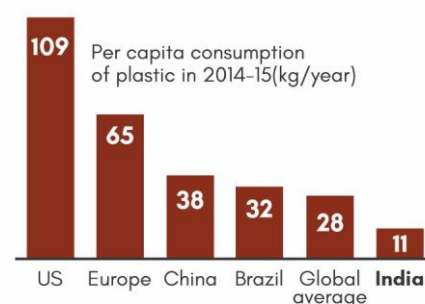
LIFE IN PLASTIC

Plastic consumption has rapidly shot up across the world, necessitating a complete rethink of its role in society and the economy.

Size of the plastic processing industry (mn tonnes/year)



Per capita consumption of plastic (kg/year)



- **Attitudinal change:** It is difficult as no one takes the responsibility for the single use plastic thrown by them and behaviour change towards the shift from non-using of single use plastic is difficult.

Way forward

- **Define single use plastic:** India is readying its own statutory definition of “single-use plastic”, like 65 other countries are, so as to effectively to rid the country of disposable plastics by 2022.
 - It will help to categorise items according to both their “qualitative aspects”, “quantitative aspects” as well as “technical attributes”, the official said.
- **Effective waste management with focus on segregation, collection and recycling:** India uses about 14 million tonnes of plastic annually but lacks an organised system for management of plastic waste, leading to widespread littering.
 - There is a need to invest heavily in improving source segregation of waste and supporting end-to-end segregation of waste to strengthen processing.
- **Policy framework:** There is need for a National Action Plan or guidelines that focus on implementing plastic ban in a phase-wise manner in terms of urgency.
 - This means products that have alternatives available should be phased earlier than the items which do not have alternatives, simultaneously reinforcing research and development funding for different alternatives and eco-friendly products.
- **Effectively implement Extended Producer Responsibility (EPR):** There is need to clear about which items should be included in EPR. Ideally it should include all plastic packaging items that are not collected and become waste instantly, such as multi-layered plastics, PET, milk pouches, sachets, etc.
 - Also, companies are getting together and setting up their own plastic waste collection and recycling schemes for items such as PET, that have a high recycling value (about 90 per cent), but an approach that integrates industry, informal sector and ULB would lead to better implementation of EPR.
- **Focus on innovation in designs:** Government should invest money in encouraging the setting up of ventures that provide sustainable products as an alternative to current non-recyclable products.

Innovative practices

- **India**
 - **Rice for plastic:** Andhra Pradesh launched ‘Rice for Plastic’ drive to eradicate single-use plastic while feeding the hungry.
 - **Conversion into fuel:** Council of Scientific and Industrial Research (CSIR) in 2014, developed a unique process of converting plastic waste like polyethylene and polypropylene to either gasoline or diesel.
 - **Dry waste management:** Cities such as Panaji, Trichy, Mysuru, Panchgani, Muzaffarpur that have invested in effective dry waste management. In these cities, dry waste is not a challenge, it is a resource.
 - **Dissolving in glucose:** IIT Madras has demonstrated an environment-friendly strategy to degrade the chemically inert and physically stable plastic-polytetrafluoroethylene (PTFE) by continuous stirring it in water containing glucose and metal ions for about 15 days at 70°C.
- **Global**
 - **Ireland:** They introduced a tax on plastic bags at points of sale, known as the “PlasTax”. The levy was set six times higher than the estimated willingness to pay. It aimed to trigger behaviour change in consumers.
 - **Norway deposit refund system:** Since 1999 Norway has used a deposit refund system for its beverage bottles and cans where public can return them at reverse vending machines to receive the deposit back.

5.4. COP 14: UN CONVENTION ON DESERTIFICATION

Why in news?

Recently, the 14th Conference of Parties (CoP14) of the United Nations Convention to Combat Desertification (UNCCD) was convened in New Delhi.

More on news

- This was the first time that India hosted a CoP of UNCCD.

United Nations Convention to Combat Desertification (UNCCD)

- It is one of three Conventions that came out of the historic 1992 Earth Summit in Rio de Janeiro including UN Framework Convention on Climate Change and Convention on Biological Diversity.
- Established in 1994, it is sole legally binding international agreement that links environment & development to sustainable land management. It addresses specifically arid, semi-arid and dry sub-humid areas.

- **India has taken over the COP Presidency for the next two years** from its previous host China, where the event was last held in 2017.

Important takeaways of the CoP 14

- **Adoption of Delhi Declaration:** in which parties expressed commitment for a range of issues, including gender and health, ecosystem restoration, taking action on climate change, private sector engagement, **Peace Forest Initiative and recovery of five million hectares of degraded land in India.**
 - **Peace Forest Initiative** is an initiative by South Korea to provide a practical platform that will foster international collaboration by demonstrating the value of achieving land degradation neutrality in cross-border post-conflict situations.
 - Emphasis on need to participate in **United Nations Decade on Ecosystem Restoration (2021–2030)**, which commits to adopting an integrated, best-practice approach to land restoration based on scientific evidence and traditional knowledge.
- **Drought Toolbox launched:** The Drought Toolbox is currently being developed as part of the Drought Initiative through the close partnership among UNCCD, WMO, FAO, GWP, National Drought Mitigation Centre (NDMC) of the University of Nebraska, and UNEP-DHI.
 - It is being designed to provide drought stakeholders with easy access to tools, case studies and other resources to support the design of National Drought Policy Plan with the aim to boost the resilience of people and ecosystems to drought.
 - The toolbox is a sort of knowledge bank, which contains tools that strengthen the ability of countries to anticipate and prepare for drought effectively and mitigate their impacts as well as tools that enable communities to anticipate and find the land management tools that help them to build resilience to drought.
- **Release of Adapt Now: A Global Call for Leadership on Climate Resilience' Report:**
 - It has been written by the **Global Commission on Adaptation** — a group of 34 leaders in politics, business and science. It is led by former United Nations secretary-general Ban Ki-Moon, Microsoft Corp founder Bill Gates and former World Bank chief executive Kristalina Georgieva.
 - It focuses on making the case for climate adaptation, providing specific insights and recommendations in key sectors.
 - As per it, an investment of \$1.8 trillion (Rs 2 lakh crore) in climate-adaptation measures over the next decade will bring about concrete transformation on the ground.
- India has announced its commitment to restore nearly 50 lakh hectares of degraded land in the next ten years and set up a Centre of Excellence at the Forest Research Institute, Dehradun, for providing technical assistance to meet the challenges.

5.5. SOIL ORGANIC CARBON

Why in News?

The United Nations Convention to Combat Desertification (UNCCD)'s Committee on Science and Technology release a report which **emphasises the importance of soil organic carbon (SOC) in preventing land degradation and desertification.**

What is Soil Organic Carbon?

- Soil organic carbon (SOC) is the carbon associated with **soil organic matter (SOM)**.
 - SOM comprises the remains of plants and animals in the soil at various stages of decomposition, along with the microbial biomass and several by-products of complex biotic metabolic processes.

Land Degradation Neutrality

- Land Degradation Neutrality (LDN) has been defined by the Parties to the **Convention as a state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security**, remains stable or increases within specified temporal and spatial scales and ecosystems.
- LDN represents a paradigm shift in land management policies and practices. It is a unique approach that counterbalances the expected loss of productive land with the recovery of degraded areas.

Three global indicators of LDN

- **Trends in land cover change (LCC):** Indicating more immediate changes in land use and vegetation
- **Land productivity dynamics (LPD) measured as net primary productivity (NPP):** Indicating relatively rapid responses of ecosystem function
- **Carbon stocks measured as soil organic carbon (SOC):** Indicating the longer term and cumulative responses/resilience to land degradation.

- It **affects many soil properties** such as hydrology, structure, and habitat. Soil organic carbon tends to be concentrated in the **topsoil**.
- **SOC is usually measured in the laboratory** on soil samples collected from the field.
- SOC is one of the **three global indicators of Land Degradation Neutrality (LDN)**. Hence, predicting and monitoring change in SOC is vital to achieving LDN targets.

Factors affecting soil carbon level

- **Temperature:** Decomposition normally occurs more rapidly in the tropics than in temperate areas. During decomposition, SOC is lost from soil because microorganisms convert about half of the SOC to carbon dioxide gas (CO₂).
- **Erosion of Surface soil:** Losses of SOC from erosion of surface soil can have a large impact on the amount of SOC stored in soil.
- **Soil Moisture and water saturation:** Soil organic matter levels commonly increase as mean annual precipitation increases. Conditions of elevated levels of soil moisture result in greater biomass production, which provides more residues, and thus more potential food for soil biota.
- **Soil Texture:** Soil organic matter tends to increase as the clay content increases. This increase depends on two mechanisms. First, bonds between the surface of clay particles and organic matter retard the decomposition process. Second, soils with higher clay content increase the potential for aggregate formation.
- **Salinity and Acidity:** Salinity, toxicity and extremes in soil pH (acid or alkaline) result in poor biomass production and, thus in reduced additions of organic matter to the soil.
- **Vegetation and biomass production:** The rate of soil organic matter accumulation depends largely on the quantity and quality of organic matter input.

Beneficial impacts of SOC on soil health and functionality

Factor	How SOC helps
Water management	Water conservation, soil temperature moderation, root system proliferation
Soil fertility	Nutrient retention and availability, reduced losses by leaching, volatilization and erosion. High nutrient use efficiency
Soil health	Disease-suppressive soils, high soil biodiversity, improved plant growth and vigour, soil resilience
Soil tilth or suitability for growing crops	Low risk of crusting and compaction, better soil aeration, favourable porosity and size of distribution
Production	Sustainable agronomic production, assured minimum yield, better nutritional quality.

Measures to improve Soil organic Carbon

- **Stop carbon loss:** Protect peatlands through enforcement of regulations against burning and drainage.
- **Promote carbon uptake:** Identify and promote best practices for storing carbon in ways suitable to local conditions, including through incorporating crop residues, cover crops, agroforestry, contour farming, terracing, nitrogen-fixing plants, and irrigation.
- **Monitor, report and verify impacts:** Track and evaluate interventions with science-based harmonised protocols and standards.
- **Coordinate policies:** Integrate soil carbon with national climate commitments to the Paris Agreement and other policies on soil and climate.
- **Provide support:** Ensure technical assistance, incentives to farmers, monitoring systems, and carbon taxes to promote widespread implementation.

Conclusion

The 2015 Status of the **World's Soil Resources report highlights that more carbon resides in soil than in the atmosphere and all plant life combined**. However, roughly 33% of the world's soils are degraded, which has led to large losses of SOC. Capturing carbon in the soil helps improve soil health and productivity, stabilize the global carbon cycle, and ultimately help to mitigate climate change.

5.6. FOREST-PLUS 2.0

Why in news?

Recently, US Agency for International Development (USAID) and India's Ministry of Environment, Forest and Climate Change (MoEF&CC) officially launched Forest-PLUS 2.0

REDD+

- It is climate change mitigation solution developed by parties to UNFCCC to reduce emissions from deforestation and forest degradation.
- REDD+ incentives developing countries to keep their forests conserved by offering result based payments for actions to reduce and remove forest carbon emissions.

About Forest-PLUS 2.0

- **Forest-PLUS 2.0** is five year programme that focuses on **developing tools and techniques to bolster ecosystem management** and harnessing ecosystem services in **forest landscape management**.
- It was initiated in December, 2018 after Forest-PLUS completed its five years in 2017.
- The Forest-PLUS focused on capacity building to help India participate in Reducing Emissions from Deforestation and forest Degradation (REDD+).

- **Under Forest-PLUS**, field tests, innovative tools and approaches for Indian forest management were developed. Like **promotion of bio-briquettes in Sikkim**, introduction of **solar heating systems in Rampur** and development of an **agro-forestry model in Hoshangabad**.

- **The targets of Forest-PLUS 2.0**

- 1,20,000 hectares of land under improved management.
- New, inclusive economic activity worth \$12 million
- Measurable benefits accrued to 800,000 households
- Three incentive mechanisms (strategy, capacity and support) demonstrated in managing landscapes for ecosystem services.

- **To achieve these targets the Forest-PLUS 2.0 has three focal points of action**

- **Developing Tools for Managing Forests for Multiple Services**
- **Developing incentive based instruments for leveraging finance:** For example, a payment mechanism where a municipality or industry would pay upstream forest communities to use water flowing down because of improved forest management.
- **Unlocking Economic Opportunities with Conservation:** Unlocking economic opportunities for forest dependent people by modelling and setting up conservation enterprises and mobilising investment from the private sector.

Achievements under Forest-PLUS

- **Ecosystem Health:** Fuelwood extraction is the biggest driver of forest degradation in India. USAID developed an innovative decision support tool for evidence based fuelwood management called iFoReST.
- **Forest Monitoring:** USAID developed innovative techniques to improve forest management and monitoring, reporting, and verifying carbon inventories, including mForest, a mobile phone app for forest inventory data.
- **Forest Carbon Projects:** USAID has successful climate mitigation projects that not only improve forests but also can make carbon payments to communities involved in forest conservation.
- **Livelihoods:** USAID works with poor and marginalized forest communities in Koraput district of Odisha. They invested in five women-led producer companies, boosting incomes for 4,000 families by 40 percent.
- **Innovative Private sector Engagement:** USAID has brought together local communities, government agencies, civil society groups, and the private sector for timely and effective inputs for forest management.

5.7. COAL GASIFICATION BASED FERTILISER PLANT

Why in news?

