

# IQRA IAS



## CURRENT AFFAIRS

## NOVEMBER 2020

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# POLITY AND GOVERNANCE

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

## 1.1 LAND LAWS IN J&K and ROSHNI ACT

**Topic: Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers**

**Why in News:** Recently, the Ministry of Home Affairs (MHA) announced several amendments to land laws for the Union Territory of Jammu Kashmir (J&K).

As per the MHA notification, the **Union Territory of Jammu and Kashmir Reorganisation (Adaptation of Central Laws) Third Order, 2020** came into force immediately. The amendments were related to the sections of the **J&K Land Revenue Act, 1996** and the **J&K Development Act of 1970**.

The 1970 Act deals with zonal development plans determining land use for public buildings, roads, housing recreation, industry, business, markets, schools, hospitals and public and private open spaces. The 1996 Act is related to the management of agricultural land.

### Changes and Updates

- The new laws will now allow any Indian citizen to purchase non-agricultural land in the Union territory of Jammu and Kashmir.
- These rules have also removed the need for being a domicile or having a permanent resident certificate for the purchase of land in J&K.
- The modified law disallows sale as well as gift or exchange of agricultural land to a non-agriculturist (person not engaged in agriculture). However, the law has certain exemptions through which such a transfer can be permitted.
- The government can allow the transfer of agricultural land to a public trust for charitable work, healthcare, and education, industrial or commercial purposes.
- A newly-formed revenue board will notify the detailed procedure and fix the fee for conversion of agricultural land to non-agricultural purposes.

### Land for Strategic purpose

- On the written request of an Army officer not below the rank of Corps Commander, the government can declare an area as a **“strategic area”**.
- This land can be used for direct operational and training requirements of armed forces.

## **Jammu and Kashmir Industrial Development Corporation**

- The amendments also **create the Jammu and Kashmir Industrial Development Corporation for establishing commercial centers and industries in the UT.**
- The Corporation will consist of twelve directors, four of whom could be nominated from the private sector with experience in industry or trade or finance.
- The Corporation will have the power to acquire movable and immovable property, and to lease, sell, exchange or transfer any property held by it.
- If the **Corporation is unable to acquire land by an agreement, the government can order proceedings under the Right to Fair Compensation and Transparency in Land Acquisition Rehabilitation and Resettlement Act, 2013 and acquire the land for public purpose.**
- No legal suit can be filed against officials of the Corporation without a prior notice of two months and not later than six months from the date of complaint.

## **Amendments related to government land holdings**

- The Jammu and Kashmir Land Grants Act, 1960, which regulates grant of government land on lease, will now be extended to the entire Union Territory of J&K. It earlier applied only to urban areas of Jammu, Srinagar and towns.
- The amendment also removes the permanent resident clause to get government land on lease for “residential purposes”.

## **Abolition of Roshni Act**

- The J&K government has also decided to declare all the actions taken under the Jammu and Kashmir State Land (Vesting of Ownership to the Occupants) Act, 2001, also known as the Roshni Act, as “null and void”.
- The decision comes three weeks after the Jammu and Kashmir High Court, declared the Roshni Act, as unconstitutional and unsustainable.

## **Roshni Act**

- The Roshni Act was enacted to transfer around 20 lakh kanals of State land to existing occupants against payment at market rates. A kanal is a traditional unit of land area.
- It was hoped that the legislation would help to boost the farming sector and generate substantial revenue for funding power projects across the state, due to which it was named “Roshni”.
- The government had target to earn Rs 25,000 crore through the scheme.

- In 2014, a report by the Comptroller and Auditor General (CAG) estimated that against the targeted Rs 25,000 crore, only Rs 76 crore had been made from the transfer of encroached land between 2007 and 2013.
- The report blamed irregularities including arbitrary reduction in prices to benefit politicians and affluent (rich) people.

The J&K government has decided to retrieve (take back) the land transferred under the Act, within six months. According to the order, identities of all the people who have derived benefit under the Act, will be made public

The High Court has also ordered a CBI probe into the irregularities in the land scheme and directed the agency to file a status report every eight weeks

## 1.2 REGULATION OF OTT PLATFORMS

**Topic: Structure and functions of various Ministries; Government policies and interventions for development in various sectors and issues arising out of their design and implementation**

**Why in News:** The government has brought video streaming over-the-top (OTT) platforms such as Netflix, Amazon's Prime Video, Hotstar, and **others under the Ministry of Information and Broadcasting (I&B). These platforms were so far under the Ministry of Electronics and Information Technology.**

### OTT (Over the TOP) platforms

- **Over-the-top platforms** are audio and video hosting and streaming services.
- These platforms offer a range of content and use artificial intelligence to suggest users the content they are likely to view based on their past viewership on the platform.
- Most OTT platforms generally offer some content for free and charge a monthly subscription fee for premium content which is generally unavailable elsewhere.
- The premium content is usually produced and marketed by the OTT platform themselves, in association with established production houses

### Regulation for media platforms

- **At the moment there are a mix of autonomous, government bodies and self-regulatory bodies for various types of entertainment and news providers depending on the platform.**

- **For print media, there is the Press Council of India**, which is a statutory, quasi-judicial authority and for television news, there is News Broadcasting Standards Authority, which is a self-regulatory body.
- For films there is the **Central Board of Film Certification**, which comes under the **I&B Ministry**
- For **television entertainment**, there is **broadcasting Content Complaints Council**, which is also independent and self-regulatory.
- Similarly, the **Advertising Standards Council of India** that regulates advertising is also a self-regulatory body.
- Moreover, **I&B Ministry** also has a mechanism to penalize television channels, both news and non-news for any violation of the program code and the advertising code prescribed under the **Cable Television Network (Regulation) Act, 1995**
- However, there are **no laws or rules regulating OTT platforms** as it is a **relatively new medium of entertainment**.

## **Background of Regulation of OTT Platforms**

In India, no fixed body has ever been assigned to regulate the OTT platforms. But in 2019, amid various complaints and issues raised against the digital content on these online mediums, the Government decided to take actions against the same.

It was in October 2020 that the Supreme Court ordered the Central Government to take up the charge of the digital content showcased on these mediums and finally, the OTT platforms will now be administered by the Ministry of Information and Broadcasting (MIB).

Following government pressure to regulate content, the Internet and Mobile Association of India (IAMAI), a representative body of the OTT platforms had proposed a self-regulatory model.

**In January 2019, eight video streaming platforms had signed a self-regulatory code that stated a set of guiding principles for the content which can be displayed online.** However, there were 5 terms and conditions which had to be mandatorily followed:

- No such content shall be added on these platforms which would cause any disrespect to the national emblem or national flag
- Display of content which can hurt religious sentiments could not be streamed
- Visuals promoting child pornography to be strictly prohibited
- Content which is banned by the law or order of the country could not be streamed
- Terrorism of any kind cannot be promoted

However, the Union Government disapproved of this code formed by the Internet and Mobile Association of India (IAMAI), and Digital Curated Content Complaints Council (DCCC) as no specific and elaborate set of rules were released

Thus, finally, the Government decided to undertake OTT platforms and their censorship rights under the Ministry of Information and Broadcasting.

### **Issues with Self Regulation**

- Difficult to arrive at a regulatory consensus that is acceptable to all stakeholders
- Due to absence of an independent enforcement mechanism it is not effective
- Self regulatory codes can be interpreted differently by different platforms.

### **Benefits Associated with OTT Platforms**

**Creative Content Promotion:** As OTT platforms are relatively less subjected to censorship, it helps bring socio-political content or matters to a common man, which otherwise are censored in mainstream media.

**On Demand Media Consumption:** The OTT services have a hybrid character as they combine the passive consumption mode of television and the consumer choice of the web. Thus, OTT platforms' advantage of playing media anywhere and anytime has created a massive demand for it.

**Global Outreach:** OTT industry is benefiting numerous content producers and artists. It also helps in accessing regional films around the country as well as globally.

### **Issues Related to OTT Platforms**

**Lack of Regulation and Censorship:** While traditional media in India are regulated under specific laws such as: Films are regulated under the Cinematograph Act of 1952—which provides for the certification of cinematograph films for public exhibition. However, there is no such specific law for regulation of content over OTT platforms.

**Censorship Problem:** Generally, the Government in India censors the content on grounds of public morality, communal harmony or cultural preservation, among various reasons. However, due to the lack of censorship, content on OTT platforms can disrupt social harmony and moral fabric of society.

**No Consensus of Self Regulation:** OTT platforms had signed a self-regulation code under the aegis of the Internet and Mobile Association of India. However, there's no consensus on the code amongst the various OTT platforms operating in India.

## Implication of the Bringing digital media under the I&B Ministry

**Restriction on Freedom of Speech and Creativity:** This will give the government control over OTT platforms, which were unregulated till now. Such regulatory powers would arm the executive with control over the free expression of content.

**Discourages Innovation:** The fate of the digital media under the control of the Ministry of Information and Broadcasting leaves little scope for hope, and dooms the sector for both the media practitioner and the media entrepreneur and for the startups that have been the new vibrant face of contemporary journalism.

It can lead to a situation where the OTT platforms would **have to apply for certification and approval of their content**. This could give rise to many conflicts as most OTT platforms have content that could otherwise be censored by the certification boards in India.

Government should walk a tight rope to ensure that content on digital medium doesn't affect the Nation's & Society's interest but should also make sure that regulations don't stifle the freedom of speech & expression.

### 1.3 INTER-PARLIAMENTARY UNION

**Why in News:** The 206th Session of the Governing Council of the Inter-Parliamentary Union (IPU) was held from 1st to 4th November.

The main goal of the session was to elect the next IPU President. The term of the new president of IPU will be from 2020-23. An Indian Parliamentary Delegation (of three members) led by Lok Sabha speaker Om Birla is participating in this virtual session.

#### Inter-Parliamentary Union (IPU)

- The Inter-Parliamentary Union (IPU), headquartered in Geneva, is an international organization of national parliaments.
- The organization was established in 1889 as the Inter-Parliamentary Congress to create the first permanent forum for political multilateral negotiations.
- The IPU has played a leading role in the development of international law and institutions, including the Permanent Court of Arbitration, the League of Nations, and the United Nations.
- It facilitates parliamentary diplomacy and empowers parliaments and parliamentarians to promote peace, democracy and sustainable development around the world.

- It sponsors and takes part in international conferences and forums, and has permanent observer status at the United Nations General Assembly.

## **Members**

Initially, IPU membership was reserved for individual parliamentarians, but it was later changed to include the legislatures of sovereign states. Currently, the national parliaments of 179 countries are members of the IPU.

It also has 13 Associate Members; mostly parliaments formed from groups of nations, or similar bodies. They include the Arab Parliament, the European Parliament and other parliamentary organizations in Africa and the Americas.

## **Objectives**

IPU's work revolves around eight strategic objectives:

- Build strong democratic parliaments
- Improve gender equality and respect for women's rights
- Protect and promote human rights
- Contribute to peace-building, conflict resolution and security
- Promote inter-parliamentary dialogue and cooperation
- Promote youth empowerment
- Mobilize parliaments around the global development agenda
- Reduce the democracy gap in global governance

## **Organs of IPU**

### **Governing Council**

- The Governing Council is the main policy-making body of the IPU and is composed of three representatives from each Member.
- All the members of the Governing Council must be sitting members of Parliament.
- The Governing Council elects the President of the Inter-Parliamentary Union for a period of three years.
- It also elects the members of the Executive Committee and appoints the Secretary General of the Union.
- The Governing Council normally holds two sessions a year.

### **Executive Committee**

- The Executive Committee is the administrative organ of the Inter-Parliamentary Union.
- It is composed of the President of the Inter-Parliamentary Union, 15 members belonging to different Parliaments (elected by the Governing Council) and the President of the Coordinating Committee of the Meeting of Women Parliamentarians.
- The fifteen elected seats are assigned to the geopolitical groups. Only parliamentarians from States where women have both the right to vote and the right to stand for election are eligible to the Executive Committee

## **News Update**

- In the elections conducted during the ongoing session of the Governing Council of IPU, Portuguese MP Duarte Pacheco was elected as the President of the IPU for a 3-year term.
- Portugal got 222 votes, much above the absolute majority of 198 votes.

## **Election process of the IPU President**

- The Governing Council of IPU has the responsibility to elect the new President of IPU.
- Each member Parliament of IPU is represented by three parliamentarians in the Governing Council and accordingly has three votes.
- In order to elect the President a general practice of rotation is followed in the geopolitical groups.

## **Role of the IPU president**

- The IPU President acts as the political head of the organisation and directs the activities of the international body.
- He/ She chair full meetings and acts as the IPU representative at global events and gatherings.

## **1.4 PRAGATI**

### **Topic: Government Policies and Development Schemes**

**Why in News:** The Prime Minister chaired the 33rd interaction involving Central and State governments through PRAGATI ICT platform, and gave important directions.

### **PRAGATI**

- To make governance in India more efficient and responsive, an **ICT-based platform PRAGATI** was launched in 2015 for use at the highest levels of the government.

- The multi-purpose and multi-modal platform **PRAGATI (Pro-Active Governance and Timely Implementation)** is a **unique integrating and interactive platform**.
- The IT-based redressal and monitoring system is aimed at:
  - Grievance Redressal: Addressing common man's grievances
  - Program Implementation: monitoring and reviewing important programs and projects of the Government of India
  - Project Monitoring of projects flagged by State Governments
- **It is a three-tier system:** Prime Minister (PMO) interacts with the Union Government Secretaries and Chief Secretaries of the States every month through Video-conferencing, enabled by Digital data management and geo-informatics visuals.
- The system has been designed in-house by the PMO team with the help of National Informatics Center (NIC).

### **Working of PRAGATI**

- Issues to be flagged before the PM are picked up from the available database regarding Public Grievances, on-going Program and pending Projects. The system will ride on, strengthen and re-engineer the data bases of the CPGRAMS for grievances, Project Monitoring Group (PMG) and the Ministry of Statistics and Program Implementation. PRAGATI provides an interface and platform for all these three aspects.
- It will also take into consideration various correspondences to PM's office by the common people or from high dignitaries of States and/or developers of public projects;
- The issues flagged are uploaded seven days prior to the PRAGATI meeting. These issues can be viewed by the Union Government Secretaries and Chief Secretaries after entering into the application.

