



**KAVISH IAS**  
Converting Possibilities into Reality



# **CURRENT AFFAIRS**

## **DECEMBER 2019**



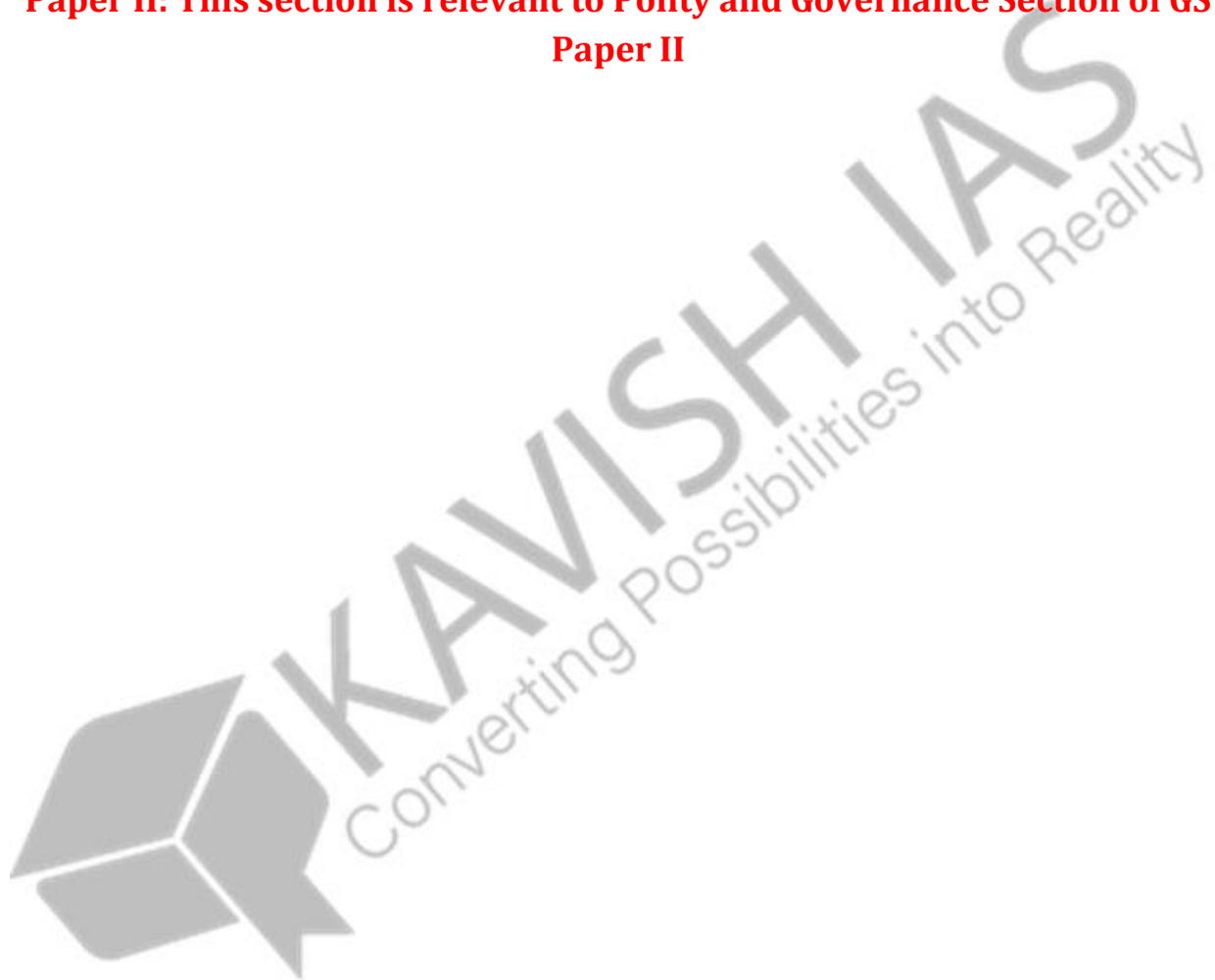
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# POLITY AND GOVERNANCE

**Paper II: This section is relevant to Polity and Governance Section of GS  
Paper II**



## 1.1 SC/ST CREAMY LAYER (RESERVATION POLICY)

**Topic: Government Policies and Interventions for Development in various sectors and Issues arising out of their Design and Implementation.**

**Why in News:** The Centre has asked the Supreme Court to refer to a seven-judge Bench the question whether the creamy layer concept should apply or not to the Scheduled Castes/Scheduled Tribes while providing them reservation in promotions.

### ❖ Background History

#### ➤ 1990 OBC reservations:

In 1990, based on the recommendations of Mandal commission, the then union government issued executive order giving 27% reservation to OBC community. The new reservations triggered protests across India, and lawyer Indira Sawhney moved the apex court against the decision.

#### ➤ 1992 Indra Sawhney case or Mandal commission case:

- **Upheld OBC reservations based on caste:** In 1992, a nine-judge Bench of the court in the Indra Sawhney case, or the Mandal case as it was popularly known, upheld the caste-based reservation for the OBCs as valid.
- **Creamy layer of OBCs excluded:** The court also said the "creamy layer" of the OBCs (those earning a specified income) should not get the benefits of reservation. However, the creamy layer concept was not extended to SCs/STs.
- **Was against reservation in promotions:** The 1992 Supreme Court ruling in the Indra Sawhney case said that reservations in job promotions are "unconstitutional" but allowed its continuation for five years.

#### ➤ Constitutional amendments to allow reservations in promotions:

- **In 1995, the Government nullified the effect of Indra Sawhney by introducing Article 16(4A) through the 77th Amendment of the Constitution.**
- Article 16(4A) allowed the State to provide reservations to SCs/STs in matters of promotion, as long as the State believes that the SC/ST is not adequately represented in government services.

- The 82nd amendment of 2000 inserted a provision in Article 335 to enable states to give concessions to SC/ST candidates in promotion.
- The 85th amendment of 2001 amended 16(4A) to give the benefit of consequential seniority to SC/ST candidates promoted by reservation.

➤ **Nagraj case upheld reservations in promotions:**

- The validity of all the above Constitutional amendments was challenged in the Supreme Court through various petitions clubbed together in M. Nagaraj & Others vs. Union of India & Others.
- In 2006, the 5-judge constitution bench of the Supreme Court upheld the amendments, including reservations in promotions. However, it also laid down three factors which ought to determine the state's policy in this regard:
  - The backwardness of the class
  - Inadequacy of representation in service
  - Overall administrative efficiency
  - **Data required establishing backwardness:** Further, the court held that the state has to gather quantifiable data to determine the adequacy of representation and extent of backwardness of a certain class, if they want to give reservation in promotion.
- **"Creamy layer" extended to SC/STs:** The court also held that the "creamy layer" concept (where certain members of a group were deemed to belong to the "creamy layer" and therefore not entitled to reservations) was also applicable to Scheduled Castes and Scheduled Tribes (it is applicable for OBCs already).

➤ **2018 Jarnail Singh verdict upheld "creamy layer" extension to SCs/STs:**

- In the Jarnail Singh v Lachmi Narain Gupta case, a Constitution Bench of the Supreme Court modified a 2006 Nagaraj judgement.
- **Upheld "Creamy layer" extension to SC/STs:** The court also upheld Nagaraj's direction that creamy layer applied to SCs/STs in education and employment. The court said that it will not be possible for the backward classes of citizens move forward if only the creamy layer within that class bag all the coveted jobs in the public sector and perpetuate themselves, leaving the rest of the class as backward.

❖ **Need for Reservation:**

- To correct the historical injustice faced by backward castes in the country.
- To provide a level playing field for backward sections as they cannot compete with those who have had the access of resources and means for centuries.

- To ensure adequate representation of backward classes in the services under the State.
- For advancement of backward classes.
- To ensure equality as basis of meritocracy i.e. all people must be brought to the same level before judging them on the basis of merit.

### ❖ Arguments Against Reservation

- Reservation in state services led to divisions and enmity among government employees vitiating the atmosphere at workplace.
- Eradication, not perpetuation of caste was the objective of the reservation policy but Caste Based Reservation only perpetuates the notion of caste in society.
- Reservation was introduced to ensure that the historically underprivileged communities were given equal access to resources but irrespective of the economic progress they continue to remain socially disadvantaged.
- Reservation destroys self-respect, so much so that competition is no longer on to determine the best but the most backward.
- Reservations are the biggest enemy of meritocracy which is the foundation of many progressive countries.
- It has become a tool to meet narrow political ends through invoking class loyalties and primordial identities.
- The dominant and elite class within the backward castes has appropriated the benefits of reservation and the most marginalised within the backward castes have remained marginalised.
- Reservation has become the mechanism of exclusion rather than inclusion as many upper caste are also facing discrimination and injustice which breeds frustration in the society.

### ❖ Recent Developments

- The Centre urged the Supreme Court to reconsider the ruling and refer the Nagaraj case judgment to a seven-judge Bench.
- This is in response to a petition to exclude the creamy layer of Schedule Castes and Schedule Tribes from the benefits of reservation. The plea sought proper distribution of benefits of affirmative actions to the genuinely needy SC/ST candidates requires removing those who no longer remain identified with the term "backward classes".
- The government claimed that the creamy layer principle cannot be made applicable to the SC/ST categories.
- A Bench, led by Chief Justice of India, agreed to hear the case after two weeks on whether to refer it to a seven-judge Bench.

## 1.2 CITIZENSHIP AMENDMENT ACT

**Topic: Indian Constitution—Historical Underpinnings, Evolution, Features, Amendments, Significant Provisions and Basic Structure.**

**Why in News:** Citizenship Amendment Bill 2019 gets Parliament's nod.

### ➤ What is Citizenship?

- Citizenship defines the relationship between the nation and the people who constitute the nation.
- It confers upon an individual certain rights such as protection by the state, right to vote and right to hold certain public offices, among others, in return for the fulfillment of certain duties/obligations owed by the individual to the state.

### ➤ Citizenship in India

- The Constitution of India provides for a single citizenship for the whole of India.
- **Under Article 11 of the Indian Constitution, Parliament has the power to regulate the right of citizenship by law. Accordingly, the parliament had passed Citizenship act of 1955 to provide for the acquisition and determination of Indian Citizenship.**
- Entry 17, List 1 under the Seventh Schedule speaks about Citizenship, naturalization and aliens. Thus, Parliament has exclusive power to legislate with respect to citizenship.
- Until 1987, to be eligible for Indian citizenship, it was sufficient for a person to be born in India.
- Then, spurred by the populist movements alleging massive illegal migrations from Bangladesh, citizenship laws were first amended to additionally require that at least one parent should be Indian.
- In 2004, the law was further amended to prescribe that not just one parent be Indian; but the other should not be an illegal immigrant.

### ➤ Who is an illegal migrant in India?

Under the Act, an illegal migrant is a foreigner who:

- Enters the country without valid travel documents like a passport and visa, or
- Enters with valid documents, but stays beyond the permitted time period.

**Illegal migrants may be put in jail or deported under the Foreigners Act, 1946 and the Passport (Entry into India) Act, 1920.**

### ➤ Scenario before the passing of the Act

- Under the existing laws, an illegal migrant is not eligible to apply for acquiring citizenship. They are barred from becoming an Indian citizen through registration or naturalisation.
- The Foreigners Act and the Passport Act debar such a person and provide for putting an illegal migrant into jail or deportation.
- A person can become an Indian citizen through registration.
- **Section 5 (a) of Citizenship act of 1955:** A person of Indian origin who is ordinarily resident in India for seven years before making an application for registration;
- And they should have lived in India continuously for 12 months before submitting an application for citizenship.
- Under the Citizenship Act, 1955, one of the requirements for citizenship by naturalization is that the applicant must have resided in India during the last 12 months, as well as for 11 of the previous 14 years.

### ➤ What the Act intends to do?

- The Citizenship Amendment Act 2019 aims to make changes in the Citizenship Act, the Passport Act and the Foreigners Act if the illegal migrants belong to religious minority communities from three neighboring countries of Bangladesh, Pakistan and Afghanistan.
- Simply put, the Citizenship Amendment Act will grant the illegal non-Muslim migrants the status of legal migrants despite them having come to India without valid documents and permission.

### ➤ Features of CAA 2019

- **The Act seeks to amend the Citizenship Act, 1955** to make Hindu, Sikh, Buddhist, Jain, Parsi, and Christian illegal migrants from Afghanistan, Bangladesh, and Pakistan, eligible for citizenship of India. In other words, the Act intends to make it easier for non-Muslim immigrants from India's three Muslim-majority neighbours to become citizens of India.
- The legislation applies to those who were "forced or compelled to seek shelter in India due to persecution on the ground of religion". It aims to protect such people from proceedings of illegal migration.
- The amendment relaxes the requirement of naturalization from 11 years to 5 years as a specific condition for applicants belonging to these six religions.
- **The cut-off date for citizenship is December 31, 2014, which means the applicant should have entered India on or before that date.**

➤ **The Act says that on acquiring citizenship:**

- Such persons shall be deemed to be citizens of India from the date of their entry into India, and
- All legal proceedings against them in respect of their illegal migration or citizenship will be closed.
- It also says people holding Overseas Citizen of India (OCI) cards – an immigration status permitting a foreign citizen of Indian origin to live and work in India indefinitely – can lose their status if they violate local laws for major and minor offences and violations.

➤ **Exception**

- The Act adds that the provisions on citizenship for illegal migrants will not apply to the tribal areas of Assam, Meghalaya, Mizoram, and Tripura, as included in the Sixth Schedule of the Constitution.
- These tribal areas include Karbi Anglong (in Assam), Garo Hills (in Meghalaya), Chakma District (in Mizoram), and Tripura Tribal Areas District.
- It will also not apply to the areas under the Inner Line Permit under the Bengal Eastern Frontier Regulation, 1873.
- The Inner Line Permit regulates the visit of Indians to Arunachal Pradesh, Mizoram, and Nagaland.

➤ **Criticism**

**Exclusion of a Religion:**

- The fundamental criticism of the Act has been that it specifically targets Muslims. Thus, the religious basis of citizenship not only violates the principles of secularism but also of liberalism, equality and justice.
- It fails to allow Shia, Balochi and Ahmadiyya Muslims in Pakistan and Hazaras in Afghanistan who also face persecution, to apply for citizenship.
- A key argument against the CAA is that it will not extend to those persecuted in Myanmar and Sri Lanka, from where Rohingya Muslims and Tamils are staying in the country as refugees.
- Neither is religious persecution the monopoly of three countries nor is such persecution confined to non-Muslims.

**It violates Article 14:**

- Critics argue that it is violative of Article 14 of the Constitution, which guarantees the right to equality.
- The CAA is in the teeth of Article 14, which not only demands reasonable classification and a rational and just object to be achieved for any classification to be valid but additionally requires every such classification to be non-arbitrary.
- The Act is an instance of class legislation, as classification on the ground of religion is not permissible.

#### ➤ **North East Objection**

- In the Northeastern states, the prospect of citizenship for massive numbers of illegal Bangladeshi migrants has triggered deep anxieties, including fears of demographic change, loss of livelihood opportunities, and erosion of the indigenous culture.
- The Act appears to violate the Assam Accord, both in letter and spirit.
- The Assam Accord, signed between the then Rajiv Gandhi-led central government and the All Assam Students' Union (AASU), had fixed March 24, 1971, as the cutoff date for foreign immigrants. Those illegally entering Assam after this date were to be detected and deported, irrespective of their religion.
- The Citizenship Amendment Act moved the cutoff date for six religions to December 31, 2014, something that is not acceptable to the Assamese-speaking people in Brahmaputra Valley, who insist that all illegal immigrants should be treated as illegal.
- There is also an economic problem. If tens of thousands leave Bangladesh and start staying legally in Assam and North East, the pressure will first show in the principal economic resource—land.
- Also, since these will be legitimate citizens, there will also be more people joining the queue of job hopefuls that can potentially lower opportunities for the indigenous and the locals.
- It also boils down to the political rights of the people of the state. Migration has been a burning issue in Assam.
- There is a view that illegal immigrants, who will eventually become legitimate citizens, will be determining the political future of the state.

#### ➤ **Other issues surrounding CAA**

- CAA does not consider Jews and atheists. They have been left out of the Act.
- The basis of clubbing Afghanistan, Pakistan, and Bangladesh together and thereby excluding other (neighbouring) countries is unclear.

- A common history is not a ground as Afghanistan was never a part of British India and was always a separate country. Being a neighbour, geographically, is no ground too as Afghanistan does not share an actual land border with India.
- Countries such as Nepal, Bhutan, and Myanmar, which share a land border with India, have been excluded.
- The reason stated in the 'Statement of Objects and Reasons' of the Act is that these three countries constitutionally provide for a "state religion"; thus, the Act is to protect "religious minorities" in these theocratic states.
- The above reasoning fails with respect to Bhutan, which is a neighbor and constitutionally a religious state with the official religion being Vajrayana Buddhism.
- Non-Buddhist missionary activity is limited, construction of non-Buddhist religious buildings is prohibited and the celebration of some non-Buddhist religious festivals is curtailed. Yet, Bhutan has been excluded from the list.
- **Focus only on religious persecution:** On the classification of individuals, the Act provides benefits to sufferers of only one kind of persecution, i.e. religious persecution neglecting others. Religious persecution is a grave problem but political persecution is also equally existent in parts of the world. If the intent is to protect victims of persecution, the logic to restrict it only to religious persecution is suspect.
- The provisions of CAA might lead to a situation where a Rohingya who has saved himself from harm in Myanmar by crossing into India will not be entitled to be considered for citizenship, while a Hindu from Bangladesh, who might be an economic migrant and have not faced any direct persecution in his life, would be entitled to citizenship.
- Similarly, a Tamil from Jaffna escaping the atrocities in Sri Lanka will continue to be an "illegal migrant" and never be entitled to apply for citizenship by naturalization.

