

# IQRA IAS



## CURRENT AFFAIRS

**JUNE 2022**

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# POLITY AND GOVERNANCE

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

## 1.1 PRE-LEGISLATIVE CONSULTATION FRAMEWORK IN INDIA

**Why in News:** Recently Legislation and Expenditure Accountability Bill 2022 has been introduced as a Private Member's Bill in the Rajya Sabha.

### Introduction

**Pre-legislative Consultation** is a process where a Bill is properly scrutinized by all stakeholders prior to its enactment, to assess its Constitutionality and rights-compliance. **The purpose** is to enhance accountability of the Government leading to better policy formulation.

The 17th Lok Sabha has passed about 150 Bills in less than 3 years of its existence. On an average, 15 Bills have been passed in each session. In contrast, the 16th Lok Sabha had passed 133 Bills in its entire 5-year duration. While the productivity of the Lok Sabha can be applauded, the speed has come at the cost of debate and deliberation; the two core ideas of democracy that the Parliament stands for. This suggests that the current the Pre-legislative Consultation framework in India requires a relook.

### Current Pre-Legislative Consultation Framework in India

In 2014, the Ministry of Law and Justice issued a Pre-Legislative Consultation Policy (PLCP). Under the Policy, the Union Government is required to place legislative proposals (Bills, Rules, and Regulations etc.) in the public domain for a period of at least 30 days before they were submitted to the Cabinet for consideration.

**Each such draft proposal must be accompanied by a brief note:** (a) Justifying its necessity; (b) Financial implications; (c) Impact on the environment; (d) Impact on the Fundamental Rights of the people; (e) The social and financial costs of the Bill.

Comments received from the public need to be summarized and placed on the website of the Department or the Ministry concerned. These also need to be included in a note to the Cabinet along with the draft proposal.

**Scrutiny by Parliament:** Bills go through varying levels of discussions and scrutiny in the Legislature. When a Bill is introduced in a House of the Parliament the Presiding Officer can refer it to the appropriate Parliamentary Committee. The Parliamentary Committee deliberates the Bill in detail e.g., the Parliament took 5 years to examine the Bill to regulate surrogacy before passing it in 2021. However, the process is by-passed many times because the scrutiny is not mandatory e.g., the Constitution Amendment Bill to enable 10% reservation in education

and employment for Economically Weaker Sections was passed by the Parliament in just 2 days. The Presiding Officers of either House didn't send it for scrutiny.

In the 16th Lok Sabha (2014-19), only 25% of the Bills introduced were referred to Committees. In contrast, 71% and 60% of the Bills were examined by Committees during 15th (2009-14) and 14th (2004-09) Lok Sabhas, respectively

## Need to Strengthen Pre-Legislative Consultation Framework

- **Non Obligatory Nature of the Current System:** It is not obligatory for the Government to adhere to the established procedures. In the current Lok Sabha (17th), less than 20% of the introduced Bills have been referred to Parliamentary Committees (till September 2020). Since the introduction of the 2014 Pre-Legislative Consultation Policy, 227 of the 301 Bills (75%) introduced in Parliament have been presented without any prior consultation. Of the 74 placed in the public domain for comments, at least 40 did not adhere to the 30-day deadline. Further, the Government is under no obligation to justify why a given suggestion was excluded from the final draft.
- **Improving efficiency of legislations:** An effective Pre-Legislative Consultation Framework will ensure that any law or scheme must be based on the principle that its benefits outweigh the costs. It will also ensure that among the various alternatives available, the chosen one confers maximum net benefits.
- **Better Policy Formulation:** People engagement would get enhanced if the Pre-Legislative Consultation Framework is strengthened. People engagement will result in greater acceptability and better policy formulation. Direct consultation with general public democratizes access to Constitutional Rights and values. For instance, the Right to Information Act is seen as a landmark legislation when highlighting the role of civil society actors in the drafting of a Bill.
- **Augmenting Trust in the Legislature:** A robust framework will result in improving the transparency and accountability in the legislative process thereby enhancing trust of the masses in legislature.
- **Prevent Dominance of the Executive:** The Executive is an integral part of the Legislature, and when coupled with the anti-defection law, it assumes unfettered control over the Legislature. In such a scenario an effective Pre-Legislative Consultation Framework is desired to control its dominance and ensure accountability to the Legislature.
- **Overcoming the limitations of the Judiciary:** Pre-Legislative Consultation will help in better formulation of laws and address concerns of all stakeholders. This will reduce litigation post the passage of laws. The Chief Justice of India recently remarked that poorly drafted laws

result in lot of ambiguities leading to litigation and undue burden on the Judiciary. This will also address the concerns regarding Judicial over-reach to an extent.

## Proposed Legislation and Expenditure Accountability Bill, 2022

- The Bill has been introduced as a Private Member's Bill in April 2022 in the Rajya Sabha. It is based on the Organization for Economic Cooperation and Development (OECD) recommendations on policy-making practices.
- The Bill goes two steps further than the 2014 Pre-legislative Consultation Policy. First, it is a Bill, which means that if it becomes an Act, it will be legally binding on the Government. Second, it adds the dimension of a post-legislative check with fail-safe mechanisms.
- The specifics of the bill revolve around two technical assessments: a Legislation Impact Analysis or LIA (and correspondingly, a scheme impact analysis for public schemes) and a Post Implementation Assessment (PIA) report. The LIA report must offer an assessment of potential costs and benefits to society, the objectives of the intervention with clear measurable outcomes, and the experience of other countries, among other things.
- **The PIA has three aspects:** (a) Performance measurement, which evaluates schemes and laws against the objectives defined in the LIA; (b) Impact assessment, which evaluates qualitative aspects like social, environmental and legal effects and spillovers; (c) Perception surveys that measure people's satisfaction.
- The Bill requires laws and schemes to have expiry dates (sunset clauses). Such a provision would grant the Legislature an opportunity to re-make laws and schemes, thus ensuring that the nation stays up to date on the evolving dynamics of the world. Moreover, if a law or scheme fails its PIA test in three consecutive reviews, it would automatically be repealed.

## Global Scenario

- In the 1990s, many European countries as well as the US, Australia and Canada developed "better regulation" policies, which included ex-ante and ex-post evaluation of legislation.
- Among European countries, the UK required laws to be reviewed within three to five years of enactment.
- In Germany, ex-post evaluation is systematic and based on a standardized methodology set out in guidelines for public administrators.
- France requires mandatory periodic evaluation of legislation, which is enshrined within the law itself.

- In the USA, each standing committee, except Committee on Appropriation, is required to review and study, on a continuing basis, effectiveness of the laws dealing with the subject matter over which the committee has jurisdiction.
- In Australia, most laws have to be reviewed within two years and they expire after 10 years.
- In Canada, a most laws have review and sunset clauses.

## Way Forward

- First, the proposed 2022 Bill demands considerable effort by the Executive to undertake proper evaluations of schemes and legislative moves. It can lay the groundwork for a new institutional mechanism to ensure self-probity in public expenditure and law-making.
- Second, the media should do constructive reporting of legislative functioning and enlighten the masses about the probable impacts of a proposed legislation on their rights and interests. Along with this, civil society groups can support the stakeholders for raising their voice in a structured and impactful way.
- Third, the impacted stakeholders of any legislative Bill need to sideline their rigid opinions and ideologies in order to build consensus with fellow stakeholders and the Government. They need to realize that policy-making is an exercise in compromise and that nobody can expect to get their way every time.
- Fourth, the Government (Executive) has to be mindful of the established procedures and practices. Proper scrutiny by Parliamentary Committees can address loopholes in the proposed legislations and reduce the possibility of subsequent backlash (as happened with the Farm Laws). So the process should not be by-passed. Pre-legislative Consultation can be made mandatory for all Bills, along with exceptions in case the Government feels that urgent legislation is required to address a particular issue.
- Fifth, The Rules of Procedure and Conduct of Business in the Lok Sabha/Rajya Sabha can be amended. If the Government does not accept the recommendations of a Standing/Select Committee, then the Minister in charge of the Bill must submit a memorandum to Parliament explaining the reasons for rejecting such recommendations
- The Law Commission or an expert committee could first decide, with inputs from government and non-government stakeholders, the scope of post-legislative scrutiny by defining its boundaries, the types of legislation that require scrutiny, benchmarks of a successful legislation, the procedure for scrutiny, the body that should undertake the scrutiny and the time-period of the scrutiny. India could then incorporate within its legislation, a provision for systematic review of the law.

## 1.2 JUDICIAL ACCOUNTABILITY

**Why in News:** Recently, the Orissa High Court became the first in the country to publish an annual report that gives insights into the performance of the state's judiciary.

The High Court of Odisha has published a one-of-a-kind annual report of its performance in 2021. By the standards of the Indian judiciary, this is a rare exhibition of transparency. The report outlines the performance of the High Court and the lower judiciary in the State.

**The Chapter 'Introspection and Challenges' in the Report** observes, "For any institution, introspection is necessary to overcome the drawbacks and to enhance efficiency." With this report, the High Court has brought some transparency in its functioning and has subjected itself to the scrutiny of the common citizen. This has brought the issue of judicial accountability into the limelight and might induce other courts to follow higher standards of transparency and accountability.

### Judicial Accountability

The term judicial accountability means that the judges are responsible for the decisions they deliver. It also means that Judges be held accountable for their conduct. The Judiciary is not subjected to the same level of accountability as the Executive or the Legislative wings of the Government. The reason is that the principles of Judicial Independence and Accountability are sometimes regarded as fundamentally opposed to one another. Judicial independence is considered 'an essential pillar of liberty and the rule of law'. So if Judiciary is made accountable to the Legislature or the Executive it will impact its Independence.

### Current Framework of Judicial Accountability

- **The Constitution of India** provides for the removal of the judges of the Supreme Court of India and the High Courts for **misbehaviour and incapacity** by means of impeachment. The provisions of impeachment have been provided in the **Article 124(4) (SC Judge) and Article 217(1) (b) (HC Judge) of the Constitution**. To date, only one impeachment proceeding was initiated against a Supreme Court judge but the procedure failed. Similarly, no High Court Judge has been impeached so far.
- **Judges (Inquiry) Act, 1968** was passed to regulate the investigation procedure and to find proof showing incapacity and misbehavior on the part of the judges of the Supreme Court and the High Courts.



- **Article 235 of the Constitution provides for the 'control' of the High Court over the subordinate judiciary.** It provides an effective mechanism to enforce accountability of the lower judiciary.
- **The Supreme Court of India adopted a Charter called the Restatement of Values of Judicial Life in 1997.** It is the restatement of the pre-existing and universally accepted norms, guidelines and conventions observed by Judges. All the High Courts of the country have also adopted the same. The Charter contains guidelines for general behaviour of the Judges. However, it is not an instrument of judicial accountability in strictest terms.
- **A resolution of the Supreme Court in December 1999 declared that an 'in-house procedure' would be adopted to take action against judges who act against accepted values of judicial life.** In case of a complaint against a judge, the procedure allows the Chief Justice of that Court to set up an inquiry with a 3-judge committee. If the allegations are serious, the committee may recommend initiating proceedings for removal.

### Need for Judicial Accountability

- It will induce the judges to improve efficiency and deliver quality judgments thereby ensuring justice in the society.
- It will help in ensuring an impartial functioning that would augment public trust in the institution of judiciary. For instance, a major controversy erupted when a sitting Chief Justice of India was accused of sexual harassment. The CJI, instead of ordering external enquiry, set up an internal Committee to look into the matter and committee absolved him, while the complainant was not allowed to be represented by a lawyer.
- The scope of information which the courts are willing to share under RTI is not too wide. For instance, the Bombay High Court recently ruled that its 'file notings' on administrative matters are not required to be disclosed under the RTI Act. The reluctance of Judiciary to subject itself to greater transparency became evident when a former CJI remarked that the "institution of Judiciary can't be destroyed in the name of transparency".
- Unlike the executive, the judiciary is not under any legal obligation to prepare annual reports or table them before Parliament or the State Legislature. Only the High Courts of Madras, Himachal Pradesh and Tripura had published an annual report in the last two years.
- There exists no provision in the Indian Constitution which directs in reviewing the Supreme Court's decision. Except for the Supreme Court itself, there exists no other body or council to have a check on the decisions passed by the Apex Court.
- In the absence of any accountability, the pendency of cases has reached unprecedented levels (> 4 crore cases in lower courts). Since, Judges are not accountable to the people or to any other organs of the State, no concrete action has been undertaken to address this

pendency. Judicial Accountability might have provided an element of external pressure on the Judiciary to reduce pendency.

- The process of appointment of judges to higher judiciary lacks transparency. There is no visibility about what importance is given to credentials of judges in their ideological adherence to the constitutional ideals of a secular, socialist democratic republic etc.
- There are several shortcomings in the in-house procedure. There is no statutory basis for the procedure. No judge (who faced such committee) has agreed to resign because there was an adverse report by the committee. In some cases, allegations requiring further investigation were dismissed by such committees.
- A prominent news portal reported that in 2019, only 7 Judges of the Supreme Court voluntarily declared their assets. So self-regulation appears to have some limitations.

### Issues and Challenges with Judicial Accountability

- **Collegium System:** Judges appointing judges has led to concentration of immense power in hands of judges, promoting nepotism and violate the principle of check and balances.
- **Conduct of judges:** Judges have been alleged to have indulged in corruption, post retirement jobs etc.
- **In house functioning:** Opacity in the functioning of judiciary such as allocation of cases, judicial appointments, disciplinary actions etc. are informal and inefficient and there is urgent need to bring in transparency which further strengthens accountability.
- **Information asymmetry:** Judiciary has virtually kept itself out of the ambit of RTI Act thus restricting access to information, which further hinders process of holding judges accountable for their actions.
- **Judicial overreach:** Judicial activism enforces rights of people and society at large, however, there have been instances of judicial overreach violating the key principle of separation of power. Example, Scrapping of National Judicial Appointments Commission (NJAC) act.
- **Pendency:** Due to lack of accountability measures, pendency across all courts grew by 2.8% annually between 2010 and 2020. As of September 2021, over 4.5 crore cases were pending across all courts in India. Pendency has led to erosion of public trust in judges and judicial system.

### Steps Taken for Judicial Accountability

- Parliament can enact a law that mandates Judiciary to publish an annual report. This law should clearly outline the expected content of the report and establish a clear timeline for its publication.

- In India, the Judicial Standards and Accountability Bill was floated in 2010, but eventually lapsed. A new Bill on setting judicial standards is necessary. As suggested by a former Chairperson of the Law Commission, the new Bill must address the concerns with the old Bill and should avoid giving excessive control to the Legislature or the Executive.
- A permanent disciplinary committee should be set up at the central level to deal with complaints against judges. This committee should recommend further course of action based on the seriousness of misconduct. The SC should clarify the extent and scope of RTI applicability to the judiciary. This will help in avoiding divergence in RTI response across the states.
- The judiciary can also be brought under the scope of Lokpal to enhance accountability as seen in countries like Sweden where judiciary comes under the scope of the ombudsman.
- A regular performance evaluation system for judges should be established. There is a mechanism of evaluation at lower judicial level. There is no performance evaluation for higher judiciary.

### Way Forward

A more formal and comprehensive Code of Conduct for Judges should be put in place which is enforceable by law. Also, Annual reports on functioning and efficiency should be published to foster accountability as recently done by Orissa High court.

The actual challenge is to grant as much judicial independence as is necessary to have cases adjudicated impartially and neutrally. Maintaining this equilibrium between accountability and independence is the real task at hand. The Odisha High Court's step is the first step in this regard, however much more needs to be done.

## 1.3 AGNIPATH SCHEME

**Why in News:** The Government has unveiled a new Agnipath scheme for recruiting soldiers across the three services.

The soldiers recruited under the scheme will be called Agniveers. The changes in the recruitment policy of non-officer personnel to the armed forces is being termed as a radical shift. The scheme is expected to make the force leaner and reduce the defense bill.

### Agnipath Scheme

- It is a short-service manpower model under which around 45,000 to 50,000 soldiers will be recruited annually. Of these, 75% will leave the service in four years. 25% will be allowed to continue for another 15 years under permanent commission.