### **Significance**

- Making governance more efficient and responsive
- PRAGATI offers a unique combination in the direction of cooperative federalism since it brings on one stage the Secretaries of Government of India and the Chief Secretaries of the States.
- The PM can discuss the issues with the concerned Central and State officials with full information and latest visuals of the ground level situation. Besides stalled projects, the platform has also helped in the review and improvement of several social sector schemes.
- It is an innovative project in e-governance and good governance
- A built-in feature of PRAGATI is that any directions issued will remain in the system for further follow up and review till the finality of the matter

- Its impact on making governance more efficient and responsive can be seen from the fact that till January, 2020, the 32 PRAGATI meetings saw a cumulative review of 275 projects with a total investment of over Rs. 12.5 lakh crore.
- Grievance across 17 sectors have been taken up, and redressal has been initiated in many cases including farmers issues and disaster relief

## News Update

- The Prime Minister (PM) chaired the 33rd PRAGATI meeting and reviewed projects worth Rs 1.41 lakh crore, and took note of grievances across the country.
- The projects taken up were of the Ministry of Railways, Ministry of Road Transport and Highways (MORTH), and Power Ministry, and related to ten states and UTs.
- PM asked the concerned Secretaries of the Union Government and Chief Secretaries of the State Governments to ensure that they complete the work before time.
- Prime Minister also asked the States to develop a State Export Strategy.
- PM emphasized on the importance of grievance redressal, and said that focus should not only be on quantity of such redressals, but also on quality.
- During the meeting, grievances related to COVID-19 and to the PM Awas Yojana (Gramin) were taken up

## 1.5 ONE NATION ONE ELECTION

**Topic: Functions and responsibilities of the Union and the States; Functions of Constitutional Bodies**

**Why in News:** Addressing the 80th All India Presiding Officers Conference, Prime Minister Narendra Modi urged presiding officers of different legislatures to take initiative over the 'one nation one election'.

### One Nation One Election

**It is the method of holding single elections for both Lok Sabha and States instead of separate and staggered elections.**

### Background and History

Post the adoption of the Constitution, the elections to Lok Sabha and all State Legislative Assemblies were held simultaneously for about 15 years.

The first general elections to Lok Sabha and all State Legislative Assemblies were held together in 1951-52. This practice of simultaneous elections to Centre and States continued over three subsequent general elections held in the years-1957, 1962 and 1967.

However, due to the premature dissolution of some Legislative Assemblies in 1968 and 1969, the cycle of simultaneous elections got disrupted. In 1970, Fourth Lok Sabha was dissolved prematurely and fresh general elections were held in 1971. However, the term of Fifth Lok Sabha was extended till 1977 due to the imposition of Emergency.

As a result of all such premature dissolutions and extensions, the cycle of simultaneous elections got heavily disrupted. As the constitution lacks an explicit statement in favour of simultaneous elections, the rise of coalition governments and multi-party system has given rise to the existing electoral conditions of multiple and staggered elections, with elections happening every year.

### **‘One Nation, One Election’ Recommendation**

The idea of **‘One Nation, One Election’** was suggested by the **Election Commission in 1983**. Later in 1999, **Law Commission** headed by BP Jeevan Reddy, in its 170th report, suggested that India go back to the concept of simultaneous elections.

In 2002, the **report of the National Commission to Review the Working of the Constitution (NCRWC)** highlighted that amendments with respect to simultaneous elections could be done without disturbing the basic structure of the constitution.

The **255th Law Commission** report also discussed amendment to Anti-Defection Law, which is an important subject with respect to simultaneous elections.

The idea was also favoured by the 79th **Report of the Parliamentary Standing Committee (2015)** and **NITI Aayog paper (2017)**. In 2019, the **Prime Minister** invited heads of all parties in Parliament to discuss about **‘One Nation, One Election’**.

### **Need/ Benefits for holding simultaneous elections**

**Cut huge expenditure on elections:** A lot of money and time is being spent on elections. The money could be put to better use. The focus will shift from winning elections to actual governance.

The concept of **‘One Nation One Election’** can help keep a check on the poll expenses, party expenses etc.

When the first elections to the Lok Sabha took place in 1951-52, 53 parties contested the elections, around 1874 candidates participated and poll expenses were 11 crore. In 2019 elections, there were 610 political parties, around 9,000 candidates and poll expenses of around 60,000 crore rupees (declared by ADR) are yet to be declared by the political parties.

**Reduce policy paralysis:** Frequent elections hamper the normal functioning of the government and disrupt civic life. The Model Code of Conduct (MCC) comes into operation as soon as the EC announces the election dates leading to policy paralysis. Simultaneous elections will mean that MCC will be in place only for a brief period every five years.

The voters will be able to judge the policies and programs of the government, both at the state level and the central level. Also, it would be easy for the voters to determine which political party promised what and how it actually implemented the same.

It is also necessary to solve the problem of governance on the part of the politicians who are ruling. It is generally seen that for short term political gains from a particular assembly election, ruling politicians avoid taking a harsh long term decision which can ultimately help the country in the long run.

**Stability in service delivery:** Frequent electoral cycles disrupt the delivery of essential services as the entire government manpower is involved in the conduct of elections.

**Address resource constraints:** It would reduce burden on crucial manpower and resources that are deployed during election time

**Better governance and administrative efficiency:** Holding simultaneous elections will ensure consistency, continuity and governance, and elections then will only be the means to achieve this and not an end in them

### **Challenges/Issues in implementation of simultaneous elections**

**Operational Feasibility:** Implementing simultaneous polls would require a substantial shift from the current situation and would involve amendments to the Constitution and election-related laws. The term of some state assemblies will need to be curtailed or extended while implementing it for the first time.

To sync the term of the State Legislative Assemblies with that of the Lok Sabha, the term of the state legislative assemblies can be reduced and increased accordingly and for the same, constitutional amendment would be needed in:

- Article 83: It states that the term of the Lok Sabha will be five years from the date of its first sitting.
- Article 85: It empowers the President to dissolve the Lok Sabha.
- Article 172: It states that the term of the legislative assembly will be five years from the date of its first sitting.
- Article 174: It empowers the Governor of the state to dissolve the Legislative Assembly.
- Article 356: It authorises the Central Government to impose President's Rule for failure of constitutional machinery in the state.
- The Representation of the People Act as well as related parliamentary procedure will also need to be amended.

**Logistical Challenges:** At present, one voting machine is being used at every polling station for taking a poll. For holding simultaneous elections, the requirements for EVMs and the VVPATs will double, because for every polling station, the ECI has to provide two sets (one for election to the Legislative Assembly and second for that to the Lok Sabha).

There will also be an additional requirement of the polling staff. There will be difficulty in transporting materials to the polling stations.

There will be a need for better security arrangements for simultaneous elections thus augmenting the Central Police Forces accordingly. The ECI is already facing problem in storing EVMs after elections.

**Impact on voter behavior:** Simultaneous elections could impact voter behaviour by muddying up the issues relation to Central and State government's performances. National issues could impact electorate's behavior for voting in State Assembly elections. State issues could impact electorate's behavior for voting in Lok Sabha elections.

**Less accountable political parties:** The possibility of facing electorate before the end of a term of 5 year enhances the accountability of politicians. This might be reduced with government being assured for five years.

There needs to be a consensus on whether the country needs one nation one poll or not. All political parties should at least cooperate in debating this issue, once the debate starts, the public opinion can be taken into consideration. India being a mature democracy, can then follow the outcome of the debate.

## 1.6 AUTONOMOUS BODIES

### Topic: Appointment and Regulation of various Bodies

**Why in News:** In a report on the rationalization of 109 autonomous bodies under Central government ministries, the finance ministry's department of expenditure recommended that the environment ministry disengage with 23 bodies, merge 109 into 26 bodies and close six to reduce expenditure

**Based on the recommendations of Expenditure Management Commission, NITI Aayog had undertaken a review of the Autonomous Bodies, under the DoHFW, that have been formed under Societies Registration Act, 1860 (SRA).**

The Interim Report of the Committee for the Review of Autonomous Bodies with recommendations to rationalize them was prepared.

### Autonomous Bodies

Ministries and departments frame policies and ensure their implementation. They are supported by a number of organisations such as autonomous bodies, statutory bodies, subordinate and attached offices, and affiliated organisations, etc. Their mode of establishment and funding, and functional autonomy differs. Hence:

- An Autonomous Body (AB) is set up by the government for a specific purpose.
- It is independent in day-to-day functioning, but the government has some control over them.
- Autonomous Bodies are set up for some of the functions which need to be discharged outside the governmental set up.

**Autonomous bodies (ABs) are a major stakeholder in the government's functioning as they are engaged in diverse activities, ranging from formulating frameworks for policies, conducting research etc.**

### Status

They are mostly registered as societies under the Societies Registration Act and in certain cases they have been set up as statutory institutions under the provisions contained in various Acts.

The apex administrative body of Autonomous bodies is called governing council or governing body and is chaired by the minister or the secretary of the respective ministry. Besides, the

Autonomous bodies have specialised committees such as the purchase committee, works committee, finance committee, with nominated ministry officials. These Autonomous Bodies are generally audited by the Comptroller and Auditor General, and the annual report is presented in the Parliament every year.

## Finances

Most of the Autonomous Bodies receive money from the Central Government by way of grants-in-aid. The amount disbursed to autonomous bodies was Rs 799.55 billion in 2017-18, which, in 2019-20, was increased to Rs 943.84 billion.

## Issues with Autonomous Bodies

**Disparity in the methods of accountability:** These bodies are not accountable to the government as other government departments are. So a demand comes for their finance mechanism as they are financed by the taxpayer money though they are capable of doing so.

**Number of bodies:** The high number of Autonomous bodies and their higher number of employee count is also one of the reasons behind their rationalization.

**Non-uniformity in the functioning:** There exists the non-uniformity in the recruitment process of the employees as different institutions have different procedures for the recruitment.

**Lack of proper audit mechanism:** The lack of accountability is also an issue in terms of decision making and audition by CAG as some of the bodies are also audited outside the CAG.

**Lack of proper framework:** It lacks a proper framework to describe an Autonomous Body which defines the working capacity, its autonomy and policies it follows.

**Recruitment:** PSUs and government have recruitment bodies like UPSC and SSC, Public Enterprise Selection Board etc for recruitment. There is no such body for CAB recruitments. As a result, the mode of recruitment and recruitment rules differs for each of these bodies, sometimes even across Autonomous Bodies within the same ministry.

**Ambiguous and obsolete bodies:** Some of the bodies have become obsolete in terms of their functioning and tasks. So a complete closer and merger of some of these bodies is required.

**Non-uniform policies:** There is a lack of uniformity in the policies and functioning of these bodies. So a structural overhaul is also necessary to make them functioning in an efficient manner.

## Benefits of the rationalization

**Enhanced effectiveness and efficiency:** The main concern of the Government is that ABs are required to be reviewed and rationalised with a view to improve their outcomes, effectiveness and efficiency, utilisation of financial and human resources, synergy, governance and relevance in current policy and program context, with improved monitoring and oversight.

**More devolution of powers:** One of the aims behind the rationalization process is to enhance the 'minimum government, maximum governance'. It would help in making a cooperative governance system.

**More autonomy:** It is done to push the autonomous bodies to be more self-dependent in terms of finance and be less dependent on government grants.

**Efficient research and innovation:** The rationalization of these institutions would boost the research work and innovation in terms of working capacity.

**Reduction in ambiguity:** The rationalization would avoid the duplication of activities and would help in attaining economies of scale.

The merging and abolition of the autonomous bodies is expected to lead the enhanced efficiency and governance mechanism. The reduced level of ambiguity of functioning is expected to yield better results. It would also help in reduction of burden over the government exchequer as the salaries given to the employees and officers were driven from the government. The autonomous bodies would continue to give support to government on the issues concerned and being asked by the government. The more of the powers devolve would bring the better research and results analysis. This process of rationalization would help in better resource utilization and management of the country by bringing the research collaborations on the table.



# 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 INDIA-ITALY VIRTUAL SUMMIT

**Why in News:** Prime Minister Narendra Modi and Italian Prime Minister Giuseppe Conte held a virtual summit between India and Italy. The two Prime Ministers **held wide ranging discussions on bilateral, regional and global issues. The main focus of the talks was on economic engagement**

### India Italy relations

India and Italy are ancient civilizations but young states (Italy was reunified only in 1861). These two ancient civilizations have known, interacted and traded with each other for over 2000 years. Political relations between India and Italy were established in 1947.

#### Economic Relations:

- Italy is India's 5th largest trading partner in the EU, after Germany, Belgium, UK and France. The balance of trade has been in India's favour since the early eighties.
- Bilateral trade grew strongly till 2007, before the world- wide recession of 2008 led to a slowdown in Italian economy, which had an adverse impact on the bilateral trade. However, bilateral trade has recovered in the past few years to reach Euros 9.52 billion in 2019.
- Principal items of Indian exports to Italy are ready-made garments, leather, iron ore, motor vehicles, textiles, chemicals, gems & jewellery
- Main items of import from Italy are general and special purpose machinery, machine tools, metallurgical products, and engineering items.
- Italy ranks 17th in FDI inflow in India during April, 2000 to December, 2018. Total FDI inflows from Italy are USD 2.72 billion during this period.

#### Scientific Co-operation

An Agreement on S&T Co-operation exists between the two countries since 1978. Some of the prime areas of joint research are electronics, biotechnology, design engineering automotive technologies, energy, etc.

#### Cultural Exchange

The agreement for cultural cooperation between the two countries was signed in 1976. It includes the Cultural Exchange Program (CEP) between Italy and India which provides for exchange of students in language programs as well as other academic courses.

There are several Universities/higher education institutions in Italy with highly qualified faculties which conduct courses in Indian art, history and languages. Many of these institutions teach Hindi and Sanskrit to Italian students.

## **Indian Diaspora**

The Indian community in Italy is the second largest community of Indians in Europe after UK. As first generation migrants, majority of them are engaged in economic sectors such as agriculture, dairy farming, leather industry, construction works and in service industry.

## **Highlights of the Bilateral Summit**

India and Italy signed 15 agreements and finalised an action plan to further expand their ties. The agreements signed will lead to cooperation in a diverse range of areas including energy, trade, film-making, shipbuilding and science and technology.

The four-year action plan mentioned a number of areas for expansion of cooperation which included climate change, regional connectivity, counter-terror mechanism, manufacturing and environment.

## **Defence cooperation**

The two leaders appreciated the steady strengthening of defence cooperation between the two countries and recognized the importance of regular defence exchanges. They also stressed on the need to further expand defence engagement through greater two-way collaboration and technology cooperation, co-development and co-production.

## **Cooperation in counter terrorism**

The two Prime Ministers condemned (disapproved of) terrorism in all its forms and agreed to strengthen cooperation in the fight against terrorism both at the bilateral level and in multilateral forums.

They supported a comprehensive approach in preventing and combating terrorism, based on respect for human rights and fundamental freedoms, the rule of law and international law.

## **Strengthening economic engagement**

The Prime Ministers underlined the need to increase cooperation in high technology, clean energy, energy sector development, infrastructure and food processing. They also agreed to promote innovative financial schemes capable of supporting bilateral investments.

The two leaders agreed to work closely together for the success of the 16th India-EU summit to be held in 2021.

### **Cooperation during Covid-19 pandemic**

The Italian Prime Minister thanked India for supporting Italy during the pandemic by **supplying medicines and personal protection equipment (PPE)**. The two leaders also discussed ways to deal with impact of the corona virus pandemic and agreed that there is a need for an inclusive multilateral approach to health protection.