#### ➤ Arguments in Favour

- The **Ahmediyas and Rohingyas** can still seek Indian citizenship through naturalization (if they enter with valid travel documents).
- In any case, since India follows the principle of non-refoulment (even without acceding to the Refugee Convention 1951), they would not be pushed back.
- If a **Shia Muslim** is facing persecution and is in India seeking shelter, his case to continue to reside in India as a refugee shall be considered on its merits and circumstances.
- With regard to **Balochi refugees, Balochistan** has long struggled to be independent of Pakistan and including Balochis in the CAA could be perceived as interference in Pakistan's internal affairs.

- The CAA, therefore, does not exclude Muslims from Pakistan, Bangladesh and Afghanistan to apply for Indian citizenship. They can continue to do so in the same way singer Adnan Sami, for example, applied for citizenship.
- It is important to note that even minorities shall not be granted automatic citizenship. They would need to fulfill conditions specified in the Third Schedule to the Citizenship Act, 1955, namely, the good character requirement as well as physical residence in India.
- Harish Salve, one of India's biggest names in national and international law, has stated that the Citizenship Amendment Act is not anti-Muslim
- Salve stated that the countries specified in the CAA have their own state religion and Islamic rules. He added that Islamic majority nations identify their people as per who follows Islam and who does not. Addressing governance problems in neighbouring countries is not the purpose of the CAA.
- Over the issue of Rohingyas, Salve stated that a law that addresses one evil does not need to address all the evils in all countries. It is notable here that Myanmar, though a Buddhist majority nation, does not have a state religion and Myanmar does not feature in CAA.

#### ➤ **With respect to North East**

- Citizenship Amendment Act does not dilute the sanctity of the Assam Accord as far as the cut-off date of March 24, 1971, stipulated for the detection/deportation of illegal immigrants is concerned.
- Citizenship Amendment Act is not Assam-centric. It is applicable to the whole country. Citizenship Amendment Act is definitely not against National Register of Citizens (NRC), which is being updated to protect indigenous communities from illegal immigrants.
- Further, there is a cut-off date of December 31, 2014 and benefits under Citizenship Amendment Act will not be available for members of the religious minorities who migrate to India after the cut-off date.

#### ❖ **Conclusion**

The parliament has unfractured powers to make laws for the country when it comes to Citizenship. But the opposition and other political parties allege this Act by the Government violates some of the basic features of the constitution like secularism and equality. It may reach the doors of the Supreme Court where the Supreme Court will be the final interpreter. If it violates the constitutional features and goes ultra-vires it will be struck down, if it is not we will have a new law.

But one thing that is most important is, equilibrium has to be attained by New Delhi as this involves neighboring countries too. Any exaggerated attempt to host the migrants should not

be at the cost of goodwill earned over the years. India being a land of myriad customs and traditions, a birthplace of religions and the acceptor of faiths and protector of persecuted in the past should always uphold the principles of Secularism going forward.

### 1.3 DATA PROTECTION BILL

#### Topic: Accountability and Transparency (Governance)

**Why in News:** India is in the process of its first attempt to domestically legislate on the handling of online data, its security, storage and transfer. The Bill has three key aspects that were not previously included in the earlier draft version prepared by a committee retired Justice B N Srikrishna.

#### All about Data: Why does data matter?

- Data is any collection of information that is stored in a way so computers can easily read them. Data usually refers to information about messages, social media posts, online transactions, and browser searches.
- The individual whose data is being stored and processed is called the data principal in the PDP Bill.
- This large collection of information about people and their online habits has become an important source of profits, but also a potential avenue for invasion of privacy because it can reveal extremely personal aspects.
- Companies, governments, and political parties find it valuable because they can use it to find the most convincing ways to advertise to people online.
- Hence, much of the future's economy and law enforcement will be predicated on the regulation of data, introducing issues of national sovereignty.

#### ➤ Who handles data, and how

- Data is stored in a physical space similar to a file cabinet of documents, and transported across country borders in underwater cables that run as deep as Mount Everest and as long as four times the Indian Ocean.
- To be considered useful, data has to be processed, which means analysed by computers.
- Data is collected and handled by entities called data fiduciaries. While the fiduciary controls how and why data is processed, the processing itself may be by a third party, the data processor.

#### ➤ Data Flow:

- The physical attributes of data — where data is stored, where it is sent, where it is turned into something useful — are called data flows.
- Data localisation arguments are based on the idea that data flows determine who has access to the data, who profits off it, who taxes and who “owns” it. However, it is also believed that the physical location of the data is not relevant in the cyber world.

➤ **How does the PDP Bill propose to regulate data transfer?**

- To legislate on the topic, the Bill trifurcates personal data.
- The umbrella group is all personal data — data from which an individual can be identified.
- Some types of personal data are considered sensitive personal data (SPD), which the Bill defines as financial, health, sexual orientation, biometric, genetic, transgender status, caste, religious belief, and more.
- Another subset is critical personal data. The government at any time can deem something critical, and has given examples as military or national security data.

➤ **Changes in the Bill from the version drafted by the Justice B N Srikrishna Committee**

In the Bill approved by the Cabinet, there are three significant changes from the version drafted by a committee headed by the **Justice B N Srikrishna Committee**.

- **Storage location of data:**
  - The draft had said all fiduciaries must store a copy of all personal data in India — a provision that was criticised by foreign technology companies that store most of Indians’ data abroad.
  - The approved Bill removes this stipulation, only requiring individual consent for data transfer abroad.
  - Similar to the draft, however, the Bill still requires sensitive personal data to be stored only in India. It can be processed abroad only under certain conditions including approval of a Data Protection Agency (DPA).
  - The final category of critical personal data must be stored and processed in India.
- **Non Personal Data:**
  - The Bill mandates fiduciaries to give the government any non-personal data when demanded.
  - Non-personal data refers to anonymised data, such as traffic patterns or demographic data.
  - The previous draft did not apply to this type of data, which many companies use to fund their business model.
- **Verification mechanism:**

- The Bill also requires social media companies, which are deemed significant data fiduciaries, to develop their own user verification mechanism.
- While the process can be voluntary for users and can be completely designed by the company, it will decrease the anonymity of users and “prevent trolling”.

➤ **Other Key features of the bill**

- Exemptions for processing data without individual consent:
  - The Bill includes exemptions for processing data without an individual’s consent for “reasonable purposes”.
  - The exemptions include security of the state, detection of any unlawful activity or fraud, whistle blowing, medical emergencies, credit scoring, operation of search engines and processing of publicly available data.
- Independent regulator:
  - The Bill calls for the creation of an independent regulator Data Protection Authority, which will oversee assessments and audits and definition making.
  - Each company will have a Data Protection Officer (DPO) who will liaison with the DPA for auditing, grievance redressal, recording maintenance and more. The committee’s draft had required the DPO to be based in India.
  - “Purpose limitation” and “collection limitation”, limit the collection of data to what is needed for “clear, specific, and lawful” purposes or for reasons that the data principal would “reasonably expect”
  - It also grants individuals the right to data portability, and the ability to access and transfer one’s own data.
  - Finally, it legislates on the the right to be forgotten. With historical roots in European Union law, this right allows an individual to remove consent for data collection and disclosure.

➤ **Positives For data localisation:**

- A common argument from government officials has been that data localisation will help law-enforcement access data for investigations and enforcement.
- As of now, much of cross-border data transfer is governed by individual bilateral “mutual legal assistance treaties” — a process that almost all stakeholders agree is cumbersome.
- In addition, proponents highlight security against foreign attacks and surveillance, harkening notions of data sovereignty.
- Many economy stakeholders say localisation will also increase the ability of the Indian government to tax Internet giants.

- **Companies supporting data localisation:** Many domestic-born technology companies, which store most of their data exclusively in India, support localisation. PayTM has consistently supported localisation (without mirroring), and Reliance Jio has strongly argued that data regulation for privacy and security will not be strong enough without localisation, calling upon models in China and Russia.
- **Arguments against the Bill**
  - Civil society groups have criticised the open-ended exceptions given to the government in the Bill, allowing for surveillance.
  - Moreover, some lawyers contend that security and government access are not achieved by localisation. Even if the data is stored in the country, the encryption keys may still be out of reach of national agencies.
  - Many are concerned with a fractured Internet, where the domino effect of protectionist policy will lead to other countries following suit.
  - This sentiment is based on the values of a globalised, competitive internet marketplace, where costs and speeds determine information flows rather than nationalistic borders.
  - Further, protectionism may backfire on India's own young startups that are attempting global growth, or on larger firms that process foreign data in India, such as Tata Consulting Services and Wipro.

## 1.4 National Population Register( NPR) and Census

**Why in News:** In the last few days, protests have spread all across the country against the Citizenship (Amendment) Act, 2019 and the proposed National Register of Indian Citizens (NRIC). Consequently, West Bengal and Kerala suspended work related to the preparation of the National Population Register(NPR) in their respective States, as the NPR forms the base for NRIC.

**The NPR was supposed to be prepared between April 2020 and September 2020 ahead of the Census slated for 2021. Preliminary work on the NPR has begun in several States.**

### ➤ Various Databases

- **National Population Register (NPR):** The NPR is a database containing a list of all usual residents of the country. NPR collects basic demographic data and biometric particulars.

The NPR is being created under the provisions of the Citizenship Act and Rules. The Union Home Ministry administers the NPR.

- **Census:** The Indian Census is the largest single source of a variety of statistical information on different characteristics of the people of India. It collects information about age, sex, marital status, children, caste etc. of every person in India. It is legally backed by the Census Act.
- **Aadhaar:** Aadhaar database contains the biometric details for all the residents of the country. UIDAI is creating this when citizens come to the enrolment centers and enrol themselves. This has different objectives to NPR and is maintained separately.
- **National Register of Indian Citizens (NRIC):** The proposed NRIC is a database of citizens of India, to be created out of NPR (containing all residents, even non-citizens). It will be done under the Citizenship Act.

#### ➤ **National Population Register (NPR)**

- The NPR is a database containing a list of all usual residents of the country. Its objective is to have a comprehensive identity database of people residing in the country, irrespective of their nationality.
- A usual resident for the purposes of NPR is a person who has resided in a place for six months or more, and intends to reside there for another six months or more.
- It is mandatory for every usual resident of India to register in the NPR.
- It is prepared at the local (village/sub-town), sub-district, district, state and national level. Together, they constitute the National Population Register. The database would contain demographic as well as biometric particulars.

#### ➤ **NPR and Census**

- NPR is generated through house-to-house enumeration during the house-listing phase of the census, which is held once in 10 years.
- The census involves a detailed questionnaire — there were 29 items to be filled up in the 2011 census — aimed at eliciting the particulars of every person. This included age, sex, marital status, children, occupation, birthplace, mother tongue, religion, disability and whether they belonged to any Scheduled Caste or Scheduled Tribe.
- The census is legally backed by the Census Act, 1948.
- The government has decided to update the NPR originally created after the 2011 Census.
- The NPR is a mechanism outlined in a set of rules framed under the Citizenship Act, 1955.

- Section 14A was inserted in the Citizenship Act, 1955, in 2004, providing for the compulsory registration of every citizen of India and the issue of a “national identity card” to him or her. It also said the Central government may maintain a “National Register of Indian Citizens”.

➤ **Authority responsible for maintenance of NPR**

- The maintenance of the NPR database and updating subsequently will be done by the Office of Registrar General and Census Commissioner, India.
- The Registrar General India shall act as the “National Registration Authority” and will function as the Registrar General of Citizen Registration. Incidentally, the Registrar General is also the country’s Census Commissioner.

➤ **Link between the NPR and Aadhaar**

- Better targeting and delivery of benefits and services under the government was one of the early objectives of the NPR. During the early days of the NPR enrolment, under the United Progressive Alliance regime, the Unique Identification Authority of India (UIDAI) scheme for issuance of Aadhaar numbers was also concurrently on.
- There was a conflict between the Union Home Ministry, which administers the NPR, and UIDAI, leaving the impression that there was duplication of work, as both involved gathering personal particulars, including biometric data. Ultimately, they agreed that both databases will exist with different objectives, and that each will use the other’s biometric data. Those already enrolled for Aadhaar need not give their biometric details again during NPR. At the same time, data captured for NPR would be sent to UIDAI for “de-duplication”. In case of discrepancy between Aadhaar and NPR data, the latter would prevail.

## **1.5 INNER LINE PERMIT**

**Why in News:** In line of introduction of the Citizenship Amendment Bill during the current session of Parliament, the concept of Inner Line Permit has been part of the conversation.

➤ **Background of the Inner Line Permit**

- The concept comes from the colonial era. Under the Bengal Eastern Frontier Regulation Act, 1873, the British framed regulations restricting the entry and regulating the stay of outsiders in designated areas.
- This was to protect the Crown’s own commercial interests by preventing “British subjects” (Indians) from trading within these regions.

- In 1950, the Indian government replaced “British subjects” with “Citizen of India”, to address local concerns about protecting the interests of the indigenous people from outsiders belonging to other Indian states.

### ➤ Inner Line Permit system

The three states (Mizoram, Nagaland and Arunachal Pradesh) are governed by the Inner Line Permit (ILP) system that regulates the entry of people from other states.

- The ILP is an official travel document issued by the government to grant permission for inward travel of an Indian citizen into a protected area for a limited time period in a state that is protected under the ILP system.
- Basically, it means that even Indian citizens cannot travel to, or stay in, areas under the ILP system without express approval from the government.

### ❖ ‘Prime Minister Van Dhan Yojana’.

**Why in News:** Minister of State for Tribal Affairs will be announcing 100 Days achievements of ‘Prime Minister Van Dhan Yojana’.

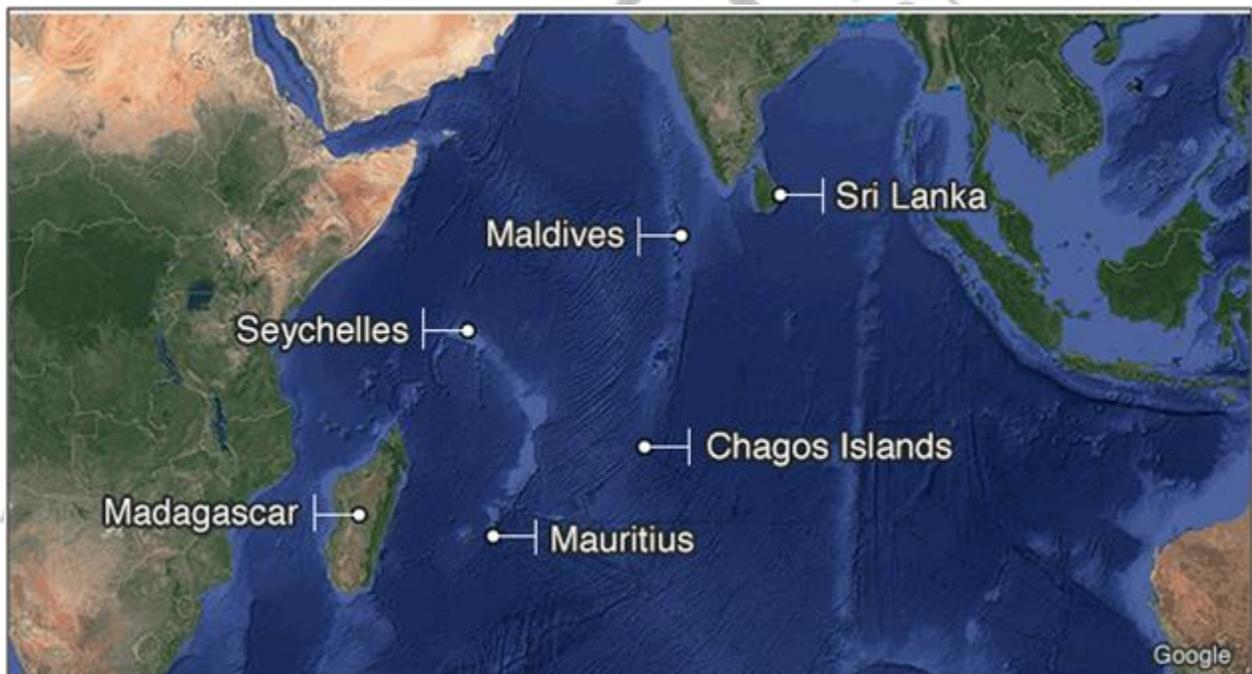
- **TRIFED under Ministry of Tribal Affairs** is going to forge a partnership with Ritu Beri Designs to promote Indian tribal crafts and culture across the country and the world.
- Ms. Beri will be the Chief Design Consultant for Tribes India.
- **Pradhan Mantri Van Dhan Yojana (PMVDY) is a Market Linked Tribal Entrepreneurship Development Program for forming clusters of tribal SHGs and strengthening them into Tribal Producer Companies has been launched with participation from all the 27 States from the Country.**
- **The Van Dhan Scheme is an initiative of the Ministry of Tribal Affairs and TRIFED. It was launched in 2018 and seeks to improve tribal incomes through value addition of tribal products.**
- The scheme will be implemented through Ministry of Tribal Affairs as Nodal Department at the Central Level and TRIFED as Nodal Agency at the National Level.
- At State level, the State Nodal Agency for MFPs and the District collectors are envisaged to play a pivot role in scheme implementation at grassroot level.
- Locally the Kendras are proposed to be managed by a Managing Committee (an SHG) consisting of representatives of Van Dhan SHGs in the cluster.