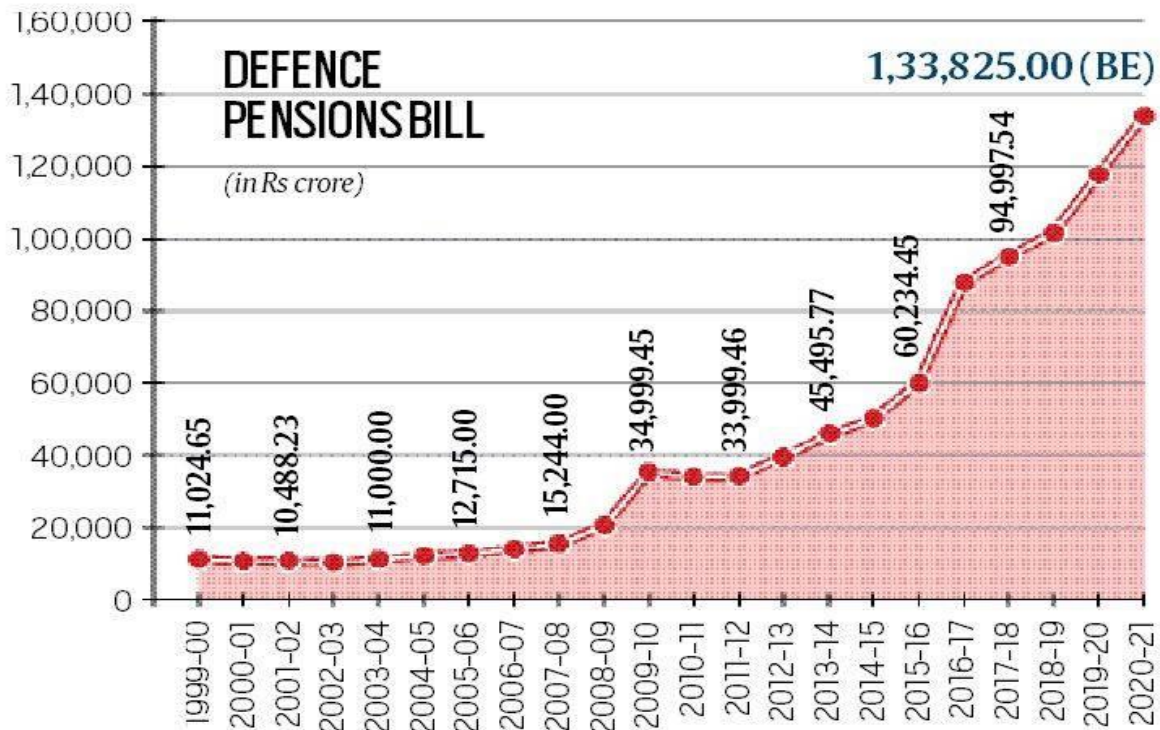
- **Eligibility Criteria:** The new system is only for personnel below officer ranks (those who do not join the forces as commissioned officers). Aspirants between the ages of 17.5 years and 21 years will be eligible to apply.
- **Post Selection Scenario:** Once selected, the aspirants will go through training for six months and then will be deployed for three and a half years.
- During this period, they will get a starting salary of INR 30,000, along with additional benefits which will go up to INR 40,000 by the end of the four-year service. 30% of their salary will be set aside under a Seva Nidhi program, and the Government will contribute an equal amount every month, and it will also accrue interest.
- At the end of the four year period, each soldier will get INR 11.71 lakh as a lump sum amount, which will be tax-free. They will also get an INR 48 lakh life insurance cover for the four years. In case of death, the payout will be over INR 1 crore, including pay for the unserved tenure. There shall be no entitlement to gratuity and pensioners benefits.

## Significance of the Agnipath Scheme

**Leaner and Younger Force:** The move will make the permanent force levels much leaner for the over 13-lakh strong armed forces in the country. As only 25% recruits will be allowed to continue for another 15 years under permanent commission. Further, the average age in the forces is 32 years today. It is expected to go down to 26 age in 6 to 7 years with the implementation of the scheme.

Notably, the Indian army in 1978 was more youthful than at present at the level of Other Ranks (ORs), with sepoy comprising 72.6% of a total of 8,45,025 men. Today, the number of sepoys has fallen below 40%. This is not a desirable mix when it comes to physically strenuous deployments, especially in high-altitude areas.

**Reducing Defense Bill:** A leaner force and reduced benefits will considerably decrease the defense bill, which has been a major concern for governments for many years. This year's Budget estimate on defense pension is INR 1,33,826 Crore which is 4.4% of total expenditure (0.6% of the GDP). Pensions made up 28.4% of this year's defense budget.



### PAY & BENEFITS: WHAT THE AGNIVEERS GET

- In Hand (70%)
- Contribution to Seva Nidhi (30%)\*

Similar contribution to corpus fund by Government of India\*\*



All figures in ₹ (Monthly Contribution)

Total contribution to Seva Nidhi after 4 yrs  
**10.04 Lakh**  
(₹ 5.02 Lakh\* + ₹ 5.02 Lakh\*\*)

**Exit After 4 Years** ₹11.71 Lakh as SevaNidhi Package  
(Including interest accumulated on the above amount as per the applicable rates)

Graphics: Ritesh Kumar

### India has more troops than China but far fewer aircraft and vessels

Country-wise comparison in 2021

	Ground forces (mn)	Naval vessels ('000 tonnes)	Combat aircraft
India	1.24	460	880
North Korea	1.10	110	550
China	0.97	2,120	2,900
US	0.67	7,290	3,520
Pakistan	0.56	100	440
Iran	0.50	160	340
South Korea	0.46	260	640
Russia	0.33	2,020	1,380
Japan	0.14	510	350
Israel	0.13	20	350

- **All India, All Class Recruitment:** The scheme will ensure 'All India, All Class' recruitment to the services. This is significant for the Army, where the regiment system has region and caste bases. National unity, camaraderie and bonding should not be predicated on caste, community, religion or provincial affiliation but on the more equitable notion of being a patriotic Indian.
- **Adhoc Buffer Force:** The ex-agniveers could act as an adhoc buffer force who may be called to serve again for boosting national security in times of external/internal threats.
- **Economic Benefits:** The skills and experience acquired during the 4-year service will allow the soldiers to get employment in various fields. This will also lead to availability of a higher-skilled workforce to the economy which will be helpful in productivity gain and overall GDP growth.

### **Issues and Challenges**

- **Difficult to Find another Job:** The 'Agnipath' scheme opens the way for recruitment of about 45,000 soldiers into Army, Navy and Air Force in the first year but on a short-term contract of four years. After the completion of the contract, 25% of them will be retained and the rest will leave the forces. The ex- agniveers may have to face hardships in getting employment after 4 years of service.
- **No Pension Benefit:** Those hired under the 'Agnipath' scheme will be given a one-time lump sum of a little more than Rs 11 lakh when they end their four-year tenure. However, they do not receive any pension benefits. For most, seeking a second job is essential to support themselves and their families.
- **Training May Remain Unutilized:** Forces will lose experienced soldiers. The jawans joining the Army, Navy and Air Force will be given technical training so that they are able to support the ongoing operations. But these men and women will leave after four years, which could create a void.
- The Indian Army's experiments so far with diversity in closed regiments have yielded mixed results. There is a probability that the new scheme may do more harm than good in diversifying the static regiments.

### **Way Forward and Conclusion**

First, the impact of changes such as hiring without the promise of lifelong benefits, the shortened training, and the opening out of regiments to AIAC can only be assessed in the coming years. Second, in more immediate terms, when recruitment begins under the Agnipath Scheme in September, the response will show to what extent the absence of a pension acts as a spoiler. Third, the Government should help rehabilitate soldiers who leave the services after

four years. They can be provided with skill certificates and bridge courses that will help them in finding gainful employment.

No reform can be fool-proof and without teething troubles. But as Agnipath Scheme concerns national defense and security, the Government will need to have a plan to anticipate and address the problems that lie beyond the bold step forward.

## **PRELIMS GIST**

### ❖ **National E Vidhan Application (NeVA)**

- **National E Vidhan Application NeVA system** has been developed to make all the work and data related to legislative bodies available online for the use of both citizens and the members of Assemblies.
- e-Vidhan is re-designated as NeVA.
- **Ministry of Parliamentary Affairs is Nodal Ministry for rolling out NeVA.**
- NeVA aims to bring all the legislatures of the country together, in one platform thereby creating a massive data depository.
- It will also help in streamlining information related to various state assemblies, and to eliminate use of paper in day-to-day functioning.

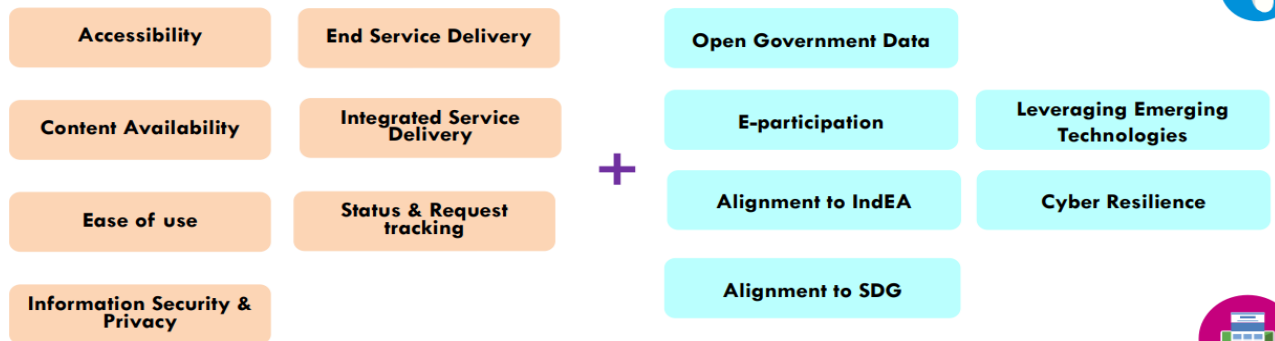
### ❖ **National e-Governance Service Delivery Assessment NeSDA 2021- second edition**

- **Ministry of Personnel, Public Grievances and Pensions** releases the second edition of the National e-Governance Service Delivery Assessment 2021, NeSDA 2021.
- **J&K tops among UTs in e-Governance services delivery**, saves around Rs 200 crore annually that was incurred in carriage of physical files during the Annual Durbar move between the two capital cities of Jammu and Srinagar.
- **NeSDA 2021:** For Digital Government excellence, the National e-Governance Service Delivery Assessment (NeSDA) initiative has been undertaken by the Department of Administrative Reforms & Public Grievances (DARPG).
- NeSDA was launched in August 2018, based on the Online Service Index (OSI) of UNDESA e-Government Survey (UN E-Government Survey 2020 by the United Nations Department of Economic and Social Affairs, since 2001).

## NeSDA Framework

- The framework covers six sectors, viz. Finance, Labour & Employment, Education, Local Government & Utilities, Social Welfare (including Agriculture & Health) and Environment (including Fire) sectors.
- The framework covers services under G2B (Government to Businesses) and G2C (Government to Citizens) segments, in these six sectors.
- The NeSDA framework primarily assessed all the service portals (State/UT and Central Ministry service portals) on 7 key parameters. In NeSDA 2021, the framework has been enhanced to include additional 6 parameters.

## NeSDA 2021 Framework - Assessment Parameters



Addition in NeSDA 2021

## NeSDA 2021 Assessment

Among the Central Ministry Services Portals, scores have improved for 6 portals while among States and UTs, scores have improved for 28 of the State / UT Portals and for 22 of the State / UT Services Portals.



## Improvement in country's e-Governance landscape (from 2019) highlighted by:

- Increase in e-Service Delivery
- Rise in use of integrated/centralized portals for delivery of e-Services
- Improvement across assessment parameter scores.
- e-Services of Finance and Local Governance & Utility Services sectors were most widely used.

Amongst all States and UTs, Kerala had the highest overall compliance score. Among North-East and Hill States, Meghalaya and Nagaland are leading States and among UTs, Jammu & Kashmir ranked the highest.

## ❖ **Registered Unrecognized Political Parties (RUPPs)**

- **Election Commission (EC) deleted 111 'non-existent' parties from the list of registered political outfits. These 111 Registered Unrecognized Political Parties (RUPPs) were found to be non-existent and violating the Representation of the People Act, 1951.**
- As per ADR, annual audit reports of only about 8.23 per cent RUPPs and the annual contribution reports of only about 5.72 per cent are available in the public domain for 2019-20.
- **It is to be noted that EC does not have the power to deregister a political party, a reform still pending approval from the government.** However, it can take up the issue of financial irregularities and seek mandatory compliance from the parties like sources and manner of donations, disclosures by companies, details of bank account etc.
- EC has initiated action against several registered unrecognized political parties under Sections 29A and 29C of the Representation of People Act, 1951, for claiming tax exemptions without fulfilling mandatory requirements.

## **Issues with RUPPs**

- Many were found to be existing only on paper or letters sent to their addresses returned undelivered.
- Misuse of Income Tax exemption on donations given to registered parties misused by some.
- Few RUPPs involved in "serious financial impropriety".
- Some of the registered parties may be collecting donations and using them for other purposes, functioning as shell entities and money laundering

## **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 INDUS WATER TREATY**

**Why in News:** The 118th meeting of the India-Pakistan Permanent Indus Commission (PIC) took place recently.

### **Introduction**

- The India-Pakistan Indus Commission has been created under the Indus Water Treaty (IWT).
- The treaty is an agreement that was signed by former Prime Minister Jawaharlal Nehru and the then President of Pakistan, Ayub Khan in 1960.
- It marked out control over the 6 rivers running across the Indus basin following the partition of India. The role of India, as a responsible upper riparian abiding by the provisions of the treaty, has been remarkable. However the country, of late, is under pressure to rethink the extent to which it can remain committed to the provisions, as its overall political relations with Pakistan becomes intractable.

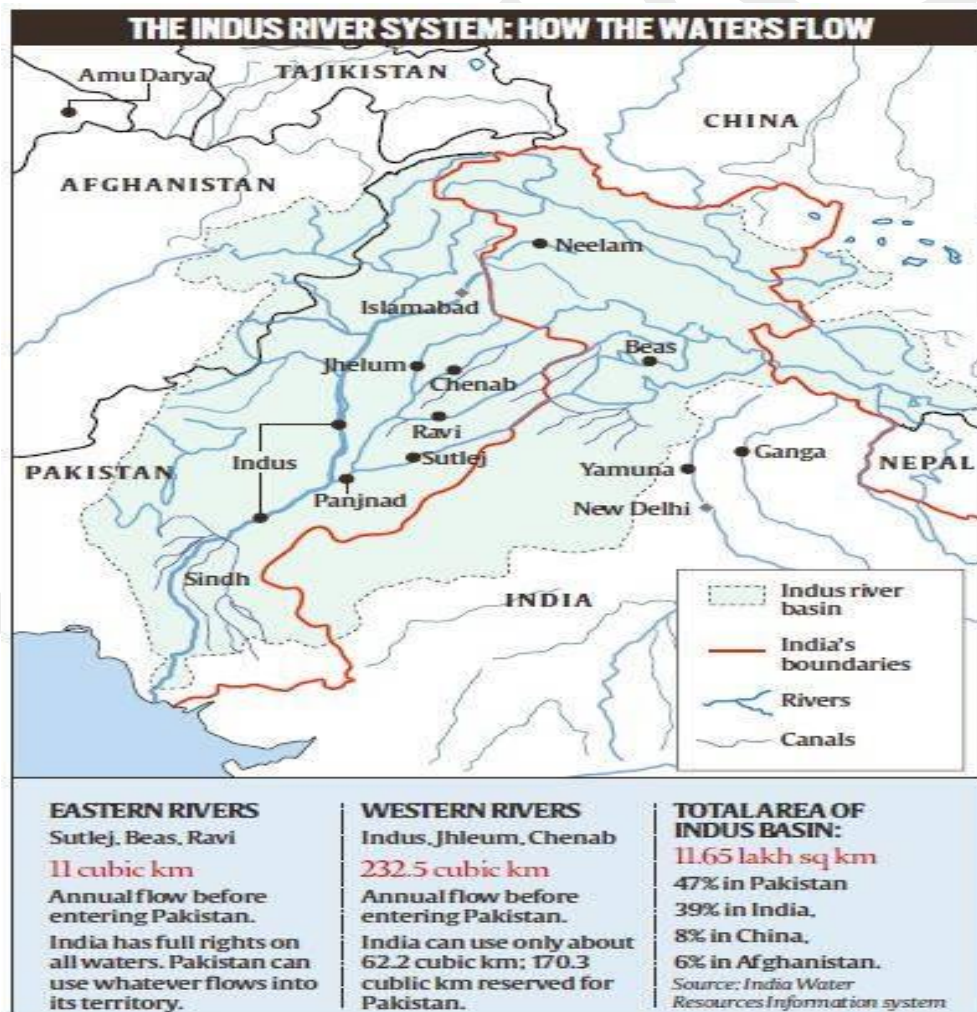
### **Background**

- **The six rivers of the Indus basin originate in the Himalayas/Tibet (Indus, Sutlej, Beas, Ravi, Jhelum and Chenab) and flow across the Himalayan ranges to end in the Arabian sea.**
- After Partition, initially, the issue of water sharing was sorted out by the **Inter-Dominion accord of May 4, 1948** that laid out that India would release enough water to Pakistan in return for annual payments (by Pakistan). The problems of this arrangement were soon realized and it was considered necessary to find an alternative solution. **Eventually, in 1960, the two countries reached a decisive step with the intervention of the World Bank wherein precise details were laid out regarding the way in which the waters would be distributed.**

### **Provisions of Indus Water Treaty**

- **The Treaty gives India control of 3 Eastern Rivers (Beas, Ravi and Sutlej) with a mean annual flow of 33 million acre-feet (MAF).**
- **Pakistan gets control of 3 Western Rivers (Chenab, Indus and Jhelum) with a mean annual flow of 80 MAF.**
- The treaty gives India 20% of the water from the Indus River System and the rest 80% to Pakistan.