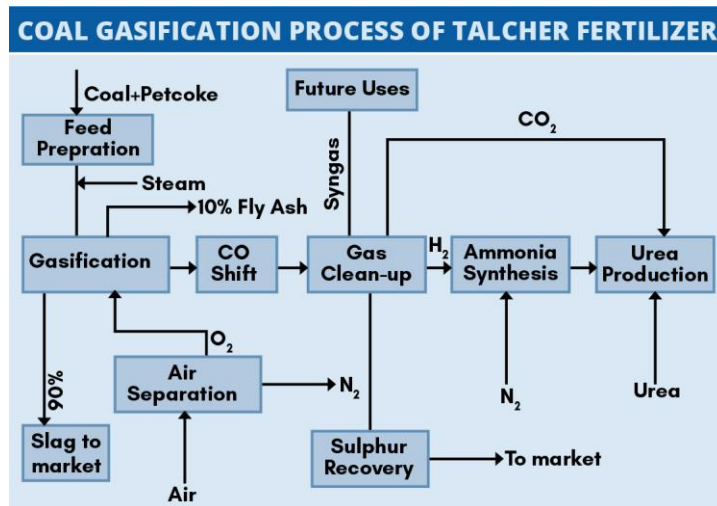
India's first coal gasification based fertiliser plant to be set up in Talcher, Odisha.

More about the news

- The plant will have the capacity of producing 1.27 Million Metric Tonnes per annum of Neem coated urea using coal and pet-coke as feedstock.
- The steady supply of coal as a feedstock will be ensured by the captive coal mine in nearby Talcher region.

About Coal Gasification

- It is **one of the clean coal technologies** and involves the process of **converting coal into synthesis gas** (also called syngas).
- Syngas is a mixture of hydrogen (H₂), carbon monoxide (CO) and carbon dioxide (CO₂).
- The by-products of coal gasification include coke, **coal tar**, sulfur, **ammonia** and fly ash, all having their own potential uses.
- CO₂ and ammonia are further reacted to produce urea.
- Syngas can also be used in a variety of other applications such as in the production of electricity, fuel for IC engines, making plastics, cement etc.



Benefits for India

- **Domestic requirement of urea** - India produces around 241 lakh metric tonnes of urea while consumption is about 305 lakh metric tonnes. The plant holds potential to meet the required demand.
- **Reducing LNG imports**- Urea is currently produced using pooled natural gas, which comprises of both domestic natural gas and imported Liquefied Natural Gas(LNG). The usage of locally available coal for making fertilisers would help reduce the import of LNG.
- **Abundant reserves of coal in India** will ensure the steady production of fertilisers and even the low-grade coal can be utilised in this plant.
- **Achieving Paris agreement targets**- Development of clean coal technologies is necessary to achieve international targets on climate change by minimizing anthropogenic emissions while simultaneously addressing energy demand.

Clean coal technologies

Clean coal technology seeks to reduce harsh environmental effects by using multiple technologies to purify the coal before it burns and contain its emissions.

Some of the common clean coal technologies include:

- **Coal washing**, removes unwanted minerals by mixing crushed coal with a liquid and allowing the impurities to separate and settle.
- **Wet scrubbers**, or flue gas desulfurisation systems, minimises sulfur dioxide emissions from burning of coal which is a major cause of acid rain.
- **Low-NOx (nitrogen oxide) burners** reduce the creation of nitrogen oxides, a cause of ground-level ozone.
- **Electrostatic precipitators** remove particulates that aggravate asthma and cause respiratory ailments.
- **Carbon capture and storage** capturing carbon dioxide usually from large point sources, such as a cement factory or **biomass power plant**, transporting it to a storage site, and depositing it where it will not enter the atmosphere, normally an underground geological formation.
- **Recently, National Centre for Clean Coal Research and Development has been inaugurated at Indian Institute of Science (IISc) in Bengaluru by Ministry of Science and Technology.**
 - The Centre would address several critical R&D challenges towards the development of clean coal technologies in tandem with developing supercritical power plant technologies.

5.8. BIOREMEDIATION AND BIOMINING

Why in News?

Delhi municipal corporation has started the process of “biomining and bioremediation” of the three landfills in Delhi namely Bhalswa, Okhla and Ghazipur

More in News

- Earlier, National Green Tribunal instructed the three municipal corporations of Delhi to **“bioremediate and biomine” Okhla, Bhalswa and Ghazipur Garbage hills** based on the reported success of biomining of similar work carried out by the Indore Municipal Corporation.
 - The NGT in its order has **also directed all municipal corporations in the country to carry out similar projects.**

Bioremediation and Biomining

- **Bioremediation is the treatment of pollutants or waste (as in an oil spill, contaminated groundwater, or an industrial process)** by the use of microorganisms (such as bacteria) that break down the undesirable substances.
- Biomining is the process of using microorganisms (microbes) to extract metals of economic interest from rock ores or mine waste. **Biomining techniques may also be used to clean up sites that have been polluted with metals.**
 - Biomining will **involve the use of separator machines or large sieves to separate waste material of different sizes**, thereby obtaining soil, plastic, wood and metal components in isolation for appropriate processing.
- **Both the process involves the use of microorganism to clean up the landfill sites.**

Benefits of Bioremediation and Biomining

- **Natural treatment and environmentally safe process:** Microbes are able to degrade contaminants to harmless substances that are not detrimental to the environment such as carbon dioxide, water and cell biomass.
- **Holistic approach:** Bioremediation transforms pollutants instead of simply moving them from one media to another.
- **Exposure risks are at minimal:** conventional methods often include personnel to come in close contact with contaminants while executing clean up procedures like excavation.
- **Cost effective:** The cost of bioremediation and biomining are much lower as compared to other remedial alternatives.

Issues with Bioremediation and Biomining

- **Deficit of knowledge:** A deficit of knowledge on the different fundamental branches of sciences that are involved in the process of bioremediation hinders the progress of bioremediation.
- **Slow process:** Both are slow process, taking from days to months, depending on the wastes, the microorganism. Competing treatment processes can usually be completed in less time.
- **Introduction of non-native organisms:** The introduction of non-native organisms may be harmful to the environment.
- **Not all contaminants are biodegradable:** The extent of remediation is highly dependent on the toxicity and the initial levels of contaminants, their ability to be biodegraded and the properties of the soil in which the contaminants lie.
- **Toxic byproduct:** There are some apprehensions that the products of biodegradation may be more toxic than the original material.

Way forward

- The success and efficiency of bioremediation and biomining **requires the integrated research** and involvement of microbiologists, biochemists, engineers, geologists, and soil scientists among others.
- A quality monitoring should be ensured to avoid any on- or off-site adverse environmental impacts.

Harmful Effects of Landfills

- **Air pollution and atmospheric effects:** Many toxic gases emitted from landfills, of which methane gas is the most serious.
- **Soil and land pollution:** It impacts the adjacent soil and land area because the toxic chemicals spread over the surrounding soil.
- **Ground water pollution:** The toxic products in the landfills infiltrate the soil to reach the ground water.
- **Health effects:** Increases in the risk of severe health implications such as birth defects, low birth weight, and particular cancers have been reported in individuals living next to landfill areas in numerous studies.
- **Landfill fires:** Landfill gases together with a substantive amount of landfill waste, can easily start a fire. If not put out immediately, they can get out of control and destroy the neighboring habitats.

Alternative methods for Redemption of landfill

- **Thermal Treatment:** It refers to the processes that use heat to treat waste materials. Some of the most commonly used thermal waste treatment techniques are Incineration, Gasification and Pyrolysis
- **Sub Surface cut-off walls:** The cut-off walls for solid waste dump sites are usually designed to separate the waste dump from any underlying water stream/ source.

6. SOCIAL ISSUES

6.1. 10 YEAR RURAL SANITATION STRATEGY (2019-2029)

Why in news?

Recently, **Ministry of Jal Shakti** launched **10 Year Rural Sanitation Strategy (2019-2029)**, which focuses on sustaining the **sanitation behaviour change** and increasing access to solid and liquid waste management.

Background

- India has seen a sanitation revolution, and the SBM-G transformed itself into a **Jan Andolan** (a people's movement) as since the launch of the SBM-G in 2014, over **10 crore toilets have been built in rural areas and over 5.9 lakh villages, 699 districts, and 35 States/UTs** have declared themselves Open Defecation Free (ODF).
- According to the strategy, the government has, over the past five years, achieved a 100 per cent coverage of all rural households in construction of toilets from 38 per cent when it began in 2014.

About the Rural Sanitation Strategy:

- The framework has been prepared by Department of Drinking Water and Sanitation (**DDWS**), in consultation with State Governments and other stakeholders, which will ensure that people sustain their usage of toilets.
- **Main thrust of the strategy:** While the construction and maintenance of toilets for rural households will continue, the ministry will take the programme a step further and **focus on waste water and solid waste treatment at the village and panchayat level** in phase II.
- **Need for States/UTs to continue their efforts to sustain the gains by focussing on four broad areas** on which the strategy concentrates over the next ten years —
 - Biodegradable and organic waste (kitchen and green waste),
 - Plastics,
 - Greywater (wastewater from bath, laundry and kitchen but excluding toilet wastewater) management &
 - Black water or faecal sludge management.
- **Potential collaborations** with development partners, civil society and inter-government partnerships. It also highlights innovative models for sanitation financing.
- **State-specific strategies on menstrual hygiene management**, including menstrual waste management, which may be supported under the ODF plus strategy.
- **Role of Gram Panchayats:** Segregation of waste at the source in villages will be a major push of the strategy, especially in relation to handling plastic waste. Gram panchayats are also to play a key role in ensuring the operation and maintenance of sanitation infrastructure.
- **A district-level training management unit (TMU)** will be set up to provide oversight and support to gram panchayats (GPs) so that they ensure the operation and maintenance of sanitation infrastructure. The GPs are also supposed to conduct rapid assessment of water and sanitation gaps.
- **Financing strategy:** While government funding is the primary source of financing in the sanitation sector, the strategy mentioned in the framework also suggests alternative self-financing by gradual leveraging of community resources in the form of tariffs for ODF plus activities. It will follow the same 60:40 financing model as being followed till now in Swachh Bharat.

6.2. LIVE IN RELATIONSHIPS

Why in News?

Recently, **Rajasthan Human Rights Commission (HRC)** issued an order asking the state government and the Centre to "**prohibit**" the practice of live-in relationships.

More about news

- Rajasthan Human Rights Commission said that the "**concubine**" life of a woman in live-in relationships **cannot be termed a dignified life** as they are not able to secure their fundamental rights.
- The body has asked for a public campaign to warn women of **how living in with someone would deny them some of the rights accorded to wedded women.**

- At the same time, this order **undermines the autonomy of a woman or a man** enshrined under **Articles 14, 19** (freedom to express one's identity, sexual preferences, and love), and **21** (freedom of choice).

Live in relationship in India

- Live-in relation i.e. cohabitation is an **informal arrangement whereby two people decide to live together on a long-term or permanent basis** in an emotionally and/or sexually intimate relationship **without entering into a formal relationship i.e. marriage**.
- Live in relationship concept has been growing in India due to various reasons like **improved education, globalisation, freedom and privacy etc.**
 - People also who cohabit informally because they cannot formalise their relationships, such as **inter-caste/religion couples** who are barred from marrying by social norms, or same-sex couples, who are barred from marrying by law.
- Supreme Court has at various instances taken the liberty to elaborate on the concept through their judgements.

Issues associated with live in relationships and legal protection

- **Social acceptance:** Live-in relationships in India have still not received the consent of the majority of people. They are still **considered a taboo** to the Indian society. The majority of the people consider it as an immoral and an improper relationship.
- **Children out of marriage:** The children born out of wedlock are exposed to **a lot of mental trauma**. There could be custody problems or maintenance problems as the child grows.
 - The position on the maintenance rights of children out of marriage varies in personal marriage laws. For instance, under the Hindu Law the father has to maintain the child, whereas under the Muslim Law the father has been absolved of such an obligation.
 - However, under **Section- 125 of the Criminal Procedure Code**, remedy is available for children who are unable to claim maintenance under personal laws.
 - The **Supreme Court has also upheld the inheritance rights of children** born of such relationships.
- **Adoption issues:** Live-in couples are not allowed to adopt kids as per the Guidelines Governing the Adoption of Children as notified by the Central Adoption Resource Authority (CARA).
- **Rape in live-in-relations:** It is another area that needs clarification. In *Shivashankar @ Shiva v. State of Karnataka & Another* (2018), the Supreme Court had observed long term sex in relationship cannot be termed rape, especially in the face of the complainant's own allegation that they lived together as man and wife.
- **Domestic violence:** There is also cases of harassment and violence among couple who live together.
 - **Domestic Violence Act** was enforced as an attempt to protect women from abusive (physical, mental, verbal or economic) marital relationships.
 - However, as per Section- 2 (f), it not only applies to a married couple, but also to a 'relationship in nature of marriage'. Therefore, considering all this even the **Supreme Court in a couple of cases has allowed live-in relationships** to be covered within the ambit of the law specified.

Other judicial provisions

- The **Supreme Court** has passed several landmark judgments on intimate relationships.
 - In **Shafin Jahan v. Asokan (2018)**, it held that the right to choose one's life partner is an important facet of the right to life, and social approval of intimate personal decisions should not be the basis for recognising them.
 - In **Navej Johar v. Union of India (2018)**, it read down Section 377 of the IPC which criminalised consensual homosexual relationships.
 - In **Sobha Hymavathi Devi v. Setti Gangadhara Swamy**, it was held that a continuous and prolonged cohabitation raises a presumption in favour of marriage and against concubine.
 - ✓ This is in accordance with **Section 50 and Section 114 of the Indian Evidence Act, 1872**.