In this context, the two countries agreed to increase consultations for cooperation in the health sector.

### **Partners in a multilateral world**

The two leaders stressed on the importance of the Indo-Pacific region as a fundamental area for connecting Asia and Europe. They agreed to support all connectivity initiatives based on internationally recognised norms and standards, good governance, rule of law, inclusiveness and transparency.

The two leaders also emphasised the importance of the consecutive G20 presidencies that Italy and India will hold in 2021 and 2022 respectively. It will offer a significant opportunity to provide continuity in the fight against the pandemic and in addressing all other major issues of global governance.

They also expressed their commitment to cooperate in the field of disaster risk reduction and management, both at bilateral and multilateral level.

## **2.2 INDIA – MALDIVES**

**Why in News:** Recently India's Foreign Secretary was on a visit to the Maldives

### **India-Maldives relations**

India and Maldives share ethnic, linguistic, cultural, religious and commercial links since a long time. **India was among the first to recognize Maldives after its independence in 1965 and to establish diplomatic relations with the country.**

Except for a brief period between 2012 to 2018 (when there was a change in approach towards India), relations between the two countries have been close and multi-dimensional. Maldives

recognizes the importance of India's strategic role in Maldives and looks at India as a net security provider

### **Defence Cooperation**

Since 1988, defence and security has been a major area of cooperation between India and Maldives. A comprehensive Action Plan for Defence has been signed between the two countries in 2016 to consolidate the defence partnership.

India provides the largest number of training opportunities for Maldivian National Defence Force (MNDF), which meets around 70% of their defence training requirements. The defence cooperation extends to other areas of Joint Exercises, Maritime Domain Awareness, gifting of hardware, infrastructure development, etc.

A proposal to link MNDF's College of Defence Studies with India's Defence Universities is also under process.

### **Disaster Management**

India was the first to assist Maldives during the 2004 Tsunami as well as the water crisis in Malé in 2014. Under Operation NEER (in 2014), India had immediately sent bottled drinking water to Malé, to address the water crisis, by utilising Air Force aircraft and Navy ships.

India also offers customised training for MNDF Fire and Rescue Service in India. These incidents have established India's capacity to help Maldives in different disasters that the country may across

### **Bilateral Economic and Trade Relations**

India and Maldives signed a trade agreement in 1981, which provides for export of essential commodities. Growing from a small number, India-Maldives bilateral trade has reached US\$ 288.99 Million (in 2019), which is heavily in favour of India.

India is Maldives' 4th largest trade partner after UAE, China and Singapore. Indian imports from the Maldives primarily include scrap metals, while Indian exports to the Maldives include food supplies, engineering and industrial products.

State Bank of India has been playing a vital role in the economic development of the Maldives since 1974, by providing loan assistance for promotion of island resorts, export of marine products and business enterprises.

## Tourism

The Maldivian economy is heavily dependent on its tourism sector, which is the major source of foreign exchange earnings and government revenue. Tourism directly accounts for about a quarter of Gross Domestic Product (GDP) of Maldives and indirectly for a much larger proportion of GDP.

In 2018, India was the 5th largest source of tourist arrivals in Maldives. However, in the first half of 2019, with 99% growth, India moved to the second spot and was placed just below China.

## Indian Diaspora in Maldives

Indians are the second largest expatriate community in Maldives with an approximate strength of around 22,000. About 25% of doctors and teachers in Maldives are Indian nationals.

## INDIA-MALDIVES

Maldives holds strategic importance for India under the Modi government's '**Neighbourhood First**' policy due to its location in the Indian Ocean. However, the relations between the two countries were strained under the pro-China regime of their former President Abdulla Yameen

This can be reflected in the recent 'India Out' campaign led by Abdulla Yameen, against India's massive developmental funding for creating physical, social and community infrastructure, and incumbent President Solih's government retaining two India-gifted helicopters and their operational military personnel.

While India-Maldives relations have always been close, cordial and multi-dimensional, recent regime instability in the Maldives has posed some limitations, especially in the political & strategic arena. Therefore, the main challenge to India's diplomacy is balancing out all these contradictions into harmonious relations.

Despite being the smallest Asian country with a land area, **Maldives is one of the world's most geographically dispersed countries straddling a 960-km-long submarine ridge running north to south and which forms a wall in the middle of the Indian Ocean.** Its strategic location defines the geo-strategic importance of Maldives far beyond its physical size.

## Highlights from the Visit

During the Indian Foreign Secretary's visit, India and Maldives signed four MoUs (memoranda of understanding). This comes two months after the Foreign Ministers of India and Maldives

held a virtual discussion. The US Secretary of State (Foreign Minister) also recently visited Maldives, after his India visit for a 2+2 meeting.

The two sides appraised each other of the respective national approaches to deal with Covid-19, and assessed the robust growth in bilateral ties.

#### 4 Memorandum of Understanding (MoUs) signed

- A key MoU was related to a \$100 million grant, which is part of India's \$500 million package for the Greater Male Connectivity Project (GMCP).
- As part of this, \$400 million line of credit will be provided by the Exim Bank of India.
- Two of the MoUs were related to high impact community development projects in Maldives.
- The countries also signed an MoU on cooperation in sports and youth affairs.
- India noted that the MoUs signed illustrate the strong development partnership which is multi-faceted and designed to meet the specific requirements of the government and people of Maldives.

#### India to support Maldives' bid for UNGA presidency

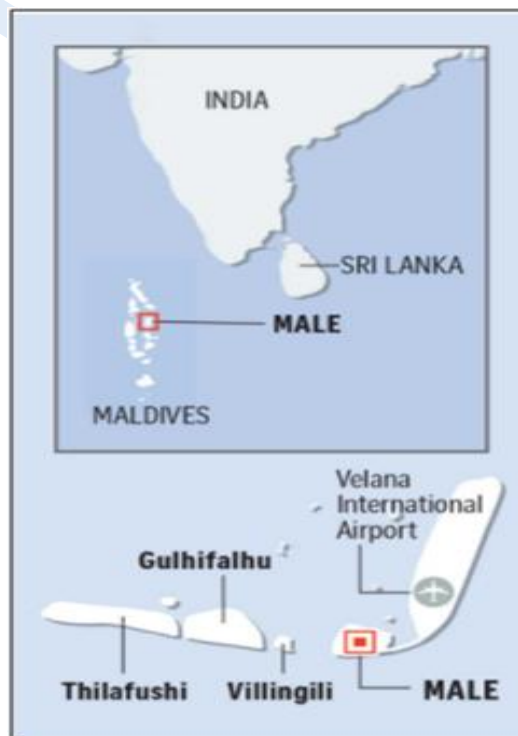
Maldivian Foreign Minister Abdullah Shahid has put up his candidature for the Presidency of the 76th session of the UN General Assembly (UNGA) in 2021.

India reiterated its support for Shahid's bid for UNGA presidency, and also urged the Maldives to play a more prominent role at the UN.

#### Greater Malé Connectivity Project (GMCP)

India has decided to support the implementation of Greater Malé Connectivity Project (GMCP) through a financial package consisting of a grant of \$100 million and a new line of credit of \$400 million.

This will be the largest civilian infrastructure project in Maldives, connecting Malé (the capital) with three neighbouring islands: **Villingili**, **Gulhifalhu (where a port is being built)** and **Thilafushi (new industrial zone)**.



Once completed, this project will improve connectivity between the four islands, boost economic activity, generate employment and promote holistic urban development in the Malé region. Besides the bridges connecting three big islands, a business park and a port are also part of the project

In accordance with the “Neighbourhood First” policy of the government, India remains a committed development partner for a stable, prosperous and peaceful Maldives. However, for adherence of strategic comfort in relations, Maldives on its part should abide by its India First’ policy

### **2.3 ARMENIA-AZERBAIJAN PEACE DEAL**

**Why in News:** Armenia and Azerbaijan announced an agreement to halt fighting over the Nagorno-Karabakh region of Azerbaijan under a pact signed with Russia.

#### **Nagorno-Karabakh Region**

**Nagorno-Karabakh is the name of a region in the South Caucasus.** South Caucasus is a geographical region in the vicinity of the southern Caucasus Mountains on the border of Eastern Europe and Western Asia. Today, South Caucasus corresponds to modern countries of Georgia, Armenia, and Azerbaijan.

- It is internationally recognised as part of Azerbaijan, but most of the region is controlled by Armenian separatists.
- Nagorno-Karabakh is an important corridor for pipelines transporting oil and gas to world markets
- Pipelines shipping Caspian oil and natural gas from Azerbaijan to the world pass close to Nagorno-Karabakh

#### **Ethnic tensions**

The region is affected by ethnic tensions that form the root of the dispute. While the Azeris (of Azerbaijan) claim that the disputed region was under their control in known history, Armenians (of Armenia) maintain that Karabakh was a part of the Armenian kingdom.

At present, the disputed region consists of a majority Armenian Christian population, even though it is internationally recognised as a part of Muslim-majority Azerbaijan.

## **Conflict between Armenia and Azerbaijan**

Nagorno-Karabakh has been part of Azerbaijan territory since the Soviet era. Nagorno-Karabakh sought to break away from Azerbaijan in a conflict that broke out as the Soviet Union collapsed in 1991.

Armenia's regional parliament voted for the region's transfer to Armenia, but the Soviet authorities turned down the demand. Years of clashes followed between Azerbaijan forces and Armenian separatists. The violence lasted into the 1990s, leaving tens and thousands dead and displacing hundreds of thousands.

### **Status since 1994**

In 1994, Russia brokered a ceasefire, by which time ethnic Armenians had taken control of the region. While the area remains in Azerbaijan, it is today governed by separatist Armenians who have declared it a republic called the "Nagorno-Karabakh Autonomous Oblast".

While the Armenian government does not recognise Nagorno-Karabakh as independent, it supports the region politically and militarily. Even after the 1994 peace deal, the region has been marked by regular exchanges of fire. The border between Armenia and Azerbaijan has been tense since 2018, particularly after Azerbaijan moved troops into the area, close to its border with Georgia.

### **Recent Update and Peace Deal**

In mid 2020, tensions escalated at the border between Azerbaijan and Armenia, with the two sides blamed each other for triggering the conflict.

During the October-November 2020 conflict, over 1200 are said to have lost their lives as per the Nagorno-Karabakh authorities, while thousands have been displaced. On November 10, 2020, Armenia and Azerbaijan announced an agreement to halt fighting over the Nagorno-Karabakh region of Azerbaijan under a pact signed with Russia. **The deal was signed by Russian President, Azerbaijani president and Armenian prime minister.**

### **Peace Deal**

- As per the new peace deal, both sides will now maintain positions in the areas that they currently hold. This will mean a significant gain for Azerbaijan as it has reclaimed over 15-20 per cent of its lost territory during the recent conflict, as per some reports.
- All military operations are suspended. Russian peacekeepers will be deployed along the line of contact in Nagorno-Karabakh and along the **Lachin corridor that connects the region to**

**Armenia.** These Russian peacekeepers with a force of roughly 2,000 will be deployed in the area for a period of five years.

- Refugees and internally displaced persons will return to the region and the adjacent territories and the two sides will also exchange prisoners of wars and bodies. A new corridor will be opened from Nakhchivan to Azerbaijan, which will be under Russian control.

The Armenian capital saw huge protests against the peace deal. On the other hand, Azerbaijan said that the agreement was of “historic importance”. The country reclaimed over 15-20 per cent of its lost territory in the region.

## **2.4 SHANGHAI COOPERATION ORGANISATION (SCO)**

**Why in News:** Prime Minister Narendra Modi addressed the 20th SCO heads of state summit that was chaired virtually by Russian President Vladimir Putin.

### **Shanghai Cooperation Organization (SCO)**

The Shanghai Cooperation Organization (SCO) is an intergovernmental organization founded in Shanghai in 2001 by six countries, People’s Republic of China, Kazakhstan, Kyrgyz Republic, Russia, Tajikistan, and Uzbekistan.

### **Background**

After the collapse of the Soviet Union in 1991, Shanghai Five was created in 1996 with five members i.e. China, Kazakhstan, Kyrgyzstan, Russia and Tajikistan. The Shanghai Cooperation Organization (SCO) was formed in 2001, with Uzbekistan included.

### **Main objectives of the SCO**

- Strengthen relations among member states
- Promote cooperation in political affairs, economics and trade, scientific-technical, cultural, and educational spheres as well as in energy, transportation, tourism, and environmental protection
- Safeguard regional peace, security, and stability
- Create a democratic, equitable international political and economic order

### **India and SCO**

SCO inducted India in Astana in Kazakhstan in 2017. In the same year, Pakistan was also inducted into the grouping.

SCO's "Shanghai spirit", which emphasises harmony, non-interference in others' internal affairs, and non-alignment, was in line with India's principles.

### **Significance of India's SCO membership**

- Counter-terrorism: Access to intelligence and information from SCO's counter-terrorism body, Regional Anti Terror Structure (RATS)
- Regional security, especially for a stable Afghanistan
- Connectivity, including significance for India's Connect Central Asia policy
- Energy cooperation
- Bolsters India's status as a major pan-Asian player, rather than just a South Asian player

### **News Update**

The 20th SCO heads of state summit is taking place in Moscow, Russia. Indian Prime Minister Narendra Modi addressed the summit.

### **PM's address Highlights**

- In his address, Prime Minister Modi called for SCO member-states to respect each other's sovereignty and territorial integrity while taking measures to improve and deepen connectivity.
- This is being seen as directed at China, with Indian troops currently in a tense face-off with Chinese soldiers along the LAC in Ladakh. He said India believed in peace, security and prosperity and had repeatedly voiced its concerns against terrorism, smuggling of illegal arms and money-laundering.
- The PM highlighted the imperative of a reformed multilateralism to bring changes in global governance to meet the expectations of a world suffering from social and financial after-effects of the pandemic.
- Connectivity: The PM underlined India's strong cultural and historical connect with the SCO region and reiterated India's firm commitment towards strengthening connectivity in the region with initiatives like International North-South Transport Corridor, Chabahar Port and Ashgabat Agreement.
- India has also proposed to set up a special working group on innovation and startups and a sub-group on traditional medicine within SCO.

**Moscow Declaration:** Following the 20th SCO summit of heads of state, the Shanghai Cooperation Organisation (SCO) released the Moscow Declaration.

The Declaration also said SCO will work in keeping with the principles of sovereignty, territorial integrity and non-interference in internal affairs of other states.

On terrorism, the member states were convinced that promotion of extremist, separatist and terrorist ideas, as well as any support, propaganda and justification of terrorism creates conditions for the spread of radical sentiments and recruitment of supporters by terrorist organisations. The Parties call for the early adoption by “**consensus of a comprehensive convention against international terrorism**,” said the Declaration.