- The treaty allows India to utilize the waters of Western Rivers for limited irrigation use and non-consumptive use for such applications as power generation, navigation etc. Thus, India can generate hydroelectricity through a run-of-the-river projects (without the storage of waters) on the western rivers, subject to specific criteria for design and operation.
- Further, Pakistan also has the right to raise concerns on the design of Indian hydroelectric projects on western rivers. The treaty allowed India to have a minimum storage level on the western rivers – meaning it can store up to 3.75 MAF of water for conservation and flood storage purposes.
- A Permanent Indus Commission was set up by the United Nations for resolving any disputes that may arise in water sharing. The functions of the commission include serving as a forum for exchange of information on the rivers, for continued cooperation and as a first step for resolution of conflicts.



## Conflict Resolution Mechanism under IWT

- The IWT provides a three step dispute resolution mechanism, under which “questions” on both sides can be resolved at the Permanent Commission, or can also be taken up at the intergovernmental level.
- In case of unresolved questions or ‘differences’ between the countries on water-sharing, such as technical differences, either side can approach the World Bank to appoint a Neutral Expert (NE) to come to a decision. And eventually, if either party is not satisfied with the NE’s decision or in case of ‘disputes’ in the interpretation and extent of the treaty, matters can be referred to a Court of Arbitration.

Pakistan has raised disputes on almost all of India’s projects on Western Rivers. These include Baglihar Dam on Chenab, Kishenganga Dam on Kishenganga River (tributary of Jhelum River), Tulbul Project on Jhelum River. The Baglihar Dam ‘Difference’ was resolved in 2007 through the World Bank-appointed expert, and Kishenganga Dispute was resolved through Court of Arbitration in 2013.

## Issues

- **The treaty has unequal sharing of the waters.** Pakistan has been allocated 80% of the Indus basin waters. Experts have termed this the most generous water sharing treaty. It is the only water-sharing pact in the world that compels upper riparian State to defer to the interests of the downstream State.
- **It prevents India from building any storage systems on the western rivers.** Even though the treaty lays out that under certain exceptional circumstances storage systems can be built, Pakistan deliberately stops any such effort. The extensively technical nature of the treaty allows Pakistan to stall legitimate Indian Projects.
- The basin’s size and volume is getting altered by climate change and this alteration is going to intensify in future.
- The contribution of glaciers in the Indus basin is higher than in the Ganges or Brahmaputra basins. A change in the flow conditions may classify as ‘change of circumstances’ which can justify renegotiation or termination in the future.
- The recent report of the Standing Committee of Water resources noted that canals in Punjab and Rajasthan (Rajasthan Feeder and the Sirhind Feeder) had become old and were not maintained properly. This had resulted in the lowering of their water carrying capacity. Thus, the water from the Harike Barrage on the confluence of the Beas and Sutlej in Punjab was usually released downstream into Pakistan. Pakistan is getting more waters than its entitlement in the Eastern Rivers.

## Way Forward

While the treaty may have served some purpose at the time it was signed, following efforts could be made to overcome the current bilateral challenges and optimize the use of Indus Water System resources:

- **Seeking cooperation:** Efforts could be made to seek cooperation with Pakistan in areas wherever it is possible. For example, Article VII of the IWT talks about “future cooperation” and calls for taking up joint studies and engineering works on the rivers.
- **Changing approach:** Both countries could also benefit from focusing more on a sub-basin level instead of managing the area with a singular holistic approach. Interventions at the sub-basin level that can account for contextual factors, such as the socio-economic composition of the area and the existing hydrology, would make the action more effective.
- **From rationality to relationality:** To achieve a stronger Indus Water Treaty, both states must shift from acting based on the rationality of water (water sharing) and focus instead on its relationality (benefit sharing). Relationality expands the definition of water from surface water (water quantity), to water quality, preservation of wetlands and biodiversity, soil erosion, conjunctive use of ground and surface water, and nature-based solutions.
- **Renegotiating the treaty:** A parliamentary panel has recommended renegotiating the treaty with Pakistan to address the impact of climate change on water availability in the Indus basin and other challenges which are not covered under the treaty.
- **Incorporate contemporary principles of international watercourse laws such as Helsinki Rules:** This is crucial to balance the rights and duties of the riparian states and for the holistic and integrated water resources management of the Indus river system. Helsinki rules assert the rights of all bordering nations to an equitable share in the water resources.

## 2.2 NUCLEAR DISARMAMENT AND INDIA'S STAND

**Why in News:** The Stockholm International Peace Research Institute (SIPRI) has released its yearbook.

### Introduction

The Report has highlighted some worrying trends in international security in the past year. The expected rise of the global nuclear arsenal was the chief cause of concern among SIPRI experts. The comprehensive report claims that while absolute numbers of nuclear arsenal have reduced, they are expected to grow over the next decade. Considering this scenario, it is imperative countries come forward and take prudent steps in order move towards Nuclear Disarmament.

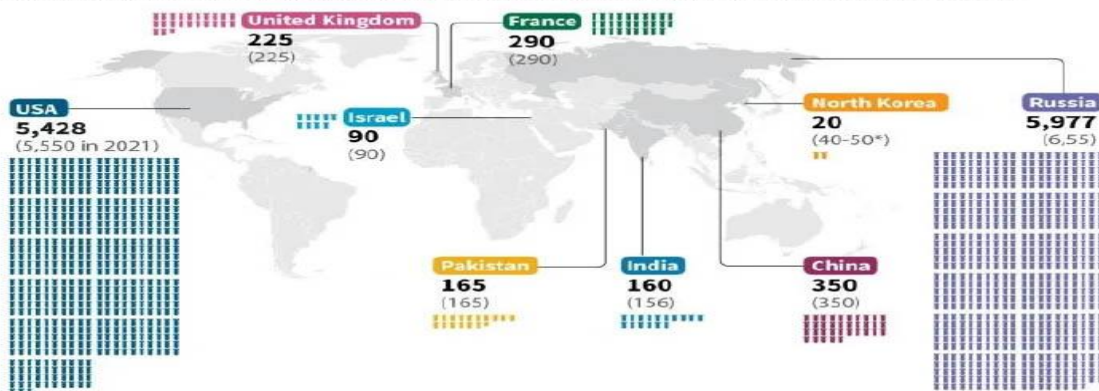
Nuclear weapons produce enormous explosive energy. For example, the atomic bomb dropped on Hiroshima, Japan, in 1945, contained only about 64 kg (140 pounds) of highly enriched uranium. However, it released energy equaling about 15 kilotons (1000 tons) of chemical explosive.

### Key Findings of SIPRI

- Russia has the highest number of nuclear weapons warheads, followed by the US (Both has more than 5000).
- However, the US has the highest number of deployed warheads followed by Russia.
- The US and Russia are followed by China (350), France (290), the UK (225), Pakistan (165), India (160), Israel (90) and North Korea (20). Thus, the rest of the nuclear powers are way behind the US and Russia in terms of nuclear weapon stockpiles.

### Nuclear weapons stockpiles

Warheads by country in 2022, according to the Stockholm International Peace Research Institute (SIPRI)



### Need for Nuclear Disarmament

- **Huge Magnitude of Destruction:** The enormous toll in destruction, death, injury, and sickness produced by the explosions at Hiroshima and Nagasaki was on a scale never before produced by any single weapon.
- **Against Rules of War:** Nuclear Weapons can't strictly obey the rule of differentiating between combatants and civilians. Even if it is used over the military, then also radiation can impact nearby civilian populations.
- **Sovereign Equality:** The destruction of nuclear weapons is imperative to truly realize the principle of sovereign equality of nations. Otherwise the world would remain divided between nuclear haves and have not's.

- **Fake Triggers:** As per recent reports, the U.S and Russia have a sufficient nuclear arsenal to completely destroy the earth. In such a scenario, any fake trigger using misinformation or fake news can destroy the very existence of human beings from earth.
- **Non-state Actors:** The growing recruitment of educated youth in terrorist organizations raises a fear that they may attain nuclear prowess in future. This situation can be disastrous and bring a state of anarchy as terrorist have no regard to international law.

## Steps Taken for Nuclear Disarmament

**Non-proliferation of Nuclear Weapons (NPT), 1968:** It was put forward by the USA, UK and USSR. It was signed in 1968 and came into force in 1970. The treaty has 3 pillars:

- (a) Nonproliferation: Nuclear Weapon States (NWS) pledge not to transfer nuclear weapons and technology and Non-nuclear Weapon States pledge not to acquire nuclear weapons;
- (b) Disarmament: All parties to pursue good-faith negotiations on effective measures to control nuclear arms race, and to general and complete disarmament;
- (c) Peaceful Use of Nuclear Energy: The Treaty recognizes the right of all Parties to develop nuclear energy for peaceful purposes.

India considers the treaty discriminatory as it creates a club of 'nuclear haves' and a larger group of 'nuclear have-nots' by restricting the legal possession of nuclear weapons to those states that tested them before 1967. India hasn't signed the treaty. Pakistan, Israel and South Sudan are other non-signatory countries.

- **Treaty on the Prohibition of Nuclear Weapons, 2017:** It prohibits and makes it illegal to possess, use, produce, transfer, acquire, stockpile or deploy nuclear weapons.
- **Export Control Groupings:** Nuclear Suppliers Group (NSG) and the Missile Technology Control Regimes (MTCR) are some of the nuclear export control groupings. These ensure that nuclear fuel export doesn't result in nuclear weapons development.
- **Conference on Disarmament (CD):** It is a multilateral disarmament forum established by the international community to negotiate arms control and disarmament agreements based at Geneva since 1979.

## India's Stance on Nuclear Disarmament

- India is fully committed to complete Nuclear Disarmament. India supports complete disarmament within a specified timeframe which distinguishes its stance from Nuclear Weapon States (NWS) which have an ambiguous stand regarding timeline for disarmament.



- India also insists that disarmament must be 'non-discriminatory' and pursued 'on the basis of equality' i.e., there must be no discriminatory provisions in favor of NWS as is the case with the Non-Proliferation Treaty (NPT).

## Conclusion

The recent geopolitical events transpiring around the world in practically all regions have made the global security climate more unstable. It is further aided by actions of authoritarian leaders of not just non-democratic systems but also of strongmen leaders of democratic systems. The two largest nuclear weapons holding states need to take on a more engaging role in the international arena.

SIPRI's yearbook should force the Governments to look critically at how the global disarmament project seems to be going. Apart from this, clear and constant communication between Nuclear weapon states is desired in order to avoid the usage of a nuclear weapon based on fake news or misinformation.

The nations must come forward and prepare a road map for a gradual phase down of nuclear weapons. It is sine qua non for long term wellbeing of humankind keeping in mind the saying of **Albert Einstein – "I do not know with what weapons World War III will be fought, but World War IV will be fought with sticks and stones"**.

## 2.3 14<sup>th</sup> BRICS SUMMIT & BEIJING DECLARATION

**Why in News:** Recently, Prime Minister of India attended the 14th BRICS summit which was virtually hosted by China.

- **Theme of the 14th BRICS Summit:** Foster High-quality BRICS Partnership, Usher in a New Era for Global Development.
- **BRICS Plus** virtual conference was also held as part of the main meeting with ministers from countries, including the UAE, Saudi Arabia, Egypt, Kazakhstan, Indonesia, Argentina, Nigeria, Senegal, and Thailand.

### Key Highlights of the Summit

#### Beijing Declaration

- It states that BRICS supports talks between Russia and Ukraine.

- The grouping is willing to support the United Nations' and ICRC's (The International Committee of the Red Cross) efforts to deliver humanitarian aid to Ukraine.

### China's Stand:

- Chinese President called on members to reject the "Cold war mentality" and oppose what he called the US and EU's "unilateral sanctions".
- The Chinese president also called for a larger security alliance within BRICS, underlining that Beijing would like to work with the grouping to operationalize the Global Security Initiative (GSI).
- Proposed by China in May this year, the GSI aims to be an Asian security framework that replaces "confrontation, alliance and a zero-sum approach with dialogue, partnership and win-win results".
- **On terrorism** - BRICS countries reiterated that only the UN Security Council has the authority for imposing sanctions.
- **On Afghanistan** - BRICS countries called for Afghanistan authorities to achieve national reconciliation through dialogue and negotiation and advised to establish a broad-based and inclusive and representative political structure. It also added that Afghan territory must not be used to shelter terrorists or attack any other country.

### India's stand:

- **India proposed initiatives:** India called for strengthening of the BRICS Identity and proposed establishment of Online Database for BRICS documents, BRICS Railways Research Network, and strengthening cooperation between MSMEs. India will be organizing BRICS Startup event this year to strengthen connection between Startups in BRICS countries.
- **Denial of Safe Haven to Corruption:** BRICS stressed the Initiative on Denial of Safe Haven to Corruption which further strengthen anti-corruption capacity building through education and training programs and enhance anti-corruption exchanges and cooperation within multilateral frameworks.

### Framework for Consumer Protection in E-commerce

It agreed for the establishment of the Digital Economy Working Group by upgrading the E-commerce Working Group. The BRICS nations have agreed to promote consumer protection in e-commerce by advancing the implementation of BRICS Framework for Consumer Protection in E-commerce.

## **Combating Transnational Drug Trafficking**

The summit also expressed concern over the serious drug situation in the world. BRICS declaration appreciate BRICS Anti-Drug Working Group's active role in combating transnational drug trafficking and promoting global drug governance and will further strengthen drug control cooperation.

**BRICS:** BRICS (Brazil, Russia, India, China and South Africa)

- The BRICS grouping aims to promote peace, security, development and cooperation in the world.
- It also aims at making a positive impact on the development of humanity and establishing a more equitable and fairer world.
- The notion behind the coinage of BRICS was that the nations' economies would come to collectively dominate global growth by 2050.
- Recently, Iran and Argentina have applied to join the BRICS mechanism. This could be the first expansion of the group since South Africa was included in 2010.

## **INDIA and BRICS**

- India's notable contribution to BRICS is proposal of the New Development Bank which was put on the BRICS agenda by India in 2012.
- India also added the Urbanization Forum to BRICS cooperation mechanisms to bring greater focus on intra-BRICS cooperation to learn from each other's experience in tackling challenges of rapid urbanization faced by all BRICS members.
- India institutionalized the practice of holding BRICS Academic Forum meetings as preparatory meetings feeding into the Summit agenda since 2009.

## **Way Forward**

The BRICS-plus framework can provide a gateway to alternative liberalization and economic integration impulses vis-a-vis the developed world.

Despite the divergent foreign and security policy priorities, the group unanimously acknowledges terrorism as a serious threat to their national, regional and international security.