International examples

- **Canada:** Live-in relationship is legally recognized in Canada. According to law, two persons who are cohabiting or intend to cohabit and who are not married to each other may enter into an agreement in which they agree on their respective rights and obligations during cohabitation, or on ceasing to cohabit or on death.
- **UK:** Live in couples does not enjoy legal sanction and status as granted to married couple. There is no obligation on the partners to maintain each other. Partners of 'live-in relationship' do not have inheritance right over each other's property unless named in their partner's will.

- **Financial rights of women:** United States of America, live-in partners may register themselves in a 'domestic register' or formally enter into a 'cohabitation contract,' after which they receive legal recognition as domestic partners.
 - However in India the law is yet to provide for such recognition. As a result women in live-in relationships are not recognised by their partner's surname, for any legal or financial matters including opening a bank account, submission of income tax return, applying for loans, etc. They retain their identity as an individual and are not recognised as a domestic partner.
- **Maintenance of lady partner:** The right of maintenance is available to wives under all personal laws in India. However, none of the religions recognises and accept live-in relationships.
 - Since no remedy is granted to women involved in a live-in relationship, Indian Courts have widened the scope of maintenance under the Criminal Procedure Code.
 - **Section- 125 of the Criminal Procedure Code** has been provided to give a legal right of maintenance to lady partners in or out of a marriage.
- **Inheritance right of live in partners:** Partners in a live-in relationship do not enjoy an automatic right of inheritance to the property of their partner.
- **Legal:** None of the statutes dealing with succession or marriage such as the Hindu Marriage Act, 1955, the Special Marriage Act, 1954 or the Indian Succession Act, 1925 recognise live-in relationship directly.

Impact on marriage institutions

- **Threatens notion of husband and wife:** Live in relationship threatens the notion of husband and wife and the cognition of marriage that enjoys high level of sanctity when it comes to India.
- **Adultery:** It also tends to crop up adultery, as there is no such proscription that live in partners should be unmarried. Thus, a person might be married and be lived with someone else under the garb of live in relationship.
- **Bigamy:** If the rights of a wife and a live-in partner become equivalent it would promote bigamy and it would arise a conflict between the interests of the wife and the live-in partner. This promotes bigamy, as the person who is getting into live in relationship might be already married.
- **No Family Support:** When it comes to marriage, the belief is that a marriage takes place between two families. However, when it comes to a live-in relationship, it is only between two people. Family support in case of marriage is definitely present which is mostly lacking in a live in relationship.

Conclusion

The need of the present hour is not to try bringing live-in relationships under the ambit of any existing law, but to enact a new different law which would look into the matter of live-in separately and would grant rights and obligations on the part of the couples thereby reducing the cases of misuse of existing laws and also to reduce cases of atrocities faced by the female partners under such relationships.

6.3. THE HEALTHCARE SERVICE PERSONNEL AND CLINICAL ESTABLISHMENTS (PROHIBITION OF VIOLENCE AND DAMAGE TO PROPERTY) BILL, 2019

Why in news?

Recently government has framed the Healthcare Service Personnel and Clinical Establishments (Prohibition of Violence and Damage to Property) Bill 2019 which **aims at prohibiting violence against doctors and other healthcare professionals.**

Background

- As per Indian Medical Association Study, **75% of health professionals face such violence** throughout their career out of these **50% - 60% violence takes place in ICU and emergency services division.**
- **Currently, such violent acts are dictated by Indian Penal Code, 1860** with imprisonment upto 7 years. Health professionals are protected under various state laws.
- However, current laws does not protect victims indirectly affected due hindrance in health service delivery.

Reasons for violence and damage in clinical establishments

- **Meagre health budget and poor quality healthcare:** India has 0.7:1000 against WHO recommendation of 1:1000. This leads to overcrowding, long waiting time to meet doctors, multiple visits to get investigations done as well as consult doctors etc.

- **Rising cost of healthcare:** It is one of the key reason for the breakdown of the bond between doctors and their patients. **Also the private sector** attracts ire for exorbitant costs and exploitative practices.
- **Poor communication:** such as arrogant behaviour, condescending attitude and use of jargon by doctors, which confuses the patient. Effective patient–doctor communication has been shown to correlate with patient satisfaction with healthcare services.
- **Low health literacy:** This is often used to propagate myths and false accusations are made even in cases of death due to a previous illness. There is an increasing expectation from patients that with modern medicine and technology a doctor should be able to guarantee a good outcome.
- **Lack of security:** Violence is easily orchestrated in Indian healthcare establishments partly because security staff in both the government and private sectors is non-existent due to lack of funds.

Features of the Healthcare Service Personnel and Clinical Establishments (Prohibition of violence and damage to property) Bill, 2019

- **Definition of violence:** Under the draft Bill, violence means any act which may cause: (i) harm, injury or danger to the life of a healthcare service personnel, while discharging their duty, (ii) obstruction or hindrance to healthcare service personnel, while discharging their duty, and (iii) loss or damage to any property or documents in a clinical establishment.
- **Cognizable and a non-bailable offence:** The draft bill proposes to make acts of violence against healthcare professionals a cognizable and a non-bailable offence, and investigation by officer not below the rank Deputy Superintendent of Police.
- **Range of coverage for healthcare providers and establishment:** From doctors, nurses and paramedics to medical nurses, medical students to ambulance drivers. Property of clinical establishment includes a hospital, a clinic, a dispensary, a sanatorium, an ambulance or even a mobile unit.
- **Punishment and fine:** Under the draft Bill, any person who commits violence, or abets such violence may be punished with **imprisonment between six months to five years**, along with a **fine of up to five lakh rupees**. However, if any person causes **grievous hurt** to a healthcare service professional, he will be imprisoned for a period between **three years to ten years**, along with a **fine between two lakh rupees and Rs 10 lakh**.
 - In addition to the punishment for offences committed under the draft Bill, the convicted person will also be liable to pay compensation to the affected parties such as payment of twice the amount of the market value of the damaged property.
 - If a convicted person does not pay the compensation then the sum will be recovered by attaching properties under the Revenue Recovery Act, 1890.

Conclusion

Developing an adequately resourced, widely distributed and well managed healthcare system is essential to reducing the level of public dissatisfaction. Also, deterrent is possible provided only if law is implemented in right way.

6.4. ALL INDIA SURVEY ON HIGHER EDUCATION (AISHE)

Why in news?

Recently, Ministry of Human Resource Development released **All India Survey of Higher Education (AISHE)** for the year 2018-19.

About the AISHE

- Ministry of Human Resource Development conducts an **annual web-based AISHE** since 2010-11.
- Survey covers **all higher education institutions in the country**, which are categorised into 3 broad categories: **university, college & stand-alone institutions**.
- Following indicators of educational development are also determined through AISHE:
 - Institution Density,
 - Gross Enrolment Ratio,
 - Pupil-Teacher ratio,
 - Gender Parity Index and
 - Per Student Expenditure

Key Findings of AISHE

- **Enrolment in Higher Education: Gross Enrolment Ratio (GER)** in higher education in India has risen marginally from **25.8% in 2017-18 to 26.3% in 2018-19**, with men constituting 26.3% and women 26.4%.

- Top 6 states in terms of total student enrolment —Uttar Pradesh, Maharashtra, Tamil Nadu, West Bengal, Rajasthan and Karnataka — account for 54.23% of the total enrolment in India.

- **Number of Institutions of Higher Education:** Number of universities (from 903 in 2017-18 to 993 in 2018-19) & total higher educational institutions has increased.

- **Narrowing gender gap:** Nearly 51.36% of enrolled are male & 48.64% are female, indicating narrowing gender gap in higher education.

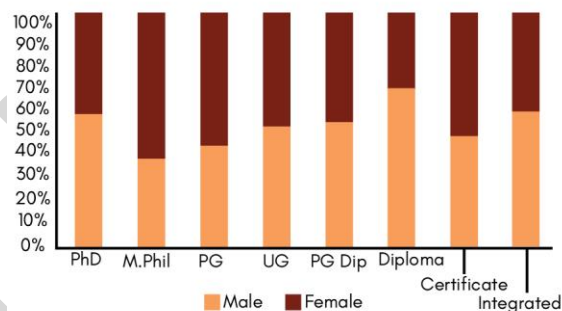
- **Popularity of educational streams:** While 1/3rd of undergraduate students are enrolled in humanities, management is preferred stream at postgraduate (PG) level. Science & engineering technology have more enrolment in M. Phil & Ph.D. programmes.

- In contrast, at UG level, 35.9% of total enrolment was in arts/ humanities/social science followed by science & commerce. **Engineering is 4th choice.**

- **Social Backwardness:** SC & ST student enrolment is 14.89% & 5.53% respectively. Among minorities, 5.23% students belong to Muslim category and 2.32% to other minority communities.

Key Statistics with respect to Higher Education

- **College density** i.e. number of colleges per lakh eligible population varies from **7 in Bihar to 53 in Karnataka as compared to All India average of 28.**
- Only 2.5% Colleges offer **Ph.D. programme** & 34.9% Colleges offer Post Graduate Level programmes.
- **Pupil Teacher Ratio (PTR)** in Universities & Colleges is 29 if regular mode enrolment is considered
- **Total number of foreign students** enrolled in higher education is 47,427.
 - **Highest share of foreign students** come from neighbouring countries led by Nepal (26.88%) followed by Afghanistan (9.8%), Bangladesh (4.38%), Sudan (4.02%), Bhutan (3.82%) and Nigeria (3.4%).



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7. SCIENCE AND TECHNOLOGY

7.1. SCIENTIFIC SOCIAL RESPONSIBILITY (SSR)

Why in News?

Department of Science and Technology (DST) released a **draft of its proposed Scientific Social Responsibility (SSR) policy**.

About Scientific Social Responsibility (SSR)

- India is going to be **possibly the first country in the world to implement a Scientific Social Responsibility (SSR) Policy** on the lines of Corporate Social Responsibility (CSR).
- It is the **confluence of scientific knowledge with visionary leadership and social conscience**.
- SSR is **about building synergies among all stakeholders in scientific knowledge community** and also about developing linkages between science and society.
- It aims to **encourage science and technology (S&T) institutions and individual scientists** in the country to proactively engage in science outreach activities to connect science with the society.
- SR policy would involve **four different categories of stakeholders**:
 - beneficiaries (students; school/college teachers; local bodies; communities; women's groups etc.),
 - implementers (institutions, science centers, Central Ministries, State Governments etc.),
 - assessors (Internal assessment cell or external agency) and
 - supporters (government agency, Corporate bodies etc. providing grants/funds).
- The **main objective of SSR policy** is to harness the voluntary potential that is latent in the country's scientific community to strengthen science and society linkages so as to make S&T ecosystem vibrant through
 - **Science-society connect**: Facilitating inclusive and sustainable development by transferring the benefits of scientific work to meet existing and emerging societal needs.
 - **Science-science connect**: Creating an enabling environment for the sharing of ideas and resources within the knowledge ecosystem.
 - **Society-science connect**: Collaborating with communities to identify problems and develop scientific and technological solutions.
 - **Cultural change**: Inculcating social responsibility among the individuals and institutions practicing science; creating awareness about SSR within society; and infusing scientific temperament into day-to-day social existence and interaction.

Benefits

- **Providing solutions**: SSR has the potential to bring scientific and innovative solutions to societal problems in rural areas also, especially marginalized sections of society & students, thereby transforming the country.
- **Start-up ecosystem**: SSR would inculcate moral responsibility amongst scientific community which may trigger social entrepreneurship and start-ups impacting S&T ecosystem and society and also complement initiatives such as Transformation of Aspirational Districts, Make in India, Swachh Bharat and Digital India, leading to inclusive growth and development.
- **Strengthen institutions and integration of S&T with society**: This policy would strengthen the existing efforts of institutions in an organised and sustainable manner and also how the investments on S&T benefit society.
- **Cooperative environment**: Creating an opportunity for cooperation and sharing of S&T resources in laboratories with other researchers in universities and colleges.
- **Skill and technical upgradation**: Providing training for skill development and upgrading scientific knowledge.
- **Best practices & scientific temperament**: Identification of best practices and success models on SSR for replication with multiplier effect in the country.

Policy directives

- **10 person-days of SSR per year**: Individual scientists or knowledge workers will be required to devote at least 10 person-days of SSR per year for exchanging scientific knowledge to society.
- **Outreach activities**: It recognises the need to provide incentives for outreach activities with necessary budgetary support. Every knowledge institution would prepare its implementation plan for achieving its SSR goals.

- **Appraisal and evaluation:** It has also been proposed to give credit to knowledge workers/scientists for individual SSR activities in their annual performance appraisal and evaluation.
 - **No institution would be allowed to outsource** or sub-contract their SSR activities and projects.
 - All knowledge workers would be **sensitised** by their institutions about their ethical responsibility to contribute.
 - There should be an SSR monitoring system in each institution to assess institutional projects and individual activities.
- **Implementation agency:** A central agency will be established at DST to implement the SSR. Other centre & state ministries would also be encouraged to make their own plans to implement SSR as per their mandate.
- **National portal:** For implementation of the policy, a national portal will be developed up to capture societal needs requiring scientific interventions and as a platform for implementers and for reporting SSR activities.

Conclusion

The policy envisages strengthening science-society linkages in an organic manner by building synergy among all the stakeholders so as to usher in a cultural change in the conduct of science for the benefit of society at large in the country.

7.2. VACCINE HESITANCY

Why in news?

World Health Organization, recently included ‘**vaccine hesitancy**’ as **one of the 10 threats to global health** highlighting that **overcoming ‘vaccine hesitancy’** can reduce the global spread of measles infection.

What is Vaccine Hesitancy?