The Declaration said SCO will work to further increase its contribution to ensuring peace and security and settlement of international and regional conflicts exclusively by political and diplomatic means. This will be based on principles of equality, respect for sovereignty, territorial integrity and non-interference in internal affairs of states, refusal to use force or the threat of its use.

## 2.5 RCEP

**Why in News:** Fifteen Asia-Pacific countries have signed the Regional Comprehensive Economic Partnership (RCEP), at the 37th Association of Southeast Asian Nations (ASEAN) Summit. India was a part of the RCEP negotiations but withdrew from it recently, when the long-overdue agreement entered its final stages.

### RCEP

The RCEP is a trade bloc conceptualised in 2012 that includes China, Japan, South Korea, Australia, New Zealand and the 10 members of the Association of Southeast Asian Nations (ASEAN). The 10 countries under ASEAN are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

### Significance

The bloc encompasses 2.1 billion people, with RCEP’s members accounting for around 30 per cent of the global GDP. RCEP will lower tariffs, open up trade in services and will allow for common set of rules of origin to qualify for tariffs reduction with other RCEP members.

This will lead to cost reductions and improved market access by letting companies to export products anywhere within the bloc without meeting separate requirements for each country. Less procedures and easier movement of goods will encourage multinational firms to invest more in the region, build supply chains and distribution hubs and lead to the creation of an integrated market.

### India's reasons for not joining RCEP

- There are fears that some domestic sectors like dairy, textile, steel may be negatively hit due to cheaper alternatives from other RCEP countries.
- Indian exporters may not gain much as agreements with other major countries such as ASEAN members, Japan and South Korea are already in place.
- Critics are also not confident that India would be able to take advantage of the deal, due its poor track record of extracting benefits from the FTAs with these countries. Thus, there are fears that India's trade gap with these countries may increase if it signs the RCEP deal.

### The China factor

China is India's biggest trading partner, accounting for almost 10% of overall trade. RCEP will further open the Indian market to China, with which India has a massive trade deficit. Of India's \$105-billion trade deficit with RCEP countries, nearly half was with China. Opening the market to China, in the absence of proper standards and processes can prove to be disastrous

### Violation of rules of origin

Many fear that the new rules in RCEP will make it easier for Chinese goods to be routed into India via a third country. So if a Chinese company cannot export an item into India at a concessional duty, it may just route it through Vietnam

### Market Access for India

India has also not received any assurances on its demand for more market access, and its concerns over non-tariff barriers. RCEP participants like China have used non-tariff barriers in the past to prevent India from growing its exports to the country.

### Insignificant gains on the Services front

While more services trade may be promoted as a big advantage from RCEP, experience with Singapore and ASEAN shows that Indian professionals have not gained much. For instance, Singapore had virtually stopped issuing visas to Indian IT professionals, although it had committed to it under the FTA

Moreover, India's demands on services have not been addressed and suggestions such as visa-free travel in the region for Indian businessmen have been declined by negotiators from other countries, although the facility is available to the Chinese.

In any case, negotiators from other countries have focused on extracting more on goods trade than offering any openings on services.

### **Lack of reforms**

Another issue is exposing vulnerable sectors to competition emerging from global trade. Even after more than quarter of a century of economic reforms, Indian manufacturing is yet to mature to be competitive enough to face competition from international trade.

Despite low relative labour cost, labour productivity in India in manufacturing is still one of the lowest in the world. The current situation is due to a number of important reforms, which are not yet implemented in India. Under such circumstances, the Indian industry is not in a position to compete equally in a free-trade region.

### **Impact of India's exit**

According to experts, India might lose out on investment opportunities and its consumers may end up paying more than they should, especially when global trade, investment and supply chains face challenges due to the Covid-19 pandemic. Countries in the RCEP agreement would also lose out on an opportunity to access the Indian market. For India, it will be an opportunity to strengthen its domestic industries and move towards its dream of becoming self-reliant.

### **Conclusion**

By not joining RCEP, India has signaled to its trade allies that it is unwilling to do business on their terms but remains open for business. The idea is to be selective, especially with countries with which India has a massive trade deficit, such as China.

The Indian government is expected to pursue separate trade agreements with some of the countries that will be part of the bloc, such as Australia and New Zealand. It will also explore agreements where negotiations have not made substantial progress in recent years, such as the European Union.

India, as an original negotiating participant of the RCEP has the option of joining the agreement without the need of waiting for 18 months, which is the condition for new members.

RCEP signatory countries have said that they plan to begin negotiations with India once it submits a request of its intention to join the pact in writing, and till then India may participate in meetings as an observer.

## 2.6 EAST ASIA SUMMIT

**Why in News:** India's External Affairs Minister S. Jaishankar represented India at the recently held 15th East Asia Summit (EAS). The virtual summit meeting was chaired by the Prime Minister of Vietnam, and witnessed the participation of all the 18 EAS countries

The summit discussed ways to strengthen the EAS platform and to make it more responsive to emerging challenges.

### East Asia Summit (EAS)

- Established in 2005, the EAS is a forum for discussions on important strategic issues in the Indo-Pacific and plays a significant role in the strategic, geopolitical and economic evolution of the region. The first summit was held in Kuala Lumpur in 2005.
- It is a regional grouping of 18 participating countries –10 ASEAN countries, Australia, China, India, Japan, Republic of Korea, New Zealand, Russia and the US.
- The 10 countries under ASEAN are: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.
- India is a founding member of the EAS that initially had 16 countries. The membership expanded to 18 countries including Russia and the United States at the Sixth EAS in 2011.
- The 18 members of the EAS together represent 54% of the world population and account for 58% of the global GDP.

### Highlights of the 15th East Asia Summit

- India's External Affairs Minister Jaishankar underlined the key role played by the East Asia Summit (EAS) in the Indo-Pacific region and expressed India's support to make it stronger and more responsive
- He also noted the growing interest in the Indo-Pacific region, as an integrated maritime space, with ASEAN at its centre
- He appreciated the synergy (cooperation) between the ASEAN Outlook on Indo Pacific and India's Indo-Pacific Oceans Initiative
- At the last EAS summit, Prime Minister Narendra Modi had proposed setting up of the Indo-Pacific Ocean's Initiative (IPOI) to conserve and sustainably use the maritime domain and to make efforts to create a safe and secure maritime domain.
- India was equally positive about the Indo-Pacific policies announced recently by other nations.

## Discussions on South China Sea

In a reference to China, India expressed concern about actions and incidents in the South China Sea that reduce trust in the region. He further said that ongoing negotiations on the proposed Code of Conduct for the South China Sea should not be against the legitimate interests of any nation and should be consistent with the UN Convention on the Law of the Sea (UNCLOS).

China has been pushing the members of ASEAN to quickly conclude negotiations for the code of conduct for the South China Sea. The code of conduct is aimed at regulating activities in the South China Sea, where China is involved in disputes with ASEAN members such as Vietnam and the Philippines.

The **leaders at the Summit underlined the importance of cooperation in ensuring safe, effective and affordable access to Covid-19 vaccines. They also called for greater cooperation in keeping the global supply chains open for a quick and sustainable economic recovery.** The Summit also discussed the need for greater global cooperation in the post-Covid-19 world to tackle challenges across national boundaries such as terrorism, climate change and pandemics.

## 2.7 BRICS

**Why in News:** Addressing the BRICS summit, Indian Prime Minister Modi called for holding nations accountable for terror. He also sought support from BRICS nations for reform of the UN Security Council (UNSC) and other global institutions

### BRICS

The BRIC (Brazil, Russia, India and China) grouping was first formalised during the first meeting of BRIC Foreign Ministers on the margins of the UNGA in New York in 2006. The first BRIC Summit was held in Yekaterinburg, Russia in 2009. It was agreed to expand BRIC to BRICS with the inclusion of South Africa at the BRICS Foreign Ministers' meeting in New York in 2010.

### Significance of BRICS

BRICS brings together five major emerging economies, comprising (as of 2019):

- 42% of the world population
- 23% of the world GDP
- 17% share in the world trade
- 25.9 per cent of world's geographic area

- BRICS has emerged the voice of developing countries, or the global south and will help in protecting the rights of the developing countries.

### **BRICS Agenda**

The BRICS agenda started essentially with economic issues of mutual interest.

However, the agenda of BRICS meetings has considerably widened over the years to encompass topical global issues such as international terrorism, climate change, food and energy security, international economic and financial situation, reform of the Bretton Woods Institutions, trade protectionism and the WTO/Doha Development Round etc.

### **Cooperation in economic-financial sphere**

The economic-financial sphere stands out as one of the most promising areas of activity for the BRICS. Two instruments of special importance were signed at the VI BRICS Summit (Fortaleza, Brazil, 2014) regarding:

#### **New Development Bank (NDB)**

It is also known as BRICS Development Bank. It is headquartered at Shanghai, China. The NDB will mobilise resources for infrastructure and sustainable development projects in BRICS and other emerging economies and developing countries.

#### **Contingent Reserve Arrangement (CRA)**

The BRICS Contingent Reserve Arrangement (CRA) would contribute to strengthening the global financial safety net by complement existing international arrangements (from IMF).

The BRICS CRA will help India and other signatory countries to prevent short-term liquidity pressures (by boosting access to additional foreign exchange reserves) in situations of instability in the balance of payments, provide mutual support and further strengthen financial stability.

The initial total committed resources of the CRA was \$ 100 Billion (China contributing \$ 41B, South Africa \$ 5B while India, Russia and Brazil \$ 18B each).

### **Multi-level Process**

As BRICS cooperation grew to consolidate its foundation and expanded to more areas, it developed a multi-level process led by the Summit, meetings of the national Security Advisors, Foreign Ministers and other ministerial meetings.

### **BRICS cooperation has two pillars**

- Consultation on issues of mutual interest - through meetings of Leaders as well as of Ministers of Finance, Trade, Health, S&T, Agriculture, etc.
- Practical cooperation in a number of areas - through meetings of Working Groups/Senior Officials

## **News Highlight**

Russia hosted this year's BRICS summit, virtually. The theme of this year's summit: **'BRICS Partnership for Global Stability, Shared Security and Innovative Growth'**.

### **PM'S address at the Summit**

Indian Prime Minister Narendra Modi addressed the summit, and noted that BRICS will play a important role in stability, security and growth across the world.

### **On terrorism**

In his opening remarks, PM described terrorism as the biggest challenge facing the world, and called for holding accountable countries that support terrorism.

### **On multilateral institution reform**

The Prime Minister noted that questions are being raised about the credibility and effectiveness of institutions of global governance. The main reason is that these have not changed with the times and are still based on 75-year-old mindset and realities of the world.

He sought support from BRICS nations for reform of the UN Security Council (UNSC) and other global institutions like WHO, WTO and IMF, saying these had failed to keep up with current realities.

### **BRICS Counter-Terrorism Strategy**

During the summit, the BRICS counter-terrorism strategy was issued. The Strategy called upon on all countries to take steps to prevent the use of their territories for terrorist activities against other countries or their own citizens

It also stressed on the need for all States to refrain from organizing, instigating, facilitating, participating in, and financing, encouraging or tolerating terrorist activities. It also said that counter-terror cooperation strategy will be based on full respect for the sovereignty of the participating countries, non-interference in their internal affairs and rejection of double standards on countering terror and extremism conducive to terrorism.

It called on the international community should take the necessary steps to enhance cooperation to prevent and combat terrorism, including cross-border movement of terrorists.

**India welcomed the finalisation of a BRICS Counter-Terrorism Strategy.**

### Reforms of Multilateral institutions

The BRICS declaration called on the international community to celebrate the 75th anniversary of the United Nations by enhanced efforts to establish a more fair, just, inclusive, equitable and representative multi polar international system.

It noted that the new system should be based on sovereign equality of all States, respect for their territorial integrity and mutual respect for interests and concerns of all. **It reaffirmed the principles of non-intervention in the internal affairs of States and the resolution of international disputes by peaceful means.**

## 2.8 G-20 SUMMIT

**Why in News:** The 15th G20 Leaders' Summit is being held currently under the presidency of Saudi Arabia. The theme of the Summit is "Realizing Opportunities of 21st Century for All." The agenda of the summit is focused on overcoming the pandemic, economic recovery and restoring jobs, and building an inclusive, sustainable and resilient future.

### G20

The Group of Twenty, or the G20, is the premier forum for international economic cooperation. It brings together the leaders of both developed and developing countries from every continent. Originated in 1999 at the level of Finance Ministers and Central Bank Governors, the G20 gathered for high-level discussions on macro-financial issues.

Due to the 2008 global financial crisis, the G20 was elevated to include the leaders of member countries. The first G20 Leaders' Summit took place in Washington D.C. in 2008. Consequently, the G20 agenda expanded beyond macro-financial issues, to include socio-economic and development issues.

The G20 members are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Republic of Korea, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union (EU).

### G20's functioning

- The presidency of the G20 rotates between member countries every year. The presidency plays a leading role in setting the agenda and organizing the Leaders' Summit, which is attended by the G20 Heads of State or Government.
- At the Summit, the leaders issue a declaration, based on policy discussions at meetings held throughout the year.
- At the government level, the G20 work is organized around the Finance and Sherpa Tracks, while civil society assembles through Engagement Groups.

## **The Finance Track**

It includes the meetings of G20 Finance Ministers and Central Bank Governors, as well as their Deputies. It focuses on fiscal and monetary policy issues such as the global economy, infrastructure, financial regulation, financial inclusion, international financial architecture and international taxation.

## **The Sherpa Track**

It includes the meetings of Ministers and relevant senior officials. It focuses on socioeconomic issues such as agriculture, anti-corruption, climate, digital economy, education, employment, energy, environment, health, tourism, trade and investment.

## **Engagement Groups**

The engagement groups represent the civil society and develop recommendations that are submitted to G20 Leaders for their consideration. Engagement Groups include the Business 20, Youth 20, Labour 20, Think 20, Civil 20, Women 20, Science 20, and Urban 20.

## **India's address at the summit**

Addressing the summit, PM Modi described Covid-19 as the biggest challenge the world was facing since World War II and an important turning point in the history of humanity.

**PM Modi called for a new Global Index for the post-corona world which would include a strong emphasis on respecting nature, and dealing with "Mother Earth",** with a spirit of trusteeship. He also said that dealing with environment and nature as trustees rather than owners will inspire everyone towards a holistic and healthy lifestyle .A trustee is a person or firm that administers a property or assets for the benefit of a third party.

**The three other key elements of the index outlined by the PM are creation of a vast talent pool; ensuring technology reaches all segments of society; and transparency in governance systems.**

PM highlighted that in the past few decades, there was an emphasis on capital and finance but now it is important to focus on multi-skilling and re-skilling. This will enhance the dignity of people and make them more resilient (ability to recover) to face crises.

He added any assessment of new technology should be based on its impact on ease of living and quality of life.