There is a greater need to formalize BRICS cooperation on global financial sector reforms and be assertive in norm-setting that leads to financial flows earmarked for separate needs, such as climate change mitigation, resilient and sustainable infrastructure, and green technologies.

The BRICS must support post-pandemic growth and development in emerging countries and push for much enhanced multilateral efforts by furthering its deep connect with the Global South.

## PRELIMS UPDATE

### West Seti Power Project

- It is a proposed 750-megawatt Hydropower Project, which is to be built on the Seti river in far-western Nepal, which has remained on the drawing board for the last six decades.
- Lately, the government has remodeled the project as West Seti and Seti River (SR-6), a joint storage project, with the capacity to generate 1,200 megawatts of electricity.
- Its success is expected to restore India's image in Nepal and give it weightage in future considerations for hydropower projects, when competition is bound to be tough. West Seti, therefore, has the potential to be a defining model for Nepal India's power relations in future.



### International North-South Transit Corridor (INSTC)

- Iran started transfer of Russia goods to India by using International North-South Transit Corridor (INSTC).
- INSTC is a multi-modal transportation network, first envisaged in 2000 by Russia, India and Iran, to promote transportation cooperation among the Member States.
- INSTC connects Indian Ocean and Persian Gulf to Caspian Sea via Iran and is then connected to Saint Petersburg and North European via Russia.
- **Currently, it has 13 members: India, Iran, Russia, Azerbaijan, Armenia, Kazakhstan, Belarus, Turkey, Tajikistan, Kyrgyzstan, Oman, Ukraine and Syria.**

## INSTC Significance for India

- It will cut down the transportation costs of goods (by almost 30%) as well transportation time (almost half compared to suez canal) between India and Russia.
- It will help India to gain smooth access into Central Asia and beyond and will help to expand trade and investment links.
- Reduce dependence on current trading partners, especially energy connectivity, through realignment of supply chains.
- It is also being seen as India's answer to China's Belt and Road Initiative (BRI).

## Other Planned Corridors Connecting India with Russia and Europe

- Chennai-Vladivostok Maritime Corridor connecting India-Russia.
- India's Arabian-Mediterranean (Arab-Med) Corridor connecting India with mainland Europe via Piraeus port of Greece and Middle East.



## 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 DEFENCE MODERNISATION

**Why in News:** Addressing a webinar on the effective implementation of the provisions of the Union Budget 2021-22 in the defence sector, the Prime Minister listed a series of measures taken to boost self-reliance in the defence sector.

- The country is amongst the biggest defence importers in the world but now, it is working hard to change the situation and also to enhance its capacities and capabilities at a fast pace.
- A total amount of Rs 4.78 lakh crore has been earmarked for the Ministry of Defence in the Budget, with a nearly 19% increase in capital outlay.
- A share of the budget has been reserved for domestic procurement.

### Scenario

- **India's Imports:** India is the second largest importer in defence procurement in the world after Saudi Arabia.
- **PPP Model:** 7 projects have been proposed in Public Private Partnership (PPP) mode in the FY 2021-22 for operation of major ports.
- The private sector has been urged to come forward and take up the responsibilities of both designing and manufacturing of defence equipment.
- **Less Importance to the Navy:** The navy has not been given much importance as required. The share of the budget for the navy is slightly under 15% which is an increment from a few years back to around 12½% but the same was 18% in the FY 2011-12.
- **Negative List:** The 'negative import list' has been prepared by the government containing items that India seeks to stop buying from other countries.
- The government listed various items including weapons systems and assault rifles.
- **Air force:** India is gradually moving toward indigenization in the defence sector, it is only now that India has got its own indigenous aircraft, Tejas.
- India is lagging behind in manufacturing of its own engines, avionics and self-sufficient radars.
- A lot of progress in design and development of different parts of aircrafts has been made but when it comes to a compact aircraft system or a weapon system, India is a seeker not a manufacturer.
- **Army:** The Indian army is still woefully short on looking upon manufacturing of armaments like tanks.

India has made a great breakthrough in terms of artillery guns but the technological edge required to modernize its equipment has not been touched yet.

**Navy:** The navy ought to be given more importance than it has been given as of now as there are immense challenges at the sea; the biggest threat is China. The Navy has very serious capability gaps; as per the Maritime Capability Perspective Plan by 2027, India ought to have about 200 ships but there is still a lot to cover to reach the target.

However, the cause is not mainly funding but procedural delays or some self-imposed restrictions. However, the navy ensures that it has state of the art SONARs and Radars. Also, many of the ships contain a high amount of indigenous content.

### **Initiatives for Modernization of the Defence Sector**

- **Capital Acquisition Budget (CAB):** The Defence Ministry has decided to earmark around 64% of its modernization funds under the capital acquisition budget for 2021-22, a sum of Rs 70,221 crore for purchases from the domestic sector. For FY 2020-21, the capital budget allocation for domestic vendors was made at 58%, an amount of Rs 52,000 crore.
- **MSMEs and Startups:** This increase in CAB will have a positive impact on enhanced domestic procurement, having a multiplier effect on the industries including MSMEs and start-ups. The Defence India Startup Challenge (DISC) started by the defence ministry shall be lauded; over 1200 MSMEs participated in the fourth edition of the DISC in 2020.
- **Self-Reliant and Make-in India:** It would also increase employment in the defence sector. Hence, it is a welcome step towards encouraging Atma Nirbhar Bharat and Make in India.
- **The government in its negative list,** has included light combat helicopters, artillery guns; these items will not be imported by anyone thus encouraging self-reliant India.
- **The SRIJAN portal** has also been launched to facilitate the two initiatives. .

**Other Efforts:** The government has taken initiatives like de-licensing, deregulation, export promotion, encouraging FDI etc to liberalize the defence industry. In the last 3 years, 118 of the total 191 projects which have been sanctioned have gone to the Indian industries.

### **Challenges Associated to Modernisation**

**Decision Making Process:** The entire acquisition process of India is very tardy and the time taken from planning to acquire a defence equipment to actually executing the thought is a quite long procedure. Lowering down this time taking procedure to maximum 1-2 years is a big challenge.



**Public Sector Manufacturing and Capability:** The public defence manufacturing sector has really not been able to deliver the way it was mandated to. The sector by itself is not anymore able to cater to all the needs of the defence sector which is why involvement of the private sector should be encouraged.

**Manufacturing Sector:** India lacks a proper industrial base for the manufacturing of defence equipment. However, two defence zones have been set up in Tamil Nadu and in Uttar Pradesh which will provide the private sector with a base to operate upon.

This will reinvigorate the whole defence economy once these zones come up and begin their manufacturing.

### **Way Forward**

**Holding the Hands:** Getting the private sector into manufacturing; giving them opportunities to flourish in the sector and assuring them their efforts or investments in the field would not go waste.

The cost of manufacturing a particular weapon system is considerably high and if the private sector still manages to bear that high cost but the system does not get procured then the private sector cannot undertake such a huge loss. Moreover, there needs to be clarity in the government policies launched particularly for the private sector and enough boost to be provided to the PSU sector.

**Investing in the Defence Economy:** The defence economy is not a loss making venture. If India modernises its defence sector and reduces the defence imports, it can increase its GDP by 2-3% and create lakhs of jobs. It is a win-win situation and economically profitable. As GDP will go up and India will not only become self reliant in the sector but also an exporter.

**Modernising the Ports:** It is not just the shipbuilding but the entire structure of the ports needs a revamp. The Sagarmala project is one such initiative to revamp port infrastructure.

**Integration the Entire Marine System:** Maritime response to the neighboring nations is not only about providing the naval support but a much larger contribution of marine merchants, fisheries and its capacity to trade. There is also a need for a coordinating body at the apex level that assists in integrating all these sectors.

**Utilisation of blue economy:** India has an imperative need of exploiting the blue economy to its best. India has to develop its maritime industrial infrastructure so that it has the ability to look after its own requirements and the requirements of its immediate maritime neighbours.

## Conclusion

The government is taking the right steps towards becoming atma nirbhar but there is a need to boost defence PSUs and give them specific tasks to fulfill the desires of defence sector. Efforts are being continuously made to bring a new policy to get the private sector involved.

However, it still needs a lot to be done in terms of holding and uplifting them and assuring them that their efforts will not go wasted. There is an urgent need to focus on the navy in order to ensure India's maritime security. Revamping and modernising the ports, shifting from a seeker to a manufacturer and getting a hold on that technical edge that has eluded India.

## 3.2 PRELIMS UPDATE

### ABHYAS - High speed Expendable Aerial Target (HEAT)

- It was successfully flight-tested from the Integrated Test Range (ITR), Chandipur off the coast of Odisha.
- ABHYAS is an indigenous unmanned aerial target system to meet the requirement of Indian Armed Forces to eliminate air-borne threats designed & developed by Aeronautical Development Establishment of Defence Research and Development Organization (DRDO).

### Operation Sankalp

- In the backdrop of deteriorating security situation in the Gulf region, Indian Navy had commenced Maritime Security Operations in the Gulf Region in June 2019.
- Objective is to ensure safe passage of Indian Flag Vessels transiting through the Strait of Hormuz.
- India is dependent for about 85% of its demand for oil on imports. Also, around 60% of India's oil imports come from the Gulf region.

### Astra Mark-1

- The Ministry of Defence has signed a contract with the Hyderabad-based Bharat Dynamics Ltd (BDL) for the supply of the Astra Mark-1 for deployment on fighter jets of the Indian Air Force and Indian Navy.
- The Astra Mk-1 is a beyond visual range (BVR) air-to-air missile (AAM).
- BVM missiles are capable of engaging beyond the range of 20 nautical miles or 37 kilometers. AAMs are fired from an airborne asset to destroy an airborne target.

- The Defense Research and Development Organization (DRDO) for deployment on fighter jets like Sukhoi-30 MKI and Tejas of the IAF and the Mig-29K of the Navy.
- **Range: 110 km.**
- **Speed:** The missile can travel at speeds more than four times that of sound and can reach a maximum altitude of 20 km making it extremely flexible for air combat.
- **Significance:** AAMs with BVR capability provides large stand-off ranges to fighter aircraft. This can neutralize adversary airborne assets without exposing themselves to adversary air defence measures.

### “EX SAMPRITI-X”

- It is a joint military training exercise between India and Bangladesh.
- ‘Ex Khaan Quest 2022: It is a multinational Peacekeeping exercise featuring participation from military contingents from 16 countries (including India) that commenced in Mongolia.
- “IND-INDO CORPAT: It is a joint Coordinated Patrol between Indian and Indonesian Navy.



## **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.**
- **Agriculture**

## 4.1 12<sup>th</sup> MINISTERIAL CONFERENCE WTO

**Why in News:** The 12th Ministerial Conference (MC) of the WTO concluded recently.

The 12th Ministerial Conference of the WTO was held in Geneva, Switzerland from 12-17 June. The members of the World Trade Organization agreed to a series of deals the Conference. This includes temporary waivers on COVID-19 vaccines, a moratorium on e-commerce trade, food security and setting limits on harmful fishing subsidies.

### World Trade Organization (WTO)

- The World Trade Organization is the only international organization that deals with the rules of trade between countries.
- The WTO officially commenced in 1995 under the Marrakesh Agreement signed by 124 nations, replacing the General Agreement on Tariffs and Trade (GATT).
- Currently, it has 164 members and 23 observer governments (Iran, Iraq, Bhutan, Libya etc).
- According to its rules, all decisions are taken through consensus and any member can exercise a veto.
- Its aim is to promote free trade, which is done through trade agreements that are discussed and signed by the member states.
- The WTO also provides a forum for countries to negotiate trade rules and settle economic disputes between them.

### Ministerial Conference

- The Ministerial Conference is the WTO's top decision-making body and usually meets every two years.
- All members of the WTO are involved in the Ministerial Conference and they can take decisions on all matters covered under any multilateral trade agreements.

### Highlights of the Meeting

- **Curtailing harmful fishing subsidies:** The WTO passed a multilateral agreement that would curb 'harmful' subsidies on illegal, unreported and unregulated fishing for the next four years. Since 2001, member states have been negotiating the banning of subsidies that promote overfishing.

- **Exemption for Food Security:** Members agreed to a binding decision to exempt food purchased by the UN's World Food Program (WFP) for humanitarian purposes, from any export restrictions. However, countries would be allowed to restrict food supplies to ensure domestic food security needs.
- **Moratorium on e-commerce transactions:** Members agreed to continue the long-standing moratorium on custom duties on e-commerce transmissions. It will be continued until the subsequent Ministerial Conference or until March 31, 2024, depending on whichever comes first.
- **Temporary Waiver on Covid 19 vaccines:** WTO members agreed to temporarily waive intellectual property patents on Covid-19 vaccines without the consent of the patent holder for 5 years.

The fisheries agreement is of immense significance as it is the first time that members concluded an agreement with environmental sustainability at its heart. It will also help in the protection of livelihoods of the 260 million people who depend directly or indirectly on marine fisheries. It is only the second multilateral agreement on global trade rules struck in its 27- year history.

The exemption of WFP's food from tariffs is vital for promoting global food security especially in light of the global food shortages and rising prices caused by the war between Ukraine and Russia.

The temporary waiver will contribute to ongoing efforts to concentrate and diversify vaccine manufacturing capacity so that a crisis in one region does not leave others cut off.

## 4.2 GIG ECONOMY

**Why in News:** NITI Aayog has released a report with comprehensive perspective and recommendations on the gig-platform economy in India. The recommendations can help address the concerns of gig workers in India.

The rapidly burgeoning gig workforce is ushering in a new economic revolution globally. India is at the frontier of this revolution with its demographic dividend of half-a-billion labour force and the world's youngest population, rapid urbanisation, widespread adoption of smartphones and associated technology.

### Gig Economy

- Gig Economy is the evolving economic model wherein the firms hire workers on a part-time flexible basis rather than as full time employees.

- **The Code on Social Security, 2020 defines gig workers** as those engaged in livelihoods outside traditional employer-employee relationship. The workers work as freelancers or independent contractors. They generally have flexible and adaptable working hours based on individual preferences.
- The jobs in gig economy typically require interacting with the users through online platforms e.g., the drivers engaged with cab hailing platforms (Uber, Ola etc.), delivery workers engaged with restaurant aggregators (Zomato, Swiggy etc.), or tutors delivering lectures over online platforms.
- The workers engaged in such jobs are called Gig Workers. Gig Workers can be broadly classified into two categories: platform and non-platform-based workers.
  - **Platform workers** are those whose work is based on online software apps or digital platforms.
  - **Non-platform gig workers** are generally casual wage workers and own-account workers in the conventional sectors, working part-time or full time.
- The Gig workers can also be classified on the basis of skills. These are high-skilled, medium skilled and low-skilled workers.

## Gig Economy and India

- According to the NITI Aayog Report, at present, about 47% of the gig work is in medium-skilled jobs, about 22% in high-skilled jobs, and about 31% in low-skilled jobs. Trends show that the concentration of workers in medium skills is gradually declining and that in low skills and high skills is increasing.
- According to NITI Aayog Report, India's gig workforce currently stands at 77 lakh (2020-21). It is expected to rise to 2.35 crore by 2029-30. By 2029-30, gig workers will form 4.1% of India's total workforce, rising from 1.5% in 2020-21.
- Currently 27 lakh gig workers (35% of gig workers) are engaged in retail trade and sale, while 13 lakh (17%) are engaged in transportation sector.