- As per WHO, Vaccine Hesitancy is defined as “reluctance or refusal to vaccinate despite the availability of vaccines” and is influenced by **factors such as complacency, convenience and confidence**.
 - Hesitancy in relation to vaccination may be caused by individual, group, and contextual influences, as well as any vaccine-specific issues causing people to reject it for themselves or their children.
- Vaccine hesitancy is a **dangerous global trend** – in both, populous emerging economies like India and China as well as advanced economies including the United States and Europe.

Measures needed to tackle Vaccine Hesitancy

- **Systematic assessment of the factors affecting uptake:** WHO is developing a set of tools to support programmes and partners to measure and address the reasons for under-vaccination, and to track consistent and comparable data over time.
 - In November 2018, a global expert group called ‘**Measuring Behavioural and Social Drivers of Vaccination**’ (BeSD) was established by **WHO**, in collaboration with core partners, to oversee development of these tools, which is expected to be finalized in late 2020.
- **Improving and sustaining uptake:** In most cases, interventions should be **dialogue based** and directly targeted to a **specific under-vaccinated population group**.
 - By engaging collaboratively with health workers, caregivers/parents, and their families and communities, one can generate the insights to develop better quality health services, systems, policies, and communication strategies that support and enable recommended vaccination behaviours.

Factors responsible for Vaccine Hesitancy

A **complex web of historical, political, sociocultural and economic factors** including everyday community social networking processes shape parents’ choices not to vaccinate their children.

- **Rise of the anti-vaccination movement in the West**, countries such as United States have seen surge in parents resisting and delaying vaccines for their children.
- **Fear of risks associated with vaccines** and adverse reactions for children following immunisation.
- **Influenced by religious suspicions and rumours**, mass community resistance surfaced in Uttar Pradesh and Bihar during polio campaigns before the country eradicated the disease in 2014.
- The **inadequacy and inequities of the public health system** has significantly reduced community trust.
- Often **use of force or coercion** in administering vaccinations to children contributed to the growing resistance among parents toward **specific single-disease mass-immunization programmes**.
 - One major objection is **lack of parental consent** before the vaccine is given to children at schools. The courts, further supported parents and stalled the campaign in Delhi. Similarly, reports of more than 70 schools in Mumbai also was not supporting the **measles-vaccination** programme based on parent objections.

- Communities also need to be at the centre of drives to improve the quality of immunization and health services, access and equity.
- **Need to address misinformation:** With social media playing a crucial role in spreading vaccine disinformation, the commitment by Facebook to “**reduce distribution**” of vaccine misinformation might be helpful against vaccine deniers.

7.3. E-CIGARETTES

Why in news?

Recently, the Union Cabinet approved the Promulgation of the **Prohibition of Electronic Cigarettes (production, manufacture, import, export, transport, sale, distribution, storage and advertisement) Ordinance, 2019.**

Background

- This decision has come on the back of an advisory issued by the Government in 2018 to all States to consider banning e-cigarettes. 16 States and 1 UT have already banned e cigarettes in their jurisdictions.
- Unlike traditional cigarettes, e-cigarettes do not contain tobacco and therefore are not regulated under the Cigarettes and Other Tobacco Products Act, 2003.
- Recently, the Indian Council of Medical Research (ICMR), in a white paper on the subject, also recommended a complete ban on e-cigarettes based on currently available scientific evidence.
- These products are usually marketed as being safer alternatives for conventional cigarettes but such notions of safety are false.
 - Most e-commerce websites sell e-cigarettes as therapeutic products thus increasing appeal.
 - On the other hand, available literature suggests that these products may act as gateway products to induce non-smokers, especially youth and adolescents, to nicotine-use, leading to addiction and subsequent use of conventional tobacco products.

About e-cigarettes

- They are battery-operated devices that produce aerosol by heating a solution containing nicotine, which is the addictive substance in combustible cigarettes.
- These include all forms of Electronic Nicotine Delivery Systems, Heat Not Burn Products, e-Hookah and the like devices.
- Smoking e-cigarettes is also called **vaping**.

Key Provisions of the Ordinance

- **Prohibition on e-cigarettes-** It would make production, manufacture, import, export, transport, sale, distribution or advertisements of e-cigarettes **a cognizable offence**.
- **Punishment-** The first offence will attract an imprisonment of up to one year or fine up to Rs. 1 lakh or both.
 - The subsequent offence will attract an imprisonment of up to three years and fine up to Rs. 5 lakh.
 - Storage of electronic-cigarettes shall also be punishable with an imprisonment up to 6 months or fine up to Rs 50,000 or both.
- **Duties of the producer-** The owners of existing stocks of e-cigarettes on the date of commencement of the Ordinance will have to suo-moto declare and deposit these stocks with the nearest police station.
- **Relevant Authorities-** The Sub-Inspector of Police has been designated as the Authorized Officer to take action under the Ordinance. The Central or State Governments may also designate any other equivalent officer(s) as Authorized Officer for enforcement of the provisions of the Ordinance.

Arguments in favour of banning e-cigarettes

- **Lack of convincing proof-** that e-cigarettes help quit smoking, rather e-cigarette demand has increased by 77% in the country.
- **Leading to further addiction-** of smoking against its intended objective of to get people out of their smoking habits. Vaping can get teens addicted to nicotine and they can go on to use other tobacco products.
- **Health impacts-** Nicotine is considered to promote cardiovascular diseases and may also affect the brain development in foetus.
 - Smoking e-cigarettes delivers cancer-causing chemicals into the body such as formaldehyde.
 - Foetal and adolescent nicotine exposure may have long-term consequences for brain development, potentially leading to learning and anxiety disorders.

- **International experience-** India is a signatory to the WHO Framework Convention on Tobacco Control (WHO FCTC). In 2014, the WHO FCTC invited all its signatories to consider prohibiting or regulating e-cigarettes in their countries. e-cigarettes have been completely banned in 25 countries including Brazil and Singapore.

Arguments against banning e-cigarettes

- **More needs to be done on tobacco-** as rather than banning e-cigarettes, the government should have done more on banning original cigarettes to stop tobacco consumption.
- **Illegal operations may continue-** Already, 16 of 29 states have banned vaping products, but they are still prevalent in stores and available for purchase online.
- **Number of smokers has reduced-** in India from 275 million in 2010 to 200 million in 2016-17 as per the Global Adult Tobacco Survey, which highlights the efficacy of e-cigarettes.

Conclusion

Rather than a blanket ban on e-cigarettes, experts have suggested that government should work at regulating it and further towards promoting healthy lifestyle among adolescents.

7.4. DR. VIKRAM SARABHAI

Why in news?

ISRO is planning for a year long programme for commemorating the birth centenary of its founder father Dr. Vikram Sarabhai.

About Dr. Vikram Sarabhai

- Born in Ahmedabad in 1919, Dr. Vikram Sarabhai is considered as the **father of India's space program**.
- He was a great institution builder and established or helped to establish a large number of institutions in diverse fields.
- He was instrumental in establishing the Physical Research Laboratory (PRL) in Ahmedabad in 1947.
- He also founded the **Ahmedabad Textile Industry's Research Association in 1947** and looked after its affairs until 1956.
- After Russia's Sputnik launch, he managed to convince the Indian government on the need for India, a developing country, to have its own space program. For this he **established the Indian National Committee for Space Research** in 1962, which was later, **renamed the Indian Space Research Organization (ISRO)**.
- He helped **set up the Thumba Equatorial Rocket Launching Station in Thiruvananthapuram**, with its inaugural flight in 1963. It was later **renamed as the Vikram Sarabhai Space Centre (VSSC)**.
- He along with other Ahmedabad-based industrialists played a major role in the creation of the **Indian Institute of Management, Ahmedabad**.
- He had worked on India's first satellite '**Aryabhata**'.
- Some of the other well-known institutions established by Dr. Sarabhai are:
 - Community Science Centre, Ahmedabad
 - Darpan Academy for Performing Arts, Ahmedabad (along with his wife)
 - Space Applications Centre, Ahmedabad (This institution came into existence after merging six institutions/centres established by Sarabhai)
 - Faster Breeder Test Reactor (FBTR), Kalpakkam
 - Variable Energy Cyclotron Project, Calcutta
 - Electronics Corporation of India Limited (ECIL), Hyderabad
 - Uranium Corporation of India Limited (UCIL), Jaduguda, Bihar
- After the death of physicist Homi Bhabha in 1966, Sarabhai was appointed chairman of the Atomic Energy Commission of India. Carrying forward Bhabha's work in the field of nuclear research, Sarabhai was largely responsible for the establishment and development of India's nuclear power plants. He laid the foundations for the indigenous development of nuclear technology for defense purposes.

Awards and honours

- He received the Shanti Swarup Bhatnagar Award in 1962, Padma Bhushan in 1966 and was conferred the Padma Vibhushan posthumously in 1972.

- In 1973, a crater on the moon was named after him.
- Lander of Chandrayaan 2, India's 2nd mission to moon is named 'Vikram' to honour late Dr. Vikram Sarabhai.

7.5. NAVIC

Why in news?

Global standards body 3GPP, which develops protocols for mobile telephony, has approved India's regional navigation system NavIC.

Details

- The specification approval will boost commercial use of NavIC by international and domestic mobile device makers.
 - The manufacturers can now mass-produce navigation devices compatible with NavIC so that users of these devices can easily access NavIC signals.
- Acceptance of NavIC by 3GPP would also bring NavIC technology to the commercial market for its use in 4G, 5G and Internet of Things (IOT).
- Indian Companies and Startups will have an opportunity to develop Integrated circuits and products based on NavIC.

About 3rd Generation Partnership Project (3GPP)

- The 3rd Generation Partnership Project (3GPP) unites 7 telecommunications standard development organizations (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
- The project covers cellular telecommunications technologies, including radio access, core network and service capabilities, which provide a complete system description for mobile telecommunications.
- 3GPP currently has global navigation satellite system support from BDS (Chinese), Galileo (European), GLONASS (Russia) and GPS (USA) for cellular positioning systems.

7.6. QUANTUM COMPUTING

Why in News?

Recent paper from Google's quantum computing lab announced that the company had achieved quantum supremacy.

More in News

- **Quantum supremacy** means that researchers have been able to use a quantum computer to perform a single calculation that no conventional computer, even the biggest supercomputer, can perform in a reasonable amount of time.
- Google's quantum computer, **named Sycamore**, claimed 'supremacy' because it reportedly did the task in 200 seconds that would have apparently taken a supercomputer 10,000 years to complete.

IRNSS

INDIAN REGIONAL NAVIGATION SATELLITE SYSTEM

IRNSS (NavIC) is designed to provide accurate real-time positioning and timing services to users in India as well as region extending up to 1,500 km from its boundary

NAVIGATION CONSTELLATION CONSISTS OF SEVEN SATELLITES:

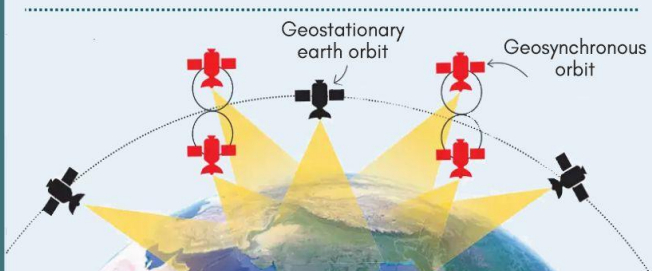
3 in geostationary earth orbit (GEO) and **4** in geosynchronous orbit (GSO) inclined at 29 degrees to equator
Each sat has three rubidium atomic clocks, which provide accurate locational data

IT WILL PROVIDE TWO TYPES OF SERVICES

- 1 Standard positioning service** | Meant for all users
- 2 Restricted service** | Encrypted service provided only to authorised users (military and security agencies)

Applications of IRNSS are: Terrestrial, area and marine navigation; disaster management; vehicle tracking and fleet management; precise timing mapping and geodetic data capture; terrestrial navigation aid for hikers and travellers; visual and voice navigation for drivers

While **American GPS** has **24 satellites** in orbit, the number of sats visible to ground receiver is limited. In **IRNSS, four satellites** are always in geosynchronous orbits, hence always visible to receiver in a region **1,500 km** around India



The diagram illustrates the IRNSS satellite constellation. It shows the Earth with several satellites in orbit. Two satellites are in Geostationary Earth Orbit (GEO), and four are in Geosynchronous Orbit (GSO). Yellow beams represent the signal coverage area from the satellites, which extends up to 1,500 km from the system's boundary.

What is quantum computing?

- Quantum computing is the area of study **focused on developing computer technology based on the principles of quantum theory**, which explains the nature and behaviour of energy and matter on the quantum (atomic and subatomic) level.
- Quantum Computers encode information as **quantum bits, or qubits**, which can exist in superposition.
- Qubits represent atoms, ions, photons or electrons and their respective control devices that are working together to act as computer memory and a processor.
- Because a quantum computer can contain these multiple states simultaneously, it has the potential to be millions of times more powerful than today's most powerful supercomputers
- **Application:** Quantum computers could spur the development of new breakthroughs in science, medications to save lives, machine learning methods to diagnose illnesses sooner, materials to make more efficient devices and structures, financial strategies to live well in retirement, and algorithms to quickly direct resources such as ambulances.

Quantum computing and India

- There are no quantum computers in India yet.
- In 2018, the Department of Science & Technology unveiled a programme called **Quantum-Enabled Science & Technology (QuST)** to accelerate research on Quantum computing.