# INTERNATIONAL RELATIONS

- ❖ **Paper II (GS): All the Articles of this section are relevant to the following topics:**
  - **India and its Neighbourhood – Relations**
  - **Bilateral, Regional and Global Groupings and Agreements involving India and / or affecting India's Interests**
- ❖ **Prelims Oriented Questions and Places in News for Maps/ Matching**

## 2.1 CHAGOS ISLAND DISPUTE

**Why in News:** Mauritius has called the UK an “illegal colonial occupier” after it ignored a UN mandated deadline to return the Chagos Islands. Chagos is a small archipelago (group of islands) in the Indian Ocean.



### Chagos Islands

- The Chagos Islands are a group of seven atolls comprising more than 60 individual tropical islands in the Indian Ocean.

- This chain of islands is the southernmost archipelago of the Chagos-Laccadive Ridge, a long submarine mountain range in the Indian Ocean.

### ➤ **Background**

- Mauritius was a British colony from 1810 and gained its independence in 1968.
- In 1965, Mauritius was forced to give up the Chagos Archipelago in exchange for independence.
- Britain purchased it and created the British Indian Ocean Territory (BIOT), and since then, Chagos islands remained a British overseas territory.
- In 1971, UK allowed the United States to build a military base on Diego Garcia, the largest of the Chagos Islands and evicted the entire population from the islands.
- Since independence of Mauritius, the sovereignty of the Chagos Archipelago is disputed between the UK and Mauritius.
- In 2017, the UN General Assembly asked the ICJ to offer its opinion on the sovereignty claim of the Chagos Islands.
- **In February 2019, the International Court of Justice (ICJ), in its Advisory Opinion, ruled that the United Kingdom claim over the island as illegal and should end its control. It asked the ordered UK to hand back the Chagos Islands to Mauritius and ruled that continued British occupation of the island is illegal.**

### ➤ **ICJ decision however is non-binding**

- The majority decision by the international court of justice in The Hague is non-binding and only advisory in nature.
- However it is seen as significant as the unambiguous clarity of the judges pronouncement is a humiliating blow to Britain's prestige on the world stage.
- In May 2019, the UN General Assembly voted overwhelmingly in favour of the Chagos Islands being returned - with 116 states backing the move and only six against.
- The UN said that the decolonisation of Mauritius by Britain was not conducted "in a manner consistent with the right to self-determination" and that therefore the continued administration of the territory "constitutes a wrongful act". The UN had given the UK six months to give up control of the Chagos Islands - but that period has now passed.
- The UK continues to insist that it does not recognise Mauritius' claim to sovereignty, and insists it has every right to hold onto the islands - one of which, Diego Garcia, is home to a

US military airbase. As the six-month period came to a close at the end of November, the Mauritian Prime Minister said the UK was now an "illegal colonial occupier".

➤ **Way ahead**

- The deadline is not binding, so no sanctions or immediate punishment will follow - but that could change.
- However, UN maps could start reflecting the legal fact that the UN sees this island as belonging to Mauritius. Also, Britain is going to find itself under pressure at institutions like the ICJ that it has traditionally seen as very important.

## 2.1 GLOBAL REFUGEE FORUM

**Why in News:** The first Global Refugee Forum (GRF) took place in Geneva, Switzerland. This provides the context to highlight the refugee situation across the world.

➤ **Refugee**

- The UN defines refugees as those individuals that have fled their own countries because of persecution, war or violence.
- As per the UN, "a refugee has a well-founded fear of persecution for reasons of race, religion, nationality, political opinion or membership in a particular social group. Most likely, they cannot return home or are afraid to do so. War and ethnic, tribal and religious violence are leading causes of refugees fleeing their countries."

➤ **Global Scenario**

- According to the UN, by the end of 2018, there were around 70.8 million people around the world who had left their home countries because of conflict and persecution. Of these 70.8 million, roughly 30 million are refugees.
- More people being displaced everyday: According to the UN's Global Trends report released in June 2019, there are 37,000 new displacements every day. In 2018, 13.6 million people were newly displaced due to conflict and or persecution.

- Where they are from: Globally, more two-thirds of all refugees come from five countries: Syria (6.7 million), Afghanistan (2.7 million), South Sudan (2.3 million), Myanmar (1.1 million), and Somalia (0.9 million).
- Who hosts them: The largest host countries are Turkey (3.7 million), Pakistan (1.4 million), Uganda (1.2 million), Sudan (1.1 million), and Germany (1.1 million).

### ➤ **Current refugee Situation**

The website of the UNHCR has listed 12 emergency refugee situations that are unfolding currently. These include:

- **In Burundi in East Africa:** Economic decline, outbreak of disease, and food insecurity have led to displacements of about 3.5 lakh people within and outside the country to neighbouring countries.
- **Syria:** An estimated 5.6 million people from Syria have left the country since 2011, seeking refuge in neighbouring Lebanon, Turkey, and Jordan among other countries.
- **Myanmar:** In 2017, the Rohingya Muslims of Myanmar fled the country after violence broke out in the country's Rakhine state. An estimated 6.7 lakh crossed over to neighbouring Bangladesh, adding to the roughly 2 lakh Rohingya who had left Myanmar in previous years.



**KAVISHIAS**  
Converting Possibilities into Reality

## Refugees worldwide

Latest data (end 2018)

**70.8 million**  
displaced by persecution,  
conflict, violence, rights abuse

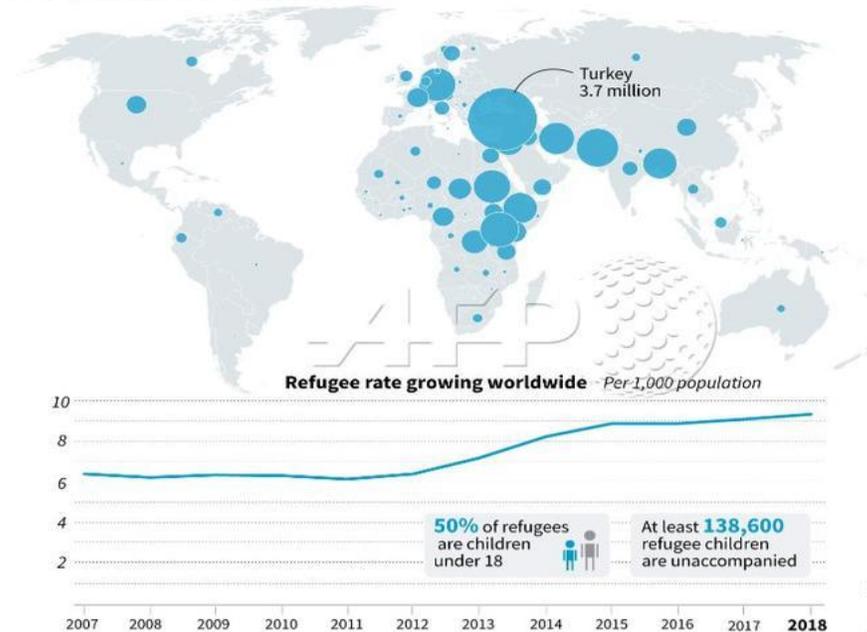
**41.3 million**  
displaced within  
their home country

**25.9 million**  
are refugees

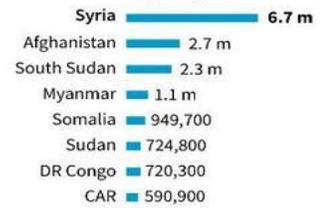
**3.5 million**  
are seeking asylum

### Where the refugees are

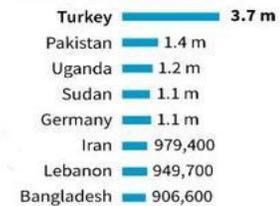
Including people in refugee-like situations



### Where the majority come from



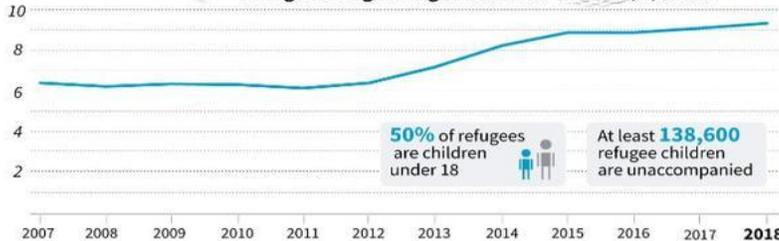
### Who hosts most overall?



### Greatest density of refugees



### Refugee rate growing worldwide - Per 1,000 population



50% of refugees  
are children  
under 18

At least **138,600**  
refugee children  
are unaccompanied

Source: UNHCR Global Trends (20/6/2019) © AFP

### ➤ Refugee situation in India:

- India does not have a separate statute for refugees, and until now has been dealing with refugees on a case-by-case basis.
- India is not a signatory to the 1951 Convention on Refugees or the 1967 Protocol Relating to the Status of Refugees.
- SOP: In 2011, the Union government circulated to all states and Union Territories a Standard Operating Procedure (SOP) to deal with foreign nationals who claimed to be refugees.
- Rohingyas: In late 2011, the Rohingyas started to arrive in India's Northeast following stepped-up persecution by the Myanmar armed forces. According to the Home Ministry, there are roughly 14,000 Rohingya refugees in India who are registered with the UNHCR, and there are estimated to be 40,000 Rohingyas living in India illegally.

### ➤ Global Refugee Forum

- Global Refugee Forum in December 2019 is the first meeting of its kind, pooling together heads of state, government ministers but also business leaders, humanitarians and refugees themselves to offer ideas and pledges for more efficient support.
- The Forum, jointly hosted by the United Nations High Commissioner for Refugees (UNHCR), the UN Refugee Agency, and the government of Switzerland.
- It comes at the end of a troubled decade in which the number of refugees has risen to over 25 million people worldwide.
- At the end of 2018, nearly 71 million people were living in forced displacement due to war, violence and persecution, including nearly 26 million people who had fled across borders as refugees.
- The forum is guided by the Global Compact on Refugees.
- The Forum is an opportunity to translate the principle of international responsibility-sharing into concrete action.

## 2.3 CHABAHAR PORT

**Why in News:** India's External Affairs Minister met with Iranian Foreign Minister for a meeting of the 19th India-Iran joint commission. They reviewed the entire gamut of cooperation between the two countries, and agreed on accelerating the Chabahar project.

### ➤ Chabahar Port

- Iran's Chabahar port is located on the Gulf of Oman and is the only Iranian port with direct access to the ocean. The port gives access to the energy-rich Iran' southern coast.
- The government of Iran wants to build Chabahar as the focal point with the entire coastline of 1,000 kilometres to be developed for oil refineries, petrochemical and steel factories, and other projects
- India is a key partner in the development of this port. India and Iran had in 2003 agreed to develop Chabahar. In 2016, India signed a deal with Iran entailing \$8 billion investment in Chabahar port and industries in Chabar Special Economic Zone.
- The port will also provide connectivity to Afghanistan and Central Asia through the Iranian coast.



➤ **Importance for India**

- The port enables India to bypass Pakistan to reach Iran, Afghanistan and other countries.
- In May 2016, India, Iran and Afghanistan inked a pact which entailed establishment of Transit and Transport Corridor among the three countries using Chabahar Port as one of the regional hubs for sea transportation.
- India has already built a 240-km road connecting Afghanistan with Iran.
- By some estimates, Chabahar route will result in 60% reduction in shipment costs and 50% reduction in shipment time from India to Central Asia.
- This will also give momentum to the International North-South Transport Corridor of which both are initial signatories along with Russia.
- It would counter Chinese presence in the Arabian sea through the support to Pakistan in developing Gwadar port.
- It can be used to station security vessels for merchant ships off the African coast apart from giving the country a foothold in the western Arabian Sea, which is important as many of its energy imports pass through the route.

**Recent use of the port by India**

In 2017, India sends the first shipment of wheat to Afghanistan through Iran's Chabahar port. In March 2019, the first shipment from Afghanistan through Iran's Chabahar Port arrived in India.

➤ **Slowdown due to US sanctions**

- The development and use of this port has slowed down due to sanctions by US administration on Iran and countries and entities engaged in business with Tehran. This, despite waiver to India for Chabahar development given by the US administration to facilitate trade to Afghanistan. However, Indian officials dealing with the Chabahar project are proceeding with some caution in the plans.
- Iran officials also said that India's adherence to US sanctions, including stopping all oil imports from Iran, was affecting Chabahar port development plans.
- However, India is still making a push for Chabahar, as it allows India to bypass Pakistan for trade to Afghanistan, and further help isolate Pakistan. India wants all countries, including the U.S. to understand the value of the Chabahar facility not just for trade with Afghanistan, but for soft aid and humanitarian relief for Iranians.

➤ **Joint Commission:** The India-Iran Joint Commission, established in 1983, is chaired by the Foreign Ministers of the two countries. Under its aegis, India and Iran have been holding discussions at regular intervals on issues relating to economic cooperation and other matters.

## 2.4 INDIA – SRILANKA TIES

**Why in News:** On a visit to India, Sri Lankan President Gotabaya Rajapaksa has promised to be frank and upfront to avoid the misunderstandings of the past between New Delhi and Colombo.

**Impact of Sri Lanka's relations with other countries:**

- The Sri Lankan President suggested for closer coordination between the two countries and conveyed that he will not allow "any third country or third force" to come in the way of the strong bilateral ties between Delhi and Colombo.
- Stressing on the significance of Indian Sri Lanka relationship, he said that Sri Lanka's relationship with India is multi-faceted, while the initiatives for cooperation with other countries are by and large economic and commercial in nature.

➤ **Security**

- India and Sri Lanka agreed to cooperate on counter-terrorism during talks. As part of this common strategy, India announced a special Line of Credit of \$50 million for strengthening Sri Lanka's abilities to counter terror threats.
- Gotabaya said he hoped for more cooperation with India on national security issues, particularly on the threat from the Islamic State that was behind the Easter Sunday attacks.
- He also assured India that Sri Lanka will continue to work closely with India to ensure that the Indian Ocean remains a zone of peace.
- This was aimed at Delhi's concerns, stemming from its past experience when Chinese ships and submarines had docked at Lankan ports.

➤ **Multi-faceted partnership and cooperation**

- India has also announced a \$400 million Line of Credit for infrastructure development in the island nation.
- Both countries have decided to strengthen the multi-faceted partnership and cooperation between the two countries.
- The two countries have also agreed to use the previously announced \$100-million credit line for solar projects in Sri Lanka.
- Further, there were discussions held on 20 community development projects and other people-centric projects issued by India in Sri Lanka on the basis of grants in education and infrastructure.
- The Indian PM also expressed his delight over the 46,000 houses have been constructed for the internally displaced in the Northern and Eastern Provinces of Sri Lanka under the Indian Housing Project.
- The Sri Lankan leader addressed the issue of the fishing community and said that Colombo will take steps to release the boats of Indian fishermen that are in Sri Lankan custody.

➤ **Background**

- The relationship between India and Sri Lanka is more than 2,500 years old. Both countries have a legacy of intellectual, cultural, religious and linguistic interaction.
- In recent years, the relationship has been marked by close contacts at all levels. Trade and investment have grown and there is cooperation in the fields of development, education, culture and defence.
- Significant progress in implementation of developmental assistance projects for Internally Displaced Persons (IDPs) in Sri Lanka has helped further cement the bonds of friendship between the two countries.

### ➤ **Commercial Relations**

- Sri Lanka has long been a priority destination for direct investment from India. Sri Lanka is one of India's largest trading partners in SAARC. India in turn is Sri Lanka's largest trade partner globally.
- Trade between the two countries grew particularly rapidly after the entry into force of the India-Sri Lanka Free Trade Agreement in March 2000.
- According to Sri Lankan Customs, bilateral trade in 2015 amounted to US \$ 4.7 billion. Exports from India to Sri Lanka in 2015 were US\$ 4.1 billion (up by 2.1%), while exports from Sri Lanka to India were US\$ 645 million (up by 3.2%).
- India is among the top four investors in Sri Lanka with cumulative investments of over US\$ 1 billion since 2003. On the other hand, the last few years have also witnessed an increasing trend of Sri Lankan investments into India.

### ➤ **Developmental Cooperation**

- Sri Lanka is one of the major recipients of development credit given by the Government of India, with total commitment of US\$2.6 billion, including US\$ 436 million as grants.
- India also continues to assist a large number of smaller development projects in areas like education, health, transport connectivity, small and medium enterprise development and training in many parts of the country through its grant funding.

### ➤ **Cultural Relations**

- The Cultural Cooperation Agreement signed by the Government of India and the Government of Sri Lanka in November, 1977 forms the basis for periodic Cultural Exchange Programs between the two countries.
- The Indian Cultural Centre in Colombo actively promotes awareness of Indian culture by offering classes in Indian music, dance, Hindi and Yoga. Every year, cultural troupes from both countries exchange visits.

### ➤ **Education**

- The India-Sri Lanka Foundation, set up in December 1998 as an intergovernmental initiative, also aims towards enhancement of scientific, technical, educational and cultural cooperation through civil society exchanges.
- India now offers about 290 scholarship slots annually to Sri Lankan students.
- In addition, under the Indian Technical and Economic Cooperation Scheme and the Colombo Plan, India offers 370 slots annually to Sri Lankan nationals.