### GIG, A NEW-AGE ECONOMY

<p><b>BENEFITS</b></p> <ul style="list-style-type: none"> <li>■ Creation of jobs on mass scale</li> <li>■ Freedom and flexibility of work</li> <li>■ Easy access to services</li> <li>■ Price advantage for consumers</li> </ul>	<p><b>DOWNSIDE</b></p> <ul style="list-style-type: none"> <li>■ Inconsistency in services</li> <li>■ Partners arm-twisted by service providers</li> <li>■ Difficult to trust a service provider without a recommendation from someone you trust</li> </ul>	<p><b>CHALLENGES FOR GOVT</b></p> <ul style="list-style-type: none"> <li>■ Highly unregulated</li> <li>■ Lack of policies on job structure, tax, privacy</li> <li>■ Exponential growth</li> </ul>
<p><b>FEW KEY PLAYERS</b></p> <p>UBER, OLA, ZOMATO, FOODPANDA, SWIGGY, AIRBNB, UPWORK</p>		
<p><b>CRUISE MODE</b></p> <ul style="list-style-type: none"> <li>■ Ola, Uber offered fat incentives in the initial years</li> <li>■ Targets were pretty achievable</li> <li>■ Hundreds of thousands availed bought cars to partner with Ola, Uber</li> <li>■ Few claimed to earned Rs 1 lakh a month</li> </ul>	<p><b>FOR OLA, UBER DRIVERS</b></p>	<p><b>REVERSE GEAR</b></p> <ul style="list-style-type: none"> <li>■ Drivers hit downhill road as Ola, Uber gained market share</li> <li>■ Incentives became unattractive</li> <li>■ Needed more trips to meet targets, had to face growing traffic</li> <li>■ Crimes on passengers compounded problems</li> </ul>

- There are 6 lakh workers (8%) in manufacturing and another 6 lakh (8%) in finance and insurance.
- However, a report by the Boston Consulting Group expects India's gig economy to rise to 90 million jobs (9 crore) in the next 8-10 years. Another industry report indicates that by 2024, more than 75% of the services industry will be staffed by gig workers. A report by Ernst and Young observed that Indian Freelancers hold a 24% share of the global online gig economy. According to a report by ASSOCHAM (Associated Chambers of Commerce and Industry of India), the gig sector has the potential to grow to US\$ 455 billion by 2024.

## Advantages

- Gig workers have the flexibility to work according to their convenience and availability. There are less restrictions related to fix work-hours, attendance etc. Workers have some flexibility in choosing their work hours. Some workers take gig jobs on a part-time basis to supplement their income from regular jobs. Cost
- **Efficiencies for Companies:** The companies are able to save costs on hiring full time employees. They are able to provide services more economically to the users. Jobs for Low-skilled workers: Gig economy provides jobs to many low and semi-skilled workforce with minimum conditions.
- **Gain Experience:** It enables the young undergraduates to gather valuable work-experience before joining formal employment.
- **Economical:** Many gig workers work remotely and save costs (e.g., on office commute).

## Disadvantages

- **Job Security:** Most gig workers work on a day-to-day basis, and can be terminated from their jobs without any notice. Many gig workers were laid off during the pandemic. Lack of Benefits: Gig workers have no social security benefits like ESI, PF or insurance. They have no paid leaves so failure to work means loss of wage.
- Gig/Platform workers are not covered in all the labour codes, specifically the 'Code on Wages, 2019' which prescribes minimum wages for various jobs. There is no wage regulation and the workers are at the mercy of aggregators.
- **Work Conditions:** Most workers have to put in long hours of work in order to make the job viable. A large components of workers' wages consists of incentive which coerces workers to work for long hours. This reduces the advantage of 'flexible work' in gig economy. There is lack of transparency on incentive structures.



- **Hidden Charges:** Many aggregators/platforms are burning cash by giving large discounts to users in order to capture larger market share. Companies try to sustain this by charging high commissions on gig workers.
- **Low Bargaining Power:** Platform workers have little or no voice. Technology has tilted the power and bargaining scales strongly in favour of the platform companies. Platforms have multiple other issues like (a) Frequent and random changes to the commission structure, (b) Delays in payments, (c) Deliberate miscommunication of earnings potential to attract gig workers; (d) Lack of access to basic amenities.

### NITI AAYOG on GIG Economy

- The NITI Aayog Report, 'India's Booming Gig and Platform Economy' has analysed the gig economy from gig workers' perspective and has made several recommendations.
- **Accelerating Access to Finance for Workers:** Access to institutional credit may be enhanced through financial products specifically designed for platform workers and those interested to setup their own platforms. FinTech and platform businesses may be leveraged to provide cash flow based loans to workers.
- **Skill Development for Workers:** Platform-led models of skilling and job creation need to be promoted for the gig and platform sector. Platforms can collaborate with the Ministry of Skill Development and Entrepreneurship, and the National Skill Development Corporation (NSDC) to nurture skilled workers and micro-entrepreneurship. Transformational up-skilling for workers presently engaged in the informal sector in trades such as construction, driving and other services can be undertaken.
- **Platformization:** A Platform India Initiative can be launched on the lines of Start-up India. The purpose would be to increase access to the platforms. This can be achieved by simplification and handholding, funding support and incentives, skill development, and social financial inclusion.
- **Enhancing Social Inclusion:** Gender & PwD workers Sensitization and Accessibility Awareness Program for workers and their families should be undertaken. Platform businesses can undertake partnerships with Civil Society Organizations (CSOs) to enable different sections of workers such as women workers and PwDs to take up employment opportunities in the platform sector through skill development, access to finance and assets.
- **Extending Social Security:** Platforms can offer paid leaves, and access to insurance along with pension and retirement benefits. Gig and platform firms may consider providing income support to workers. This will help in providing assured minimum earnings and social security from income loss in the wake of uncertainty or irregularity in work. **NITI Aayog has proposed RAISE Approach for operationalizing the Code on Social Security (CoSS), 2020.**

**The Code on Social Security, 2020, gives a legal identity to the term ‘gig worker’.** The Code defines gig worker as a person who performs work or participates in a work arrangement and earns from such activities outside of traditional employer-employee relationship.

The Chapter IX covered (a) Life and Disability Cover; (b) Accident Insurance; (c) Health and maternity benefits; (d) Old age protection; (e) Crèche; (f) Any other benefit determined by the Government. The Code recommends that schemes may be funded through a combination of contributions from Union and State governments, as well as gig platform aggregators.

The National Social Security Board will have oversight of the welfare of gig economy workers, and will include representatives of both aggregator companies and gig workers. The Code also mandates that the Union government establish a Social Security Fund for gig economy workers.

### **Way Forward**

- Platform companies should explore ways to ensure that every gig worker, irrespective of the number of hours put in every month, will be paid an equivalent living/minimum wages.
- Uber UK has committed to provide the national living wage, paid holiday time equivalent to about 12% of driver’s earnings along with a pension plan to its driver. Other companies can replicate this model.
- The provisions of Code on Social Security should be put into effect. However, the implementation should be undertaken in a gradual manner. Platform companies should be provided time to adjust their business to the new conditions that will increase their costs. NITI Aayog’s RAISE Approach can be adopted.

### **Conclusion**

Gig Economy has the potential to create jobs for India’s large workforce, especially the low-skilled workers. The Government must take appropriate steps to support the expansion of gig economy and platforms. At the same time, the interests of the gig workers must be protected to provide them with just work conditions as well as social security benefits. Achieving the balance will need some effort from all stakeholders.

## 4.3 NIPUN INITIATIVE

**Why in News:** Recently, an innovative project for skill training of construction workers called 'NIPUN' i.e. National Initiative for Promoting Up-skilling of Nirman Workers was launched.

- MoHUA's NIPUN is creating a future labour force for the construction industry which will propel innovation and large-scale development in the country.
- The construction sector is on track to become the largest employer by 2022.

**NIPUN:** The basic motive of the project is to train over 1 lakh construction workers, through fresh skilling and up-skilling programs.

This project is running under the flagship program of the Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)

### Implementing Agency

- National Skill Development Corporation (NSDC) will be responsible for the overall execution of training, monitoring and candidate tracking.

**NIPUN Project:** The project implementation is divided into three parts:

- Training through Recognition of Prior Learning (RPL) at construction sites.
- Training through Fresh Skilling by Plumbing and Infrastructure Sector Skill Council (SSC).
- International Placement through industries/ builders/ contractors.
  - The courses are aligned with the National Skills Qualifications Framework (NSQF).
  - It will be imparted at accredited and affiliated training centers only.
  - It is also envisaged that NSDC will place approximately 12,000 people in foreign countries such as the Kingdom of Saudi Arabia, UAE and other GCC countries.

### Benefits associated with the Project NIPUN

- **Access to New Opportunity:** The NIPUN Project will enable the construction workers to seek better job opportunities, increase their wages and even pursue overseas placements.
- **Spirit of Entrepreneurship:** It has been encouraged and supported by giving urban workers access to self- employment and skilled wage employment opportunities. This initiative will enable Nirman workers to be more proficient and skilled.

- **Skill Advancement:** Nirman workers can adopt advanced skills keeping in mind the future trends associated with the construction industry by upgrading their capabilities and diversifying their skill sets.
- The Ministry also undertook technology challenges which led to implementation of six Light House Projects in a record time wherein technology and local material was used to construct sustainable green buildings.
- **Growth of Economy:** Construction industry is a significant contributor to the nation's GDP so this scheme will catalyse the GDP growth.
- **Social Security:** It will provide trainees with 'Kaushal Bima', a three-year accidental insurance with coverage of INR 2 lakhs, digital skills such as cashless transactions and EPF and BOCW facilities.

#### Add on:

- **NIPUN Bharat Mission:** The Ministry of Education has launched a National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat), for ensuring that every child in the country necessarily attains foundational literacy and numeracy (FLN) by the end of Grade 3, by 2026-27.

#### Deendayal Antyodaya Yojana: National Livelihoods Mission (DAY-NRLM):

- DAY-NULM is a Centrally Sponsored Scheme, being implemented since 2014-15.
- Its aim is to reduce poverty and vulnerability of urban poor households in the country by enabling them to access self-employment and skilled wage employment opportunities.

## 4.4 GLOBAL SEMICONDUCTOR SHORTAGE

**Why in News:** The Semiconductor Industry is facing an acute crisis with a global semiconductor shortage.

Multiple industries are dependent on semiconductor chips for their inputs. Hence, the shortage is expected to have a major impact on global manufacturing industry and consequently the economy.

The shortage has persisted for almost a year now with no immediate respite in the foreseeable future. What is concerning is that the IMF has already predicted a slowdown in the global economy. The semiconductor crisis may exacerbate the slowdown further.

## Semiconductors

Semiconductors are the building blocks of today's technology. For instance, semiconductor chips are widely used in (a) Computers and laptops; (b) Phones, mobile devices and other electronic gadgets; (c) Automobiles; (d) Aviation; (e) Medical devices especially diagnostics; (f) Military equipment among others.

Semiconductors make the devices more compact, less expensive, and more powerful.

### Global Semiconductor Industry Scenario

Semiconductor manufacturing comprises the front-end fab manufacturing and the back-end assembly, including packaging and testing. Globally, this entire value chain is steeped in interdependence between a handful of countries like the USA, Taiwan, Japan, China and some European nations. Semiconductor manufacturing is now dominated by Taiwan Semiconductor Manufacturing Company (TSMC) in Taiwan and Samsung Electronics in South Korea.

The global semiconductor shortage has affected many industries for more than a year. The shortage has caused a rise in the prices of chips as well as the waiting time has increased. This has impacted all industries in terms of their outputs. The shortage has affected smartphones, personal computers, game consoles, automobiles, and medical devices.

Recently, the Japanese automaker (Toyota) cut its global production target for the period between April and June by 1, 00,000 to 7, 50,000 vehicles in May 2022. Similarly, in October 2021, Apple said it lost US\$ 6 billion to chip shortage in the last quarter. Furthermore, CEOs of AMD, Nvidia and Intel have said at different forums recently that the chip situation will remain tight for the rest of 2022.

### Reasons for Global Shortage

**Impact of Pandemic:** The COVID-19 pandemic had a major impact on professional and personal lives. A whole lot of activities shifted from physical world to virtual media. A large workforce switched to work from home while the schools conducted their classes online.

Thus, high consumer demand for low-end products, coupled with large orders from tech firms choked chip makers. Moreover, the manufacturing facilities were shut down due to the pandemic and lockdowns.

Similarly, when the pandemic began, carmakers stopped requesting chips from suppliers due to low demand for new vehicles. And now, as they ramp up production to meet consumer demand, chip makers are down on supply because they have cut deals with other industries.

- **Russia- Ukraine Conflict:** Russia's invasion of Ukraine has strained exports of essential commodities used to make chip sets. Russia supplies rare materials like palladium, and Ukraine provides rare gases to make semiconductor fab lasers.
- **Shift to 5G Technology:** Semiconductor companies have been gearing up to ramp up capacity for manufacturing advanced chips required by 5G Technology. They were already cutting down on the production of older chip systems. The pandemic and supply chain disruption exacerbated this shortage.
- **Complex manufacturing systems:** Each segment of semiconductor manufacturing involves roughly 25 countries in the direct supply chain, and 23 countries in allied functions, according to a joint study by Global Semiconductor Alliance and Accenture. Due to this, the industry was unable to produce sufficient chips when the pandemic hit the world
- **Manufacturing Practices:** Many manufacturing firms that use chips (especially in the automotive sector) keep minimum inventory of semiconductor chips. They practice Just-in-Time (JIT) techniques of manufacturing in order to cut down inventory (storage) costs. After the pandemic, as car manufacturers ramp-up their production, they don't have any spare chips.

## India's Stand

- India has done well in design and verification for the semiconductor industry, with most of the global semiconductor companies having an R&D footprint in India. However, 100% of India's chips, memory and display are imported.
- In 2020, India spent US\$ 15bn on electronic imports, with 37% coming from China.
- Although India has two fabs: SITAR, a unit of the Defence Research and Development Organisation (DRDO) in Bengaluru and a semiconductor laboratory in Chandigarh. These build silicon chips for strategic purposes like defence and space and not for commercial use.

## 4.5 UKRAINE WAR & GLOBAL FOOD CRISIS

**Why in News:** As of June 1, 2022, the Agricultural Price Index was 40% higher compared to January 2021, according to the World Bank. Maize and wheat prices rose 42% and 60%, respectively, from the levels of January 2021. The Food Price Index of FAO has reached its highest level since it was started in 1990.

### Background

Russia's invasion of Ukraine and the subsequent sanctions on its economy have sent global food prices soaring. This has threatened to push millions of people, especially those in low-income

countries, into starvation. Ukraine and its allies in the West have accused Russia of weaponizing food, saying that its blockade of Ukraine's Black Sea ports is the primary reason for the rising prices.

Russia has blamed Western sanctions for the global food crisis.

Almost all economies in the world have been hit by higher food prices. Across the western world, there's a cost-of-living crisis with food and energy prices at record high. In the U.K., inflation numbers have already hit a 40-year high.

Almost 90% of emerging markets and developing economies experienced food price inflation greater than 5% this year. In India, the Consumer Price Index has risen by 10.5% since January 2020, leaving consumers facing much higher prices for essential food staples. Many Low-income countries have been hit the hardest because they are reliant on imports for basic food consumption.

According to the UN World Food Program (WFP), Ethiopia, Nigeria, South Sudan and Yemen remain at 'highest alert' as hotspots with 'catastrophic conditions'. The World Food Program estimates that the number of severely food insecure people was 276 million at the start of 2022.

The number is feared to increase to 323 million by the end of 2022. The war has set in a vicious cycle: Higher inflation has led to higher cost of living. This has wiped out people's real income and they are unable to adjust to rising costs. The Russia Ukraine conflict threatens to tip tens of millions of people over the edge into food insecurity, followed by malnutrition, mass hunger and famine.

## **Global Food Security**

### **Wheat**

Russia and Ukraine together account for more than 25% of the world's wheat supplies.

According to the FAO, about 50 countries depend on Russia and Ukraine for more than 30% of their wheat imports. Turkey, Egypt, Bangladesh and Lebanon meet over 60% of their imports from these two countries.

### **Corn and Sunflower**

Ukraine is the world's eighth largest producer and fourth largest exporter of corn, accounting for 16% of global exports. It is the world's largest exporter of sunflower oil. India has been

particularly hit by shortage in sunflower seed oil. It imported nearly \$8 billion worth of the oil from Ukraine between 2016 and 2020.

## Fertilizers

Russia is also a leading exporter of fertilizer, an essential commodity for food production. Russia and its ally Belarus together account for some 38% of potassic fertilizers, 17% of compound fertilizers, and 15% of nitrogenous fertilizers.

## Conclusion

According to the estimates of the World Bank, Global food, fuel and fertilizer prices are projected to be sharply higher this year and will remain elevated till 2024. The current global food crisis would result in widespread hunger and starvation which can become a humanitarian crisis. Therefore in the interest of humanity and world prosperity, the West and Russia must find a diplomatic solution to the ongoing war.