Quantum computers vs classical computer

- **Classical computers process information in a binary format, called bits**, which can represent either a 0 or 1. **Quantum computers, in contrast, use logical units called quantum bits**, or qubits for short, that can be put into a quantum state where they can simultaneously represent both 0 and 1 and their correlations.
- While the **bits in a classical computer all operate independently from one another**, in a **quantum computer, the status of one qubit effects the status of all the other qubits** in the system, so they can all work together to achieve a solution.

7.7. INDIGENOUS FUEL CELL

Why in news?

Recently, **India's first indigenous fuel cell system** was unveiled.

More about the news

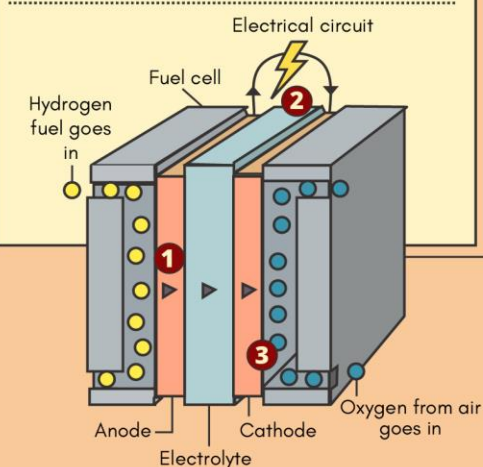
- It is **developed by Council of Scientific and Industrial Research (CSIR)** in partnership with Thermax Ltd, a Pune-based engineering firm.
- It is developed under the flagship program named '**New Millennium Indian Technology Leadership Initiative (NMITLI)**.'
- It will be a **5 kW fuel cell system** and will use **methanol/bio-methane** to generate power **with 70% more efficiency** than other sources.

About Fuel cell technology

- A fuel cell is like a battery that generates **electricity from an electrochemical reaction**.
- It **uses a source of hydrogen as fuel** but involves **no combustion**.
- With the help of oxygen present in the air, oxidation of hydrogen atoms occur and in the process, electrons are released which flow through an external circuit as an electric current.
- The **byproducts** of fuel cell include heat and water.
- Fuel cells can vary from tiny devices producing only a few watts of electricity, right up to large power plants producing megawatts.

HOW A FUEL CELL WORKS

Fuel cells generate heat and electricity from an electrochemical reaction between hydrogen and oxygen. Hydrogen is the most common element in the universe



- 1** Hydrogen reacts with a catalyst when it reaches the anode
- 2** This makes positively-charged particles that go through the electrolyte and electrons that travel along a circuit to make an electrical current
- 3** When the particles and electrons reach the cathode they react with oxygen to form water and useable heat

New Millennium Indian Technology Leadership Initiative (NMITLI)

- It is an **initiative of CSIR** and is the largest public-private-partnership effort within the R&D domain in the country.
- It seeks to catalyze innovation centered scientific and technological developments as a vehicle to attain for Indian industry a global leadership position, in selected niche areas.
- NMITLI has so far evolved more than 50 largely networked projects in diverse areas viz. Agriculture & Plant Biotechnology, General Biotechnology, Bioinformatics, Drugs & Pharmaceuticals, Chemicals, Materials, Information and Communication Technology and Energy.

7.8. CERAMIC MEMBRANES

Why in news?

Recently, Central Glass and Ceramic Research Institute, Kolkata has developed Ceramic Membranes for treatment of water contaminated with heavy metals.

About Ceramic membrane

- It is **prepared from a mixture of inorganic substances** such as alumina and clay.
- This filter is **able to segregate metals such as Iron, Arsenic, fluoride, Arsenic** etc along with the other pollutants when water passes through these membranes.
- Its **absorption capacity is upto 8 times higher** than other membranes and minimises water wastage and can operate under harsh operating environments.
- These membranes last for around 10-15 years without replacement. They can also be used in other sectors like food and beverage, drug and chemicals, waste recovery and recycling industries and are especially useful in petrochemical processing, where it is not possible to use organic membranes.

Why this technology is significant for India?

- **Water borne disease burden** According to an estimate, 50-60% of population in urban as well as rural areas suffers from water borne diseases in India. Heavy metals in water causes cardiovascular diseases, developmental abnormalities, neurologic and neurobehavioral disorders, diabetes, hearing loss, hematologic and immunologic disorders.
- **Limitations of available technologies** Other micro water filters available in India such as RO, UV, UF can remove dissolved impurities, microorganisms, chemicals and salts but are unable to remove metal pollutants in water.

7.9. SHANTI SWARUP BHATNAGAR PRIZE FOR 2019

Why in news?

Recently, twelve scientists have been awarded the prestigious Shanti Swarup Bhatnagar award for science and technology for 2019.

About Shanti Swarup Bhatnagar prize

- **Awarded by:** Council of Scientific and Industrial Research. It was first awarded in 1958.
- **Purpose:** It awarded annually for notable and outstanding research, applied or fundamental, in the disciplines namely:
 - Physical Sciences,
 - Chemical Sciences,
 - Biological Sciences,
 - Medical Sciences,
 - Mathematical Sciences,
 - Engineering Sciences and
 - Earth, Atmosphere, Ocean and Planetary Science.
- **Eligibility:** Any citizen of India engaged in research in any field of science and technology up to the age of 45 years. Overseas citizen of India (OCI) working in India are also eligible.
- **Prize:** The prize carries a cash component of Rs 5 lakh each.

About Dr Shanti Swarup Bhatnagar

- Dr Shanti Swarup Bhatnagar was the **Founder Director (and later first Director General) of Council of Scientific & Industrial Research (CSIR)** who is credited with establishing twelve national laboratories. He was awarded the Padma Vibhushan in 1954 by the President of India.
- He played a **significant role in building of post independent S & T infrastructure and in the formulation of India's S & T policies.**
- His research contributed to several areas of chemical sciences **including emulsions, colloids and industrial chemistry.** His pioneering research in the **field of magneto-chemistry is acclaimed throughout the world.**
- He played an instrument role in the establishment of the National Research Development Corporation (NRDC) of India.

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8. CULTURE

8.1. NEW FINDINGS ON THE DECLINE OF HARAPPAN CIVILIZATION

Why in news?

Recently, a DNA analysis of some **skeletal remains at the Rakhigarhi site**, have **questioned the Aryan invasion theory**.

More on news

- A paper titled “**An Ancient Harappan Genome Lacks Ancestry from Steppe Pastoralists and Iranian Farmers**” was published recently, which has challenged many noted points of Aryan Invasion Theory.
- The paper indicates that there was no Aryan invasion and no Aryan migration and that all the developments right from the hunting-gathering stage to modern times in South Asia were done by indigenous people.

About Aryan Invasion Theory

- According to theory by **British archaeologist Mortimer Wheeler**, a nomadic, Indo-European tribe (Steppe pastoralists or from Anatolian and Iranian farmers), called the Aryans, suddenly overwhelmed and conquered the Indus River Valley, **causing the decline of Indus Valley civilization**.
- He posited that **many unburied corpses found in the top levels of the Mohenjo-Daro** archaeological site were victims of war.
- The theory suggested that by using horses and more advanced weapons against the peaceful Harappan people, the Aryans may have easily defeated them.
- Evidence from Rig Veda:
 - The Rig Veda time and again refers to the fortresses of the Dasas and Dasyus. The Vedic god Indra is called '**Purandara**' meaning '**the destroyer of forts**'.
 - The geographical area of the habitation of the Rig Vedic Aryans included the Punjab and the Ghaggar-Hakra region.
 - Since there are no remains of other cultural groups having forts in this area in this historical phase, Wheeler believed that it was the Harappan cities that were being described in the Rig Veda.
 - In fact, the Rig Veda mentions a place called Hariyupiya. This place was located on the bank of the river Ravi. The Aryans fought a battle here. The name of the place sounds very similar to that of Harappa.
 - These evidences led Wheeler to conclude that it was the Aryan invaders who destroyed the cities of Harappa.

Facts given by the new study

- Inhabitants of the Indus Valley Civilisation (IVC) were a **distinct indigenous people** and the **DNA of the skeletal remains matches with the local population**.
 - The skeleton remains found in the upper part of the Citadel area of Mohenjo Daro belonged to those who **died due to floods** and were not massacred by Aryans as hypothesised by Sir Mortimer Wheeler.
 - There was some small movement of people from Central Asia and mixing of their gene with the population here. But it doesn't change the ancestry of the IVC people.
 - There was no attack that replaced the entire population
 - A genome from the Indus Valley Civilisation is from a population that is the largest source for South Asians.
 - The population has no detectable ancestry from Steppe pastoralists or from Anatolian and Iranian farmers.
- **Farming-** It was brought to the region through migrations from Iran, and, most significantly, that Harappan genes are present in varying quantities in all south Asians.

Rakhigarhi Site

- The site of Rakhigarh is one of the five known biggest townships of Harappan civilization on Indian sub-continent.
- Five interconnected mounds spread in a huge area form the Rakhigarhi's unique site.
- It revealed mature Harappan phase represented by planned township having mud-brick as well as burnt-brick houses with proper drainage system.
- The ceramic industry represented by red ware, which included dish-on-stand, vase, jar, bowl, beaker, perforated jar, goblet and handis.
- Animal sacrificial pit lined with mud brick and triangular and circular fire alters on the mud floor have also been excavated that signifies the ritual system of Harappans.

Other Theories of Decline of Harappan Civilization

- There have been various other theories surrounding the decline of Harappan civilization. Some of them are-
 - **Floods and Earthquakes-** There were evidence such as houses and streets were covered by large silt deposits and Indus area is a disturbed earthquake zone.
 - ✓ **Criticism-** Decline of settlements outside Indus Valley will not be explained by this theory and a river cannot be dammed by tectonic effects.
 - **Shifting Away of the Indus-** There was evidence that silt is there in Harappa because of wind action, which brought sand and silt, rather than floods.
 - ✓ **Criticism-** This can explain only desertion of Mohenjodaro but not its decline.
 - **Increased Aridity and Drying Up of the Ghaggar-** There were various evidence such as increased arid conditions led to decline of agriculture and tectonic movements would have led to drying up of Ghaggar river.
 - ✓ **Criticism-** Drying up of river Ghaggar has not been dated yet.

8.2. SANGAM AGE

Why in News?

Recently, excavations at Keeladi in Tamil Nadu have pointed that the time period of Sangam Age could be between **6th century BCE and 1st century AD** (earlier believed to be 3rd BCE and 3rd AD).

More on news

- The results from the excavations suggest that the **second urbanisation** (the first during Indus civilisation) of Vaigai plains (Keezhadi site belongs from this plain) happened in Tamil Nadu around 6th Century BCE as it happened in 'Gangetic plain'.
 - 'Vaigai plains' attained **literacy or learned the art of writing as early as 6th Century BCE**.
 - There are also evidence of presence of **agrarian society, cattle rearing and weaving industry**.
- There is **doubt about the time period of the Sangam age** and different literary scholars has suggested at **least three divisions**
 - 5th century B.C. to 5th century A. D.
 - 2nd century B. C. to 3rd century A.D.
 - 10th century B.C to 5th Century B.C
- **Various Sources of Evidences which determine the Sangam Age:**
 - **Stone Inscription:** Ashokan Edicts (Chera, Chola and Pandya kingdoms), Hadikumba Inscriptions (Kalinga king), inscriptions at Velvikudi & Thirukoviloor etc.
 - **Coins found near Madurai** indicates the Trade and Merchandise dealings with Tamils and Romans.
 - **Archaeological Evidences** confirm the trade relations between Rome and Tamil Nadu during Sangam Age are found in Arikamedu near Pondicherry.
 - **Foreign Accounts:** In addition to the Sangam literature, foreign literary accounts like Greek and Roman writers remain useful sources for the study of the Sangam Age.

About Sangam Age

Sangam age Polity

- The Tamil country was ruled by **three dynasties namely the Chera, Chola and Pandyas**, with royal emblem bow, tiger and carp (fish) respectively.
- **Hereditary monarchy** was the form of government during the Sangam period.
- The **military administration was also efficiently organized** during the Sangam Age and each ruler had a regular army.

Sangam age Society

- Tolkappiyam refers to the fivefold division of lands Kurinji (hilly tracks), Mullai (pastoral), Marudam (agricultural), Neydal (coastal) and Palai (desert). The people living in these five divisions had their respective chief occupations as well as gods for worship.
- Tolkappiyam also refers to four castes namely arasar (ruling class), anthanar (priests), vanigar (traders), and vellalar (agriculturalists).
- The courage of women was also appreciated in many poems, but **life of widows was miserable and practice of Sati was also prevalent**.
- Ancient primitive tribes like Thodas, Irulas, Nagas and Vedars lived in this period.

Sangam age Economy

- **Agriculture was the chief occupation** and Rice was the common with crops like Ragi, sugarcane, cotton, pepper, ginger, turmeric, cinnamon and a variety of fruits.
- **Land revenue was the chief source of state's income** while custom duty was also imposed on foreign trade.
- The **handicrafts** of the Sangam period were popular and include weaving, metal works and carpentry. Also **ship building and ornaments making was prominent**.
- The **main exports** were cotton fabrics, spices, ivory products, pearls and precious stones. While **gold, horses and sweet wine were the chief imports**.

- ✓ **Megasthenes** in his book Indica also referred to the three Tamil Kingdoms.
- **Sangam literature** chiefly consists of **Tolkappiyam** (earliest), **Ettuthokai** and **Pathuppattu**. These works provide valuable information to know the history of the Sangam Age.
- ✓ **Tolkappiyam** written by Tolkaapiyar is considered as grammar, it encompasses the **political and socio-economic scenario** of that age.
- ✓ **Ettuthokai** (Eight Anthologies) comprises of eight works.
- ✓ **Pathuppattu** (Ten Idylls) contains ten different literary work.
- ✓ The twin epics - **Silappathigaram** and **Manimegalai** - also belonged to the post- Sangam period.
- It is believed that **three Sangams** existed: First Sangam had flourished at then Madurai, the Second Sangam at Kapadapuram and the Pandyan kings had established the Third Sangam at Madurai.