### ➤ **Fishermen issue**

- Given the proximity of the territorial waters of both countries, especially in the Palk Straits and the Gulf of Mannar, incidents of straying of fishermen are common.
- Both countries have agreed on certain practical arrangements to deal with the issue of bona fide fishermen of either side crossing the International Maritime Boundary Line.
- Through these arrangements, it has been possible to deal with the issue of detention of fishermen in a humane manner.

## 2.5 INDIA-JAPAN (2+2 DIALOGUE)

**Why in News:** India and Japan are holding talks in the 2+2 ministerial format for the first time, an upgrade from the talks between their foreign and defence secretaries that began in 2010. The Ministers affirmed that this dialogue will further enhance the strategic depth of bilateral security and defence cooperation. It would also further the cause of the peace, security and prosperity in the Indo-Pacific region.

### ➤ 2+2 dialogue

- 2+2 dialogue is an official name of meeting between the foreign & defence establishments of two countries.
- So far, India had engaged in such a dialogue format at the ministerial level, only with the United States, the inaugural edition of which was held in September last year.
- Although India and Australia also have the 2+2 at the official level.

### ➤ Background

- The idea of establishing a two-plus-two dialogue between India and Japan was visible during the summit meeting between Modi and Abe during the former's visit to Tokyo in October 2018.
- The joint statement said that the two leaders had reiterated their "desire to further deepen bilateral security and defence cooperation and institute a Foreign and Defense Ministerial Dialogue (2+2).
- This was in addition to existing institutional arrangements including the Annual Defense Ministerial Dialogue, Defense Policy Dialogue, the National Security Advisers' Dialogue.
- The call for such a framework had become louder against the backdrop of increasingly muscular behaviour by China.
- The 2+2 Dialogue reflects the growing special relationship between India and Japan, which is driven by a number of factors including the desire to create an Asian strategic framework that is free, fair, and inclusive.

➤ **Highlights**

• **Defence Cooperation**

- The ministers welcomed the deepening interaction between the defence forces of the two countries including the joint exercises held in the past year and agreed to carry out exercises by fighter aircraft of their air forces.
- The ministers of two countries also agreed to boost cooperation in the sharing of defence technologies.
- They agreed to speedily conclude talks on the sharing of military logistics for greater interoperability between the navies of the two countries.
- The Ministers expressed their desire for early conclusion of the negotiations and were of the view that the Acquisition and Cross-Servicing Agreement -ACSA agreement will further contribute to enhancing defence cooperation between the two sides.

• **Maritime Security**

- The Ministers exchanged views on the recent developments in the South China Sea (SCS) and reaffirmed the importance of freedom of navigation and overflight, unimpeded lawful commerce and peaceful resolution of disputes.
- The ministers acknowledged the importance of ensuring maritime safety in achieving a free, open, inclusive and rules-based Indo-Pacific.
- They agreed to further cooperation in the field of capacity building in maritime security and Maritime Domain Awareness including “through cooperation with other countries.”
- In this context, the Ministers welcomed the setting up of Information Fusion Centre - Indian Ocean Region (IFC-IOR) by India in December 2018.

• **Counter Terrorism**

- The talks noted the threat posed to regional security by terrorist networks operating out of Pakistan and called upon it to take action against them and fully comply with international commitments including to FATF.
- The Ministers called upon all countries to take resolute action in rooting out terrorist safe havens and infrastructure, disrupting terrorist networks and eliminating financing channels and halting cross-border movement of terrorists.
- Emphasis was laid on the need for stronger international partnership in countering terrorism and violent extremism, including through increased sharing of information and intelligence.

# SECURITY AND DEFENCE

❖ **Paper III: This section is relevant to the following topics:**

- **Linkages between development and spread of extremism.**
- **Role of external state and non-state actors in creating challenges to internal security.**
- **Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention**
- **Security challenges and their management in border areas; linkages of organized crime with terrorism**
- **Various Security forces and agencies and their mandate**

❖ **Prelims Oriented Questions**

### 3.1 INTERGRATED BATTLE GROUPS

**Why in News:** The Indian Army is expected to be ready with more than a dozen Integrated Battle Groups (IBGs) by next year. The proposal to establish the IBGs has already gone to the government and the Army is waiting for approval.

#### ➤ Background

- The Indian Army has for a while been planning to transform the force, as part of overall plan to enhance combat capability of the force.
- In 2018, Army chief General Bipin Rawat had commissioned four studies towards the reorganising of the Army:
  - Restructuring of Army Headquarters
  - Force restructuring, which includes creation of Integrated Battle Groups (IBG)
  - The cadre review of officers
  - Review of the terms and conditions of Junior Commissioned Officers and Other Ranks

**The aim is holistic integration to enhance the operational and functional efficiency, optimise budget expenditure, facilitate force modernisation and address aspirations.**

#### ➤ Integrated Battle Groups

- IBGs are battle formations with heavy firepower that will combine infantry, armour, artillery, engineers, logistics and support units to bring together all necessities to fight a war.
- These are brigade-sized, agile, self-sufficient combat formations, which can swiftly launch strikes against adversary in case of hostilities.
- IBGs will be smaller, better-equipped fighting units with elements of air power, artillery, amour etc.
- The establishment of these groups will do away with the older formation of troops, which included around eight to 10 brigades, each with three to four battalions. Instead, an IBG will have just about six battalions.
- Consequently, the size of the IBGs would fall in between an undersized Army division and brigade (2,400 to 3,200 troops) in terms of manpower (a division on average has a strength of around 20,000 troops).

- IBGs are to be commanded by officers of the rank of a Major General.

➤ **Significance**

- It will ensure better integration and self-sufficiency as compared to the existing formations.
- The IBGs will be smaller than brigades, thus making them more flexible and allow for faster mobilisation of troops. IBGs will be able to mobilise within 12-48 hrs based on the location.
- By combining infantry, armour, artillery, engineers, logistics and support units, IBGs response will be sharp and swift.
- **Have all essential elements:** The idea is to reorganise them into IBGs which are brigade-sized units but have all the essential elements like infantry, armoured, artillery and air defence embedded together based on the three Ts.
- **3Ts:** Each IBG would be tailor-made based on Threat, Terrain and Task and resources will be allotted based on the three Ts.
- **The IBGs will also be defensive and offensive:** While the offensive IBGs would quickly mobilise and make thrust into enemy territory for strikes, defensive IBGs would hold ground at vulnerable points or where enemy action is expected. The composition of the IBGs would also depend on this.

## **3.2 DESTRUCTION OF PUBLIC PROPERTY**

**Why in News:** While agreeing to hear petitions on alleged police excesses on students in a University, a Supreme Court Bench headed by Chief Justice of India expressed displeasure over rioting and destruction of public property.

The CJ said the protesters were free to take to the streets, but if they did, they would not be heard by the court. Despite a law against the destruction of property, incidents of rioting, vandalism, and arson have been common during protests across the country.

➤ **Provisions to deal with destruction of property, rioting and vandalism**

- **Prevention of Damage to Public Property Act, 1984:**

The Prevention of Damage to Public Property Act, 1984 punishes anyone who commits mischief by doing any act in respect of any public property with a jail term of up to five years and a fine or both.

- **Provisions of this law can be coupled with those under the Indian Penal Code:**

Public property under this Act includes any building or property used for the production, distribution or supply of water, light, power or energy; any oil installation; any sewage works; any mine or factory; any means of public transportation or of telecommunications.

### **Committees set up by Supreme Court**

- The Supreme Court has on several earlier occasions found the law inadequate, and has attempted to fill the gaps through guidelines.
- In 2007, the court took suo motu cognizance of “various instances where there was large scale destruction of public and private properties in the name of agitations, bandhs and hartals and had set up two Committees.
- **The committees were headed by former apex court judge Justice K T Thomas and senior advocate Fali Nariman.**
- In 2009, in the case of In Re: Destruction of Public & Private Properties v State of AP and Ors, the Supreme Court issued guidelines based on the recommendations of the two expert Committees.

#### ➤ **Burden of proof**

- The **Thomas Committee** recommended reversing the burden of proof against protesters.
- Accepting the suggestion, the court said that the prosecution should be required to prove that public property had been damaged in direct action called by an organisation, and that the accused also participated in such direct action.
- From that stage the burden can be shifted to the accused to prove his innocence, the court said.
- It added that the law must be amended to give the court the power to draw a presumption that the accused is guilty of destroying public property, and it would then be open to the accused to disprove such presumption.
- Such a reversal of the burden of proof is applicable in cases of sexual violence, among others. Generally, the law presumes that the accused is innocent until the prosecution proves its case.

#### ➤ **Extracting damages for destruction**

- **The Nariman Committee’s recommendations dealt with extracting damages for destruction.**
- Accepting the recommendations, the court said the rioters would be made strictly liable for the damage, and compensation would be collected to “make good” the damage.

- Apart from holding rioters liable and imposing costs, the court also issued guidelines including directing High Courts to order suo motu action, and to set up machinery to investigate the damage caused.
- The guidelines also directed High Courts to award compensation wherever mass destruction to property takes place due to protests.

### 3.3 AIR DEFENCE SYSTEM

**Why in News:** The Defence Research and Development Organisation (DRDO) has successfully flight-tested indigenously developed Quick Reaction Surface to Air Missile (QRSAM) system.

#### ➤ Air Defence System

- A large country like India needs multi-layered air defence cover.
- To tackle multi-level air threats, there are 4 categories of Air Defence Systems.
- Quick reaction Range Surface to Air Missile (QRSAM)
- Short Range Surface to Air Missile (SRSAM)
- Medium Range Surface to Air Missile (MRSAM)
- Long Range Surface to Air Missile (LRSAM)

#### ➤ Significance of QRSAM in India's Air Defence System

- QRSAMs are most effective in combating low flying Aerial targets, like attack helicopters, UAVs, Armed drones etc.
- Due to its high mobility and short reaction time, it can be deployed on the forward tactical battlefield area formations when Army is on the move.
- Due to multiple-target capability, they can also be deployed to safeguard military assets.
- Indigenous developed of QRSAM by DRDO was approved in 2014. It was first test-fired in 2017.
- It seeks to replace the OSA-AK air defence systems acquired from erstwhile USSR.

#### ➤ QRSAM

- QRSAM is part of India's air defense system.
- It includes a fully automated command and control system.
- It is light-weight, has high-mobility and shorter-reaction time compared to Akash Air Defence Surface-Air Missiles.
- It is usually truck-mounted, capable of striking multiple targets while on-the-move.
- It is all-weather and all-terrain operational

- It has a strike range of 3-30Km in less than 1 minute.
- It has RF seeker (Radio Frequency) as a part of terminal guidance to hit the target.
- It has both surveillance radars and multi-function radars, having 360-degree coverage with search on move and track on move capability.
- It is equipped with electronic counter measures against the aircraft jammers to deceive enemy radars.

### 3.4 BRAHMOS MISSILE

**Why in News:** Recently, the Defence Research and Development Organisation (DRDO) carried out two successful tests of the latest variant of the BrahMos missile.

#### ➤ BrahMos Supersonic Cruise Missile

- BrahMos is a supersonic cruise missile that can attain speeds 2.8 times that of sound (Mach 2.8).
- This cruise missile can be guided towards a pre-determined land- or sea-based target.
- It can be launched from land, sea and air, from warships, submarines, aircraft, and mobile autonomous launchers.
- BrahMos is being produced by BrahMos Aerospace, a joint venture between India's DRDO and Mashinostroyeniya of Russia. The name BrahMos is an amalgam of the names of the rivers Brahmaputra and Moskva.
- Russia still supplies the missile's ramjet propulsion system and seeker technology, while India provides the inertial navigation system and fire control system. Meanwhile, India is making a concerted effort over the last few years to incrementally indigenize the various components and subsystems of the BrahMos missile. For example, in 2018, BrahMos successfully flight-tested for the first time with an Indian seeker.
- BrahMos is the world's fastest supersonic cruise missile, and has a strike range of up to 450 km.

**BrahMos Cruise Missile**  
**Air-launched variant tested**

BrahMos, the world's fastest supersonic cruise missile, successfully flight-tested for the first time from a Sukhoi-30MKI fighter of the Indian Air Force against a sea based target in Bay of Bengal  
 The missile is now capable of being launched from land, sea and air, completing the tactical cruise missile triad for India

**Technical Specifications**

Maximum range	400+ km	Warhead mass	200-300 kg
Velocity	Mach 2.8	Altitude	
Weight	2.5 tonnes	■ Cruise: 15 km	
		■ Terminal: 10-15 metre	

**Special Features**

- Universal for multiple platforms
- "Fire and Forget" principle of operation
- High supersonic speed all through the flight
- Long flight range with varieties of flight trajectories
- Low radar signature
- Shorter flight times leading to lower target dispersion and quicker engagement
- Pin point accuracy with high lethal power aided by large kinetic energy on impact

**Compared to existing state-of-the-art subsonic cruise missiles, BrahMos has**

- 3 times more velocity
- 2.5 to 3 times more flight range
- 3 to 4 times more seeker range
- 9 times more kinetic energy

Source: BrahMos Aerospace KBK Infographics

➤ **Induction into Indian armed forces**

- **Army:** Indian Army already has BrahMos Regiment deployed on western and eastern borders. The Army variant is capable of striking targets in urban environments.
- **Navy:** The first version of the BrahMos supersonic cruise missile was inducted into the Indian Navy in 2005, meant to be fired from INS Rajput. Since then, it has been integrated with various Indian Navy warships. The anti-ship variant augments the Navy's first strike capabilities.
- **IAF:** IAF is testing the air-launched versions of the missiles from the Sukhoi-30 MKI aircraft, and will soon induct them into their arsenal. IAF is testing missiles that could hit both land-based and sea-based targets. This can help IAF strike both in the Indian Ocean as well as in strikes across the Indian border.
- In the latest round, DRDO carried out two successful tests of the latest variant of the BrahMos missile, one from the land platform and one from air. The successful testing of air-platform of BrahMos has further strengthened the tactical cruise missile triad — land, sea and air — for India.

➤ **Significance:**

- The latest test of BrahMos Air-Launched Cruise Missile (ALCM) carried out from air was done using the Sukhoi-30 MKI fighter jets of the Indian Air Force as the base. The missile destroyed a target at sea. Previous air-launched missiles successfully hit sea-based and land-

based targets. The latest test marked the completion of the integration of BrahMos missile with the Sukhoi-30 MKI aircraft.

- BrahMos ALCM has been a significant addition in IAF's air combat capability from stand-off ranges.
- Stand-off range missiles are ones that are launched at a distance sufficient to allow an attacking party to evade defensive fire expected from the target area.
- Stand-off range missiles, of which cruise missiles are a type, have been in the arsenal of all the major powers of the world.



## **ECONOMY**

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.**

- **Inclusive growth and issues arising from it.**
- **Government Budgeting.**
- **Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.**
- **Infrastructure: Energy, Ports, Roads, Airports, Railways etc.**
- **Investment models.**

## **4.1 CROP LOANS**

### ➤ **Crop loans in India**

- Crop loan is a lifeline for over 145 million farmers in India.
- Every year, millions of farmers and thousands of bank branches go through an intense process of granting crop loans delivered through Kisan Credit Cards.
- Banks disbursed Rs 12.5 lakh crore worth farm loans (majority as crop loans) during 2018-19.

### ➤ **Efforts to encourage crop loans**

- The Centre provides interest subvention on crop loans up to Rs 3 lakh, and with additional incentive for timely repayment, effective interest rate works out to affordable 4%.
- Banks are also mandated to secure crop insurance cover for farmers, who have to pay a minimal premium.

**Despite these measures to make crop loans affordable, only 61% of farmers have accessed institutional loans (NAFIS 2016-17).**

### ➤ **Problems**

- **Manual crop loaning processes is a big reason for that:** Due to predominantly manual crop loaning processes in banks, there are substantial direct and indirect costs inflicted on farmers, including:
  - Loss of precious time and potential wage opportunities
  - Expenses on visits to banks/other offices
  - Legal expenses on verification of land records/documentation
  - Processing fee levied by some banks
- **Banks still do not like these loans much:** Yet, this massive loan segment continues to be treated as a necessary evil by banks, rather than mainstreaming as a commercial proposition like retail loans. Denial or delay in crop loans forces farmers to borrow from informal sources, on adverse terms.
- **Farm loan waivers across states:**
  - Undue glorification of farm loans through politically-motivated loan waivers is common.
  - While the central government has resisted announcing farm loan waivers, this fiscal prudence was not replicated during the several assembly elections held since 2014.
  - Political parties have been promising loan waivers as their main electoral strategy. Subsequently, the elected state governments announced farm loan waivers aggregating a whopping Rs 2.4 lakh crores.

### **Loan waivers cause systemic damage:**

- Irrational loan waivers cause systemic damage where:
  - Farmers tend to postpone repayments
  - NPAs rise in banks that show reluctance in extending new loans
  - State governments resort to fiscally-imprudent acts such as higher market borrowings
  - Curtailing expenditure on capital investments and welfare programs to fund waivers
- **Issues with issuing subsidised crop loans:** Today, subsidised crop loans are a necessity for farmers. But there are issues relating to:
  - Accurate targeting
  - End-use
  - Skewed distribution across states
  - Exclusions, adverse selection
  - Actual impact in terms of incremental farm productivity/output, etc.

- Correct diagnosis and mitigation of crop loan issues can be possible only through analysis of credible micro data and trends on farm credit.

➤ **Suggestion and Reforms:**

- **Loan process automation:**

- Crop loans should continue to be delivered to farmers based on a well-evolved methodology comprising crop-wise acreage, crop seasonality, district-wise scale of finance etc.
- However, we need to make crop loan delivery simple, transparent and efficient through process automation to allow timely, hassle-free, cost-effective credit access to farmers.