PM Modi offered India's IT expertise to further develop digital facilities for efficient functioning of the G20. Noting that "Work from Anywhere" is the new normal in the post-Covid world, he also suggested the creation of a G-20 virtual secretariat as a follow-up and documentation repository (storehouse)

The leaders at the Summit appreciated the progress made in developing vaccines, therapeutics and diagnostics tools for Covid-19. Going forward, the world must work to create the conditions for affordable and equitable access to these tools for everyone. At the same time, the world must prepare for any future pandemic.

The leaders also shared that countries must continue to support the global economy and reopen their economies and borders to facilitate the mobility of trade and people.



# 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 SUBMARINES

**Why in News:** Indian Navy's fifth Kalvari-class Diesel Electric attack submarine INS Vagir was recently launched at Mazgaon Dock in Mumbai.

#### Submarines

Submarines are classified based on how they are powered. Usually, there are two types:

These are conventional submarines that are powered by a **combination of diesel engines and electric motor**. Example include INS Sindhughosh and INS Sindhuratna

These are powered by a **nuclear reactor**. Being completely independent of need for air, these submarines need not come to the surface frequently, as is necessary for conventional submarines India currently has two such submarines: INS Arihant (built in India) and INS Chakra (leased from Russia).

#### Indigenization of Submarine Production

Ever since the submarine arm was commissioned in 1967, Indian Navy is striving for modernization and indigenization of these underwater vehicles. To this effect in 1999, India approved a 30-year submarine building plan for production of submarines indigenously. Under this plan, Project-75 and a follow on Project-75 I (India) were conceived.

#### Project 75

Under P-75, six Scorpene Diesel Electric submarines (note below about these subs) are being built by Mazgaon Docks Limited (MDL) with technology transfer from France. The design of Kalvari class of submarines is based on Scorpene class of submarines designed and developed by French defence major Naval Group formerly DCNS and partners.

Under Project 75, INS Kalvari in 2017 and INS Kandheri in 2019 have been being commissioned.

#### Project 75-I

Under Project 75- I, India will build 6 advanced conventional stealth submarines under the SP model. The advanced diesel-electric submarines under will have both land-attack cruise missiles and air-independent propulsion. They have air-independent propulsion (AIP) system, and thus increase their operational range.

The submarines will have a vertical launch system (VLS) which will enable them to carry multiple Brahmos supersonic cruise missiles which means that it will be fully capable of launching anti-surface and anti-ship warfare missions.

### **Scorpene submarines**

Scorpene submarines are advanced diesel-electric submarines, designed and developed by French defence major Naval Group formerly DCNS. These submarines are around 220 feet long and have a height of 40 feet.

The modern variants of the Scorpene class of submarines have Air Independent Propulsion System (AIP) technology. Conventional diesel-electric submarines have to surface every few days to get oxygen, but with AIP systems, they can stay submerged for much longer periods.

These are primarily attack submarines or 'hunter-killer' type which means they are designed to target and sink adversary naval vessels. The state-of-art features of the Scorpene include superior stealth and the ability to use precision guided weapons.

The attack can be launched with torpedoes, as well as tube launched anti-ship missiles, whilst underwater or on surface. It can undertake many types of missions typically undertaken by any modern submarine i.e. Anti-Surface warfare, Anti-Submarine warfare, Intelligence gathering, Mine laying etc.

### **"Class" of Navy vessels**

In maritime parlance, a class of ships (like submarines, corvettes etc.) is a group of vessels which have the same make, purpose and displacement. In the Navy and Coast Guard in India, the ships belonging to a particular class are named in a specific manner.

The class is generally named after the first vessel in the category. For instance, the first submarine under Project-75 is INS Kalvari, and all the 6 vessels being built under the project are referred to as "Kalvari-class".

**Indian Navy's fifth Kalvari-class Diesel Electric attack submarine INS Vagir was recently launched at Mazgaon Dock in Mumbai.** Launch only implies the first step towards the commissioning of the submarine.

Total 6 such submarines are being built under Project-75. The other vessels in the class, apart from INS Vagir, are INS Kalvari, INS Khanderi, INS Karanj, INS Vela and INS Vagsheer. Of these Kalvari and Khanderi have been commissioned in 2017 and 2019, Vela and Karanj and undergoing sea trials, Vagir has now been launched and Vagsheer is under construction.

### 3.2 INFORMATION MANAGEMENT AND ANALYSIS CENTRE

**Why in News:** Speaking on the 12th anniversary of the 26/11 attacks, the Indian Defence Minister said that the Indian Navy, Coast Guard and Marine Police have prepared a three-tier security cover in the coastal areas of the country.

To ensure that these three tiers work in an integrated manner, an organisation named the Information Management and Analysis Centre (IMAC) was set up in 2014.

#### Background

The Lashkar-e-Toiba terrorists who carried out the 26/11 attacks had entered Mumbai through the sea, using speedboats. The attack exposed several vulnerabilities of coastal security and led to various changes in order to prevent a similar attack.

The Indian Navy is responsible for overall maritime security (coastal and offshore) and is to be assisted in coastal security by the Coast Guard, State Marine Police and other agencies. Post 26/11, in 2009, the Coast Guard was additionally designated as the authority responsible for coastal security in territorial waters.

Territorial water refer to the area of the sea immediately adjacent to the shores of a country and is subject to the territorial jurisdiction of that country. Efforts have been also made to increase surveillance (monitoring) in territorial waters by all agencies including the Navy, Coast Guard, Marine Police, and Customs. This included the creation of Information Management and Analysis Centre (IMAC).

#### Information Management and Analysis Centre (IMAC)

IMAC, based in Gurgaon, was established in 2014, and is the nodal centre for maritime security information collation and distribution. It is jointly operated by the Navy and Coast Guard.

#### IMAC's Functions

IMAC's task is to facilitate exchange of maritime security information among various national stakeholders, and develop a common operational picture. IMAC focuses on ships passing through the Indian Ocean Region (IOR). At its headquarters, officers can look at all ships that transmit signals to an Automatic Identification System (AIS) when passing through IOR.

It can look at information including route, destination, nationality and ownership for each vessel. It can also check if a vessel has changed its identity, or if it has been involved in law-enforcement issues in other countries.

It is important to note that IMAC tracks only non-military or commercial ships, known as white shipping. Military ships are tracked by the Directorate of Naval Operations, as this is on a classified (secret) network.

### **Source of data**

IMAC has linkages with a number of national and international organisations, from which it collects data, analyses patterns, and alerts relevant authorities if anything is found suspicious. The various sources are:

- 51 nodes across the country run by the Navy or the Coast Guard.
- The Vessel and Air Traffic Management System under the Petroleum Ministry.
- The Long-Range Identification and Trading Information from 174 countries, which comes from the Directorate General of Shipping.
- India's White Shipping Information Exchange Agreements with 36 countries.
- Space-based AIS that provide information on offshore and deep sea vessels, sanctioned vessels list, intelligence inputs, and information about research vessels.
- Information from The Indian Ports Authority, which has been integrated recently.
- The National Automatic Identification System, which has 87 stations.
- After 26/11, the government has made it compulsory for all vessels longer than 20 m to have AIS that transmits its identification and other information.
- This is in addition to the international regulation that AIS is compulsory for any vessel heavier than 300 gross tonnages. Gross tonnage is a measure of a ship's overall internal volume

**The Cabinet Committee on Security is considering a proposal by the Navy to develop a National Maritime Awareness Centre (NMAC). The NMAC will be multi-agency body including the Navy, Coast Guard, intelligence agencies, state marine police forces, and ministries of shipping, ports and fisheries.**

ISRO has also been trying to develop a solution for tracking fishing vessels over the last one decade. The integration of fishermen's boats with the IMAC will help to increase the coastal security of the country.

# 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 BANK LICENCES FOR CORPORATES

**Why in News:** The internal working group (IWG) of Reserve Bank of India (RBI), in its report, recently gave a recommendation that large corporates and industrial houses may be allowed as promoters of banks.

- The IWG was constituted by the RBI in June, 2020 to review ownership guidelines and corporate structure for Indian private sector banks. The IWG submitted several recommendations but the above mentioned recommendation has been criticised by various experts.
- One of the recommendations was to allow large corporate houses to convert their existing non-bank financial companies (NBFCs) into the banks.
- The **IWG, headed by PK Mohanty**, was constituted by the RBI in June, 2020 to review ownership guidelines and corporate structure for Indian private sector banks.

### Background

#### Evolution of Indian banking sector

India's banking system has changed a lot since Independence when banks were owned by the private sector. Ownership of banks by the private sector led to a large concentration of resources in the hands of a few business families. Later, the government nationalised (took ownership of) most of the banks in 1969 and 1980.

This was done with the aim to achieve a wider spread of bank credit, prevent its misuse, direct a larger volume of credit flow to priority sectors and to make it an effective instrument of economic development. However, due to economic liberalisation in the early 1990s, the economy's credit needs increased and private banks were again allowed to be a part of the banking sector.

#### Issues with banking sector in India

- Even after three decades of rapid growth, the total balance sheet of banks in India still constitutes less than 70 per cent of the GDP. This is significantly lower compared to China, where this ratio is close to 175%.
- Moreover, domestic bank credit to the private sector is just 50% of GDP when in economies such as China, Japan, the US and Korea it is more than 150 per cent of GDP.

- In other words, India's banking system has not been able to meet the credit demands of a growing economy.
- There is only one Indian bank in the top 100 banks globally by size. Further, Indian banks are also one of the least cost-efficient.
- Moreover, public sector banks (PSBs) are losing market share to private banks and are struggling with high non-performing assets. On the other hand, private banks are more efficient and profitable.

### IWG's reasons for proposing allowing of bank licenses for corporates

- The Indian economy, especially the private sector, needs money (credit) to grow.
- Government finances were already under stress before the Covid crisis. A significant drop in economic growth and reduction in government revenues has reduced the ability of the government to push for growth through the public sector banks.
- However, large corporates have huge financial resources to fund India's future growth.
- Thus, to address the above mentioned issues and to increase the capacity of the banking sector to fund India's growth, the IWG suggested changes to boost private sector banking.

### Criticisms of proposal allowing banking licenses for corporates

#### Increased risks

In the past, RBI has been against the idea of allowing large corporates to establish banks, as an increase in the number of private banks is risky. This was evident during the global financial crisis of 2008.

A predominantly government-owned banking system tends to be more financially stable because of the trust in government as an institution. Moreover, even in private bank ownership, past regulators have preferred that one single owner does not have high ownership stake in the bank, to reduce the risks.

#### Issue of connected lending:

Allowing large corporates to establish banks can lead to conflict of interest and connected lending. **Connected lending refers to a situation** where the promoter of a bank is also a borrower, as it is possible for a promoter of the bank to divert the depositors' money into their other companies.

There are various ways of violating the regulations on connected lending and due to complex structures of entities; it is difficult to prevent connected lending.

Connected lending has been happening for a long time and the RBI has found it difficult to stop it. The recent episodes in ICICI Bank, Yes Bank, DHFL etc. were all examples of connected lending. The ever-greening of loans (where one loan after another is extended to enable the borrower to pay back the previous one) is often the starting point of such lending.

### **Other issues**

Assessing 'fit and proper' status of the promoters and its large number of group entities is very difficult. India has already seen a number of bank promoters who passed a 'fit and proper' test at the time of licensing but deteriorated later. Bailout costs (cost to rescue) of such banks will add to the financial burden of the government. Even if banking licenses are allotted fairly, it will give undue advantage to large business houses that already have the initial capital that is required initially to form a bank.

Another reason to prohibit corporate entry into banking is that it will further increase the concentration of economic and political power in certain business houses.

### **NBFCs**

A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956. It is engaged in the business of loans and advances, acquisition of shares/stocks/bonds/securities. It also provides insurance, infrastructure financing etc.

As banks are not able to reach everywhere in the country, NBFCs play a very vital role in financial sector of Indian economy.

### **Difference between banks and NBFCs**

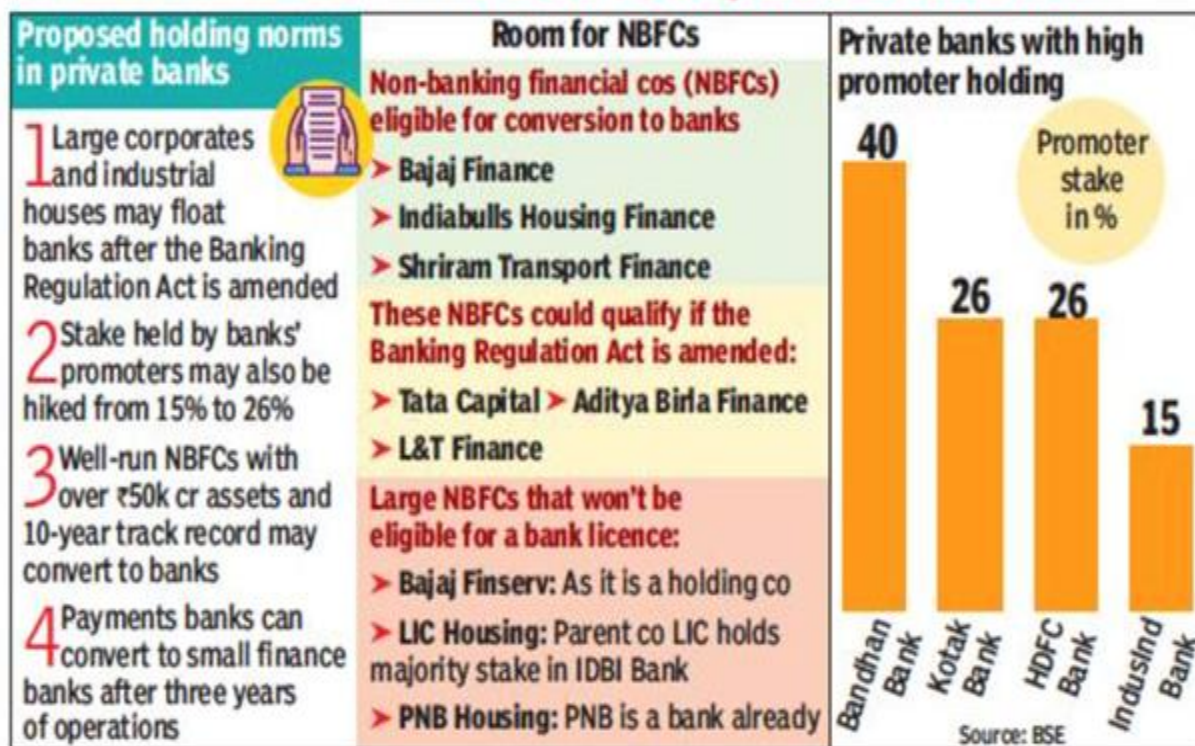
NBFC cannot accept demand deposits like banks. A demand deposit is money deposited into a bank account with funds that can be withdrawn on-demand at any time NBFC cannot issue demand drafts like banks.

NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself, like a bank. Deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs, unlike in case of banks.

## IWG's Recommendations

- The IWG recommended that large corporates and industrial houses may be allowed as promoters of banks.
- This should be done after necessary amendments to the Banking Regulation Act, 1949 and strengthening of the supervisory mechanism for large conglomerates. Well-run large non-banking finance companies (NBFCs), with an asset size of Rs 50,000 crore and above, including those which are owned by a corporate house, may be considered for conversion into banks.
- The committee further said that such NBFCs, with at least a 10-year track record, may be allowed to convert into banks. For payments banks wanting to convert to a small finance bank (SFB), the IWG recommended reduction in the track record of experience as payments bank to three years from five years now.
- The committee has also proposed a review of the "fit and proper" norms, which is the deciding factor in the regulator allowing or rejecting an application for a bank. Over the years, RBI has been selective in issuing fresh bank licences.

## CAPITAL BOOST IN PUSH FOR \$5TN ECONOMY



### **Shareholding and minimum initial capital requirements**

The RBI committee has also recommended that after 15 years, promoters should be allowed to hold up to 26% stake in the bank, instead of the current limit of 15%. The panel also suggested that the current rule where the promoters of a bank have to hold a minimum of 40% in the bank for the first five years, should continue.

It also said that the promoters could choose to reduce their holding after the five-year period. On non-promoter shareholding, the panel has suggested a uniform limit of 15 per cent for all types of shareholders.

The minimum initial capital requirement for licensing new banks should be enhanced from Rs 500 crore to Rs 1,000 crore for universal banks and from Rs 200 crore to Rs 300 crore for small finance banks.

Universal banking is a system in which banks provide a wide variety of comprehensive financial services, including retail banking, commercial banking, and investment banking.

### **Only few NBFCs would be eligible even if IWG's recommendations are accepted**

Not many standalone non-banking financial companies (NBFCs) are likely to qualify for the bank licence norms recommended by the IWG.

Around half of the finance companies with assets of over Rs 50,000 crore that meet the RBI's size criteria to get a bank licence are part of corporate groups, while two are already part of banking groups.

Among the top 10 finance companies in terms of size, Aditya Birla Capital, Bajaj Finance, L&T Finance Holdings, Mahindra Finance, Piramal, and Tata Capital are part of a corporate group.

### **Criticism from Ex-RBI Governor:**

Former Reserve Bank of India (RBI) Governor Raghuram Rajan and former Deputy Governor Viral Acharya has opposed IWG's recommendation of allowing large corporate/industrial houses as promoters of banks.

They say that if industrial houses are allowed into banking, they can get loans easily from their own in-house banks. This can lead to poor lending from these banks and have an impact on the overall financial system.

India has already seen a number of bank promoters who passed a fit and proper test at the time of licensing but deteriorated later. Bailout costs (cost to rescue) of such banks will add to the financial burden of the government.

Even if banking licenses are allotted fairly, it will give undue advantage to large business houses that already have the initial capital that is required initially. Another reason to prohibit corporate entry into banking is that it will further increase the concentration of economic and political power in certain business houses.

According to industry experts, it would take about six to nine months for the proposals to be made into rules. Once the rules are made on the lines of the proposals, there would be 3-4 NBFCs which could apply to become banks while other 3-4 finance companies promoted by large business houses could become banks. For large companies to start banks, the law has to be changed which could take longer.

## **4.2 FOREIGN PORTFOLIO INVESTMENT (FPI)**

**Why in News:** In just eight months of the current financial year (Apr-Nov), net foreign portfolio investment (FPI) into equities jumped by Rs 1.4 lakh crore, the highest-ever in any financial year.

### **Foreign Investment**

Foreign Investment means any investment made by a person/entity resident outside India on a repatriable basis. There are two types of foreign investment

- Foreign Direct Investment (FDI)
- Foreign Portfolio Investment (FPI): FDI

Foreign Direct Investment (FDI) is the investment through capital instruments by a person/entity resident outside India

- in an unlisted Indian company; or
- in 10% or more of the post issue paid-up equity capital of a listed Indian company

### **FPI**

Foreign Portfolio Investment (FPI) is any investment made by a person/entity resident outside India in capital instruments where such investment is

- less than 10% of the post issue paid-up equity capital of a listed Indian company or

- less than 10% of the paid up value of each series of capital instruments of a listed Indian company

‘Capital Instruments’ means equity shares, debentures, preference shares and share warrants issued by the Indian company

## FDI v/s FPI

FDI involves higher investment in a company and indicates a direct business interest. An FDI could lead to transfer of resources, knowledge and funds.

FPI involves buying shares or bonds that are made available on the foreign country’s exchange. FPI is liquid and can be bought and sold easily.

FDI, with more than 10% equity, involves management and control of the company in which investment is made. On the other hand, FPIs hold passive ownership (this investment remains relatively liquid and can be pulled any time) without controlling the company. FDI is more long-term than FPI.

## Foreign Portfolio Investment (FPI)

Foreign Portfolio Investment (FPI) is investment by residents of other countries in Indian securities including shares (equity investment), government bonds, corporate bonds (debt investment), convertible securities, infrastructure securities etc

The class of investors who make investment in these securities and financial assets are known as Foreign Portfolio Investors. They include FIIs (foreign institutional investors), QFIs (qualified foreign investors) and investment groups.

FPI is one way in which an investor can partake in a foreign economy, by investing in assets and securities.

## Benefits of FPI

Foreign portfolio investments are important as they drive the stock markets and boost the liquidity of capital markets of the host country. When there is a limitation on the domestically available investors, companies can receive foreign investment in the form of FPIs.

FPIs boost demand for stock of companies and help them when it comes to raising capital at low costs.

From the investor's perspective, it helps an investor add more diversity to their investments and benefit from such a diversification.

### Concerns with FPI

To the country receiving FPI, it comes with unpredictability, as this investment could be pulled out at any moment, giving rise to volatility.

**A sudden withdrawal of FPI could make an impact on the exchange rate.** The reason FPI is watched carefully by experts is that it is an indicator of the stock market's performance.

### Update

In just eight months of the current financial year (Apr-Nov 2020), India received its highest-ever foreign portfolio investment (FPI) in any financial year. In this period, net foreign portfolio investment (FPI) into equities jumped by Rs 1.4 lakh crore, the highest-ever in any financial year. In fact, in the first 20 days of November, net inflows added up to more than Rs 44,000 crore.

### Reasons

The higher flows in November were driven by a series of good news. The outcome of US Presidential elections in the first week of November fuelled FPI inflows into emerging markets and led to a sharp rally in equity markets worldwide, including India.

Also, successive announcements of Covid-19 vaccine by Pfizer and BioNTech, Moderna and Russia, improved market sentiments over the last 10 days

## 4.3 ANTITRUST LAWS and COMPETITION COMMISSION OF INDIA

**Why in News:** The Competition Commission of India (CCI) has initiated a probe (investigation) against Google for 'abuse' (misuse) of its dominant market position, to promote its payments app, Google Pay.

### Antitrust laws

**Antitrust laws** also referred to as competition laws, are laws developed by governments to protect consumers from unjust business practices and to ensure fair competition.

Antitrust laws are applied to a wide range of questionable business activities, including market allocation, bid rigging, price fixing, and monopolies.

**The goal of these laws** is to provide an equal business environment to similar businesses that operate in a specific industry, while preventing them from gaining too much power over their competition. If these laws didn't exist, consumers would not benefit from different options or competition in the marketplace. Furthermore, consumers would be forced to pay higher prices.

### **The Competition Act, 2002**

The Competition Act, 2002 governs the competition law in India. It replaced the Monopolies and Restrictive Trade Practices Act, 1969.

It is a tool to implement and enforce competition policy and to prevent and punish anti-competitive business practices by firms and unnecessary government interference in the market. The Competition Commission of India (CCI) was established under the provisions of this Act.

### **Competition Commission of India (CCI)**

Competition Commission of India is a statutory body responsible for enforcing The Competition Act, 2002 throughout India. It was established in 2003 and became fully functional in 2009.

Its vision is to promote and sustain a competition culture that would inspire businesses to be fair, competitive and innovative; enhance consumer welfare; and support economic growth.

### **Composition of CCI**

CCI consists of a Chairperson and 6 Members appointed by the Central Government. The Chairperson and the members must have special knowledge of, and professional experience of not less than fifteen years in, international trade, economics, business, commerce, law, finance, and management or competition matters.

The Chairperson and the members shall hold office for a term of five years.

### **Duties of CCI**

Prohibit the agreements or practices that have or are likely to have an adverse effect on competition in a market in India. Prohibit the abuse (misuse) of dominance in a market.

Prohibit acquisitions, mergers, amalgamations etc. between enterprises which have or are likely to have an adverse effect on competition in markets in India. Create public awareness and give training on competition issues.

### **News Update**

- The Competition Commission of India (CCI) has initiated a probe (investigation) against Google for 'abuse' (misuse) of its dominant market position, to promote its payments app, Google Pay.
- CCI's investigation follows complaints by Indian startups against Google's policy, which makes it compulsory for app makers to use Google's payment tools for selling services through the Play Store.
- This is the third major antitrust probe ordered by the Indian competition regulator (CCI) against Google and the various services it offers in the country.
- Google is also facing antitrust probes in the European Union and the United States.

### **Issues under investigation**

The Competition Commission of India (CCI) received six different types of complaints against Google. However, CCI has chosen to investigate only two complaints for violations of antitrust rules as follows:

- Compulsory use of Google Play's payment system for purchasing the apps and IAPs (in-app purchases) in the Play Store.
- Pre-installation of Google's GPay on Android smartphones

### **CCI's investigation order**

In its order to investigate, the CCI criticised Google's policy to charge 30 per cent commission for all app and in-app purchases. It further said that, since Google's Play store has about 90 per cent share of all downloads a significant volume of payments being processed in the market is controlled by Google.

CCI believes that Google's billing policy, (which has been postponed in India to April 2022) is unfair and it can increase the cost for Google's competitors in the market. If the application developers, in response, raise their subscription fees to cover these costs or remove/ reduce premium/ paid subscription offers for users, it may affect user experience, cost and choice.

Moreover, the conditions imposed by Google, limit the ability of app developers to offer payment processing solutions of their choice to the users. Based on the current knowledge, the Commission feels that Google's actions are in violation of Section 4 of the Competition Act and therefore, must be investigated. Section 4 of the Competition Act is related to abuse of dominant market position.

The Commission has directed to finish the probe and submit the report in 60 days.

### Google's response

Google has said that Google Play is not the only app distribution option and multiple other distribution channels exist for apps on the Android platform. It believes that the CCI will find that it operates in an extremely competitive environment, and users choose Google Play because it offers consumers a simple and secure payment experience.

## 4.4 AGRICULTURE SUBSIDIES

**Why in News:** Ever since the beginning of the Green Revolution in the mid-1960s, India has been supporting its farmers through input subsidies and minimum support prices of important crops.

In 2018-19, the farm subsidy bill amounted to Rs 2.56 lakh crore, which is equal to about 8.5% of the agricultural GDP (or about Rs 18,000 per hectare of the net sown area). Subsidies on power, fertilisers and price support, respectively, account for 40%, 30% and 10% of the total expenditure on subsidies. These incentives have immensely contributed to increases in agricultural productivity, farm incomes and food supplies.

### Negative effects of farm subsidies

- There are many issues with the current subsidy system in agriculture.
- It is excessively cereal-centric.
- It is causing deterioration to groundwater, soils and the environment.
- It is also aggravating income disparities (between various classes of people and between regions). It is mostly the large farmers in the irrigated regions who cultivate paddy and wheat who benefit more from farm subsidies.

### WTO scrutiny

Moreover, India's farm subsidies have come under the scrutiny of the World Trade Organisation (WTO) for these being in excess of the permissible limit.

### Need change in Agri- incentive structure

The issue of farm subsidies is complex, and once provided, it is difficult to withdraw these subsidies for political reasons. Nonetheless, concerns with farm subsidies listed above highlight the need for devising an incentive structure that can minimise the trade-off between efficiency and sustainability of the agricultural production systems.

Agriculture, besides providing food and non-food commodities, generates a number of visible and invisible, direct and indirect services, known as ecosystem services.

### **Ecosystem Services**

Ecosystem Services are the benefits people derive from ecosystems. They can be classified into:

- Provisioning services (food, feed, fodder, fuel, raw materials, herbal medicines)
- Supporting services (nutrient cycling, soil retention, enhancing soil fertility, genetic diversity, supporting biodiversity, etc)
- Regulating services (water recharge, water cycling, pollination, biological pest control, carbon sequestration, climate regulation, etc)
- Cultural services (recreation, religious and cultural values, R&D, etc)

### **Incentivising ecosystem services provided by agriculture**

One possible way out of current farm subsidies is to incentivise farmers for the ecosystem services they provide to the society through agriculture.

Except the provisioning services, the other services that agriculture provides are non-tradable, and their contributions have remained unvalued. For example, the biological nitrogen fixation by leguminous crops that improves soil fertility, reduces greenhouse gas emissions and also lowers the cost of production are ecosystem services that are not valued enough.

Similarly, organic agriculture provides a number of ecosystem services that benefit the society in many ways. Supporting and regulating agricultural practices that provide these ecosystem services is essential for sustainable development of agriculture. There is also a need to provide economic incentives to farmers for the ecosystem services they provide to the society through agri-practices

Initially, governments can provide direct benefits (arbitrarily decided) for some of these ecosystem services. The private sector can be involved to finance such schemes to ensure that the services on which their business depends are not at the risk of disappearance. This can set the path for incentivising agriculture for the ecosystem services they provide leading to adoption of more and more sustainable practices.

# 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 FAST RADIO BURST

**Why in News:** The US Space Agency NASA has reported that its observatories detected the first fast radio burst (FRB) ever seen within the Milky Way galaxy, in April, 2020.

On April 28, NASA observed a mix of X-ray and radio signals that were never observed before in the Milky Way galaxy. Three papers reporting the detection of fast radio burst (FRB) have been published recently in the journal Nature.

### Fast Radio Burst (FRB)

FRBs are bright bursts of radio waves, whose durations last only a few milliseconds. Due to this, it is difficult to detect them and locate their position in the sky. FRBs can be produced by astronomical objects with changing magnetic fields.

The first FRB was discovered in 2007 (from outer galaxies) and since then, scientists have been working towards finding the source of their origin. The FRBs that come from outside the Milky Way galaxy are tens of thousands to millions of times more powerful than anything detected in the Milky Way galaxy.

### Radio Waves

Radio waves are a type of electromagnetic radiation and have the longest wavelengths in the electromagnetic spectrum. The wavelength is the distance a wave takes to complete one cycle. The basic building block of radio communications is a radio wave. Radio waves are generated artificially by transmitters and received by radio receivers, using antennas.