## PRELIMS UPDATE

### Single Nodal Agency

Ministry of Finance launched the Single Nodal Agency (SNA) dashboard of the Public Financial Management System (PFMS) to ensure effective leveraging of technology in public finance. The initiative is a part of forms part of PFMS reform that was initiated in 2021 with regards to how funds for Centrally Sponsored Schemes (CSS) are released, disbursed, and monitored.

### SNA Model

- The SNA model requires the states to notify an SNA for each Centrally Sponsored Scheme (CSS) which will open a unique bank account at a commercial bank responsible for all transactions related to the implementation of the particular CSS.
- Now, the SNA dashboard is launched as a system to track the transfer of funds to states for centrally sponsored schemes and the utilization of funds by central agencies.
- The system would help cut down on the interest expenditure as money would be released at the stage where it is needed. By providing data on unspent balances for CSS, state government departments can now rationalize their proposal for the fund released.

### NEOBANKS

- Neo-banks are online-only financial technology (fin-tech) companies that operate solely digitally or via mobile apps.



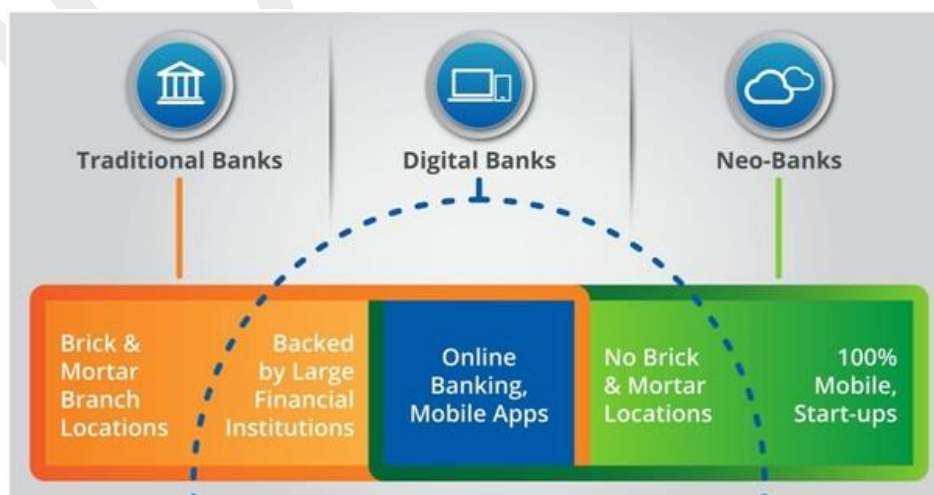
- Neo-banks are digital banks without any physical branches offering services that traditional banks don't.
- In India, these firms don't have a bank license of their own, but rely on bank partners to offer licensed services as the RBI doesn't allow banks to be 100% digital yet (though some foreign banks offer digital-only products through their local units).

## How are they different from other types of banks

- **Neo-bank vs Traditional bank:**
  - Neo-banks leverage technology and artificial intelligence (AI) to offer a range of personalized services to customers while traditional banks follow an Omni-channel approach through both physical (branches and ATMs) and digital banking presence.
  - While neo-banks don't have the funds or customer base to overthrow traditional banks, they are powered by innovation to launch features and develop partnerships to serve their customers more quickly than traditional banks.
  - Neo-banks cater to retail customers, and small and medium businesses, which are generally underserved by traditional banks.
  - Venture capital and private equity investors have been keeping a keen eye on the market opportunities for such banks and are taking an increasing interest in them over traditional banks.

## Neo-bank vs Digital bank:

- A digital bank and a neo-bank aren't quite the same.
- Digital banks are often the online-only subsidiary of an established and regulated player in the banking sector while neo-banks exist solely online without any physical branches independently or in partnership with traditional banks.



The term 'Neo-bank' started gaining prominence globally in 2017. Neobanks are also called 'challenger banks' as they emerged as a new challenger to the traditional banks in terms of customer engagement, connectivity and reach, and the user experience.

Although neo-banks are a relatively new concept in India, the concept has been gaining traction over the last few years. There are around a dozen neo-banks in India including Razorpay X, EpiFi, Open, NiYo, Jupiter among others.

### **Jan Samarth Portal**

- PM launched the Jan Samarth Portal.
- Jan Samarth Portal is a digital portal linking 13 Credit Linked Government schemes on a single platform, for ease of access to all the beneficiaries and related stakeholders.
- It provides intuitive guidance to beneficiaries for checking subsidy eligibility and auto recommendation system offers best suitable schemes as per Beneficiary's requirements and credentials.
- It is having multiple integrations within the platform with UIDAI, CBDT, NSDL etc.

## 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.
- Prelims

## 5.1 SPACE ECONOMY IN INDIA

### Background

Space exploration commenced with the launch of Sputnik 1, the first artificial satellite, in 1957. The cold war era was characterized by the intense race between the erstwhile USSR and the US, to dominate the space.

The global space economy has undergone considerable changes since then, with the entry of the private sector in space economy as the most prominent development. In the modern day, for the first time in 2020, humans accessed space in a vehicle not built by a government agency.

### Current Status of Space Economy

The \$447 billion global space market includes: (a) Upstream market (commercial satellite market, launch market, and institutional market); (b) Midstream market (operator revenue, ground infrastructure, and operations); (c) Downstream market (space services and consumer equipment).

Another basis of classification divides space economy into 3 components: (a) Manufacturing of Space-related Equipment (satellites, launch vehicles and ancillary equipment); (b) Space operations (launch operations, space surveillance, tracking, lease, brokerage, etc); (c) Space Applications (Direct to Home broadcast, satellite telephony, remote sensing, etc).

Researchers from the Centre for Development Studies (CDS) and the Indian Institute of Space Science and Technology (IIST) undertook a first-of-its kind attempt at measuring the size of India's space economy. **The findings were outlined in a paper titled 'The Space Economy of India: Its Size and Structure'.** They arrived at a figure of INR 36,794 crore (approximately US\$ 5 billion) for the 2020-21 fiscal.

Further, the estimated size of India's space economy, as a percentage of the GDP, has slipped from 0.26% in 2011-12 to 0.19% in 2020-21. According to the paper, space applications accounted for the major chunk of this evolving space economy, constituting 73.57% (INR 27,061 crore) in 2020-21. It was followed by space operations (INR 8,218.82 crore or 22.31%) and manufacturing (INR 1515.59 crore or 4.12%).

In terms of GDP, India's spending is more than that of China, Germany, Italy and Japan, but less than the U.S. and Russia. The Global Space Economy is poised to reach US\$ 650 billion by 2030. India has the potential to capture a large share of this expanding sector.

## **Potential of SPACE Economy**

- **Huge untapped potential:** India manages to occupy only 2%, or US\$ 7 billion, of the global space economy. The small share isn't solely due to technology and resources but also because of policy.
- **Boosting the Economy:** Allowing private entities into end-to-end space activity would help in achieving a US\$ 5 trillion economy by 2024. Further, the space economy market is said to grow over US\$ 1 trillion by 2040.
- **Low Cost:** The Indian space sector has the potential of launching space vehicles at a much lower cost. This was seen in the Mars Orbiter Mission which was 10 times cheaper than western missions. This will help in getting many foreign contracts.
- **Rising Demand:** It is estimated that around 10,000 satellites will be launched into low-earth orbit by 2026. Further, the projected growth of small and miniature satellites has increased three times, growing from US\$ 12.6 billion to US\$ 42.8 billion. This provides ample opportunities for small and medium enterprises to enter into the sector.
- **Presence of Budding Entrepreneurs:** According to a global report published in June 2021, India has 368 private space firms, placing it 5th in the world in size after the US, the United Kingdom, Canada, and Germany. With these many firms, India is leading China (288), France (269), and Spain (206) in the private space industry.

## **Government Initiatives to Boost Space Economy**

**Indian Space Association (ISpA):** It aspires to be the collective voice of the Indian Space industry. ISpA will be represented by leading domestic and global corporations that have advanced capabilities in space and satellite technologies.

**Indian National Space Promotion and Authorization Centre (IN-SPACe):** It aims to provide a level-playing field for private companies to use the Indian space architecture. IN-SPACe will act as a channel between ISRO and any private players that want to participate in space activity, thereby culling lengthy bureaucratic procedures. It will benefit in two ways: (a) It will allow more research and scholarly work by individuals who have the capability. For example encouraging something similar to SpaceX in India; (b) It will allow ISRO to focus on more challenging missions and especially next-generation technology development.

**Opening the Space Sector:** The Government in June 2020 opened up the Space sector allowing the participation of the Indian private sector in the entire domain of space activities. This includes satellite creation, launches, and space-based services that were earlier not open to them.

**Antrix Corporation:** It is a government-owned company under the administrative control of the Department of Space. It was established in 1992 for commercially utilizing space products of ISRO, providing technical consultancy services and transferring technologies to industry.

**Draft Space Activities Bill, 2017:** The Bill aims to promote and regulate the space activities of India. It focuses on encouraging the participation of private sector agencies under the guidance and authorisation of the government through the Department of Space.

**New Space India Limited (NSIL):** It is a Central Public Sector Enterprise under the Department of Space that was established in 2019. It has been mandated to transfer the technologies emanating out of the Indian space program and enable Indian industry to scale up high technology manufacturing base.

## **Challenges**

**Budgetary Constraints:** The CDS and IIST study noticed a decline in the budget for space related activities. This led to a reduction in the size of the space economy in the last two years. The budget outlay in 2020-21 was INR 9,500 crore, shrinking from INR 13,033.2 crore in the previous fiscal.

**Lack of Data:** The current CDS and IIST paper was a first-time attempt at scientifically measuring the size of the space economy. Further even this was unable to establish the size of the space-based remote sensing industry.

**Space Debris:** Since the market is open, more corporations can send their vehicles and satellites up into space, which is already crowded. By some estimates, there are over 15,000 traceable and over 200,000 1-10 cm pieces.

**Absence of a Legislative Framework:** The draft Space Activities bill was introduced in 2017 but has been pending since then. Brain Drain: India produces the best brains of the world but is unable to retain them. People emigrate from the country for better opportunities and careers that might hamper development of the space sector.

**Lack of robust Dispute Settlement Mechanism:** This discourages private investment in the space sector e.g., the cancellation of Antrix-Devas deal has impacted investor confidence and hurt India's reputation as investment destination internationally.

## **Way Forward**

- The policies of opening the space sector to private players should be duly implemented. They are likely to enlarge the size of the sector through enhanced private investment and

improved integration with the global private space industry. The government should also enhance collaboration between Indian private players and big private players from across the globe like SpaceX, Virgin Galactic etc.

- The FDI reform is crucial to further decentralize investments. The US firm Hughes Communications announced a US\$ 500 million investment but has not been able to get approvals since 2017. Therefore, IN-SPACE needs to act on its mandate and allow not only foreign entities but also domestic innovators to get around the bureaucracy.
- In case of space debris, coordination between the public and private sector will come into play. The government can decide on exactly how many programs can be allowed in space and if they can partner in the removal of space debris.
- The passage of the Space Activities Bill should also be done in order to give private players greater clarity and protection. This should involve proper consultation and discussions with the concerned stakeholders.

## **5.2 Geoengineering Technologies: Applications and Concerned**

### **Introduction**

Climate Change is no longer a myth and the adverse impacts of the phenomena are increasingly becoming evident. Anthropogenic interventions have significantly enhanced the magnitude and extent of climate change. With record-breaking heat waves hitting many parts of the world over the last few months, scientific circles have been hotly debating whether countries should prepare to deploy geoengineering technologies to deal with such climate emergencies

### **Geoengineering**

Geoengineering is an umbrella term for various experimental technologies. It refers to deliberate, large-scale intervention carried out in the Earth's natural systems to reverse the impacts of climate change.

They are slowly but steadily gaining salience and broadly fall under two categories: Solar Radiation Modification (SRM)/Radioactive Forcing Geoengineering (RFG) and Carbon Dioxide Removal (CDR) technologies.

### **Solar Radiation Management or Solar Geoengineering**

SRM techniques aim to reflect a small proportion of the Sun's energy back into space. This counters the temperature rise caused by increased levels of greenhouse gasses in the atmosphere which absorb energy and raise temperatures.

Some proposed techniques include:

- **Albedo enhancement:** Increasing the reflectiveness of clouds or the land surface so that more of the Sun's heat is reflected back into space.
- **Space reflectors:** Blocking a small proportion of sunlight before it reaches the Earth.
- **Stratospheric Aerosol Injection (SAI):** Introducing small, reflective particles into the upper atmosphere to reflect some sunlight before it reaches the surface of the Earth.

## Greenhouse Gas Removal (GGR) or Carbon Geoengineering

GGR techniques aim to remove carbon dioxide or other greenhouse gases from the atmosphere. It directly counters the increased greenhouse effect and ocean acidification.

Some proposed techniques include:

- **Afforestation:** Engaging in a global-scale tree planting effort.
- **Biochar:** 'Charring' biomass and burying it so that its carbon is locked up in the soil.
- **Bio-energy with carbon capture and sequestration:** Growing biomass, burning it to create energy and capturing and sequestering the carbon dioxide created in the process.
- **Ambient Air Capture:** Building large machines that can remove carbon dioxide directly from ambient air and store it elsewhere.
- **Ocean Fertilization:** Adding nutrients to the ocean in selected locations to increase primary production which draws down carbon dioxide from the atmosphere.
- **Enhanced Weathering:** Exposing large quantities of minerals that will react with carbon dioxide in the atmosphere and storing the resulting compound in the ocean or soil.

## Need and Importance of Geoesengineering

- First, several modeling studies indicate that geoengineering might reduce some of the worst effects of climate change, such as lowering the warming and reducing the frequency of heat-waves and high-intensity storms.
- Second, techniques like the stratospheric aerosol injection (SAI) are so affordable that a few dozen countries can easily deploy this technology unilaterally.
- Third, it is becoming increasingly evident that the present trajectory of emissions cut may not be able to prevent the catastrophic impacts of climate change. Geoengineering technologies may be able to provide a quick solution, thus providing more time to shift away from fossil fuels.

While geoengineering is highly risky, some experts argue that countries will deploy it if they fear large-scale casualties or economic disruptions due to extreme climatic events.



In fact, considering the current trajectory of Earth's warming, countries will have to make these choices within a decade or two. So Governments should start discussions on establishing global governance mechanism to deter the unilateral deployment of these technologies, while supporting further research on the evolving technologies. However, geoengineering can only act as a supplement to scaling back of GHG emissions in all sectors, not a substitute.

### **5.3 OPEN NETWORK FOR DIGITAL COMMERCE (ONDC)**

The fast-expanding digital economy has been one of the major supporting pillars of India's growth in recent times. India has the world's highest fintech adoption rate of 87%, as compared with the global average of 64%.

Three of the largest public digital platforms in the world are from India: Aadhaar is the largest unique digital identity platform, Unified Payments Interface (UPI) is the largest digital payments ecosystem, and Co-Win is the largest vaccination platform. Realizing the potential of digital space, the Government of India has launched Open Network For Digital Commerce (ONDC) as a prospective alternative to dominant global giants Amazon.com and Walmart in its fast-growing e-commerce market.

#### **Background of ONDC**

The idea of ONDC was conceived and has been widely discussed since April 2020, soon after the first wave of COVID. During this time, ensuring essential supplies across containment zones was found to be a challenge. Therefore, a need was felt to alter the current digital commerce approach of 'scaling what works' to a new approach of 'what works at scale'.

On December 31, 2021, ONDC was incorporated as a private sector, non-profit (Section-8) company to democratize e-commerce in India and offer alternatives to proprietary e-commerce sites.

ONDC was incubated by the Department for Promotion of Industry and Internal Trade (DPIIT) at the Quality Council of India. A nine-member advisory council, including Nandan Nilekani from Infosys and National Health Authority CEO RS Sharma, counseled the government on the measures required to design and accelerate the adoption of ONDC.

#### **Open Source Software**

To make a process or a software 'open source' implies that the technology or code deployed for the process is freely made available for everyone to use, redistribute, and modify. For instance,

the operating system of iOS is closed source (it cannot be legally modified or used). However, the android operating system is open source, making it possible for smartphone manufacturers, such as Samsung, Nokia, Xiaomi, etc., to modify it for their respective hardware.