- **Banks must make crop loans a serious and competitive business:**

- Banks must start seeing crop loans as multi-billion worth banking opportunity with 145 million aspirational rural customers, having cross-selling opportunities.
- Banks need to act proactively and disruptively to make crop loaning a serious and competitive business, like retail loans.

- **National Agriculture Calamity Fund (NACF):**

- To safeguard financial interests of farmers in the event of a natural calamity or market adversity, the government may create a 'National Agriculture Calamity Fund (NACF)' within a credible national-level agency.
- Mandatory annual contributions to NACF by the central/state governments may be facilitated by the Finance Commission in its resource-sharing formula.

- **Seamless integration between crop loaning and insurance processes:**

- There is a need to make crop insurance a preferred choice of farmers, insurance firms and banks.
- To achieve seamless integration between crop loaning and insurance processes, refinements are needed such as:
  - Early remittance of premium collected by banks to insurance firms
  - Timely payment of premium subsidy by state/central governments
  - Use of advanced remote-sensing and digital technologies for timely and trustworthy conduct of crop cutting experiments at farmer level
  - Building effective grievance mechanism, etc.

- **Big data:**

- With numerous data points involved in crop loan operation for 145 million farmers, the segment is a mammoth big data game.

- In the absence of digitisation, banks, governments and other stakeholders are deprived of power of data analytics for making informed decisions on policies, products, processes, cross-selling opportunities, etc.
- Therefore, there is an urgent need to adopt modern financial technology in crop loaning.
- **National Data Platform on Farmers (NDPF)**
  - Creating a robust 'National Data Platform on Farmers (NDPF)' to warehouse data on individual farmers, covering their demographics, land records etc. is the need of the hour.
  - NDPF may be promoted as a joint venture of central/state governments, financial institutions and other stakeholders.
- **Farmer-level risk assessment**
  - Banks do not systematically factor structured risk assessed at farmer level in their crop loaning decisions.
  - With farmer-level micro data on NDPF, it will be possible to evolve appropriate risk-assessment models and generate a 'Farmer Rating and Credit Score (FRCS)'.  
FRCS
  - Crop loan eligibility for a farmer, worked out using usual standard criteria, may be further moderated, based on his/her score.
  - Such a risk-based lending approach would help in promoting judicious borrowing by farmers and responsible lending by banks.
- **Conclusion**
- The proposed NACF and NDPF could prove to be major steps towards promoting cooperative federalism in Indian agriculture.
- Loan process automation would enable banks to easily outsource basic loan processes to other agencies.
- Data-driven, digital and score-based approaches to crop loaning would help liberate farm loans from the crutches of political patronage.
- The adoption of a digital and score-based retailing approach to crop loans would enable banks to position this segment as their growth driver, like retail loans, and gradually make it immune to syndromes such as loan waivers.

## 4.2 UDAN-4

**Why in News:** The government has launched the fourth round of the **ude desh ka aam nagrik** (UDAN) scheme. The scheme has seen mixed success until now, where in the first three phases 688 routes were awarded but only 232 of them have become operational.

➤ **UDAN**

- **UDAN (Ude Desh ka Aam Naagrik) is a regional airport development and "Regional Connectivity Scheme" (RCS) of the Union Government.**
- It is a key component of the National Civil Aviation Policy (NCAP) which was released by the Ministry of Civil Aviation (India) in June 2016. The scheme is jointly funded by the central government and state governments.
- **The objective of the scheme** is to make air travel affordable and widespread, to boost inclusive national economic development, job growth and air transport infrastructure development of all regions and states of India.

➤ **Components of UDAN**

**The scheme has two components:**

- The first component is to develop new airports and enhance the existing regional airports to increase the number of operational airports for scheduled civilian flights.
- The second component is to add several hundred financially-viable, capped-airfare, new regional flight routes to connect more than 100 underserved and unserved airports in smaller towns by using "Viability Gap Funding" (VGF) where needed.

➤ **UDAN-4**

- The focus of regional connectivity scheme UDAN-4 is on enhancing connectivity in remote and regional areas of the country: Northeast India, hilly states, J&K, Ladakh and the islands.
- Faizabad nearest airport for Ayodhya; has also been offered for operators to fly to this pilgrim town.
- Non schedule operators of helicopter and seaplanes will be allowed to bid in this round, paving the way for water aerodromes.

➤ **Priority areas**

- The list of priority areas sought to be connected by flights under this scheme includes
  - Campbell Bay, Car Nicobar and Shibpur in Andaman and Nicobar
  - Alinya, Along, Daparizo and Mechuka in Arunachal

- Darrang, Dinjan, Ledo and Misa Mari in Assam
- Akhnur, Chamb, Chushal, Poonch, Rajouri and Udhampur in J&K
- Shella and Tura in Meghalaya
- Kailashahar and Kamalpur in Tripura; and Gaucher in Uttarakhand

Apart from these, airports from other places have also been included for flights under UDAN-4.

#### ➤ **Viability Gap Funding**

- Airports that have already been developed by AAI would be given higher priority for award of VGF under the scheme, followed by other airports.
- Given the focus areas, an attempt has been made to promote air travel on short haul routes and the provision of VGF would be restricted for routes with stage length up to 600 km.
- The aviation ministry informed that the viability gap funding cap has been revised in the fourth round of the scheme.
- The provision of VGF for over 20-seater aircraft has been enhanced for operation of RCS flights in priority areas.
- The VGF has also been increased in Union Territories of Ladakh and J&K; Himachal Pradesh, Uttarakhand, northeastern states; Lakshadweep and Andaman & Nicobar.

### **4.3 INTERNATIONAL FINANCIAL SERVICES CENTERS**

**Why in News:** The Union Finance Minister recently introduced the International Financial Services Centers Authority Bill, 2019 in Lok Sabha. The Bill seeks to set up a unified authority for regulating all financial services in international financial services centers (IFSCs) in the country.

#### ➤ **About International Financial Services Centre (IFSC)**

- Financial centres that cater to customers outside their own jurisdiction are referred to as international (IFCs) or offshore Financial Centers (OFCs).
- All these centres are 'international' in the sense that they deal with the flow of finance and financial products/services across borders.
- An IFSC is thus a jurisdiction that provides world class financial services to non-residents and residents to the extent permissible under the current regulations.
- It conducts business in a foreign currency (i.e. other than the domestic currency) of the location where the IFSC is located.

#### ➤ **IFSCs in India**

- The first IFSC in India was set up at GIFT City, Gandhinagar, Gujarat.

- An IFSC seeks to bring to India, those types of financial services and transactions that are currently carried on outside India by overseas financial institutions and overseas branches/ subsidiaries of Indian financial institutions.
- The policy objective behind establishing an IFSC in India is providing a platform for international financial services to operate from and to specialize in exports of high value-added International Financial Services.

#### ➤ **Services provided by IFSCs**

- Fund-raising services for individuals, corporations and governments
- Asset management and global portfolio diversification undertaken by pension funds, insurance companies and mutual funds
- Wealth management
- Global tax management and cross-border tax liability optimization, which provides a business opportunity for financial intermediaries, accountants and law firms
- Global and regional corporate treasury management operations that involve fund-raising, liquidity investment and management and asset-liability matching
- Risk management operations such as insurance and reinsurance
- Merger and acquisition activities among trans-national corporations

#### ➤ **Regulation of IFSCs**

Presently, Banking, Capital markets and Insurance sectors in IFSCs are regulated by multiple regulators - the Reserve Bank of India (RBI), the Securities Exchange Board of India (SEBI), the Insurance Regulatory and Development Authority of India (IRDAI), respectively.

**Need of unified financial regulator for IFSCs:** The development of financial services and products in IFSCs would require focused and dedicated regulatory interventions.

- It also requires regular clarifications and frequent amendments in the existing regulations governing financial activities in IFSCs.
- Hence, a draft International Financial Services Centers Authority Bill, 2019 has been prepared to set up a separate unified regulator for IFSCs to provide world class regulatory environment to financial market participants

#### ➤ **Key Features of the International Financial Services Centers Authority Bill, 2019**

- The Bill will be applicable to all International Financial Services Centres (IFSCs) set up under the Special Economic Zones Act, 2005.
- Management of the Authority: The International Financial Services Centres Authority shall consist of 9 members:

- A Chairperson
- One Member each to be nominated by the RBI, SEBI, IRDAI and PFRDA (Pension Fund Regulatory and Development Authority)
- Two members to be dominated by the Central Government
- Two other whole-time or full-time or part-time members
- **Functions of the Authority:** Regulation of all such financial services, financial products and FIs in an IFSC which has already been permitted by the Financial Sector Regulators for IFSCs.
- Regulation of such other financial products, financial services or FIs as may be notified by the Central Government from time to time.
- Recommendation to the Central Government such other financial products, financial services and financial institutions which may be permitted in the IFSCs.
- **Powers of the Authority:** All powers exercisable by the respective financial sector regulatory (viz. RBI, SEBI, IRDAI, and PFRDA etc.) under the respective Acts shall be solely exercised by the Authority in the IFSCs.
- **Transactions in foreign currency:** The transactions of financial services in the IFSCs shall be done in the foreign currency as specified by the Authority in consultation with the Central Govt.
- **Significance of establishing an authority**

This will result in providing world-class regulatory environment to market participants from an ease of doing business perspective. The move is expected to better regulation and supervision of the financial entities. The unified authority would also provide the much needed impetus to further development of IFSC in India in-sync with the global best practices. This would also generate significant employment in the IFSCs in particular as well as financial sector in India as a whole.

#### 4.4 EXCHANGE TRADED FUND

**Why in News:** The Union Cabinet has approved the government's plan to create and launch India's first corporate bond exchange traded fund (ETF) — Bharat Bond ETF.

#### Exchange Traded Funds

- Exchange Traded Funds are essentially Index Funds. They are in many ways similar to mutual funds, however, they are listed on exchanges and ETFs trade throughout the day just like ordinary stock.

- It is a type of security that involves a collection of securities—such as stocks—that often tracks an underlying index.
- ETFs can contain many types of investments, including stocks, commodities, bonds, or a mixture of investment types.
- The ETFs trading value is based on the net asset value of the underlying stocks that it represents.

### **Bharat Bonds ETF:**

- Bharat Bond ETF is the first corporate bond ETF in the country. It will comprise a basket of bonds issued by the CPSEs, CPSUs, CPFIs, and other government organisations and all will be initially AAA-rated bonds.
- Each Bharat bond ETF will be priced at Rs 1,000 and will also be listed on the exchanges. Accordingly, investors can buy or sell shares using three methods— via stock exchange, through the market makers or directly through the AMC.
- Each ETF will have a fixed maturity date and initially they will be issued in two series, of three years and 10 years.
- In case the Bharat Bond ETF is sold within 3 years, it will be considered as short term and short term capital gains income slab will be applicable.
- If sold after 3 years it will be considered as long term and LTCG of 20% with indexation will be applicable.

### ➤ **Significance**

- Bond ETF will provide safety (underlying bonds are issued by CPSEs and other government-owned entities), liquidity (tradability on exchange) and predictable tax efficient returns.
- Bond ETFs will provide tax efficiency as compared to bonds, as coupons (interest) from the bonds are taxed depending on the investor's tax slab.
- The low unit value of ₹ 1,000 would help deepen India's bond market as it will encourage the participation of those retail investors who are currently not participating in bond markets due to liquidity and accessibility constraints.
- On the issuer side, the bond ETFs are expected to offer CPSEs, CPSUs, CPFIs and other government organisations an additional source of meeting their borrowing requirements, apart from bank financing.
- It will expand their investor base through retail and HNI [high net worth individual] participation, which can increase demand for their bonds.
- With increase in demand for their bonds, these issuers may be able to borrow at reduced cost thereby reducing their cost of borrowing over a period of time.

## 4.5 MERGER AND RESTRUCTURING OF RAILWAY SERVICES

**Why in News:** The Union Cabinet has approved the restructuring of the Railway Board, including reduction in the Board strength as well as merger of the different cadres into a central service called the Indian Railway Management Service (IRMS). Though there was a view to have two services, all officers unanimously supported the need for a single service.

### ➤ **Background**

- The Railway Board started in 1905, and over a period of time, it has divided the management in several silos.
- **Unification of services has been recommended by various panels for reforming railways, including the Prakash Tandon Committee (1994), Rakesh Mohan Committee (2001), Sam Pitroda Committee (2012) and Bibek Debroy Committee (2015).**
- While the government has been seeking to restructure railways for over five years now, it has been hobbled by inter-service rivalry.
- A case in point being Train 18, where the electrical and mechanical cadres were at loggerheads, delaying the launch.

### ➤ **Changes in the Board:**

- Currently, the board comprises eight members, each representing their service, with the chairman being the first among equals. The structure has remained unchanged since 1905.
- The Board will now consist of five members – Chairman, along with four members responsible for infrastructure, operations and business development, rolling stock and finance. There will also be a DG (HR) under the Chairman.
- In addition, the board will have independent members, who will be experts in fields such as finance, industry and management, much like independent directors on corporate boards.
- The chairman will have the CEO tag attached and will be the final authority on all issues.

## BOARD RECAST, CHAIRMAN TO BE CEO

➤ Number of board members to be reduced to 4 from 8

➤ Chairman will also be CEO and 4 members will handle finance, ops & business development, infrastructure & rolling stock portfolios

➤ Human resources to be headed by DG, who will report to chairman & CEO

➤ As in corporate sector, board will have part-time members with domain knowledge and expertise

➤ Performance, not seniority



will be criteria for promotions

➤ Move will impact about 8,200 Group A service officers

➤ Revamp process will be completed within 1 year

➤ Expected to speed decision-making, end factionalism

- A committee of secretaries and a panel of ministers will be entrusted with the task of implementing it, especially fixing the seniority of the 8,200 officers who have been recruited through different exams.
- The IRMS will be in place in the next recruitment year and now the newly recruited officers will come from engineering and non-engineering disciplines as per need and posted considering their aptitude and specialisation.
- Selection for the general management positions shall be through a merit-based system unlike the present norm of seniority.

### ➤ Concerns

- There are worries about railway turning into a service of engineers, like the central public works department, where the intake is limited to engineering services unlike the current system where “generalists” handle traffic, accounts and personnel.
- The fate of the personnel service is also unclear as a post of director general in-charge of human resources has been specifically created, reporting directly to the chairman and CEO of the railway board.

- Further, there may be some difficulty in the initial days as electrical engineers may be asked to deal with mechanical issues or a civil engineer may find himself tackling electrical problems.
- There could be huge dissatisfaction among different cadres unless the top officials emerge as good leaders to take care of the interest of people who have come from different services.
- The government clarified that the reform will have no impact on the promotion of officers. It also said that currently there are 10 secretary level posts in the railway board and now another 27 general manager level officers will also get the apex grade pay.
- But there is a huge chunk of officers who are in the JS and additional secretary level. If they are dissatisfied, then it would be a big problem to deal with.

➤ **Benefits**

- **The new structure of the leaner railway board: the apex decision-making body: is intended to streamline operations and improve decision-making.**
- The unification of services will end departmentalism, promote smooth working of railways, expedite decision making, create a coherent vision for organization and promote rational decision making and set Railways on a path of a high growth trajectory.

# SCIENCE AND TECHNOLOGY

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Science and Technology- developments and their applications and effects in everyday life**
- **Achievements of Indians in science & technology; indigenization of technology and developing new technology.**
- **Awareness in the fields of IT, Space, Computers, robotics, Nano-technology, bio-technology and issues relating to intellectual property rights.**



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## 5.1 SATELLITE LAUNCHERS

**Topic: Science and Technology - Awareness and developments in space technology**

**Satellite Launchers**

**Launch Vehicles:** Launchers or Launch Vehicles are used to carry spacecraft to space. Currently, India has two operational launchers: Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Satellite Launch Vehicle (GSLV).