Naturally occurring radio waves are emitted by lightning and astronomical objects. Radio waves are very widely used in modern technology for fixed and mobile radio communication, broadcasting, radar and radio navigation systems, communications satellites, wireless computer networks and many other applications.

### Magnetar

NASA describes a magnetar as a neutron star that is crushed, city-size remains of a star many times more massive than our (Solar system's) Sun. The magnetic field of such a star is extremely powerful, which can be over 10 trillion times stronger than a refrigerator magnet and up to a thousand times stronger than a typical neutron star's magnetic field.

Neutron stars are formed when the core of a massive star undergoes gravitational collapse when it reaches the end of its life.

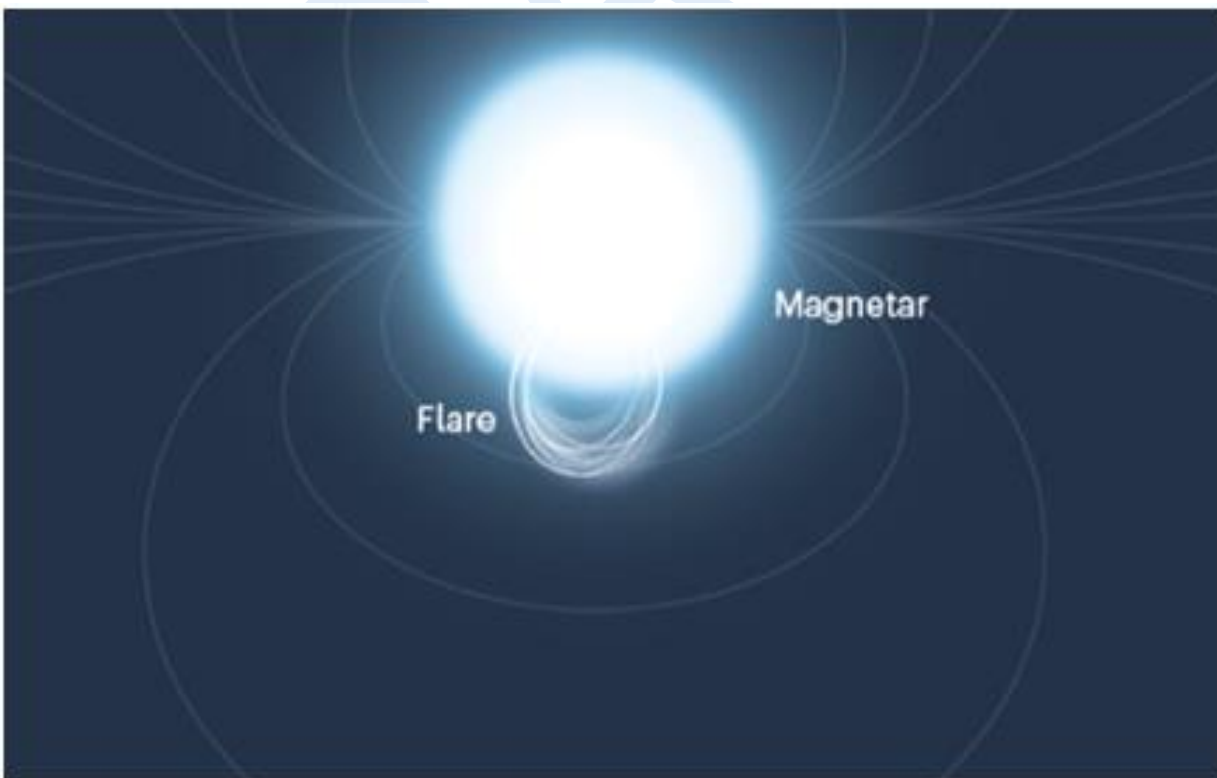
This results in the matter being so tightly packed that even a sugar-cube sized amount of material taken from such a star weighs more than 1 billion tons, which is about the same as the weight of Mount Everest.

Magnetars are a subclass of these neutrons and occasionally release flares with more energy in a fraction of a second than the Sun is capable of emitting in tens of thousands of years. For instance, the X-ray portion of the simultaneous bursts released by SGR 1935 carried as much energy as the Sun produces in a month.

## News Update

### Currently detected FRB

- The radio burst observed by NASA lasted for a thousandth of a second.
- The source of the FRB detected in April in the Milky Way is a very powerful magnetic neutron star, referred to as a magnetar, called SGR 1935+2154 or SGR 1935.
- SGR 1935 is located in the constellation Vulpecula and is estimated to be between 14,000-41,000 light-years away.



### **Observatories involved in the detection**

According to NASA several satellites, including the space agency's Wind mission, had captured the X-ray portion of the blasts. Meanwhile, the radio signals of the bursts had been detected by the Canadian Hydrogen Intensity Mapping Experiment (CHIME).

CHIME is a radio telescope situated in British Columbia-based Dominion Radio Astrophysical Observatory. At the same time, NASA-funded Survey for Transient Astronomical Radio Emission 2 or STARE2 also detected these bursts

### **Significance**

Until now, there were various theories that tried to explain the possible sources of an FRB. One of the proposed sources of FRBs has been magnetars, but before April this year, scientists did not have any evidence to show that FRBs originated from a magnetar.

Therefore, the current observation is significant, as it proves that the source of the FRB is a magnetar. This also leads to a possibility that at least some of these signals are also produced by magnetars in other galaxies.

## **5.2 EOS-01 Satellite**

**Why in News:** India has successfully launched its latest Earth Observation Satellite EOS-01 and nine customer satellites. EOS-01 is a Radar Imaging Satellite (RISAT).

### **Earth observation satellites**

Earth observation satellites are used for land and forest mapping and monitoring, mapping of resources like water or minerals or fishes, weather and climate observations, soil assessment and geospatial contour mapping.

Data from Earth-observation satellites are in great demand, both from government agencies, which need it for planning and infrastructure development, as well as private companies looking to execute infrastructure and other projects

### **EOS-01**

The EOS-01 is an earth observation satellite intended for applications in agriculture, forestry and disaster management support.

EOS-01 is a Radar Imaging Satellite (RISAT), which was originally named RISAT-2BR2. It will work together with RISAT-2B and RISAT-2BR1 launched last year. Radar imaging satellites are a type of earth observation satellites.

### **New naming system for earth observation satellites**

With EOS-01, ISRO is moving to a new naming system for its earth observation satellites which till now have been named thematically, according to the purpose they are meant for. For example, the Cartosat series of satellites were meant to provide data for land topography and mapping, while the Oceansat satellites were meant for observations over sea.

Some INSAT-series, Resourcesat series, GISAT and some more are all earth observation satellites, named differently for the jobs they are assigned to do, or the different instruments that they use to do their jobs.

### **Radar imaging**

Radar is a detection system that uses radio waves to determine the range, angle, or velocity of objects. It can be used to detect aircraft, ships, spacecraft, guided missiles, weather and terrain (land).

An advantage of radar imaging is that it is not affected by weather, cloud or fog, or the lack of sunlight. It can produce high-quality images in all conditions and at all times. Depending on the wavelength of the electromagnetic radiation used by the radar, different properties on land can be captured in the image. For example, a low wavelength signal can capture tree cover or vegetation, while a higher wavelength signal can penetrate even dense tree cover to look at land under the tree cover.

### **News Update**

India has successfully launched its latest earth observation satellite EOS-01 and nine customer satellites. The Polar Satellite Launch Vehicle (PSLV-C49) lifted off from the Satish Dhawan Space Centre in Sriharikota. For the PSLV, this was the 51st flight and only two of its launches have not been successful.

This is ISRO's first mission in 2020 after the lockdown due to COVID-19 pandemic disturbed 10 missions planned by the agency. The space agency had last launched a satellite in December last year, when ISRO had launched RISAT-2BR1, another earth observation satellite similar to EOS-01.

### Customer satellites

The nine foreign satellites, called the 'customer' satellites, have been launched under a commercial agreement with the New Space India Limited (NSIL). New Space India Limited is the commercial arm of ISRO and comes under the Department of Space. The customer satellites are from Lithuania (1), Luxembourg (4) and USA (4).

### New rocket used in the launch of EOS-01

For the launch of EOS-01, ISRO used a new variant of its PSLV rocket that has been flown only once before, in January last year. This variant of PSLV does not become waste after depositing its satellite in the orbit.

Instead, the last stage of the rocket, that remains after the satellite is separated, can acquire its own orbit and can be used as a platform for other onboard instruments to perform experiments in space. In effect, the last stage of the rocket acts like another satellite, with a life of about six months.

## 5.3 INDIAN REGIONAL NAVIGATION SYSTEM

**Why in News:** The Indian Regional Navigation Satellite System (IRNSS) has been accepted as a component of the World Wide Radio Navigation System (WWRNS).

### IRNSS / NavIC

The Indian Regional Navigation Satellite System (IRNSS) is an independent regional navigation satellite system being developed by India (like GPS of the US, but only having regional coverage).

It is designed to provide accurate position information service to users in India as well as the region extending up to 1500 km from its boundary.

- Seven satellites are being used for navigation purpose.
- Satellites are in the Geostationary Earth Orbit (GEO).
- Satellites are in the Geosynchronous Orbit (GSO).
- One satellite is only for messaging purpose.

NavIC (NAVigation with Indian Constellation) is the operational name of IRNSS.

## IRNSS

# Indian Regional Navigation Satellite System

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

### NAVIGATION CONSTELLATION CONSISTS OF SEVEN SATELLITES

**3** in geostationary earth orbit (GEO) and  
**4** in geosynchronous orbit (GSO) inclined at 29 degrees to equator

Each sat has three rubidium atomic clocks, which provide accurate locational data

### IT WILL PROVIDE TWO TYPES OF SERVICES

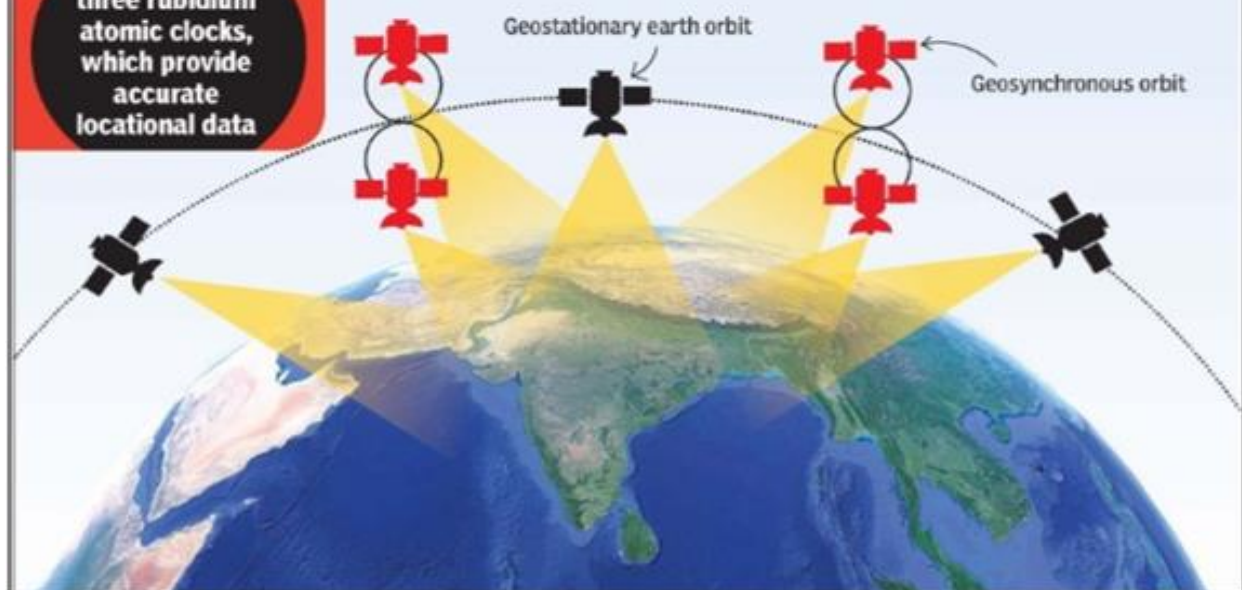
**1 Standard positioning service** | Meant for all users

**2 Restricted service** | Encrypted service provided only to authorised users (military and security agencies)

### Applications of IRNSS are:

Terrestrial, aerial and marine navigation; disaster management; vehicle tracking and fleet management; precise timing mapping and geodetic data capture; terrestrial navigation aid for hikers and travellers; visual and voice navigation for drivers

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



IRNSS will provide two types of services:

Standard Positioning Service (SPS): which is provided to all the users, NavIC helps business and individual users see where they are, or how their products and services are moving, within a 1,500-km radius over the sub-continent.

Restricted Service (RS): which is an encrypted service provided only to the authorised users (like the military)

## Applications of IRNSS:

- Terrestrial, Aerial and Marine Navigation
- Disaster Management
- Vehicle tracking and fleet management
- Integration with mobile phones
- Precise Timing
- Mapping and Geodetic data capture
- Terrestrial navigation aid for hikers and travelers
- Visual and voice navigation for drivers

## Commercial use of NavIC

In September 2019, Global mobile telephony standards body, 3GPP (The 3rd Generation Partnership Project), has given its approval to NavIC, paving the way for its wider commercial adoption, allowing it to be integrated with 4G, 5G and internet of things technology (IoT).

The specifications will be available in March 2020 and the Telecommunications Standards Development Society, India (TSDSI) has said it would adopt them as a national standard. Once these specifications are adopted, IoT devices here can make a switch from the US-made GPS to NavIC

## News Update

The Indian Regional Navigation Satellite System (IRNSS) has been accepted as a component of the World Wide Radio Navigation System (WWRNS) for operation in the Indian Ocean region by the International Maritime Organisation (IMO). With this, **India has become the fourth country in the world to have its independent regional navigation satellite system recognized by WMO as part of WWRNS.**

The other three countries that have its navigation systems recognised by the IMO are the US (GPS), Russia (GLONASS) and China (BDS). This is being seen by Indian as a significant achievement towards the 'Atmanirbhar Bharat' initiative.

## Significance

The move will enable merchant vessels to use IRNSS for obtaining accurate position information to assist in the navigation of ships in Indian Ocean waters for a specified area. IRNSS does not have global coverage (like the GPS), but has coverage of about 1500 km from Indian boundary.

# 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 TARDIGRADES

**Why in News:** In a recently published paper, researchers from Indian Institute of Science, Bengaluru (IISc) have reported findings on a species of microscopic organisms called tardigrades (also known as water bears).

### Tardigrades

- Also known as water bears or moss piglets, tardigrades are microscopic organisms (less than a millimeter in size) considered as one of the toughest animals on the planet that can easily survive in any environment.
- They can live in water or on land, and are capable of surviving temperatures as high as 150° Celsius and as low as minus 272° Celsius albeit for a few minutes.
- They can also withstand extreme radiation, and survive decades without food.
- The eight-legged animals can come back from being dried out to a lifeless husk for decades, and withstand the crushing depths of the Mariana Trench.
- About 1,300 species of Tardigrades have been reported worldwide.