## Open Network for Digital Commerce (ONDC)

- ONDC is a non-profit company whose network will enable the display of products and services from all participating e-commerce platforms in search results across all apps on the network. For example, if both Amazon and Walmart's Flipkart integrate their platforms with ONDC, a user searching for a Bluetooth headset on Amazon would also see results from Flipkart on the Amazon app.
- ONDC is a globally first-of-its-kind initiative that aims to democratize digital commerce. The ONDC will provide equal opportunities to all. It moves from a platform-centric model to an open network.
- It is based on open-sourced methodology, using open specifications and open network protocols, and is independent of any specific platform. It is a neutral platform that will set protocols for cataloging, vendor match, and price discovery on an open source-basis, like the Unified Payments Interface (UPI).

ONDC has been rolled out in 5 cities: Delhi NCR, Bengaluru, Bhopal, Shillong, and Coimbatore. The operations are presently focused on retail and restaurants and facilitating real-time transactions. The open network will later-on extend to other categories like travel and mobility. Based on the pilot exercise and after the network stabilizes, ONDC will be expanded to 100 cities and towns across India by October 2022. The goal is to accommodate 30 million sellers and 10 million merchants online.

## Significance of ONDC

**Boost E-Commerce transactions:** It will help in enhancing the volume as well the value of e-commerce transactions. The Government estimates that India's e-commerce market was worth more than US\$ 55 billion in gross merchandise value in 2021 and will grow to US\$ 350 billion by the end of this decade. This target seems much more achievable with ONDC.

**Promotes Competition:** According to the Government, existing platforms work in silos and are tightly controlled, keeping out many small players. At present, Amazon and Walmart's Flipkart control more than 60% of the market. However, ONDC will increase competition and foster innovation by start-ups through the display of products and services from all participating e-commerce platforms. Further, it will limit opportunities for selected sellers to receive preferential treatment. This preferential treatment is a common accusation against major

ecommerce companies. It will also help to end predatory pricing, especially in high-margin, high value products.

**Freedom of Choice:** It is expected to make e-commerce more inclusive and accessible for consumers. They can potentially discover any seller, product or service by using any compatible application/platform, thus increasing their freedom of choice.

**Cost Reduction for Sellers:** ONDC would enable small businesses to use any ONDC-compatible applications instead of being governed by specific platform-centric policies.

**Attracts Investment:** Businesses are expected to benefit from transparent rules, lightweight investment, and lower cost of business acquisition. It is also expected that the time-to-market as well as time-to-scale shall also be substantially reduced. All this will help in attracting greater investment in the e-commerce space.

**Aid in Diplomacy:** The digital platforms are becoming an avenue for a new type of global diplomacy. India's identity and payments platforms are being looked at with interest across the world. Recently, the Co-Win platform was offered by India to interested countries.

ONDC provides a technological platform to fulfil India's aspirations to become a middle-income economy that is digitally savvy and wired. It offers a vital global template for the harnessing of technology for and as a public good at population scale in an inclusive and equitable way.

## **PRELIMS UPDATE**

### **Liquid-Mirror Telescope**

LMT, India's first and Asia's largest liquid-mirror telescope, is commissioned at the Devasthal Observatory of Aryabhata Research Institute of Observational Sciences (ARIES) in Nainital (Uttarakhand).

ARIES is an autonomous institute under Department of Science and Technology.

- LMT will observe asteroids, supernovae, space debris and all other celestial objects.
- Built by astronomers from India, Belgium and Canada, LMT employs a rotating mirror made up of a thin film of liquid mercury (a reflective liquid) to collect and focus light.

LMT, having a primary mirror that is liquid, cannot be turned and pointed in any direction and watches the sky as the Earth rotates.

## First Liquid Nano Urea Plant

Prime Minister (PM) recently inaugurated the country's first liquid Nano urea plant at Kalol (Gujarat).

Liquid Nano Urea is a patented chemical nitrogen fertilizer developed by IFFCO's Nano Biotechnology Research Centre at Kalol with Nano nitrogen particles (from 20-50 nm).

- It is world's first Nano urea (liquid) plant.
- It is sprayed directly on the leaves of plants and gets absorbed by the stomata- pores found on the epidermis of leaves.

### Benefits of Nano urea

- Improved agricultural produce with reduced urea consumption as the efficiency of liquid Nano urea is as high as 85-90% in comparison to 25% of conventional urea.
- Significant reduction in urea imports, government subsidies and logistics cost.
- Reduced soil, water and air pollution from urea, improving quality of underground water and reduction in global warming.
- Higher shelf life as no issue of caking on coming into contact with moisture.

## **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 BAN ON SINGLE USE PLASTIC

**Why in News:** The Government of India has put a ban on 'Single-Use Plastic' from July 1 under the Plastic Waste Management Amendment Rules, 2021.

- Plastic waste management is becoming a challenging task for countries across the globe and India is no exception to it.
- This has resulted in creation of landfills on land and garbage patches in oceans. Considering this, the Government of India has put a ban on 'Single-Use Plastic' from July 1 under the Plastic Waste Management Amendment Rules, 2021.
- The Ministry for Environment, Forest and Climate Change has defined a list of items that will be banned from next month.

### Single Use Plastic

- It refers to plastic items that are used once and discarded. **The Plastic Waste Management Rules, amended in 2021, define single-use plastic as plastic item intended to be used once for the same purpose before being disposed of or recycled.**
- There are different types of plastic: PET, High density Polyethylene, Low-density Polyethylene, Linear low-density polyethylene (LLDPE), PVC, Polypropylene and Styrofoam.
- There is also a category of multi-layered plastic made by combining different plastics and materials. For instance, wafers or gutka packets or shampoo sachets. SUP can belong to any of these categories.
- Single-use plastic has among the highest shares of plastic manufactured and used. It is present in packaging of items, bottles (shampoo, detergents, cosmetics), polythene bags, face masks, coffee cups, cling film, trash bags, food packaging etc.
- A 2021 report by the Minderero Foundation said single use plastics account for a third of all plastic produced globally.
- All of this is burned, buried in landfills or discarded directly into the environment. The report found that India features in the top 100 countries of single-use plastic waste generation – at rank 94.

The items on which the Central Pollution Control Board (CPCB) have announced a ban are ear buds; balloon sticks; candy and ice-cream sticks; cutlery items including plates, cups, glasses, forks, spoons, knives, trays; sweet boxes; invitation cards; cigarette packs; PVC banners measuring under 00 microns; and polystyrene for decoration.

The Ministry had already banned polythene bags under 75 microns in September 2021, expanding the limit from the earlier 50 microns. The ban will be extended to polythene bags under 120 microns from December 2022. As per the Plastic Waste Management Rules, 2016, there is also a complete ban on sachets using plastic material for storing, packing or selling gutkha, tobacco and pan masala.

The ban on single-use plastic will be monitored by the CPCB from the Centre, and by the State Pollution Control Boards (SPCBs) that will report to the Centre regularly. For example, all petrochemical industries have been instructed to not supply raw materials to industries engaged in the banned items.

Directions have also been issued to SPCBs and Pollution Control Committees. They must modify or revoke 'consent to operate' issued under the Air/Water Act to industries engaged in single-use plastic items. Those found violating the ban can be penalized under the Environment Protection Act 1986. It allows for imprisonment up to 5 years, or a penalty up to INR 1 lakh, or both. Violators can also be asked to pay Environmental Damage Compensation by the SPCB. In addition, there are municipal laws on plastic waste, with their own penal codes.



## Way Forward

- First, an international instrument to manage plastic pollution can be formulated by parties of the UN Environment Assembly. Earlier this year, 124 parties of UNEA including India, signed a resolution to draw up an agreement. The agreement will make it legally binding for to address the full life of plastics from production to disposal, to end plastic pollution.
- Second, the Government should support the creation of sustainable bioplastics. These plastics can be decomposed by the action of living organisms, usually microbes, into the water, carbon dioxide, and biomass. Recently, the BIS passed standards for biodegradable plastic.
- Third, the masses should be sensitized over adverse impacts of plastic use by collaborating with organizations like Hasiru Dala. It is an organization that seeks to enhance the lives of waste pickers and improve waste collection in Bengaluru.
- Fourth, the Government should take proactive steps to ensure that plastic ban becomes a success. The recent launch of a public grievance app to track complaints of single plastic use is a laudable step in this regard.
- Fifth, an independent environment regulator as envisaged by the Supreme Court should be created to oversee prudent implementation of the new rules.

The ban on single-use plastic is just a small step towards attainment of sustainable development. The current scenario warrants that all the countries develop a higher degree of environmental consciousness and realize there is no 'Planet B' in this whole universe.

## 6.2 BIODIVERSITY IN GANGA

**Why in News:** The Wildlife Institute of India (WII) has shared the findings of the second phase of a survey being conducted on the entire main stem of the Ganga river (the main river without its tributaries)

### Ganga River

The Ganga is a trans-boundary river of Asia which flows through India and Bangladesh. It flows for roughly over 2,500 km, from Goumukh in Uttarakhand to the Bay of Bengal at Ganga Sagar in West Bengal

The Ganga and its tributaries flow through 11 states and cover 26.3 per cent of the country's total geographical area. The main stem of the river flows through five states: Uttarakhand, UP, Bihar, Jharkhand and West Bengal.



## **Biodiversity in Ganga River**

The Ganga Basin has a wide variety of species, which include the Gangetic dolphin and three species of otters viz. the Smooth-coated otter, Eurasian otter and the Small clawed otter.

It also includes the Critically Endangered Gharial; Mugger or Indian marsh crocodile; Estuarine crocodile and at least 12 species of freshwater turtles, including the Critically Endangered Batagurkachuga.

Further, the the Ganga River system has around 143 different freshwater fish species, including the Critically Endangered Ganges shark, Gangetic stingray, Golden mahseer and Hilsa.

## **News Update**

The Wildlife Institute of India (WII) published findings of the second phase of its survey on biodiversity. The first phase of the survey was carried out between 2017-2019

The study was initiated by WII on behalf of the National Mission for Clean Ganga (NMCG), one of the flagship projects undertaken by the Ministry of Jalshakti. This is the first study ever done in the country on the entire river, and the first study on the entire biodiversity of the river.

## **Findings of the study**

The study has found that 49 per cent of the river has high biodiversity and that have increased in the river. According to scientists, this indicates reducing pollution levels and a healthier state of the river.

10 per cent of the high biodiversity areas fall alongside national parks and sanctuaries such as Rajaji national park in Uttarakhand, Hastinapur wildlife sanctuary in UP and Vikramshilagangetic Dolphin sanctuary in Bihar.

**The high biodiversity stretches have been divided into six zones : Devprayag to Rishikesh; Makdumpur to Narora; Bhitaura to Ghazipur; Chhapra to Kahalgaon; Sahibganj to Rajmahal; and Baharampur to Barackpore.**

There was a belief that there are areas in the Ganga that had no biodiversity. However, the study found that this is not true and the entire river has some biodiversity.

## **Revival of species in Ganga River**

Distribution and density of key aquatic species such as the Gangetic Dolphin, the gharial etc. had significantly reduced in Ganga due to loss of suitable habitat conditions, construction of

dams and barrages, bank alteration, agriculture and sand mining. However, many species that used to be found in the main stem and had disappeared are now coming back.

For instance, Seibold's, a species of water snake, had disappeared 80 years ago but is now found in the Ganga River. Similarly, new distributions of the puffier fish and nesting colonies of the Indian Skimmer (water bird) have been found in the river.

### Threat to freshwater ecosystems across the world

- According to the UN Environment Program World Conservation Monitoring Centre (UNEP-WCMC), decline in diversity of freshwater species is the highest, and has crossed losses in marine and terrestrial species.
- Globally 20% of all known freshwater fish, 44% water birds and 42% amphibian species are under threat of extinction.
- The highest loss of freshwater biodiversity has been reported from the Indian subcontinent, specifically the Gangetic plains.

## 6.3 ENVIRONMENTAL PERFORMANCE INDEX (EPI)

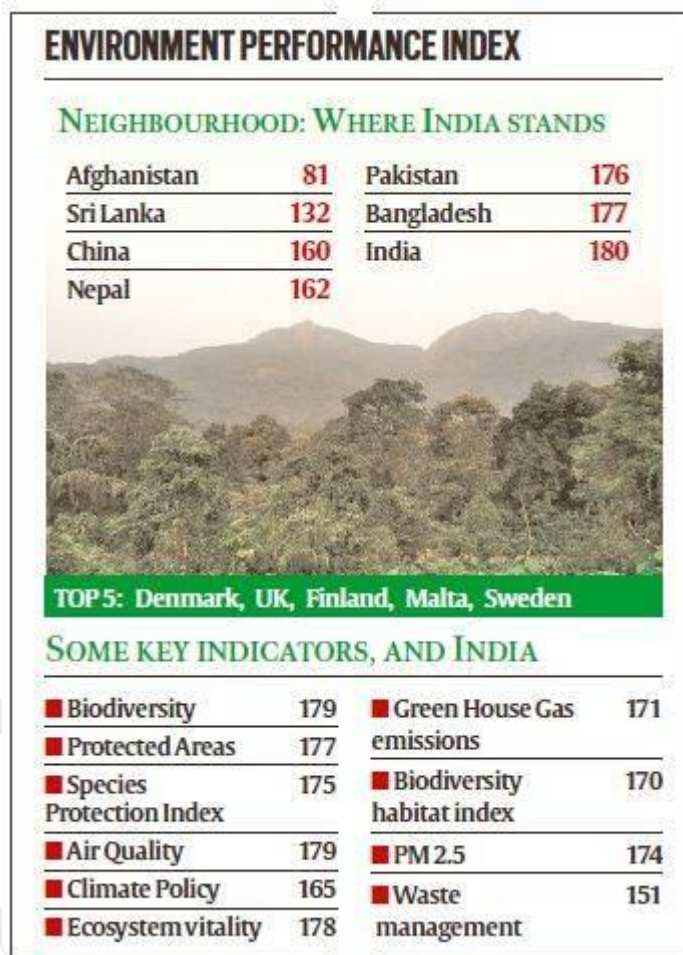
**Why in News:** The newly released Environmental Performance Index (EPI) 2022 is in news due to India's dismal rank. The Index has ranked India at the bottom position among 180 countries.

The poor rank is indicative of a serious degree of environmental degradation along with a vacuum of credible steps to preserve the environment and ecology. However, some environmental experts have noted some flaws in the methodology of the Index. Even the Ministry of Environment has issued a rebuttal saying the indicators used in the assessment are based on 'unfounded assumptions' and India's rank should have been much higher.

### Environmental Performance Index

- The EPI is an international ranking system of countries based on their environmental health.
- It is a biennial index, first started in 2002 as the Environment Sustainability Index by the World Economic Forum.
- It is prepared by the Yale Center for Environmental Law in collaboration with Policy and Columbia University Center for International Earth Information Network. EPI 2022 uses 40 performance indicators to assess and rank 180 countries.

- The indicators “measure how close countries are in meeting internationally established sustainability targets for specific environmental issues”. The 40 indicators are under the broad categories of climate change performance, environmental health, and ecosystem vitality. The 2022 EPI has included new parameters to its earlier assessments, with projections of progress towards net-zero emissions in 2050, as well as new air quality indicators, and sustainable pesticide use.



### Findings and Highlight

- India has been ranked 180 with a score of 18.9. India’s rank was 168 (score 27.6) in 2020. India has been ranked lower than Pakistan, Bangladesh, Vietnam and Myanmar.
- In fact, India has been ranked the lowest.
- Denmark tops the list with a score of 77.9. India ranks close to the bottom on a number of indicators including ecosystem vitality (178th), biodiversity (179th), biodiversity habitat index (170th), and species protection index (175th).

- Apart from this, there is a dismal performance with respect to wetland loss, air quality (179th), PM 2.5 (174th), heavy metals such as lead in water (174th), waste management (151st) etc.

## **6.4 SUSTAINABLE DEVELOPMENT REPORT 2022**

**Why in News:** Recently, Sustainable Development Solutions Network (SDSN) released Sustainable Development Report 2022 named From Crisis to Sustainable Development: The SDGs as Roadmap to 2030 and beyond.

### **Background**

Sustainable development is an overarching paradigm of the United Nations. The concept of sustainable development was described by the 1987 Brundtland Commission Report as development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The adoption of three major international agreements in 2015, the 2030 Agenda and the SDGs, the Paris Climate Agreement, and the Addis Ababa Action Agenda on financing for development – represented major global breakthroughs for the international community.