➤ **The Launch Vehicle Program:**

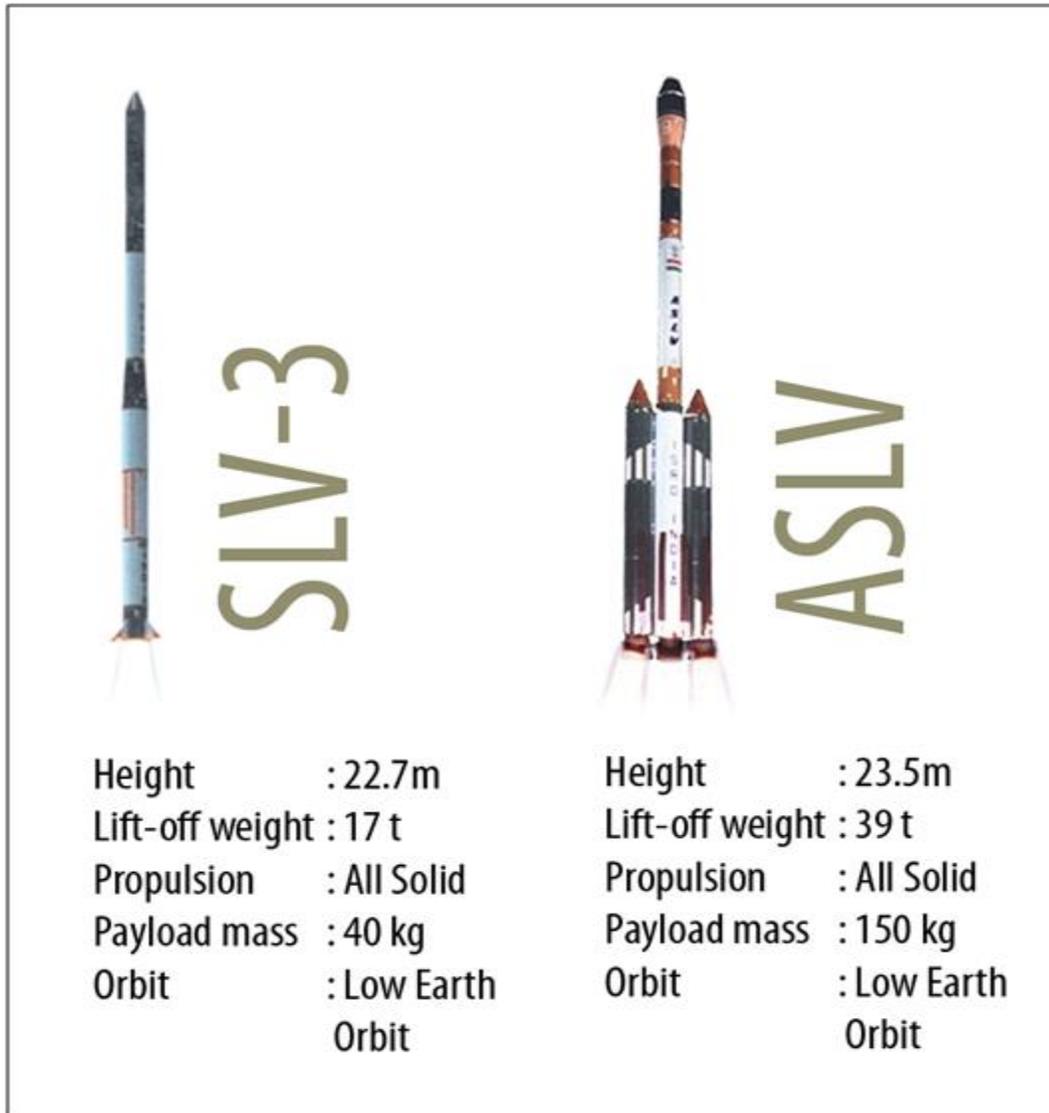
- Launch Vehicle is a critical element in achieving self-reliance in space endeavours.
- To achieve this, work was started towards development of range of basic technologies in various disciplines of rocketry through sounding rockets, a learning phase during the 1960-70s.
- Subsequently, ISRO acquired further expertise through an experimental phase in 1980s, by developing Satellite Launch Vehicle-3 (SLV-3) and Augmented Satellite Launch Vehicle (ASLV).
- Based on these experiences, ISRO undertook successful development of Polar Satellite Launch Vehicle (PSLV) and Geosynchronous Satellite Launch Vehicle (GSLV).

➤ **Satellite Launch Vehicle-3 (SLV-3)**

- SLV-3 was India's first experimental satellite launch vehicle, with four solid stages, capable of placing 40 kg class payloads in Low Earth Orbit (LEO).
- SLV-3 was successfully launched in 1980, when Rohini satellite, RS-1, was placed in orbit, thereby making India the sixth member of an exclusive club of space-faring nations.
- The successful culmination of the SLV-3 project, after two more successful launches, showed the way to advanced launch vehicle projects.

➤ **Augmented Satellite Launch Vehicle (ASLV)**

- The Augmented Satellite Launch Vehicle (ASLV) Program was designed to augment the payload capacity to 150 kg, thrice that of SLV-3, for Low Earth Orbits (LEO).
- ASLV was configured as a five stage, all-solid propellant vehicle, with a mission of orbiting 150 kg class satellites into 400 km circular orbits.
- In 1992, the third developmental flight, ASLV-D3, successfully placed Stretched Rohini Satellite Series SROSS-C (106 kg) was put into an orbit.



➤ **Polar Satellite Launch Vehicle (PSLV)**

- Polar Satellite Launch Vehicle (PSLV) is the third generation launch vehicle of India.
- It is the first Indian launch vehicle to be equipped with liquid stages.
- Initially, the PSLV had a carrying capacity of 850 kg, and over the years it has been enhanced to 1.9 tonnes.
- PSLV has been in use since 1994, and has built a reputation for reliability.
- In the last 26 years, the PSLV had lifted more than 52 tonnes into space, while failing only twice in its history.
- PSLV-C37 successfully launched 104 satellites in February, 2017. This is the highest number of satellites launched in a single flight so far.

- Recently, PSLV celebrated its 'Golden Jubilee' or the 50th launch for the vehicle, when PSLV-C48 injected India's advanced radar imaging satellite RISAT-2BR1 as well as 9 other customer satellites from Japan, Italy, Israel and the U.S.A. into their intended orbits.
- **Missions**
- PSLV has been consistently delivering various satellites to Low Earth Orbits, particularly the remote sensing satellites.
- PSLV has also been used to launch various satellites into Geosynchronous and Geostationary orbits, like satellites from the IRNSS constellation.
- Besides, the vehicle successfully launched two spacecraft – Chandrayaan-1 in 2008 and Mangalyaan (Mars Orbiter Spacecraft) in 2013 – that later traveled to Moon and Mars respectively.
- With its capability to put small satellites in Lower Earth Orbit, PSLV is the key to Indian presence in the Global space business.
- Many of PSLV's launches have been for commercial customers.
- ISRO has launched 237 foreign satellites from 28 countries successfully by PSLV during the period 1999-2018.
- **Geosynchronous Satellite Launch Vehicle (GSLV)**
- Geosynchronous Satellite Launch Vehicle Mark III (GSLV Mk III) is the largest launch vehicle developed by India, which is currently in operation.
- This fourth generation launch vehicle is a three stage vehicle with four liquid strap-on's.
- The indigenously developed cryogenic Upper Stage (CUS), which is flight proven, forms the upper stage.
- GSLV Mk III is designed to carry 4 ton class of satellites into Geosynchronous Transfer Orbit (GTO) or about 10 tons to Low Earth Orbit (LEO).
- **Missions**
- GSLVs are far more powerful than PSLVs, and can carry heavier payloads and travel deeper into space.
- GSLV MkIII was recently used to launch Chandrayaan-2 spacecraft.
- GSLV's primary payloads are communication satellites like GSATs and INSATs that operate from Geostationary orbits (and hence are placed in Geosynchronous Transfer Orbits by GSLV).
- Further, GSLV's capability of placing up to 10 tonnes in Low Earth Orbits broadens the scope of payloads from heavy satellites to multiple smaller satellites.
- ISRO intends to use the rocket for all future deep space exploration missions, including Gaganyaan, India's first human mission.



### Important Centres of ISRO's Launch Vehicle Program:

- Vikram Sarabhai Space Centre, located in Thiruvananthapuram, is responsible for the design and development of launch vehicles.
- Liquid Propulsion Systems Centre (Valiamala, Kerala) and ISRO Propulsion Complex (Mahendragiri, Tamil Nadu) develop the liquid and cryogenic stages for these launch vehicles.

- Satish Dhawan Space Centre or Sriharikota Range (SHAR) in Andhra Pradesh, is the space port of India and is responsible for integration of launchers. It houses two operational launch pads from where all GSLV and PSLV flights take place.

## 5.2 COALBED METHANE

**Why in News:** Global Coal Bed Methane Market Growth Analysis, Forecasts To 2025

### ➤ Coalbed Methane

- Coalbed methane, coalbed gas, coal seam gas or coal-mine methane is a form of natural gas extracted from coal beds. In recent decades it has become an important source of energy in United States, Canada, Australia, and other countries.
- The term refers to methane adsorbed into the solid matrix of the coal. It is called 'sweet gas' because of its lack of hydrogen sulphide.
- The presence of this gas is well known from its occurrence in underground coal mining, where it presents a serious safety risk.
- India has fifth-largest proven coal reserves in the world. So it has significant prospects for exploiting CBM.

### ➤ Formation

- Coalbed methane is associated with coal deposits, and is found in coal seams.
- In the past, the gas was the cause of numerous explosions in underground mines. More recently, the gas has been vented to the surface from underground mines.
- Various basins in the Rocky Mountains hold much of this country's coalbed methane resources.

### ➤ Coalbed Methane Extraction

- When water is removed from a coal seam, it lowers the reservoir pressure. Methane that was held in place by water pressure tends to follow the water as it is pumped to the surface, where it is captured and transported through pipelines to storage facilities or shipped.
- This relatively inexpensive and straight forward procedure has made coalbed methane a useful, easily accessible form of energy.

### ➤ Advantages of CBM as a fuel

- CBM is an environmentally safe gas

- It will halt its emission into environment and thus reducing emission of greenhouse gas from coal mining.
- It would help in increasing the domestic gas production.

#### ➤ **Challenges and concerns**

- Global methane emissions from coal mines are projected to for approximately 8 percent of total global methane emissions.
- Disturbance of lands drilled and its effect on wildlife habitats results in ecosystem damage.
- Issue of high salinized water that is removed in the process of extraction is released into freshwater ecosystems could have adverse effects.

### **5.3 ROTAVIRUS VACCINE**

**Topic: Science and Technology- developments and their applications and effects in everyday life**

**Why in News:** In order to effectively tackle the menace of diarrhea, Hyderabad-based Bharat Biotech International has commercially launched **Rotovac 5D, an oral rotavirus vaccine at virtually one-tenth the cost when compared to private hospitals.**

- **Rotovac 5D** has been developed with close coordination with the Department of Biotechnology.
- Earlier, Bharat Biotech had originated ROTAVAC and now they have upgraded their already available oral vaccine to ROTAVAC 5D.
- The roll-out of oral rotavirus vaccine is also the lowest dose-volume rotavirus vaccine in the world. Along with the reduction in dosage, they have also made the oral vaccine low cold chain proof. This has resulted in making the vaccine stable at 2-degree to 8-degree Celsius for up to 24 months.
- Globally, rotavirus causes approximately 200,000 deaths and about 2 million hospitalizations annually, mostly in low-income countries.
- Currently, ROTAVAC 5D is being supplied in seven countries including India and 50 more countries have registered for it.

#### ➤ **Rotavirus**

- Rotavirus is a virus that infects the bowels, causing a severe inflammation of the stomach and bowels (known as gastroenteritis). It is a very contagious virus that causes diarrhea.

- Rotavirus is the most common cause of severe diarrhea among infants and children throughout the world and causes the death of about 500,000 children worldwide annually.
- The name rotavirus comes from the characteristic wheel-like appearance of the virus when viewed by electron microscopy.

#### ➤ **Rotavirus transmission**

- Rotavirus is transmitted between hand and mouth contact. If you touch a person or object carrying the virus and then touch your mouth, you could develop the infection.
- Infants and children under 3 are at the highest risk for rotavirus infection.

## **5.4 HERA MISSION**

**Topic: Science and Technology – Awareness and developments in space technology**

**Why in News:** European ministers in charge of the ESA space agency have approved Hera, a mission that will test whether deflection could save humanity from a rogue asteroid.

- **Scientists are studying asteroids and trying to find ways to deflect them from a collision course with Earth.**
- **One such project is the Asteroid Impact and Deflection Assessment (AIDA), which includes NASA's Double Asteroid Redirection Test (DART) mission and the European Space Agency's (ESA) Hera.**
- ESA and partner NASA will send a pair of spacecraft to a double-asteroid system called Didymos.
- NASA will first crash its DART probe into the smaller asteroid (Didymoon). Hera will arrive later to map the impact crater and measure the asteroid's mass.
- The moon orbiting Didymos, called 'Didymoon' — almost the size of the Giza Pyramid in Egypt, measuring just 160 metres in diameter — will be the smallest asteroid ever explored.
- Hera will carry two CubeSats that can fly extremely close to the asteroid's surface before touching down.
- Those briefcase-sized spacecraft will act like drones, capturing vital data about the impact crater and giving scientists data including the mass of the asteroid that will help them deduce its composition.
- While an asteroid collision is a pretty unlikely event, it's actually preventable, unlike an earthquake or volcanic explosion.

- However, Hera mission won't be the first to reach Didymos. The National Aeronautics and Space Administration (NASA) in USA plan to launch the Double Asteroid Redirection Test (DART) between 2020 and 2021, which will target Didymoon as part of its planetary defence program.

## **ECOLOGY and ENVIRONMENT**

❖ **Paper III: The articles in this section are relevant to the following topics:**

- **Conservation, environmental pollution and degradation, environmental impact assessment**
- **Disaster and disaster management.**

❖ **Prelims Oriented Questions**

## 6.1 INDIA'S MAPPING EXERCISE

**Why in News:** Government of India is set to launch a new mapping exercise to accommodate the needs of present times.

- The last mapping exercise in India took place nearly 200 years ago by George Everest's survey.
- A new mapping exercise is being planned by the country's oldest scientific organization, the Survey of India (SOI).
- **The objective is to drag India into the realm of other modern economies and digitally update maps of India.**
- The idea is to create highly accurate, free-to-use map layer, which is available in the public domain.
- For now, the plan is to make data public, and charge a small amount for commercial use. Earlier, the data was sold.
- SOI's plan is to develop a high-resolution 1:500 Geoid model of the country. That essentially means 1 cm on the map will represent 500 cm on the ground, which is roughly equivalent to showing the boundaries of each house.
- Like the decades-old revenue maps, these maps would show the details of village boundaries, canals, agriculture field limits and roads, with a high accuracy of 10 cm, which is critical for land records.
- Present topographical maps available in public domain are at a scale of 1:50,000.
- The project has already begun in three states—Haryana, Maharashtra and Karnataka— and about 300 drones are expected to be used for the exercise. The deadline is 2021.
- SOI's plans to create a complete 3-D model of cities, which would include details about the altitude above sea level of each point.
- SOI has established about 2,500 ground control points that are uniformly distributed throughout the country, whose standardized coordinates (latitude-longitude) are known.
- For improved accuracy, SOI would set up an additional 700-1,000 ground control points to continuously operate as GPS reference stations, at a distance of 50-60km from each other.

- Professionally operated drones would then cover the remaining gaps.
- Data will be made publicly available for everyone through map APIs (application programming interfaces).

### ➤ **Benefits of the new maps**

- People will now know and be able to locate their survey number. This will enable them to check their land boundaries and ownership online, rather than depending on the 'Patwari'.
- For the first time, we will know the exact boundaries of land. It will also facilitate the registry and transfer processes.
- Citizens living in the Abadi areas will be given ownership cards, which will allow them to buy/sell their land and even take loans on them.
- This could transform the economy, because the government will also get fixed revenue, which was not coming in till now.
- The move will bring greater transparency into land acquisition processes and can potentially help deal with encroachments across cities, especially those on government land.
- Google maps can help in navigation but is not very helpful to plan government infrastructure projects or build a new railway line. The new survey will solve this problem.
- 3-D modelling of cities in new maps will be an important input for planning a city's drainage profile, especially given the future threat of inundation.
- When integrated with weather forecasts, this could help the India Meteorological Department to provide impact-based forecasts ahead of severe rainfall events.
- In future, with the introduction of autonomous vehicles, a high level of accuracy will be needed, which can come from these maps.

## **6.2 HEAVY METALS RIVER POLLUTION**

**Why in News:** Heavy metals contaminating India's rivers.

- Samples taken from two-thirds of the water quality stations spanning India's major rivers showed contamination by one or more heavy metals, exceeding safe limits set by the Bureau of Indian Standards.
- The study which spanned 67 rivers in 20 river basins is part of a report, which is the third edition of an exercise conducted by the Central Water Commission (CWC) from May 2014 to April 2018.
- Not all the rivers were equally sampled, several rivers have only been sampled at a single site whereas others such as the Ganga, the Yamuna and the Godavari are sampled at multiple sites.

- Samples were collected in three different seasons: pre-monsoon (June 2012), monsoon (September 2011, October 2012 and August 2013) and post-monsoon (February 2012 and March 2013).

River	Chromium	Lead	Iron
Ganga	Exceeds		Exceeds
Yamuna			Exceeds
Brahmaputra			Exceeds
Ramganga		Exceeds	
Rapti	Exceeds		Exceeds
Narmada			Exceeds
Godavari			Exceeds

SOURCE: CENTRAL WATER COMMISSION STUDY

#### ➤ Findings

- Samples from only one-third of water quality stations were safe. The rest, or 287 (65%) of the 442 sampled, were polluted by heavy metals.
- Iron emerged as the most common contaminant with 156 of the sampled sites registering levels of the metal above safe limits.
- The other major contaminants found in the samples were lead, nickel, chromium, cadmium and copper.
- Marked variation was found in contamination levels depending on the season. For instance, iron contamination was persistent through most of the Ganga during monsoon but dipped significantly during the non-monsoon periods.
- Lead, cadmium, nickel, chromium and copper contamination were more common in non-monsoon periods while iron, lead, chromium and copper exceeded 'tolerance limits' in monsoon periods most of the time.
- Arsenic and zinc are the two toxic metals whose concentration was always obtained within the limits throughout the study period.

### ➤ Sources of pollution

- The main sources of heavy metal pollution are mining, milling, plating and surface finishing industries that discharge a variety of toxic metals into the environment.
- The authors of the report, cited population growth and rise in agricultural and industrial activities as the major reasons for contamination

### ➤ Impact

- The presence of metals in drinking water is to some extent unavoidable and certain metals, in trace amounts, required for good health. However when present above safe limits, they are associated with a range of disorders.
- Long-term exposure to the above-mentioned heavy metals may result in slowly progressing physical, muscular, and neurological degenerative processes that mimic Alzheimer's disease, Parkinson's disease, muscular dystrophy and multiple sclerosis.