8.3. DINDIGUL LOCK AND KANDANGI SAREE GET GI TAG

Why in news?

Recently, **the Dindigul lock and the Kandangi saree** from **Tamil Nadu** were given the GI tag by the Geographical Indications Registry.

Dindigul Lock	<ul style="list-style-type: none"> ● The Dindigul locks are known for their superior quality and durability. ● The locks are made of iron and brass and are entirely handmade. ● It is unique as each lock is designed with different lever pattern. ● The Dindigul city is also called as Lock City. ● Despite unique features, the lock industry for the last few years has been gradually dying due to stiff competition from lock industries in Aligarh and Rajapalayam.
Kandangi Saree	<ul style="list-style-type: none"> ● Kandangi sarees are hand-woven cotton sarees manufactured in Karaikudi taluk in Sivaganga district of Tamil Nadu. ● They are made up of high quality cotton from Coimbatore. ● Kandangi cotton sarees are made by weavers of Devanga Chettiars for women of Chettiar community also referred to as Nakarathars or Nattukottai Chettiars. ● The main characteristic of these sarees are its bright colours that hold strong. ● They are also characterised by large contrast borders covering as far as two-thirds of the saree.

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9. ETHICS

9.1. CLIMATE CHANGE AND ETHICS

Issue at hand

Climate change is one of the most challenging issues facing the world today. As we move forward to find ways to adapt and mitigate climate change, it is important to understand the ethical issues associated with it.

Need for understanding the ethical dimensions of Climate change

- Climate change entails important consequences for **international equity** because both the causes of climate change and its impacts are **unequally distributed across (and within) nations**. Countries that are least responsible for climate change generally have the lowest socio-economic capacity to deal with its adverse impacts which constitutes a major **ethical challenge of climate change**.
- Climate change has the potential to bring about **conflict mobilized by the quest for scarce resources**. Therefore need for an ethical approach is compelling.
- **Other ethical issues include:** How to define and differentiate responsibilities between present and future generations, developed and developing countries, etc.

Central ethical issues brought about by global climate change

- **Uncertainties in the scientific knowledge base** which put constraints on our ability to predict when and where, and with what intensity, the various effects of climate change will emerge. The sources of these uncertainties include:
 - incomplete factual data on aspects of climate change
 - uncertainties caused by the nature, assumptions and scope of current theoretical frameworks available to understand global climate change
- **Issues of justice:** The very nature of potential vulnerability due to climate change, touch on fundamental rights and the nature of justice. Four categories may be distinguished in this respect:
 - **Issues of distributive justice:** The ethical difficulty lies in determining exactly what is unfair and unjust in the distribution of the negative consequences of climate change; but also, in the distribution of the benefits of actions that cause climate change.
 - **Issues of compensatory justice:** another ethical uncertainty in this context has to do with the nature and extent of compensatory justice, who exactly the beneficiaries should be, and how exactly the benefits of compensatory justice should be distributed.
 - **Issues of procedural justice:** Who should participate in processes of decision-making about measures to prevent, mitigate or adapt to climate change? Vulnerable groups need effective opportunities to participate in decision-making about climate change responses.
 - **Issues of human rights:** We must examine the degree to which global climate change has any implications for the basic right to liberty, which includes a person's right to use his/her property to enhance his/her wellbeing, as well as the right to freely choose one's own way of life.
- **Ethical challenges related to the main characteristics of global climate change:** There are number of other uncertainties that make it difficult to develop an ethical discourse about some aspects of climate change. These includes:
 - the global dispersion of the causes and effects of climate change;
 - institutional inadequacy that makes it difficult to respond to global climate change;
 - the persistence, non-linearity and time-delayed nature of climate change

Establishing Core themes for critical ethical dialogue

- The global climate change itself – not simply its possible impacts – constitutes an ethical challenge and there is **no simple basis for an ethical response** to the challenges of global climate change. This directly follows from the fact that different actions are required by different agents in different contexts to respond appropriately, humanely and ethically to the challenges of climate change.
- The resolution of **ethical challenge of climate change** lies in creating an **opportunity to establish a productive dialogue** between States and other relevant agents from which a new consensus may emerge about the issues.

Core Themes	Explanation
The link between foreknowledge and the duty to act on it	<ul style="list-style-type: none"> In ethics generally, the worth of actions and policies depends not only upon the values and principles they realize, but also upon their effects. An agent should thus foresee the possible effects of his/her actions. National governments and the international scientific community have a responsibility to train future generations of climate scientists who will be equipped to deal with ever-changing and contingent climate complexities while being simultaneously aware of the interaction between the natural, social, cultural, political, economic and ethical dimensions of global climate change.
Applying the precautionary principle as a basis for action in the face of scientific uncertainty	<ul style="list-style-type: none"> Scientific uncertainty has vast implications for policy-making at both the regional and national level. In this context, adoption of precautionary principle in decision-making assumes importance. It states that action to prevent serious harm to humans or the environment should not be postponed until rigorous scientific proof is established about the causes and effects of that harm. It asks governing bodies to strive to put into place structures and procedures that are, on one hand, resilient and, on the other hand, sensitive to the vulnerabilities of people and the environment.
Concerns about future generations in an ethics of climate change	<ul style="list-style-type: none"> The troublesome condition of the present generation with regard to any distant future generation is that it always finds itself in a unilateral position: it is always in a position to act with impunity, since there is no basis for reciprocity from those future generations. As such, consideration of future generations is an essential element of the ethical response to climate change.
Removing obstacles to sharing and differentiating responsibilities	<ul style="list-style-type: none"> The principal acknowledges that the actual ability to tackle climate change varies from country to country. Within countries, there are similar differences between parts of the population that can take action in the face of climate change challenges, and those who cannot. From an ethical point of view, it should be a well-established principle that those who have the ability to prevent or alleviate harm suffered by others, and are in a position to do so without sacrificing a greater value than what is rescued, have a clear duty to act.

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10. NEWS IN SHORT

10.1. A-WEB

- Recently, the Election Commission of India hosted the 4th General Assembly of Association of World Election Bodies (A-WEB) at Bengaluru.
- **India** will also take over as **A-WEB's Chair for the 2019- 2021 term.**
- **About A-WEB**
 - It is **largest association of Election Management Bodies (EMBs) worldwide.**
 - It was **established in 2013** in South Korea. Its **Permanent secretariat** is located at **Seoul.**
 - It aims at **strengthening the processes of election management in member countries.**
 - It seeks to foster efficiency and effectiveness in conducting free, fair, transparent and participative elections worldwide and achieving sustainable democracy around the world.
 - It also **undertakes Election Visitor and Observation Programmes** in various countries to study various election management practices and share knowledge with other Member of EMBs.
 - The A-WEB Secretariat also **undertakes Election Management Capacity Building Programme** for the officials from Member EMBs.

10.2. INDIA-CARICOM SUMMIT

- Recently, Prime Minister of India addressed 1st India-Caricom leaders' summit in New York.
- The meet **focused on fighting climate change and increasing India's participation with the grouping.**
- PM announced 14 million US dollar **grant for community development projects** in Caricom & 150 million line of **credit for solar, renewable energy and climate change related projects.**
- **About CARICOM**
 - It is treaty among Caribbean countries to promote economic integration and cooperation among its members, to ensure that the benefits of integration are equitably shared, and to coordinate foreign policy.
 - Members of CARICOM includes: Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

10.3. THE INTERNATIONAL MIGRANT STOCK, 2019

- Recently, UN Department of Economic and Social Affairs (DESA) released '**The International Migrant Stock 2019**' report.

- In 2019, the number of international migrants worldwide has reached nearly 272 million, up from 221 million in 2010.
- India was the leading country of origin of international migrants in 2019 with a 17.5 million strong diaspora, while Mexico was at second place.
 - India hosted 5.1 million international migrants in 2019, less than the 5.2 million in 2015.
 - In India, the highest number of international migrants came from Bangladesh, Pakistan and Nepal.
- United States of America hosted the largest number of international migrants (51 million), equal to about 19% of the world's total.

10.4. INDIAN INSTITUTE OF SKILLS

- Recently the foundation stone for Indian Institute of Skills (IIS) was laid down at Mumbai.
- Cabinet has given its nod to set up IIS in two other cities namely Ahmedabad and Kanpur.
- These institutes, set up as **the state-of-the-art training** institution, will be constructed and operated on a **PPP (Public-Private Partnership) model** and on a not-for-profit basis.
- Tata Education Development Trust (TEDT) was selected as the private partner for setting up the first IIS in Mumbai through a **competitive bidding process.**
- It will act as a **tertiary care institute** in the skills ecosystem and offer best of required courses in **emerging and high demand areas** such as deep technology, aerospace, automation, Artificial Intelligence and machine learning, cyber technology, energy conservation etc.

10.5. JEEVAN KAUSHAL

- Recently, the Ministry of Human Resource Development launched the **Curriculum for Life Skills (Jeevan Kaushal)** designed by **University Grants Commission (UGC)**, for the development of life skills in every individual, as an **essential part of wholesome learning.**
- The curriculum covers the set of human talents acquired by an individual via classroom learning or life experience that can help them to deal with problems encountered in day to day life.
- This includes core skills each individual must possess internally as well as externally for the betterment of self and the society as a whole. Adoption of life skills is the key to success and quality in life.

10.6. FIRST BATCH OF ISDS CADRE

- The fresh batch of the newest central government services, the **Indian Skill Development Services**

recently, commenced their training program in Mysuru.

- The first batch is joining the ISDS cadre from the **Indian Engineering Service Examination conducted by UPSC.**
- This service is a **Group 'A' service** and has been specially created for the **Training Directorate of the Ministry of Skill Development and Entrepreneurship** with an aim to attract young and talented administrators towards institutionalizing the Skill Development environment in the country.

10.7. GLOBAL LIVEABILITY INDEX

- New Delhi and Mumbai ranked 118th and 119th out of 140 cities in the Global Liveability Index, 2019.
 - In the 2018 index New Delhi and Mumbai ranked 112th and 117th respectively.
 - The decline in Mumbai's rank was mainly due to a downgrade in its culture score, while New Delhi has fallen in the index because of downgrades to its culture and environment score as well as fall in the stability score owing to rising crime rates.
- Vienna retained its position as the world's most liveable city in the Global Liveability Index, 2019.
- **About Global Liveability Index**
 - The index is released by the **Economist's Intelligence Unit.**
 - It assesses **140 cities** and ranks them according to their performance in over 30 qualitative and quantitative factors across **five broad categories** - **Stability, Healthcare, Culture and Environment, Education, and Infrastructure.**

10.8. GST: AADHAR VERIFICATION TO BE MANDATORY

- The GST Network has decided to **make Aadhaar authentication or physical verification mandatory** for new dealers from January 2020 to check malpractices in Goods and Services Tax.
 - Those who do not want to give their Aadhaar numbers would have to undergo physical verification.
 - In both cases, GST number will be given within three working days of Aadhaar authentication and physical verification.
 - The step is being taken to curb the fake invoices generated by the fly by night operators who registered themselves as GST dealers.

10.9. STEEL IMPORT MONITORING SYSTEM

- Ministry of Commerce and Industry recently launched **Steel Import Monitoring System (SIMS).** The system has been developed in consultation with **Ministry of Steel** on the pattern of US Steel Import Monitoring and Analysis (SIMA) system.

- It will provide advance information about steel imports to govt. & stakeholders like steel industry & consumers for effective policy interventions.
- It will be a single access point for all exporters, for all Free Trade Agreements (FTAs)/Preferential Trade Agreements (PTAs) and for all agencies concerned.
- It will protect the domestic industry by clamping down the dumping of iron and steel imports, and also the over-and under-invoicing of these products.

10.10. FIRST GLOBAL TRADE CENTRE FOR WOMEN

- Kerala will set up the country's first International Women's Trade Centre (iWTC), in consonance with the United Nations Sustainable Development Goals (SDGs), in Kozhikode.
- It is a key project of the state's Gender Park "Vision 2020" under the Department of Social Justice. The first phase is scheduled to be completed by 2021.
- The facility will have women's **start-up and incubation centre**, business centers and offices, retail fashion and technology outlets, health and wellness centers, performing arts centre, residential suite and day-care for seniors and children.
- iWTC will also have a dedicated space for **cultural expressions** of women to promote and showcase performing arts and cultural forms like dance, music and theatre.

10.11. SAMUDRAYAAN PROJECT

- **National Institute of Ocean Technology** (an autonomous society under the Ministry of Earth Sciences) has undertaken the **Samudryaan project.**
 - The project proposes to send a submersible vehicle with three persons to a depth of about 6000 metres to carry out deep underwater studies.
 - The indigenously developed vehicle is capable of crawling on the sea bed at a depth of six kilometre for 72 hours (Submarines go only about 200 metres).
 - It will be a **part of the ₹6000 crore 'Deep Ocean Mission'**. It is expected to be undertaken by 2021-22.
 - Such missions had already been carried by developed countries and India could be the first among the developing nations.

For more information on Deep Ocean Mission, refer VisionIAS July monthly magazine.

10.12. APACHE HELICOPTERS

- Recently, **eight US made Apache helicopters (AH-64E) were inducted into the Indian Air Force.**
- India had signed a deal for 22 Apache helicopters with US Company, Boeing in September 2015 to replace Russian-built Mi-25 and Mi-35 helicopters.