### **Findings of Sustainable Development Report 2022**

- Peace, diplomacy, and international cooperation are fundamental for progress on the SDGs. The war in Ukraine and other military conflicts are impacting prosperity and social outcomes like poverty, food insecurity, and access to affordable energy. Also, the climate and biodiversity crises amplifying the impact of these crises.
- For the second year in a row, the world is no longer making progress on the SDGs. The average SDG Index score declined in 2021 due to slow or non-existent recovery in poor and vulnerable countries.
- International spillovers: International spillover effects are one country's actions generate benefits or impose costs on another country that are not reflected in market prices and therefore are not 'internalized' by the actions of consumers and producers. It generates negative socioeconomic and environmental spillovers, including through unsustainable trade and supply chains.

## India in Sustainable Development Report 2022

- In the 2022 Finland topped, while India ranked 121 out of the 163 countries compared to 117 in 2020 and 120 in 2021, that shows slip in ranking for the third consecutive year.
- According to report India is facing major challenges in achieving 11 of 17 Sustainable Development Goals, while it mentioned India is on track to achieving SDG 13 on climate action.
- Report also found that SDGs are not mentioned in the latest central or federal budget documents of India.

## India and Sustainable Development Goals (SDGs)

- The Government of India is strongly committed to the 2030 Agenda, including the SDGs. India's national development goals and its **"sab ka saath, sab ka vikas" or "development with all, and for all,"** policy initiatives for inclusive development converge well with the SDGs.
- National Action on the SDGs in India
  - NITI Aayog has undertaken a mapping of schemes and relate to the SDGs and their targets, and has identified lead and supporting ministries for each target.
  - The Ministry of Statistics and Program Implementation (MoSPI) has been leading discussions for developing national indicators for the SDGs.
- State Governments and local government are a crucial driving force for SDG progress. States have been advised to undertake a similar mapping of their schemes, including centrally sponsored schemes.
- State governments are key to India's progress on the SDG Agenda and paying keen attention to visioning, planning, budgeting, and developing implementation and monitoring systems for the SDGs.
  - Many of the Government's flagship programs such as Swachh Bharat, Make in India, Skill India, and Digital India are at the core of the SDGs and State and local governments play a pivotal role in many of these programs.
  - The 15 of the 17 SDGs directly relate to activities undertaken by local governments in the country. Hence the role of local governments is equally important.

The prevalence of challenges like climate change, global hunger, internal and external conflict have showcased the importance of Sustainable Development approach. But with the advent of energy efficient technology and recognition of the importance of inclusive development, a harmonious relation between development, social equity and environment is possible. Therefore, it is imperative for India to develop effective methods for implementing, monitoring, and measuring the progress of SDGs.

## **PRELIMS UPDATE**

### **UN OCEAN CONFERENCE**

- The 5-day UN Ocean Conference took off with the Governments of Kenya and Portugal being the co-hosts.
- Leaders from over 130 countries from across the world will deliberate for five days to find an international agreement on protecting the world's oceans, seas and marine resources.
- Conference comes at a crucial juncture as the world is seeking to address many of the challenges requiring structural transformations and Innovative and Green solutions to achieve the SDG Goal 14.

### **GLOBAL ENVIRONMENT FACILITY COUNCIL**

- GEF Council is GEF's main governing body, comprises 32 members appointed by constituencies of GEF member countries (14 from developed countries, 16 from developing countries, and two from economies in transition).
- Its members rotate at different intervals determined by each constituency.
- India is presently a member of a constituency comprised of the following countries: Bangladesh, Bhutan, India, Maldives, Nepal, Sri Lanka.
- It meets twice annually, develops, adopts and evaluates the operational policies and programs for GEF-financed activities.
- It reviews and approves the work program making decisions by consensus

The 62nd meeting will be the final council of GEF Trust Fund (GEF-7), closing four-year funding cycle, and commencing GEF-8 cycle.

GEF-7 safeguard the world's forests, land, water, climate, and oceans, build green cities, protect threatened wildlife, and tackle marine plastic pollution.

### **Key highlights**

- Leaders' Pledge for Nature to reverse species loss by 2030 by protecting land and ocean territory with globally important biodiversity.
- 29 donor countries have pledged \$5.33 billion for GEF-8 replenishment period i.e. July 2022 to June 2026 to meet nature and climate targets.
- Address threats from climate change, land degradation, and chemicals and waste, and easing pressures on ocean and international waters.
- GEF was established during 1992 Rio Earth Summit and is only multilateral fund working across all aspects of environmental health.

- It is a unique partnership of 18 agencies including UN agencies, multilateral development banks— working with 183 countries to address biodiversity challenges.
- It is financial mechanism for five major international environmental conventions: UN CBD, UN CCD, UN FCCC, Minamata Convention on 83 Mercury, and Stockholm Convention on Persistent Organic Pollutants.
- GEF Trust Fund was established to help tackle planet's most pressing environmental problems.

## HEATWAVES

Recently, the parts of Antarctica recorded maximum temperatures that are more than 40°C warmer than average and areas of the Arctic more than 30°C warmer than average. In many parts of India too, winter switched to summer, with not even a fleeting spring in between.

**Heat waves associated with abnormally high temperatures over certain areas, which could also be fatal to humans and animals, are also on a rise across the country, while there is a declining trend in the occurrence of cold waves.**

**A heat wave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western and South Central parts of India.**

It is a condition of air temperature which becomes fatal to the human body when exposed.

- **The India Meteorological Department (IMD)** requires that temperatures should reach at least 40°C in the plains and at least 30°C in the hilly regions, and should reflect an increase of at least 5°C-6°C above the normal temperature to be classified as a heat wave.
- The combination of global warming and population growth in already-warm cities in India is the primary driver of increased heat exposure. The Urban Heat Island (UHI) also elevates temperatures within cities, which will be amplified during the heat waves.
- UHIs occur when cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat.

## Scenario of Heat Waves in India

- India, along with Bangladesh and Pakistan, recorded the greatest losses to work hours (295 billion hours) due to heat exposure in 2020, according to the Lancet Countdown on Health and Climate Change released in 2021.
- India has become 15% more vulnerable to extremes of heat than in 1990.

- Indian senior citizens were among the most affected ones due to heat wave exposure.
- More recently, most parts of western Rajasthan, Maharashtra, and parts of Gujarat, Odisha are reeling under severe heat wave-like conditions, with maximum temperatures hovering well over 40°C.
- The foothills of the Western Himalayas recorded very high day and night temperatures - 7 to 10 degrees above normal.
- Delhi recently recorded a 36.6°C, 6 degrees above normal.
- The IMD's long-term temperature trends indicate that the climate crisis is having a pronounced impact on increasing the frequency and severity of heat waves in India.
- Average temperatures across seasons have seen a sharp upward trend in the country since 1991. The temperature rising trend is more evenly pronounced during monsoon (June to September) and post-monsoon (October to December) seasons.

### Impact of these Heat Waves

- **Mortality and Morbidity:** The Intergovernmental Panel on Climate Change (IPCC) in the Second Part of AR6 Report flagged that heat extremes are causing human deaths and morbidity.
- **Crop Damage:** The fallout of these heat waves is far more complex - the concurrence of heat and drought events are causing crop production losses and tree mortality.
- **Less Food Production and High Prices:** The risks to health and food production will be made more severe from the sudden food production losses exacerbated by heat-induced labour productivity losses.
- These interacting impacts will increase food prices, reduce household incomes, and lead to malnutrition and climate-related deaths, especially in tropical regions.
- **Labour Productivity Loss:** A higher urban population also implies heat-induced labour productivity loss, resulting in economic impacts.
- Millions of farmers and construction workers could have lost income because on some days it's just too hot for them to work.
- **Wildfires and Droughts:** The Lancet report, 2021 showed that populations of 134 countries experienced an increase in exposure to wildfires with droughts becoming more widespread than ever before.



## **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 SURROGACY (REGULATION) RULES 2022**

**Why in News:** Recently, government has issued Surrogacy (Regulation) Rules, 2022 under Surrogacy (Regulation) Act, 2021.

Surrogacy is an arrangement in which a woman (the surrogate) agrees to carry and give birth to a child on behalf of another person or couple (the intended parent/s). A surrogate, sometimes also called a gestational carrier, is a woman who conceives, carries and gives birth to a child for another person or couple (intended parent/s).

### **Altruistic surrogacy**

It involves no monetary compensation to the surrogate mother other than the medical expenses and insurance coverage during the pregnancy.

### **Commercial surrogacy**

It includes surrogacy or its related procedures undertaken for a monetary benefit or reward (in cash or kind) exceeding the basic medical expenses and insurance coverage.

### **Surrogacy (Regulation) Rules, 2022**

Rules provide form and manner for registration and fee for a surrogacy clinic and the requirement, and qualification for persons employed, at a registered surrogacy clinic.

### **Key Highlights of the rules**

- Number of attempts of any surrogacy procedure on surrogate mother shall not be more than 3 times.
- A surrogate mother may be allowed for abortion during surrogacy in accordance with the Medical Termination of Pregnancy Act, 1971 as advised by the doctors.
- A surrogate mother has to give her consent through an agreement for giving up all her rights over the child and shall hand over the child/children to:
  - the intending couple, or
  - a Person (appointed by the intending couple) in case of their separation during her pregnancy or in case of death of both, or
  - the survivor in case of the death of one of intending couple during pregnancy.
- Intending couples will need to purchase a general health insurance cover in favour of the surrogate mother for a period of 36 months from an insurance company/agent recognized by the Insurance Regulatory and Development Authority of India (IRDAI).

- The insurance amount should be sufficient to cover all expenses for all the complications arising out of pregnancy and postpartum delivery complications.

### Key Provisions of Surrogacy (Regulation) Act 2021

- It allows 'altruistic surrogacy' — wherein only the medical expenses and insurance coverage is provided by the couple to the surrogate mother during pregnancy.
- It creates a national board to lay down and implement a code of conduct for people working at IVF clinics.
- It intends to make genetic testing of the embryo mandatory before implantation for the benefit of the child born through ART.
- It also seeks to streamline the cryo-preservation processes for sperm, oocytes and embryos.
- It also proposes to constitute a national registry and registration authority to maintain a central database and assist the national board in its functioning.

## 7.2 WATER CRISIS IN INDIA

### Introduction

India has 17% of the world's population, but possesses only 4% of the world's freshwater resources. Further, the country is facing a water crisis due to climate change, rising water pollution levels, and other critical factors responsible for depleting water resources.

This created numerous problems for the Indian masses, which are going to rise in the future if water wastage is not stopped. But the good news is that people have woken up to the reality of this crisis, and there are now several projects aimed at rejuvenating rivers and recharging aquifers.

### Current Status of Water Crisis

**In the 75 years since Independence, the annual per capita availability of water has declined by 75% – from 6,042 cubic meters in 1947 to 1,486 cubic meters in 2021.**

India is facing multidimensional challenges like depletion of groundwater together with pollution of surface water, and also vanishing water bodies – ponds, lakes, tanks, wetlands. For instance, provisional data from the country's first census of water bodies show 2% of water bodies i.e. 18,691 of 9.45 lakh water bodies, have been encroached.

The number is likely to be much higher because figures from states like UP, Maharashtra, Karnataka, MP, and Rajasthan are still not in. According to the most recent Central Ground Water Board data, as many as 256 of 700 districts in India have reported 'critical' or 'over-

exploited' groundwater levels. No one had seen water tankers in Punjab before, but now they are a common sight. Things have come to such a pass that people are being forced to buy water, sometimes even unpurified water.

## Reasons for Water Crisis

**Discharge of Pollutants:** There is the discharge of industrial chemicals and sewage into the rivers. It is happening due to a lack of compliance with environmental rules by the industry and a dearth of sewage treatment plants in cities. Further, improper mining activities also pollute the nearby aquifers and deplete water quality.

**Encroachment:** There is an encroachment of water bodies to meet the infrastructure needs of burgeoning populations. Lakes and small ponds often get destroyed while making townships and industrial complexes.

**Climate Change:** The rising temperatures have reduced water levels in many rivers. It has further made the monsoon more erratic in nature, which is making rain-fed agriculture a difficult task.

**Wastage of Water:** Water is being wasted and overused due to the excessive subsidies coupled with a lack of awareness among the masses. This is seen in the states of Punjab and Haryana where a high degree of water usage in agriculture has dramatically pushed down the groundwater levels.

**Cropping patterns:** The Green Revolution helped India become self-reliant in food grain production, but it also triggered the water crisis. For instance, farmers in Punjab switched to water-intensive paddy cultivation, and things have gone downhill ever since.

**Policy-related issues:** The national water policy is very irrigation-centric. Ever since independence, water governance has suffered from hydro-schizophrenia. The issue of water (Surface water, groundwater) has been governed by different departments independently, any coordination. For example; the Central Water Commission (CWC and Central Ground Water Board (CGWB).

## Government Initiatives

- **Jal Shakti Abhiyan (JSA):** It was started in 2019 as a movement for water conservation, recharge, and rainwater harvesting in 256 water-stressed districts. The JSA now covers all 740 districts in the country. States are implementing it, while the Centre provides the nudge.

- **Amrit Sarovars:** The Centre has decided to build 50,000 water bodies (Amrit Sarovar), with an approximate area of one acre, across the country by August 15 next year to conserve water.
- **Atal Bhujal Yojana:** The program is expected to lay emphasis on the recharge of groundwater resources and better exploitation of the groundwater resources. The scheme also seeks to strengthen the institutional framework and bring about behavioral changes at the community level for sustainable groundwater resource management.
- **Paani Bachao, Paisa Kamao (Save Water, Earn Money):** It is a scheme of the Punjab Government that incentivizes farmers to reduce groundwater and electricity usage. Around 300 enrolled farmers were given cash incentives to save electricity used for irrigation. This has resulted in water savings of between 6 and 25 percent without any adverse effect on the yield.
- **Ganga Rejuvenation:** The World Bank has been supporting the Government of India's efforts to rejuvenate the Ganga River since 2011. Two World Bank projects, worth \$1 billion, are helping set up the institutions needed to manage the river and build the infrastructure to keep it clean.
- **Jal Shakti ministry:** The formation of the Jal Shakti ministry is an important first step in the direction of overcoming hydro-schizophrenia. It will bring the irrigation and drinking water departments, together, within one ministry.

## PRELIMS UPDATE

### SHRESHTHA SCHEME

- Recently, the Ministry of Social Justice and Empowerment has launched the scheme 'SHRESHTA.' This scheme is known as Scheme for residential education for students in High school in Targeted Areas.
- The scheme 'SHRESHTA' was created with the goal of providing quality education and opportunity to students of SC Category in best private residential schools in the country.

Admission will be provided in Class 9 and Class 11 of CBSE affiliated private schools.

### Objective

- To make easy delivery of the Governmental initiatives and schemes.
- To create a conducive atmosphere for the 'Scheduled Castes' socioeconomic advancement and overall growth.

- Collaborating with volunteer groups to bridge the gap in service-deprived Scheduled Castes (SCs) dominating regions in the education sector.
- To enable bright Scheduled Caste (SC) students with high-quality education so that they can pursue future opportunities.

## **Eligibility**

- The students, belonging to Scheduled Castes, studying in class 8th and 10th in the current academic year (2021-22) are eligible for availing the benefits of the scheme.
- Students from the SC community who come from a marginalized income group with an annual income of up to Rs.2.5 lakh are eligible.
- The selection will be done through a transparent mechanism which is known as National Entrance Test for SHRESHTA (NETS).
- It will be conducted by the National Testing Agency (NTA) for admission in class 9th and 11th.

## **Beneficiaries**

Government has targeted that every year around 3000 students belonging to SC category will be admitted to Class 9 and Class 11 under this system. The Ministry will cover the whole cost of their school fees and accommodation fees till they have completed their academics in class 12th.

## **PARAKH**

- PARAKH, national assessment center, was launched by Ministry of Education for all AICTE (All India Council of Technical Education) approved institutes.
- PARAKH survey will help colleges to identify learning gaps so that students can be industry ready.
- It facilitates a platform for students for self- assessment of learning outcomes and 21st century life skills acquired by students.
- It helps to improve higher order thinking skills among students.
- It was introduced under National Education Policy 2020.