### ➤ Various heavy metals and their impact

#### Iron:

- Iron is essential to almost all living things, from micro-organisms to humans. Iron is the fourth most abundant element in the earth's crust and the most abundant heavy metal.
- Iron is generally present in surface waters as salts when the pH is above 7. While normal amount of iron is essential, the normally large amount adversely affects the human system.
- Excess iron in vital organs, even in mild cases of iron overload, increases the risk for liver disease (cirrhosis, cancer), heart attack or heart failure, diabetes mellitus, osteoarthritis, and metabolic syndrome.
- It can also accelerate neurodegenerative diseases as Alzheimer's, early-onset Parkinson's, epilepsy and multiple sclerosis.

#### Chromium:

- Chromium is a steel-grey, lustrous, hard and brittle transition metal, which can exist in various forms in the environment; most soils and rocks contain small amounts of chromic oxide.
- Chromium is the main additive in stainless steel, to which it adds anti-corrosive properties. It is also highly valued as a metal that is able to be highly polished while resisting tarnishing.
- Chromium is an essential nutrient for humans and shortages may cause heart conditions, disruptions of metabolisms and diabetes.

- It is a danger to human health, mainly for people who work in the steel and textile industry. People who smoke tobacco also have a higher chance of exposure to chromium.

#### **Lead:**

- Lead is the most common in the heavy elements as several stable isotopes exist in nature. It is used mainly in the production of lead-acid batteries, solder and alloys.
- Lead poisoning occurs when lead builds up in the body, often over months or years.
- Exposure to even low levels of lead can cause damage over time, especially in children. The greatest risk is to brain development, where irreversible damage can occur.
- Higher levels can damage the kidneys and nervous system in both children and adults. Very high lead levels may cause seizures, unconsciousness and death.

#### **Arsenic:**

- Arsenic ranks 20th in natural abundance, comprising about 0.00005% of the earth's crust.
- The element occurs in the environment in different oxidation states. Generally, inorganic forms are more toxic and mobile than organo-arsenic species.
- Long term exposure to arsenic contaminated water may lead to various diseases such as conjunctivitis, hyper pigmentation, cardiovascular diseases, disturbance in the peripheral vascular and nervous systems, skin cancer and gangrene.
- The effects on the lungs, uterus, genitourinary tract and other parts of the body have been detected in the advance stages of arsenic toxicity.

#### **Nickel:**

- Nickel is released into the environment from a variety of natural and anthropogenic sources. Among industrial sources, a considerable amount of environmental Ni derives from the combustion of coal, oil, and other fossil fuels.
- In small quantities nickel is essential, but when the uptake is too high it can be a danger to human health. Skin contact with nickel-contaminated soil or water may also result in nickel exposure.
- Nickel fumes are respiratory irritants and may cause pneumonitis. Exposure to nickel and its compounds may result in the development of a dermatitis known as "nickel itch" in sensitized individuals.
- High level occupational exposure has been associated with renal problems, vertigo and dyspnoea.

### **Cadmium:**

- Cadmium is an element that occurs naturally in the earth's crust and is uniformly distributed in the Earth's crust.
- It is produced during extraction of zinc and is used in plating industry, pigments, in manufacture of plastic material, batteries and alloys.
- Exposure at low levels usually does not produce immediate health effects, but may cause severe health problems over long periods.
- In the last few years there have been some evidences that relatively low cadmium exposure may give rise to skeletal damage due to low bone mineral density (osteoporosis) and fracture.
- The adverse health effects caused by ingestion or inhalation of Cadmium include renal tubular dysfunction, high blood pressure, lung damage and lung cancer.

### **Copper**

- Copper is a soft, malleable, and ductile metal with very high thermal and electrical conductivity.
- It is one of the few metals that can occur in nature in a directly usable metallic form (native metals).
- Acute symptoms of copper poisoning by ingestion include vomiting, low blood pressure, coma, jaundice and gastrointestinal distress.
- Chronic (long-term) copper exposure can damage the liver and kidneys.

### **Zinc:**

- Zinc is widely found in nature and makes up 0.02% by weight of the earth's crust. It normally appears dull grey owing to coating with an oxide or basic carbonate. It is extremely rare to find zinc metal free in nature.
- Zinc is an essential trace element for plants and animals including human beings and it plays vital role in metabolic processes.
- The most common effect of zinc poisoning in human are non fatal 'metal fume' fever caused by inhalation of zinc oxide fumes and illness arising from the ingestion of acidic foods prepared in zinc galvanized containers.
- Zinc chloride in Zn salts produce dermatitis upon contact with the skin.

## **6.3 GANGA COUNCIL**

**Why in News:** Prime Minister Narendra Modi has chaired the first meeting of the National Ganga Council in Kanpur.

**The Environment (Protection) Act (EPA), 1986** envisages five tier structure at national, state and district level to take measures for prevention, control and abatement of environmental pollution in river Ganga and to ensure continuous adequate flow of water so as to rejuvenate the river Ganga as below:

- National Ganga Council under chairmanship of Prime Minister of India
- Empowered Task Force (ETF) on river Ganga under chairmanship of Union Minister of Jal Shakti (Department of Water Resources, River Development and Ganga Rejuvenation)
- National Mission for Clean Ganga (NMCG)
- State Ganga Committees
- District Ganga Committees in every specified district abutting river Ganga and its tributaries in the states.

➤ **National Ganga Council**

- The National Ganga Council or the National Council for River Ganga (Rejuvenation, Protection and Management) replaced the earlier National Ganga River Basin Authority (NGRBA).
- It is responsible for overall responsibility for superintendence of pollution prevention and rejuvenation of river Ganga Basin.
- NMCG is the implementation wing of the National Ganga Council.

➤ **National Mission for Clean Ganga (NMCG):**

➤ **Aims and objectives:**

- To accomplish the mandate of National Ganga Council
- Prevention, control and abatement of environmental pollution and rejuvenation of the river Ganga by adopting a river basin approach.
- To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.
- Restoring the wholesomeness of the river defined in terms of ensuring:
  - **Aviral Dhara - that is continuous flow of water**
  - **Nirmal Dhara - that is unpolluted flow of water**
  - **Geologic and ecological integrity.**
- **Structure:** It has a two-tier management structure, comprising of Governing Council and

- **Executive Committee:** The work of coordinating, supervising and deliberating on funding Namami Ganga projects is carried out by an executive committee of the NMCG that meets every month.

## 6.4 COP 25

**Why in News:** The UN climate change conference (COP25) at Madrid ended with no deal.

### ➤ Background

- The Paris accord established the common goal of avoiding a temperature increase of more than 1.5 degrees Celsius (2.7 degrees Fahrenheit) by the end of the century.
- So far, the world is on course for a 3- to 4-degree Celsius rise, with potentially dramatic consequences for many countries, including rising sea levels and fiercer storms.
- In this light, environmentalists have been lobbying to enhance countries' pledges to cut planet-heating greenhouse gases next year.
- The COP25 at Madrid was seen as a good opportunity for all the countries to come together again to this end.

### ➤ Highlights

- Delegates from almost 200 nations took part in the two week international climate talks at UN climate change conference (COP25) in Madrid.
- However, no deal was reached towards stronger efforts to tackle greenhouse gases or the carbon market regulation.
- This is being seen as loss of an important opportunity by the international community to show increased ambition on mitigation, adaptation and finance to tackle the climate crisis.

### ➤ No agreement to cut emissions by 2020

- Only 73 countries, representing just nearly 13% of total global emissions, have so far agreed to formally commit to higher mitigation targets by next year.
- Most countries in the list of 73 are small developing and island nations whose emissions are negligible as compared to big emitters like the USA, China and India.
- The few countries from the developed world in the list are European Union (EU) as a collective entity and few of its member nations such as France, Germany, Belgium and Spain.

- The final declaration in Madrid called on the “urgent need” to cut planet-heating greenhouse gases (GHGs) in line with the goals of the landmark 2015 Paris climate change accord. However, that fell far short of promising to enhance countries’ pledges to cut planet-heating greenhouse gases next year.
  
- **No agreement on regulation of carbon markets**
  - Negotiators postponed the regulation of global carbon markets until the next climate summit in Glasgow in a year.
  - Note: Carbon markets allow for buying and selling of carbon emissions with the objective of reducing global emissions.
  - Developing countries wanted a deal to be finalised in Madrid.
  - However, countries from Europe and elsewhere had said that no deal on how to govern the exchange of carbon credits was better than a weak one that could undermine a dozen or so existing regional carbon mechanisms.
  
- **Other outcomes:**
  - The delegates endorsed a declaration to help countries like small island states that are suffering the effects of climate change, although they didn’t allocate any new funds to do so.
  - The meeting passed the “Chile-Madrid Time for Action” declaration calling on countries to improve their current pledges to reduce greenhouse gas emissions.
  
- **Carbon markets**
- **The market mechanism:**
  - Under the Paris Agreement, every country has to take action to fight climate change. These actions need not necessarily be in the form of reduction in greenhouse gas emissions, which can constrain economic growth.
  - Only the developed countries have included absolute emission cuts in their action plans. Developing countries like India did not agree for absolute emission cuts, but said it would reduce its emissions per unit of GDP.
  - Yet, there is scope for absolute emissions reductions in developing countries too. For example, a brick kiln in India can upgrade its technology and reduce emissions. But because India does not need to make absolute reductions, there is no incentive to make this investment.
  - It is to deal with situations like these that the carbon market mechanism is conceived.

#### **Difference from Kyoto Protocol:**

- Carbon markets also existed under the Kyoto Protocol, but it is to be replaced in line with the Paris Agreement.
- The market mechanisms being proposed under the Paris Agreement are conceptually not very different, but are supposed to have more effective checks and balances, and monitoring and verification processes.

## **SOCIAL ISSUES**

❖ **Paper I: The articles in this section are relevant to the following topics:**

- **Salient features of Indian Society, Diversity of India.**
- **Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.**
- **Effects of globalization on Indian society**
- **Social empowerment, communalism, regionalism & secularism.**

## 7.1 MID DAY MEAL

**Why in News:** The Union government is set to conduct an audit of mid-day meal program across India, following the controversy surrounding the quality of food served in some schools in Uttar Pradesh.

### **Mid Day MEAL Scheme:**

- Scheme covers all children studying in class I to VIII.
- The program supplies free lunches on working days for children in primary and upper primary classes in government, government aided, local body, Education Guarantee Scheme, and alternate innovative education centres, Madarsa and Maqtabas supported under SSA and National Child Labour Project schools run by the ministry of labour.
- **MDM is covered by National Food Security Act, 2013.**
- **Ministry/Department :** Department of School Education & Literacy, Ministry of Human Resource Development
- **Objective:** To enhance, retention and attendance and simultaneously improving nutritional levels among children.
- **Factual Information:** Started in 1995 as National Program of Nutritional Support to Primary Education
- To achieve the above objectives, a cooked mid-day meal with the following nutritional content is provided to all eligible children.
- Malnutrition caused 69 per cent of deaths of children below the age of five in India, according to a UNICEF 2019 report. So Mid-Day Meal is of greater significance for India.

### ➤ **Issues with Mid-Day Meal Scheme**

- **Organizational problems**

There are too many layers of government involved in the scheme, resulting in poor information, coordination and monitoring.

- **Corrupt practices**

Rampant corrupt practices have been found from food procurement to distribution of hot cooked meals among children.

- **Social Discrimination**

Caste bias and discrimination continues in the implementation of the scheme. It has been found in many schools that foods cooked by lower caste cooks were not eaten by children.

- **Unhygienic issue**

There have been multiple incidents of unhygienic mid-day meals. Dead rats, worms, lizards and insects have been spotted in mid-day meals served at schools across India.

- **Fortification Issue**

Sub-standard food is served in many schools because there is not enough monitoring and accountability at the lower levels

- **Irregular Food Supplies**

Constant food and fuel supplies are not provided to the schools

➤ **Suggestions**

- To minimize the layers in the governance of the Mid-Day Meal scheme for effective Implementation and effective accountability mechanisms.
- Monitoring & Accountability Model: Committee of parents to audit food quality and other issues
- Audit reports to be discussed in PRIs
- To institute automated monitoring systems for the midday meals supply, via apps, SMS, email or whatsapp.
- The civil society, government and concerned citizens should work in a coherent manner to produce tangible results.
- Instead of the school teachers being involved with every aspect of Mid Day Meal, from shopping to tasting, a separate person should be engaged as Mid Day Meal incharge at cluster level under the scheme for maintaining records and making purchases.
- Funds and food supply should be given at regular intervals to the schools to avoid discontinuation of Mid Day Meal Scheme or financial burden over teachers. Provision of advance payment should be made.
- Mechanism should be evolved to monitor the schools in far-flung and mountainous areas so that the benefits of the scheme can reach really to the needy population.

- Cook-cum-helpers should be given awareness about hygienic conditions. They should be paid well so that they work with motivation and commitment and should be trained for hygiene and desirable cooking practices.
- Storage and other hygiene facilities should be provided in the schools
- Provision of hand wash should be made available in each school for students so that they can learn hygiene.

## 7.2 POSHAN ABHIYAAN

**Why in News:** The State governments and the Union Territories utilised a mere 30% of the funds released under the Poshan Abhiyaan, or the National Nutrition Mission, since it was launched.

### ➤ Poshan Abhiyaan

- Over the decades, Schemes run by various ministries and the governments at various levels have clearly failed to achieve synergy and thus failed to tackle malnutrition in India.
- For example, as per the survey (CNNS) released in 2019 by the Ministry of Health and Welfare, 35% of children under the age of 5 are stunted and in this age group, 17% are wasted (low weight for height) and 33% underweight (low weight for age).
- To comprehensively tackle malnutrition, the union government, in 2018, launched flagship Poshan Abhiyaan (or National Nutrition Mission) in Jhunjhunu, Rajasthan as an overarching scheme for Holistic Nourishment.
- It is aimed at improving nutritional outcomes among pregnant women, lactating mothers and children by reducing the level of stunting, underweight, anaemia and low birth weight by 2022.
- It is meant to benefit more than 10 crore people and was launched after a Cabinet decision on December 1, 2017.
- The programme through use of technology, a targeted approach and convergence strives to reduce the level of stunting, under-nutrition, anemia and low birthweight in children, as also focus on adolescent girls, pregnant women and lactating mothers, thus holistically addressing malnutrition.
- The Government has approved a 3-year budget of about Rs. 9000 crores, commencing from 2017-18, for this mission.

### Multipronged approach:

A multipronged approach under Poshan Abhiyan will have the following components as the pillars of the Mission:

**Convergence:**

POSHAN will provide the required convergence platform for all such schemes and thus augment a synergized approach towards Nutrition.

Convergence at centre is being achieved through formation of the National Council for Nutrition and the Executive Committee for POSHAN Abhiyaan. Similarly, the Convergence Action Plan at State, district and block level define the implementation and monitoring mechanism for the Abhiyaan.

**Behavioural change, IEC Advocacy :**

The problem for malnutrition is inter-generational and is dependent on multiple factors and socio-behavioural change is needed to address this.

The Mission seeks to mobilise the masses towards creating a nutritionally aware society. The aim is to generate a Jan Andolan towards Nutrition.

**ICDS-CAS (Common Application Software):**

The Abhiyaan empowers the frontline functionaries i.e., Anganwadi workers and Lady Supervisors by providing them with smartphones.

The software application, ICDS Common application Software (ICDS-CAS) especially developed for this purpose enables data capture, ensures assigned service delivery and prompts for interventions wherever required.

**Training and Capacity building:**

e-ILA (e-Incremental Learning Approach) is an online system where program functionaries will become more effective by learning to plan and execute each task correctly and consistently through methodical and ongoing capacity building.