- It is the **most advanced multi-role heavy attack helicopter** in the world and are also known as 'Flying Tank'. It is **all weather helicopter**.
- It has a vertical rate of climb of over 2,000 feet per second and a maximum speed of 279km per hour, making it useful for swift deployment.
- It **can deliver a variety of weapons** with one helicopter having the capacity to carry 8 missiles.
- It also has **modern electronic warfare capabilities** to provide versatility to the helicopter in network-centric aerial warfare.
- The helicopter is capable of flying further lower and faster than other similar machines through which it cannot be picked up by radar, while skimming the earth.

10.13. ASTRA MISSILE

- Recently India successfully test-fired its **first indigenous air-to-air missile** 'Astra'.
- It is **designed and developed by DRDO**.
- It **works on beyond visual range air to air missile (BVRAAM) technology** that enables fighter-pilots to shoot precisely at the enemy targets which are beyond their visual range.
- It was **launched from Sukhoi-30 MKI** fighter jet and will be further integrated with other jets such as Mirage 2000, the MiG-29 and Tejas.
- With this **India joined the league of other countries having this technology** such as France, Germany, UK, South Africa etc.
- Specifications of the missile:
 - Speed - over 4.5 mach (5555 km/h).
 - Advance features-
 - ✓ **Electronic Counter-Countermeasures (ECCM)**- that improves the missile's target tracking capability by reducing the effect of electronic countermeasures of the enemy targets in jamming environments.
 - ✓ Lock on Before Launch (LOBL) and Lock on After Launch (LOAL). The latter option allows the fighter aircraft to safely shoot and scoot after launching the missile towards the target.
 - It **uses an inertial guidance system** with an active radar seeker with a homing range of 25 km and is extremely **effective in a multi-target scenario**.

10.14. INS KHANDERI

- Recently, **second Scorpene-class attack submarine INS Khanderi was commissioned** into the Indian Navy.
- It is a **conventional diesel-electric submarine** with maximum speed of 20 nautical miles and has a **sonar suite** that enables long-range detection and classification of targets. It is **armed with anti-ship missiles and torpedoes**.

- Its **design is inspired by the fish 'Kanneri'** which is found in the Arabian Sea and is known for hunting while swimming close to the bottom of the ocean.
 - It was **manufactured by Mazagon Dock Shipbuilders Limited** under Project 75. Under the **Project 75**, India aims to build 6 Scorpene-class submarines in collaboration with France's Transfer of Technology from Naval Group.
 - India's first Scorpene-class attack submarine was **INS Kalvari**.

10.15. INS NILGIRI

- Recently, **INS Nilgiri was launched** by Indian Navy.
- It is designed indigenously by the Indian Navy's Directorate of Naval Design, New Delhi
- It is the **first major warship in India which is built using an integrated construction methodology** that involves constructing small modules and assembling them together.
- It is the **first of seven new stealth frigates under Project 17Alfa**.
- **Project 17Alfa frigates are a design derivative and upgrade of the existing Shivalik class frigates** with advanced features and indigenous weapons and sensors for improved survivability, sea keeping, stealth and ship manoeuvrability.

10.16. ICGS VARAHA

- Recently, **Indian Coast Guard Ship (ICGS) VARAHA was commissioned**.
- It is a **Coast Guard Offshore Patrol Vessel** and fourth in the series of seven 98-m such vessels.
- It has been designed and built indigenously by **Larsen & Toubro (L&T)** at its Katupalli ship building yard in North Chennai.
- It has **capabilities to operate twin engine Advanced Light Helicopters (ALH)** and will also carry four high speed boats including two rigid hull inflated boats for boarding operation, search and rescue, law enforcement and maritime patrol.
- It is also capable of carrying **Pollution response equipment** to contain oil spill at sea.

10.17. MILITARY EXERCISES IN NEWS

- **Indo–Thai CORPAT**: It is 28th edition of India-Thailand Coordinated Patrol (Indo-Thai CORPAT) conducted between the Indian Navy and the Royal Thai Navy.
- **MAITREE-2019**: It is joint military exercise between India and Thailand.
- **Yudh Abhyas 2019**: It is a joint military exercise between Indian and US armies.
- **TSEINTR 2019**: It is part of the annual series of large scale exercises that form part of the **Russian Armed Forces'** annual training cycle. Apart from host Russia, military contingents from China, India, Kazakhstan,

Kyrgyzstan, Tajikistan, Pakistan and Uzbekistan will also take part in this mega event.

- **SLINEX 2019:** It is the bilateral maritime exercise between India and Sri Lanka.
- **SITMEX 2019:** It is five-day exercise is aimed at bolstering the maritime inter-relationships amongst Singapore, Thailand and India.
- **Malabar 2019:** It is 23rd edition of trilateral maritime exercise between naval forces of India, Japan and the United States which is being conducted off the coast of Japan. Indian representation includes of 2 indigenously designed and built Naval Ships, the Multipurpose Guided **Missile Frigate Sahyadri** and **ASW Corvette Kiltan** and a 'P8I' **Long Range Maritime Patrol Aircraft**.

10.18. CENTRAL ADVERSE LIST

- A number of Sikhs have been taken off the **Central Adverse List** maintained by the **Ministry of Home Affairs**, allowing them to avail visa services to visit India.
- Central Adverse List is a **list of individuals** who are suspected to have links with **terror outfits** or participated in **Anti-India propaganda** or **violated visa norms** in a previous visit to India.
- It also includes those who indulged in **criminal activities** or been accused of sexual crimes against children in their respective countries.
- The list also contains names of Sikh Indian nationals who supported the **Khalistan movement** and anti-India propaganda in the 1980s and fled abroad to take asylum.

10.19. BASEL BAN AMENDMENT

- Croatia became the 97th country to ratify the ban, which was adopted by the parties to the Basel Convention in 1995, to protect human health and the environment against the adverse effects of hazardous wastes.
- The Ban Amendment prohibits all export of hazardous wastes, including electronic wastes and obsolete ships from 29 wealthiest countries of the Organization of Economic Cooperation and Development (OECD) to non-OECD countries.
- It will become a new Article in the Convention and will enter into force in the 97 countries.
- However, countries like the **US, Canada, Japan, Australia, New Zealand, South Korea, Russia, India, Brazil, and Mexico are yet to ratify** the ban.

Basel Convention

- It is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).
- It also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management and to assist LDCs in environmentally sound management of the hazardous and other wastes they generate.

- It does not address the movement of radioactive waste.
- Treaty entered into force on 5 May 1992
- India is party of treaty.
- Haiti and the United States have signed the Convention but not ratified.

10.20. PACESETTER FUND

- Ministry of New and Renewable Energy awards grants to four projects in second round of PACEsetter Fund programme.
- The PACEsetter fund was constituted by **India and the USA** in 2015 as a joint fund to provide early-stage grant funding to accelerate the commercialization of innovative off-grid clean energy products, systems, and business models.

10.21. CLIMATE ACTION SUMMIT

- The UN 2019 Climate Summit was convened on the theme, '**Climate Action Summit 2019: A Race We Can Win. A Race We Must Win**' by UN Secretary General.
- It has key **focus on raising ambition and accelerate action to implement the Paris Agreement**.
- It is **built on the outcomes** of the Global Climate Action Summit (GCAS), the 73rd session of the UN General Assembly (UNGA 73), COP 24 to the UNFCCC, and the Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development.
- It seeks to **develop ambitious solutions in six areas**:
 - a global transition to renewable energy;
 - sustainable and resilient infrastructures and cities;
 - sustainable agriculture and management of forests and oceans;
 - resilience and adaptation to climate impacts; and
 - alignment of public and private finance with a net zero economy.

10.22. NATIONAL WATER MISSION AWARD

- Recently, first annual National Water Mission awards were presented.
- **About National Water Mission Awards**
 - National Water Mission and Department of Water Resources, River Development & Ganga Rejuvenation under the Ministry of Jal Shakti have initiated the 'National Water Mission Awards' to recognize excellence in water conservation, efficient water use and sustainable water management practices.
 - The awards are given in ten categories defined under five goals of NWM.

- **About National Water Mission:** The National Water Mission is one of the 8 missions under the National Action Plan for Climate Change. It envisages the following five goals:
 - Goal 1: Comprehensive water data base in public domain and assessment of the impact of climate change on water resource,
 - Goal 2: Promotion of citizen and state actions for water conservation, augmentation and preservation
 - Goal 3: Focused attention to vulnerable areas including over-exploited areas
 - Goal 4: Increasing water use efficiency by 20%
 - Goal 5: Promotion of basin level integrated water resources management

10.23. ALPINE GLACIER LOSS

- Recently, people came out to generate awareness regarding an Alps glacier the “Pizol”, in the **north-eastern Switzerland**, which has lost about 80 to 90% of its volume since 2006 due to **global warming**.
- Recently, **Iceland** also commemorated **Okjokull**, the island’s first glacier lost to climate change.
- **Alpine Glacier Loss:** There have been around 4,000 glaciers dotted throughout the Alps, providing seasonal water to millions and forming some of Europe’s most stunning landscapes.
 - However, since 1850, more than 500 Swiss glaciers have completely disappeared. In a recent study published, the researchers indicated that the **Alps’ largest glacier**, the **mighty Aletsch**, could completely disappear over the next eight decades.
 - According to a recently published report, the Alps Mountain Ranges will lose at least half of their ice mass by 2100.

10.24. MAHABALESHWAR WETTEST PLACE IN INDIA

- **Mahabaleshwar** in Maharashtra received 7,175.4 mm rain as against Mawsynram's 6,218.4 mm, Cherrapunji received around 6,082.7 mm rainfall as per the India Meteorological Department (IMD).
- The heavy rain in and around Mahabaleshwar was **because of the low pressure that had formed over West Bengal, Odisha and the movement of this system towards Central India** strengthened South-West monsoon.
- Five **rivers originate from Mahabaleshwar**, including **east flowing river Krishna its tributaries Koyna, Venna, and Gayatri** and **west flowing Savitri** which empties in Arabian sea

10.25. NEW WHEAT FROM IARI

- **Indian Agricultural Research Institute (IARI)** has released a new variety- **HD-3226 or Pusa Yashasvi**, for planting in the upcoming **rabi crop season**.

- Its yield is comparable to or higher than other wheat varieties, which currently together occupy roughly 40% of the country’s total wheat area.
- It also has **higher content of protein and gluten** (which contributes to strength and elasticity of the dough), apart from **more zinc**.
- The variety has also **high levels of resistance** against all major rust fungi — yellow/stripe, brown/leaf and black/stem.
- The new variety is also known for its **amenability to “conservation agriculture”**.
 - Conservation Agriculture (CA) is a farming system that can prevent losses of arable land while regenerating degraded lands. It promotes maintenance of a permanent soil cover, minimum soil disturbance, and diversification of plant species.

Recent Crop/Horticulture Varieties From IARI

- **Pusa Basmati 1718:** Rice variety resistant to bacterial leaf scorch.
- **Pusa Sambha 1850:** A high yielding, non-basmati, medium slender grain, blast resistant rice variety.
- **Pusa Aditi:** Grape hybrid released for its commercial cultivation in NCR region
- **Pusa Sona:** Onion variety has been released apart from various other horticulture crops such as melons, cucumber, cauliflower etc.

10.26. NATIONAL EDUCATIONAL ALLIANCE FOR TECHNOLOGY (NEAT)

- Recently, Ministry of Human Resource Development (MHRD) has announced a new scheme, **National Educational Alliance for Technology (NEAT)**.
- **About National Educational Alliance for Technology**
 - This **public-private partnership scheme** aims to **harness technology for better learning outcomes in higher education**.
 - It will be **in partnership with companies using artificial intelligence** to make learning more personalised and customised as per the learner’s requirements.
 - ✓ It aims to bring start-up companies working on this technology **under a common platform for easier access to students**.
 - **EdTech companies** would be responsible for developing solutions and manage registration of learners through the NEAT portal.
 - ✓ They would be free to charge fees as per their policy.
 - ✓ **MoUs** will be signed with the shortlisted EdTech companies.
 - MHRD would act as a **facilitator to ensure that the solutions are freely available** to a large number of economically backward students.
 - ✓ It would create and maintain a **National NEAT platform** that would provide one-stop access to these technological solutions.

- ✓ The companies would have to offer free coupons to the extent of 25% of the total registrations for their solution through NEAT portal for students from disadvantaged communities.
- **All India Council for Technical Education (AICTE)** under MHRD, the national level regulator for technical education in the country, would be the implementing agency for NEAT programme.
- The scheme shall be administered under the guidance of an Apex Committee constituted by MHRD.
- Independent Expert Committees would be constituted for evaluating and selecting the EdTech solutions.

10.27. COMPREHENSIVE NATIONAL NUTRITION SURVEY

- The Comprehensive National Nutrition Survey was conducted by the **Ministry of Health and Family Welfare and UNICEF** between February 2016 and October 2018.
- It is the first study undertaken to **measure malnutrition**, including **micronutrient deficiencies** through biochemical measures such as blood and urine samples, **anthropometric data** as well as **details of non-communicable diseases** such as diabetes.
- **Key findings:**
 - Nearly 10% of children in the age group of 5-9 years and adolescents in the age group of 10-19 years are pre-diabetic, 5% are overweight and another 5% suffer from blood pressure.
 - A quarter of 5-9 and 10-19-year-olds were thin for their age, one in five children 5-9 years' old were stunted.
 - Tamil Nadu and Goa had the highest number of adolescents who were obese or overweight.
- **How National Family Health Survey (NFHS) is different to this survey?**
 - NFHS collects anthropometric data (weight for age, height for age, weight for height, mid-upper arm circumference) to measure prevalence of stunting, wasting and underweight and household dietary intake to measure deficiencies.
 - Under NFHS these details are collected for children in the age group of 1-5 years and adults, but not for school going children between the age of 5 and 19 years.