➤ **Steps to ensure success of the scheme:**

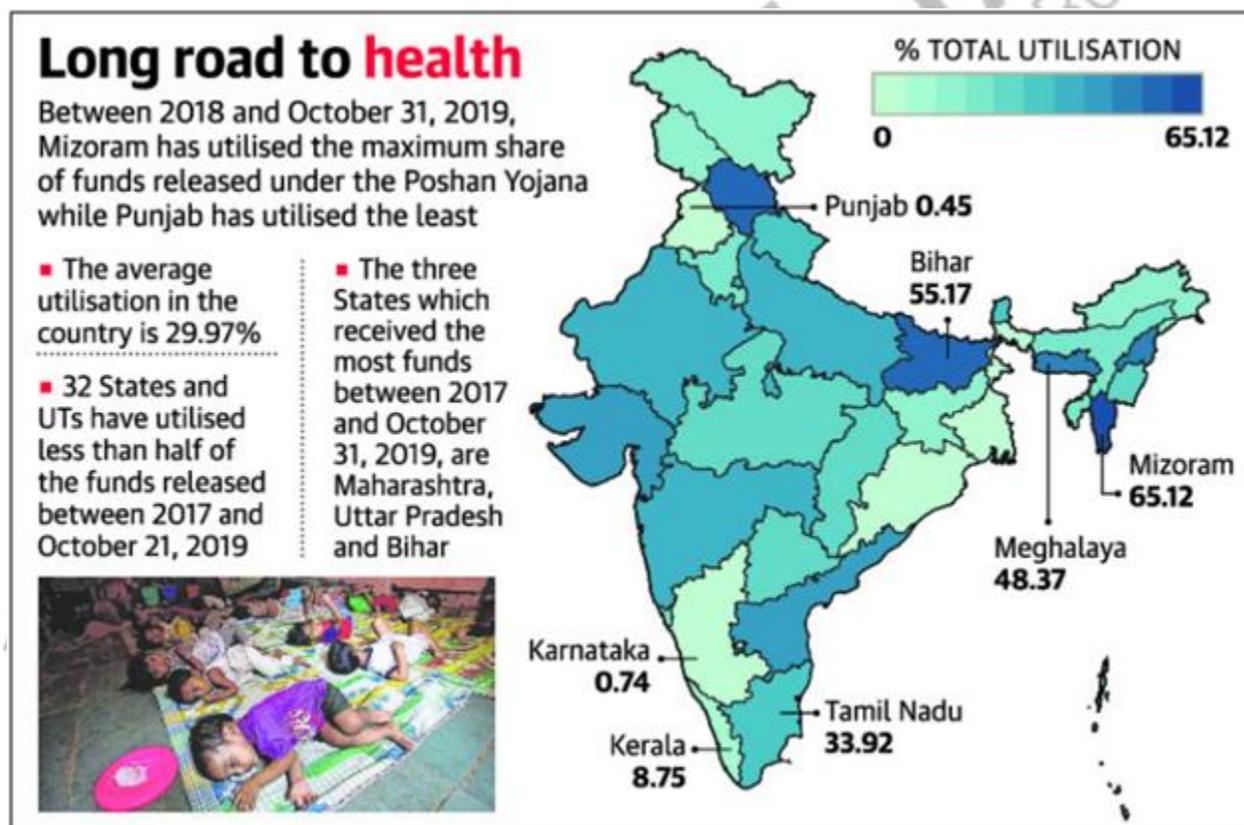
Various steps will be taken under the Abhiyaan to ensure success of the multipronged approach by achieving coordination and synergy. These include:

- **Coordination:** The National Council for Nutrition is tasked to provide policy directions, review program and establishing coordination and convergence of all ministries and their programmes relating to nutrition.
- **Workshops:** The Ministry of Women and Child Development conducts National workshops on POSHAN Abhiyaan involving all the States/UTs to provide handholding in using the softwares involved, and to augment the convergence with the different Ministries involved.
- **Synergy:** By synergizing frontline functionaries and volunteers like DAY-NRLM Self help groups, ANMs, Co-operatives, Swasth Bharat Preraks etc., the Ministry plans to reach 11 crore people.
- The Minister for Women and Child Development shared data related to Poshan Abhiyaan, or the National Nutrition Mission, in the Parliament.
- According to an analysis of the data, the State governments and the UTs utilised a mere 30% of the funds released under the since it was launched.
- While a total of Rs 4,283 crore was disbursed by the Centre to different States and Union Territories so far, only about 1,300 crore were utilised until October 31, 2019.

- During 2019-20, funds were released for 19 States, though 12 of them had used less than a third of the funds released in the previous two years.

### Statewise performance:

- Barring Mizoram, Lakshadweep, Himachal Pradesh and Bihar, none of the governments used even half of the sum granted in the past three years.
- The five best performers were Mizoram (65%), followed by Lakshadweep, Bihar, Himachal Pradesh and Meghalaya.
- The worst five performers were Punjab and Karnataka (less than 1 %), Kerala, Jharkhand and Assam.



## 7.3 ATAL BHUJAL YOJANA

**Why in News:** The Prime Minister launched the Atal Bhujal scheme to strengthen the institutional framework for participatory groundwater management. The Prime Minister has also released the operational guidelines for Jal Jeevan Mission (JJM) issued by the drinking water department.

➤ **Atal Bhujal Yojana**

- The Prime Minister also launched the Atal Bhujal scheme to strengthen the institutional framework for participatory groundwater management.
- It also intends to bring about behavioural changes at the community level for sustainable groundwater resource management in seven States and would pay special attention to those areas where groundwater was very low.
- The scheme will be implemented in about 8,350 water stressed gram panchayats in 78 districts of Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh.
- Of the total outlay of Rs 6,000 crore to be provided from 2020-21 to 2024-25, 50% will be in the form of World Bank loan to be repaid by the Central government.
- The remaining part will be made available via Central assistance from regular budgetary support.
- The entire World Bank's loan component and the Central assistance will be passed on to the States as grants.
- To incentivise gram panchayats, the Prime Minister said those with better performance would be given more allocation under the scheme.

➤ **Jal Jeevan Mission**

- Jal Jeevan Mission is a central government initiative under the Ministry of Jal Shakti, which was announced by the Prime Minister on the 73rd Independence Day.
- The programme aims to implement source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, and rain water harvesting.
- Based on a community approach to water, the mission will include information, education and communication as key components. The mission is meant to create a people's movement for water, making it everyone's priority.

➤ **Har Ghar Jal**

- The Jal Jeevan Mission aims to provide all households in rural India safe and adequate water through Functional Household Tap Connections (FHTCs) by 2024. The scheme was announced by the Finance Minister in Budget 2019-20.

- For proper use of water, reducing water wastage and improving ease of living of women and girls, three taps may be provided, viz. at kitchen, washing and bathing area and in the toilet.
- Following the Swachh Bharat Mission model, the government will also have a centralised dashboard for live updates of the coverage.

➤ **Institutional Mechanism:**

- To implement the JJM, there will be institutional mechanism at four levels - national, state, district and at gram panchayat or its sub-committees.
- The 73rd Amendment to the Constitution of India has placed the subject of drinking water in the Eleventh Schedule and has assigned its management to Panchayats. Keeping this in view, under JJM, Gram Panchayats and local community will play the pivotal role in planning, implementation, management, operation and maintenance of in-village water supply systems including drinking water sources.
- The scheme will be driven by panchayats, village water and sanitation committee (VWSC), paani samitis or user groups in villages to ensure rural households get 55 litres per person per day (LPCD) within the deadline.
- **Village Action Plan (VAP):** VAP will be prepared by Gram Panchayat or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. with support from government agencies. It will need to be approved by at least 80% households in a village for implementation.
- The paani samiti or the user group will decide about the user fee for sustainability of the scheme. To ensure women play a bigger role, the policy guidelines said 50% of the members of these samitis will have to be women.
- There will be equal representation of elected panchayat members and representatives from SC/ST community for rest 50% of the members in the committee.

## 55 LITRE PER PERSON PER DAY

➤ Currently 3.3 crore rural households out of 17.9 crore have tap connection

➤ Reverification & baseline data to be ready by March 2020

➤ Complying with BIS standard, scheme to ensure 55 litre per person per day drinking water

➤ At least **80%** of



households in a village has to accept the scheme for its implementation and contribution towards it

➤ Total investment: **₹3.6 lakh cr** (₹2.09 lakh cr by Centre & ₹1.51 lakh cr by states)

➤ Panchayat/paani samiti to decide user fee per household

- **Sub Schemes under Har Ghar Jal scheme** : There will be different sub-schemes for implementation of the massive program. The first will be retrofitting of completed rural water supply schemes to make them Har Ghar Jal compliant.
- The other two methodologies will be: Single village scheme (SVS) in villages where adequate groundwater or surface water source is available
- Multi village scheme where water grids/ regional water supply scheme has to be rolled out.

### MISCELLANEOUS and SCHEMES

#### ❖ National Broadband Mission

##### Vision:

The vision of the NBM is to fast track growth of digital communications infrastructure, bridge the digital divide and facilitate digital empowerment and inclusion.

##### Objectives:

- The objectives of the Mission are based on the principles of Universality, Affordability and Quality.
- The government plans to lay incremental 30 lakh route km of Optical Fiber Cable, while also increasing tower density from 0.42 to 1 tower per thousand of population by 2024.
- It envisages stakeholder investment of \$100 billion (Rs 7 lakh crore), including ₹70,000 crore from Universal Service Obligation Fund (USOF) in coming years.
- Additionally, a Broadband Readiness Index will be developed to measure the availability of digital communications infrastructure within a State/UT.
- It will develop innovative implementation models for Right of Way (RoW) and work with States/UTs for having consistent policies pertaining to expansion of digital infrastructure including for RoW approvals required for laying of OFC.
- Further, it will also create of a digital fiber map of the Digital Communications network and infrastructure, including Optical Fiber Cables and Towers, across the country.

#### **Significance:**

- The Mission will facilitate universal and equitable access to broadband services across the country, especially in rural and remote areas, while significantly improving quality of services for mobile and internet.
- It will go a long way in fulfilling the aspirations of the people and will enable fast track growth of digital communication infrastructure.

#### **❖ Global Hunger Index**

- **India was ranked 102 in the Global Hunger Index (GHI) 2019 out of 117 qualified countries, and categorised the nation under “serious” radar of malnutrition.**
- **Hunger is defined by caloric deprivation; protein hunger; hidden hunger by deficiency of micronutrients.**
- India's poor ranking has rightly caused much concern in the nation.
- **Indicators: For each country, values are determined for four indicators:**
- **Undernourishment:** the share of the population that is undernourished (that is, whose caloric intake is insufficient);
- **Child Wasting:** the share of children under the age of five who are wasted (that is, who have low weight for their height, reflecting acute undernutrition);
- **Child Stunting:** the share of children under the age of five who are stunted (that is, who have low height for their age, reflecting chronic undernutrition); and

- **Child Mortality:** the mortality rate of children under the age of five (in part, a reflection of the fatal mix of inadequate nutrition and unhealthy environments).

### ❖ **Global Gender Gap Index**

**The Global Gender Gap Index for 2020 has been released. Now in its 14th year, the Index is published annually by the World Economic Forum, (WEF).**

- The Report benchmarks countries on their progress towards gender parity in four dimensions:
  - Economic Participation and Opportunity
  - Educational Attainment
  - Health and Survival
  - Political Empowerment
- The analysis presented in the Global Gender Gap Report 2020 is based on a methodology integrating the latest statistics from international organizations and a survey of executives.
- The Report aims to serve as a compass to track progress on relative gaps between women and men on health, education, economy and politics.
- Through this annual yardstick, stakeholders within each country are able to set priorities relevant in each specific economic, political and cultural context.
- **Global Findings:**
- **While Iceland, Norway, and Finland occupy the top three spots, Yemen is ranked the worst (153rd), while Iraq is 152nd and Pakistan 151st.**
- Globally, the average (population-weighted) distance completed to gender parity is at 68.6%, which is an improvement since last edition.
- The improvement can largely be ascribed to a significant increase in the number of women participating in politics. The political gender gap will take 95 years to close, compared to 107 years last year.
- Worldwide, women now hold 25.2% of parliamentary lower-house seats and 21.2 per cent of ministerial positions, compared to 24.1% and 19%, respectively last year.
- However, the economic opportunity gap has worsened, widening to 257 years, compared to 202 years last year. Economic opportunities for women are extremely limited in India (35.4%), Pakistan (32.7%), Yemen (27.3%), Syria (24.9%) and Iraq (22.7%).

- Projecting current trends into the future, the overall global gender gap will close in 99.5 years, on average, across the 107 countries covered continuously since the first edition of the Report.
- **India findings:**
- **India has moved down to 112th position from its 108th position last year on the index of 153 countries to rank below countries like China (106th), Sri Lanka (102nd), Nepal (101st), Brazil (92nd), Indonesia (85th) and Bangladesh (50th).**
- **India is now ranked in the bottom-five in terms of women's health and survival and economic participation.**
- India has slipped to 150th rank on health and survival, to 149th in terms of economic participation and opportunity and to 112th place for educational attainment.
- The report also named India among countries with very low women representation on company boards (13.8%), while it was even worse in China (9.7%).

#### ❖ **Swadesh Darshan Scheme**

- 100% centrally funded for the project components undertaken for public funding.
- To leverage the voluntary funding available for Corporate Social Responsibility (CSR) initiatives of Central Public Sector Undertakings and corporate sector.
- Funding of individual project will vary from state to state and will be finalised on the basis of detailed project reports prepared by PMC (Programme Management Consultant). PMC will be a national level consultant to be appointed by the Mission Directorate.
- A National Steering Committee (NSC) will be constituted with Minister in charge of M/O Tourism as Chairman, to steer the mission objectives and vision of the scheme.
- A Mission Directorate headed by the Member Secretary, NSC as a nodal officer will help in identification of projects in consultation with the States/ UTs governments and other stake holders.
- India's rich cultural, historical, religious and natural heritage provides great scope to develop tourist circuits on specific themes to attract the tourists having a special interest in visiting such places.
- Government of India, Ministry of Tourism (MoT) launched the Swadesh Darshan Scheme (Central Sector Scheme)– for integrated development of theme based tourist circuits in the country in 2014-15.

#### ❖ **Good Governance Index**

**The rankings were launched by the Department of Administrative Reforms and Public Grievances, and the Centre for Good Governance.**

**The GGI takes into consideration ten sectors:**

Agriculture and Allied Sectors,  
Commerce & Industries,  
Human Resource Development,  
Public Health,  
Public Infrastructure & Utilities,  
Economic Governance,  
Social Welfare & Development,  
Judicial & Public Security,  
Environment and  
Citizen-Centric Governance.

These ten Governance Sectors are measured on total 50 indicators.

The Good Governance Day is observed on the birth anniversary of former Prime Minister Shri Atal Bihari Vajpayee. Good Governance Index has been scientifically designed on various parameters of governance.

#### **Outcomes of the report**

- Tamil Nadu topped the Good Governance Index. Maharashtra, Karnataka, Chhattisgarh and Andhra Pradesh followed among the 'Big States'.
- Among the 'Big States', the poor performers are Odisha, Bihar, Goa, and Uttar Pradesh with Jharkhand coming last.
- The States and UTs are divided into three groups — Big States, North-East and Hill States, and Union Territories.
- Puducherry is the best governed Union Territory followed by Chandigarh and Delhi. Lakshwadeep is the worst performing UT.
- In the agriculture and allied ranking, Madhya Pradesh, Mizoram and Daman and Diu are the best performing States in their groups.

- While assessing the performance of commerce and industries across States, Jharkhand, Uttarakhand and Delhi top the lists of their groups.

<b>State of governance</b>					
Rank	Big states	Score	Rank	Big states	Score
1	Tamil Nadu	5.62	10	West Bengal	4.84
2	Maharashtra	5.40	11	Telangana	4.83
3	Karnataka	5.10	12	Rajasthan	4.8
4	Chhattisgarh	5.05	13	Punjab	4.57
5	Andhra Pradesh	5.05	14	Orissa	4.44
6	Gujarat	5.04	15	Bihar	4.40
7	Haryana	5.00	16	Goa	4.29
8	Kerala	4.98	17	Uttar Pradesh	4.25
9	Madhya Pradesh	4.85	18	Jharkhand	4.23

#### ❖ **National Green Coprs Eco Club Program**

- National Green Corps is a program started in 2001-02 by the Ministry of Environment Forests and Climate Change.
- Aim: To provide opportunities for children to understand the environment and environmental problems through school eco-clubs.
- The program is a sub part of Environment Education Awareness and Training (EEAT) which is a central sector scheme of the Ministry of the Environment continuing since 1983-84.
- **Objectives of the Program:**
- To impart knowledge to school children through hands-on experience, about their immediate environment, interactions within it and the problems therein.
- To develop requisite skills of observation, experimentation, survey, recording, analysis and reasoning for conserving the environment through various activities.
- To inculcate the proper attitude towards the environment and its conservation through community interactions.
- To sensitize children to issues related to environment and development through field visits and demonstrations.

- To promote logical and independent thinking among children so that they are able to make the right choices in a spirit of scientific inquiry.
- To motivate and stimulate young minds by involving them in action projects related to environmental conservation.

### **Implementation**

- The scheme is being operated through Eco-clubs of 50-60 students having an interest in environment related issues, formed in member schools.
- Eco clubs are supervised by a Teacher In-charge who is selected from among the teachers of the member schools on the basis of his/her interest in environment related issues.
- There is District Implementation and Monitoring Committee to supervise, organise training for In-charge teachers and monitor periodically the implementation of scheme at the District level.
- There is a State Steering Committee for guidance, direction and to oversee the implementation of the scheme.
- The State Nodal Agency coordinates the implementation of the scheme in the State and organize related activities like training to Master Trainers.
- The National Steering Committee will give overall direction to the program and ensure linkages at all levels.

### **❖ White Island**

- Volcanic eruption in White Island of New Zealand.
- Whakaari/White Island (also known as just White Island) is an active stratovolcano, situated 48 km (30 mi) from the east coast of the North Island of New Zealand, in the Bay of Plenty.
- Whakaari/White Island is New Zealand's most active cone volcano which has been built up by continuous volcanic activity over the past 150,000 years. About 70 percent of the volcano is under the sea, making this massive volcanic structure the largest in New Zealand.
- Previous Eruptions: On 27 April, 2016 a short-lived eruption occurred in the evening. It deposited material all over the crater floor onto some of the crater walls.

### **❖ Bharatiya Poshan Krishi Kosh**

- The Union Government has launched 'Bharatiya Poshan Krishi Kosh' (BPKK) with the aim of reducing malnutrition in India.
- BPKK is a repository of diverse crops across 128 agro-climatic zones to help enable better nutritional outcomes.

- As part of Poshan Abhiyaan, Union Ministry of Women and Child Development has partnered with Bill and Melinda Gates Foundation for the Bharatiya Poshan Krishi Kosh project.
- India's first Poshan Atlas: BPKK would be accessible to policy-makers, administrators, experts and communities in order to help meet nutritional outcomes in the country.

#### **Objective**

- The Kosh aims to promote and reinforce healthy dietary practices both at the individual and community level and tackle malnutrition in a sustainable manner.
- BPKK database will provide insights on traditional crop varieties & encourage them in a particular region to promote dietary diversity.
- This is a step forward in the direction of 'Evergreen Revolution' that will bring together the nutritional needs of citizens with India's cropping patterns and agricultural production.