10.28. EAT RIGHT INDIA CAMPAIGN

The 'EAT RIGHT INDIA Campaign', with its new logo and tagline 'Sahi Bhojan, Behtar Jeevan' was released by the Union Health minister.

About Eat Right India movement

- Eat Right Movement was launched in 2018 by Food Safety and Standards Authority of India to improve

public health in India and combat negative nutritional trends to fight lifestyle diseases.

- It is multi-sectoral effort with primary focus on daily intake of salt, sugar, fat, phasing-out trans-fats from diets and promoting healthier food options.
- It is built on two broad pillars of Eat Healthy and Eat Safe.
- It brings together three ongoing initiatives of FSSAI that target citizens:
 - **The Safe and Nutritious Food (SNF) Initiative**, focused on social and behavioural change around food safety and nutrition at home, school, workplace and on-the-go.
 - **The Eat Healthy Campaign** focused on daily intake of salt, sugar, fat, phasing-out trans-fats.
 - **Food fortification**, focused on promoting five staple foods- wheat flour, rice, oil, milk and salt, with key vitamins and minerals added to improve their nutritional content.
- The Eat Right Movement brings together the **stakeholders on both the demand and supply-side.**
- On the demand side, **the Eat Right Movement focuses on empowering citizens** to make the right food choices.
- On the supply side, **it nudges food businesses to reformulate their products, provide better nutritional information to consumers and make investments in healthy food as responsible food businesses.**

10.29. GLOBAL FUND FOR AIDS, TB AND MALARIA

- India has announced a contribution of \$22 million to the Global Fund for AIDS, TB and Malaria (GFTAM) for the 6th replenishment cycle (2020-22).
- **About the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund)**
 - It is an international financing institution based on a unique **partnership between governments, civil society, the private sector and affected communities.**
 - It was created to raise, manage and disburse large amounts of **additional financing to fight three of the world's most devastating diseases (AIDS, Tuberculosis and Malaria)**, and to direct those resources to areas of greatest need.
 - It is **registered as a Non-Profit Foundation in Switzerland** and maintains its **secretariat in Geneva, Switzerland.**
 - The **World Bank is the trustee of funds** contributed to the Global Fund. The Global raises funds in multiyear cycles known as Replenishments.
 - Funding of the Global Fund comes from **voluntary financial contributions from all sectors** - governments, the private sector, social enterprises individuals etc.

- Under the replenishment model, donors independently fix their contribution, and usually make a pledge over a certain period in time.
- Pledges are public, legally non-binding statements on planned contributions to the Global Fund.
- India has had a sustained partnership with the Global Fund since 2002 both as a recipient and as a donor. So far, India has received \$2.0 billion from the Global Fund for attaining targets related to HIV/AIDS, TB and Malaria reduction.

10.30. SATHI INITIATIVE

- IIT Kharagpur has been selected for setting up a **Sophisticated Analytical and Technical Help Institute (SATHI)**.
- **About SATHI:**
 - It is an initiative of the Department of Science and Technology.
 - SATHI will be developed as a state-of-the-art shared, professionally managed science and technology infrastructure facility.
 - These Centres will be equipped with major analytical instrument and advanced manufacturing facility, which is usually not available at Institutes / Organisations.
 - The aim is to provide professionally managed services with efficiency, accessibility and transparency under one roof to service the demands of industry, start-ups and academia.
 - SATHI facilities will be used for 80% of their available time by External Users i.e. out-side of the Host Institutes.
 - IIT Kharagpur will treat the SATHI Centre as its Social Scientific Responsibility (SSR) programme to promote the culture of science-based entrepreneurship and start-ups in the country.
 - IIT-Delhi and BHU- Varanasi are other institutes where SATHI facilities will be located.

10.31. SALMONELLA

- Recently, the United States Food and Drug Administration (FDA) has found salmonella bacteria contamination in MDH products.
- **About Salmonella**
 - It is a group of bacteria that can cause food-borne illnesses known as salmonellosis that affects the intestinal tract.
 - The World Health Organisation (WHO) identifies Salmonella as one of four key global causes of diarrhoeal diseases.
 - Salmonellosis in humans is generally contracted through the consumption of contaminated food of animal origin (mainly eggs, meat, poultry, and milk)
 - ✓ Other foods, including green vegetables contaminated by manure, have been implicated in its transmission.

- ✓ Person-to-person transmission can also occur through the faecal-oral route.

10.32. DENISOVANS

- Scientists have for the first time restructured Denisovans' skeletal features, using **DNA methylation (chemical changes)**, to understand how the long-lost human relative looked like, as reported by The Nature.
- **About Denisovans**
 - Denisovans are an extinct species of hominid and a close relative to modern humans.
 - Scientists first identified Denisovan remains from Denisova cave located in the Altai mountains in Siberia in 2010.
 - Denisovans may have ranged from Siberia to Southeast Asia during the last Ice Age.
 - Denisovans share a common ancestor with both modern humans and Neanderthals. This common ancestor, called Homo heidelbergensis, most likely lived in Africa.

10.33. WATER FOUND ON EXOPLANET

- Astronomers have for the first time discovered water in the atmosphere of an exoplanet, **K2-18b** orbiting a distant dwarf star K2-18 outside our solar system with Earth-like temperatures that could support life.
- K2-18b, which is eight times the mass of Earth, is also categorised as **Super-Earth** (exoplanets with masses between those of Earth and Neptune).
- The results revealed the molecular signature of water vapour while also indicating the presence of hydrogen and helium in the planet's atmosphere.

10.34. GOLDSCHMIDTITE

- Recently, a new mineral, Goldschmidtite, has been discovered inside a diamond unearthed from a mine in South Africa. The mineral has an unusual chemical signature for a mineral from Earth's mantle.
- Goldschmidtite has **high concentrations of niobium, potassium and the rare-earth elements lanthanum and cerium**, whereas the rest of the mantle is dominated by other elements, such as magnesium and iron.
 - For potassium and niobium to constitute a major proportion of this mineral, it must have formed under exceptional processes that concentrated these unusual elements.

10.35. TB HAREGA DESH JEETEGA CAMPAIGN

- Recently, Union Minister for Health and Family Welfare announced TB Harega Desh Jeetega Campaign to improve and expand the reach of TB care services across the country, by 2022.

- **The campaign has three pillars** - clinical approach, public health component and active community participation.
- Other supporting elements of the campaign comprise **private sector engagement, patient support, and political and administrative commitment at all levels.**
- The government will ensure that all patients, at private or public hospitals, receive free-of-cost and high-quality TB care.

10.36. UMMID FOR GENETIC DISORDER

- Recently, Government launched **UMMID** (Unique Methods of Management and treatment of Inherited Disorders) initiative.
- It aims to **create awareness about genetic disorders amongst clinicians and establish molecular diagnostics in hospitals** so that the benefits of developments in medical genetics could reach patients.
- It is **supported by Department of Biotechnology**
- **Three components of UMMID initiative**
 - **To establish NIDAN** (National Inherited Diseases Administration) **Kendras (Diagnostic Centre)**- provide counselling, prenatal testing and diagnosis, management, and multidisciplinary care in Government Hospitals
 - **To produce skilled clinicians in Human Genetics,** and
 - **To undertake screening of pregnant women and new born babies for inherited genetic diseases in hospitals at aspirational districts.**

10.37. GLOBAL GOALKEEPERS GOALS AWARD 2019

- Recently, PM Narendra Modi received Global Goalkeeper award 2019 by the Bill and Melinda Gates Foundation for Swachh Bharat Abhiyan.
- **About Global Goalkeepers Goals Award**
 - **Purpose:** They felicitate changemakers around the world for their contributions toward meeting the UN's Sustainable Development Goals (SDGs).
 - **There are five categories of awards:** Progress Award (age 16-30), Changemaker Award (age 16-30), Campaign Award (age 16-30), Goalkeepers Voice Award (any age), and the Global Goalkeeper Award (any age).
- In 2019, Payal Jangid, a 16-year-old activist from Rajasthan, was presented with the Changemaker award for her work against child marriage.
 - **Prize:** The Campaign, Changemaker and Progress Awards winners receive \$10,000 in unallocated funds for endeavours in their fields, and a

package of media and training assets to support the telling of their story.

10.38. DIGITAL COMPETITIVE INDEX

- Recently, India rose four places to be ranked 44th in IMD World Digital Competitiveness Ranking 2019.
- IMD World Digital Competitiveness Ranking (WDCR) **measures the capacity and readiness of 63 economies to adopt and explore digital technologies** as a key driver for economic transformation in business, government and wider society. It was started in 2017.
- To evaluate an economy, WDCR examines 3 factors: **Knowledge-** capacity to understand and learn the new technologies; **technology-** competence to develop new digital innovations; and **future readiness-** preparedness for coming developments.
 - India rose from 48th place in 2018 to 44th rank this year as the country has improved overall in all factors -- knowledge, technology and future readiness -- as compared to the previous year's ranking.
- **Top 5 countries in World Digital Competitiveness Ranking 2019** are 1) United States 2) Singapore 3) Sweden 4) Denmark 5) Switzerland

10.39. DIGITAL PAYMENT ABHIYAAN

- Recently, Data Security Council of India (DSCI) has collaborated with Ministry of electronics & IT (MeitY) and Google India to launch a **nationwide awareness campaign 'Digital Payment Abhiyan'**.
- It will **educate end-users on the benefits of making digital payments** and urge them to adopt security and safety best practices.
- It will be crafted in seven languages -- Hindi, English, Tamil, Telugu, Kannada, Bengali and Marathi.
- It will engage with users and make them aware of the dos and don'ts for different payment channels including UPI, wallets, cards as well as netbanking and mobile banking.
- DSCI has onboarded various digital payments ecosystem partners such as banking, card networks as well as fin-tech segment to amplify outreach to users across all states.

Data Security Council of India (DSCI)

- It is a not-for-profit, industry body on data protection in India, setup by NASSCOM,
- It is committed to making the cyberspace safe, secure and trusted by establishing best practices, standards and initiatives in cyber security and privacy.
- To further its objectives, DSCI engages with governments and their agencies, regulators, industry sectors, industry associations and think tanks for policy advocacy, thought leadership, capacity building and outreach activities.

11. GOVERNMENT SCHEMES IN NEWS

11.1. CREDIT LINKED CAPITAL SUBSIDY SCHEME

Ministry of Micro, Small & Medium Enterprises launched the updated Credit linked Capital Subsidy Scheme (CLCSS) to allow micro, small and medium enterprises (MSMEs) access to capital.

Objective	Key Features
<ul style="list-style-type: none"> To facilitate technology to MSEs through institutional finance for induction well established and proven technologies in the specific sub-sector/products approved under the scheme. 	<ul style="list-style-type: none"> The scheme provides an upfront subsidy of 15 per cent on institutional credit up to Rs 1 crore for MSMEs units in the specified 51 sub-sectors including tiny, khadi, village and coir industrial. It is a demand-driven scheme without any upper limit on overall annual spending on the subsidy disbursement. There is an additional 10 per cent subsidy for SC-ST entrepreneurs while special provisions have been made for 117 'aspirational' districts, hill states and the north-eastern region It is crucial in raising MSME contribution to gross domestic product and increasing exports from the sector. It also includes installation of improved packaging technique as well as anti-pollution measures, energy conservation machinery, in-house testing and on-line quality control. It is linked with term loans availed by the MSEs from Banks or Financial Institutions and it is being implemented by 12 nodal banks/agencies including SIDBI and NABARD. To claim subsidy under CLCSS, eligible MSEs are required to apply online through Primary Lending Institutions (PLIs), from where the MSEs availed term loan for up-gradation of technology. It is a component of Credit Linked Capital Subsidy and Technology Up-gradation scheme (CLCS-TUS). The Credit Linked Capital Subsidy Scheme (CLCSS) was launched in 2000 and the changes in ceiling of credit from ₹ 40.00 lakhs to ₹ 1.00 crore with the rate of subsidy enhanced from 12% to 15% was approved in 2005.

11.2. LIBERALISED REMITTANCE SCHEME (LRS)

India witnessed its highest ever monthly outflow of \$1.69 billion under the liberalised remittance scheme (LRS) by resident Indians in the month of July.

Objective	Key Features
<ul style="list-style-type: none"> To remit money across the border, without seeking specific approvals 	<ul style="list-style-type: none"> Under the Reserve Bank of India's (RBI) LRS, all resident individuals, including minors are allowed to remit up to \$250,000 in a financial year under various heads including current account transactions such as going overseas on employment, studies overseas, emigration, maintenance of close relatives, medical treatment among others. The residents can also transfer money for capital account transactions under LRS including opening of foreign currency account overseas with a bank, purchase of property and making investments in units of mutual funds, venture capital funds among others. It was first introduced in 2004 and there are no restrictions on the frequency of remittances (available in any freely convertible foreign currency) under LRS. It is not available to corporates, partnership firms, HUF, Trusts, etc. Under this, people cannot send money to countries identified as 'non-cooperative' by the Financial Action Task Force and to entities identified as posing terrorist risks. LRS restricts buying and selling of foreign exchange abroad, or purchase of lottery tickets or sweep stakes, proscribed magazines and so on, or any items that are restricted under Schedule II of Foreign Exchange Management (Current Account Transactions) Rules, 2000.

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