### Sent to moon by Israel

In 2019, Tardigrades were on a lunar lander and probe called Beresheet launched by an Israeli private company. **Tardigrades were sent because they are microscopic, multi cellular, and one of the most durable forms of life on planet Earth.**

However, Beresheet crash-landed on the Moon and got destroyed, but the company said that they believe the tardigrades might have survived the Beresheet lunar crash.

### Survive UV radiation

They studied a tardigrade called Paramacrobiotus BLR strain (BLR for Bengaluru). It survived beyond 30 days after 15 minutes exposure to germicidal UV radiation (one kilo joule per square meter).



At this radiation dose, another species of tardigrade called *Hypsibius exemplaris* died within a day, and most of the roundworms were found dead within a week. Even when it was exposed to four times higher radiation, about 60% of the *Paramacrobiotus* sp. survived beyond 30 days.

### **Protective fluorescent shield**

They found that a tardigrade has a protective fluorescent shield which helps it survive harmful ultraviolet (UV) radiation. Even the other organisms coated with fluorescent extract from *Paramacrobiotus* sp. showed longer period of survival.

## **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 on the entire stretch of the main stem of the Ganga River (the main river without its tributaries). 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.

Ten 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 puffer fish and nesting colonies of the Indian Skimmer (water bird) have been found in the river.

### **Threat to freshwater ecosystems across the world**

- Freshwater ecosystems are only 01% of the earth's surface water but they account for 10% of species.

- 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.

### **Wildlife Institute of India**

The Wildlife Institute of India (WII), is an autonomous institution under the Ministry of Environment Forest and Climate change. Established in 1982, WII is an internationally acclaimed institution, which offers training programs, academic courses and advisory in wildlife research and management. The Institute is actively engaged in research across the country on biodiversity related issues.

### **Objectives of WII**

- Build up scientific knowledge on wildlife resources.
- Train personnel at various levels for conservation and management of wildlife.
- Conduct research on various aspects of wildlife and its efficient management.
- Collaborate with international organizations on wildlife research, management and training.
- Develop as a regional centre of international importance on wildlife and natural resource conservation.

## **6.3 VULTURE ACTION PLAN**

**Why in News:** The Union Ministry of Environment has launched the Vulture Action Plan 2020-25 for the conservation of vultures in the country.

### **Vultures and Conservation**

#### **Vultures**

Vultures are scavenger birds which feed on the carcasses of large animals. Vultures are the natural cleaners of the environment:

- They feed on dead decaying animals thereby enhancing the process of mineral return to the soil.

- Moreover, by disposing the dead bodies they check the spread of infectious diseases.
- In absence of vultures, the population of animals like rodents and stray dogs tend to increase leading to the spread of rabies.

### **Vulture species in India**

9 species of vultures are found in India. Of these nine species, 4 are listed as Critically Endangered species of Vultures and one as endangered species in IUCN red list of endangered species

### **Vulture numbers have come down vastly**

Vultures in India have reduced from 40 million (in 1990) to less than 60 thousand (2012), in one of the most drastic declines in bird populations in the world. Between the 1990s and 2007, numbers of three presently critically-endangered species – the Oriental white-backed, long-billed and slender-billed vultures crashed massively with 99 per cent of the species having been wiped out.

The number of red-headed vultures, also critically-endangered now, declined by 91%. The fast disappearing population of vultures is a serious problem and there is need to protect them to ensure their survival.

### **Threats to Vultures**

**Diclofenac:** Veterinary use of diclofenac as pain reliever in cattle is the main threat to the vultures in India. Vultures feeding on the carcasses of animals recently treated with diclofenac suffer renal failure and die.

**Habitat destruction:** Developmental activities like establishment of power projects, irrigation projects, industrial units, construction of highways etc. have ruined the habitats of vultures resulting into decline in their population.

**Pesticide pollution:** The chlorinated hydrocarbon D.D.T (Dichloro Diphenyl Trichloroethane) used as pesticide enters the body of vultures through food chain where it affects the activity of estrogen hormone, as a result of which the egg shell is weakened. Consequently the premature hatching of egg takes place causing the death of the embryo.

**Slow breeding rate:** Vultures lay a single egg in a breeding season. Hence, their slow breeding rate is also a threat to their survival.

**Use of poisoned carcasses:** Poison used by humans kill cattle-killing carnivores is also a threat to Vultures in India, as consumption of such poisoned carcasses by vulture leads to their death.

### **Conservation of vultures**

**Cutting use of diclofenac for cattle:** The Ministry of Environment released the Action Plan for Vulture Conservation 2006 with the DCGI (Drugs Controller General of India) banning the veterinary use of diclofenac in the same year.

**Captive Breeding Centers:** The Jatayu Conservation Breeding Centre (JCBC) established at Pinjore in 2001 was the first Vulture Care Centre (VCC) in the country. VCCs were later upgraded to Vulture Conservation and Breeding Centers (VCBC).

At present there are nine VCBCs in India, of which three are directly administered by Bombay Natural History Society (BNHS). The three species of vultures bred in the VCBC are the White-backed, Long-billed and the Slender-billed vultures.

The ministry of environment has now also launched conservation plans for the red-headed and Egyptian vultures, with breeding programs for both.

**Up gradation in status of protection:** Protection status of White backed, Long Billed and Slender Billed Vultures has been upgraded from Schedule IV to Schedule I of the Wild Life (Protection) Act, 1972

**Vulture Safe Zone program:** The Vulture Safe Zone program is being implemented at eight different places in the country where there were extant populations of vultures, including two in Uttar Pradesh.

The eight Vulture Safe Zones are diclofenac free areas with a radius of 100 km and at least one nesting colony.

An area is declared a Vulture Safe Zone only when no toxic drugs are found in undercover pharmacy and cattle carcass surveys, for two consecutive years, and the vulture populations are stable and not declining.

The Union Ministry of Environment has now launched the Vulture Action Plan 2020-25 for the conservation of vultures in the country. The ministry has been carrying out a conservation project for vultures since 2006, and the decline of the vulture population was halted by 2011.

### **Vulture Action Plan 2020-25**

The plan now is to extend the project to 2025 to not just halt the decline but to actively increase the vulture numbers in India. The action plan aims to continue to ensure that sale of veterinary Non-steroidal anti-inflammatory drugs (NSAIDs) is regulated and livestock are treated only by qualified veterinarians.

The Ministry also plans on carrying out safety testing of available NSAIDs on vultures and to develop new ones which do not affect vultures. Additional Conservation Breeding Centers are also being planned across the country, along with Vulture Conservation Centers

Four rescue centers have been proposed for different geographical areas like Pinjore in the north, Bhopal in ventral India, Guwahati in Northeast and Hyderabad in South India.

## **6.4 CLIMATE TRANSPARENCY REPORT 2020**

**Why in News:** The Climate Transparency Report 2020, with the annual review of G20 countries' climate action, was recently released by 'Climate Transparency'.

### **Climate Transparency Report**

'Climate Transparency' is a global partnership of 14 global think tanks and NGOs that brings together experts from the majority of G20 countries. Its mission is to encourage climate change in G20 countries by informing policy makers.

Its "Climate Transparency Report" (previously known as 'Brown to Green Report') is a comprehensive annual review of G20 countries' climate action and their transition to a net-zero emissions economy. The review is based on 100 indicators for adaptation, mitigation and finance and aims to highlight climate change practices and gaps.

### **Climate Transparency Report 2020**

The 2020 report consists of the annual policy assessment based on previous year's data and an analysis of the impacts of the COVID-19 crisis and recovery efforts on countries' climate change efforts.

### **Key findings of the report:**

In 2019, energy-related carbon dioxide emissions declined in G20 countries for the first time due to climate policies rather than due to external shocks (such as the 2008-09 financial crisis).

- The share of renewable energy in power generation increased in 19 of the G20 countries in 2019, accounting for 27 per cent of power generation in G20.
- G20's energy-related CO2 emissions are projected to decrease by 7.5% in 2020 compared to 2019 due to pandemic-linked slowdown which saw collapse in aviation emission.

### **Covid impact on lowering of emissions**

The decline in emissions seen in 2019 is not expected to sustain, as the world's leading economies are now directing trillions of dollars towards Covid-19 recovery packages. At least 19 of the G20 countries have chosen to provide financial support to their domestic oil, coal and/or gas sectors and 14 countries rescued their national airline companies without any climate conditions attached.

Only four G20 countries provided more funding to green sectors compared with fossil fuel or other emissions-intensive industries.

### **Impact of extreme weather events**

The report estimated that the G20 countries had lost around 2.20 Lakh lives and suffered economic losses of \$2.6 trillion due to extreme weather events in 20 years during 1999-2018. The US suffered the biggest economic loss at over \$51 billion annually during the 20-year period.

Though India reported the second highest annual average deaths (2,925) after Russia (2,939) during the period, its average annual death per million of inhabitants was much less. In economic terms, extreme weather events caused loss of \$14 billion annually in India.

### **Status of climate action targets:**

**India is the only country among G20 nations which is on track to fulfill its commitments under the Paris Agreement on climate change, unlike the top three emitters: China, the US and the EU**

The Paris Agreement, adopted in 2015, aims to strengthen the global response to climate change by keeping a global temperature rise in this century to well below 2 degrees Celsius above pre-industrial levels.

India's performance based on its climate actions was categorized as 'compatible' with the 2-degree warming goal. In fact, India is the only G20 country which is on the path to move the world to a 2-degree Celsius warming goal.

# 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 WATER RISK FILTER

**Why in News:** The World Wide Fund for Nature recently released its 'Water Risk Filter' (WRF) analysis.

### Water Risk Filter analysis

The Water Risk Filter is an online tool that evaluates the severity of water risk in different places due to various factors. The analysis gave cities a risk score out of five in 2030 and 2050, where anything above three is a 'high risk' and anything above 4 is a 'very high risk'.

The city's risk levels were scored by evaluating several factors, which included droughts, floods, fragmentation of river ecosystems, freshwater availability, climate change impact, the presence of regulatory laws governing water use, conflict etc. The tool enables companies and investors to explore, assess value and respond to water risks worldwide.

### Global findings

Hundreds of millions of people in cities across the globe could face significantly increased water risks, unless urgent action is taken to reduce and adapt to **climate change**. According to the scenarios in WRF, **100 cities that are expected to suffer the greatest rise in water risk by 2050**, are cities where at least 350 million people live. Moreover, these cities are important economies nationally and globally.

Globally, populations in areas of high-water risk could rise from 17% in 2020 to 51% by 2050. China accounts for almost half of the cities at high water risk. Beijing, Jakarta, Johannesburg, Istanbul, Hong Kong, Mecca and Rio de Janeiro are also in the list.

### Findings from India

India that has emerged as a dominant place in both current and future lists of cities with the highest overall water risk. 30 cities in India including Delhi, Jaipur, Indore, Amritsar, Pune, Srinagar, Kolkata, Bangalore, Mumbai, Kozhikode and Vishakhapatnam have been identified as cities that will face increasing water risks in the next few decades.

All 30 Indian cities received a score of at least three or above for both 2030 and 2050.

The highest increase in risk among Indian cities has been projected for Jaipur (11%) and Indore (10%).

### **Risk factors in India**

Major environmental problems like deforestation, soil erosion, overgrazing, desertification, air pollution from industrial effluents and vehicle emissions, water pollution from sewage and agricultural pesticides impact water quality in India

Further, ecological factors are not properly considered during city planning, so the flow lines change due to urbanisation. This is particularly true for new cities that are coming up with very little planning.

Most rivers in India are of good quality, in their upper parts. However, water use for cities, agriculture and industries, and the lack of wastewater treatment plants in the middle and lower parts of most rivers, cause a major degradation of surface water quality.

### **Way Ahead**

Nature-based solutions including restoring degraded watersheds, reconnecting rivers to their floodplains, and restoring or creating urban wetlands are important. Urban planning and wetland conservation should be integrated to ensure zero loss of freshwater systems in the urban areas.

Multi-stakeholder engagement and ownership, involving local communities could be the key in creating and conserving sustainable water infrastructure. The Smart Cities initiative in India could offer an integrated urban water management framework for building future-ready, water smart and climate resilient cities.

### **WWF**

The World Wide Fund for Nature (WWF) is an international non-governmental organization founded in 1961. It was earlier known as the World Wildlife Fund. It aims to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

It works to help local communities conserve the natural resources they depend upon; transform markets and policies toward sustainability; and protect and restore species and their habitats. It is the world's largest conservation organization, working in more than 100 countries and supporting around 3,000 conservation and environmental projects.

## 7.2 DEMENTIS

**Why in News:** A study called Srinivaspura Ageing, Neuro Senescence and Cognition (SANSCOG), is being conducted in 10,000 rural Indians in Srinivaspura, Kolar district, Karnataka.

### News Update

The SANSCOG study is being carried out by the Centre for Brain Research, IISc, Bangalore in collaboration with the National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore.

The study aims to understand risk and protective factors associated with normal ageing, dementia and related disorders. In the study, participants aged 45 years and above, will be periodically followed-up over a long period of time (at least 10 years).

### Significance of the study

There is lack of data in the developing world, especially in India, in the field of dementia research. Thus, the SANSCOG study will help to better understand the gene-environmental interactions in the country.

It will help to develop appropriate strategies to prevent decline in mental ability and dementia.

### Dementia

Dementia is a general term to describe a group of symptoms which occurs due to the damage and death of brain cells. It is a syndrome in which there is deterioration in memory, thinking, behaviour and the ability to perform everyday activities.

It results from a variety of diseases and injuries that primarily or secondarily affect the brain, such as Alzheimer's disease or stroke. Dementia affects each person in a different way, depending upon the impact of the disease and the person's personality before becoming ill.

It is one of the major causes of disability and dependency among older people although dementia mainly affects older people; it is not a normal part of ageing. Moreover, dementia does not affect only older people – young onset dementia (defined as the onset of symptoms before the age of 65 years) accounts for up to 9% of cases.

### Forms of dementia

There are many different forms of dementia but Alzheimer's disease is the most common form and may contribute to 60–70% of cases. The differences between different forms of dementia are not clear and mixed forms of dementia often co-exist.

Alzheimer's disease is a progressive disorder that causes brain cells to degenerate and die. Memory loss and confusion are the main symptoms.

Worldwide, around 50 million people have dementia, with nearly 60% living in low- and middle-income countries. The proportion of the general population above the age of 60 with dementia is estimated to be between 5-8%.

In 2020, around 3 million people above the age of 60 have dementia in India, which equals to one in 27 people. The total number of people with dementia is projected to reach 82 million in 2030 and 152 in 2050.

### **Treatment and care**

There is no treatment currently available to cure dementia. However, support can be offered to improve the lives of people with dementia and their care givers and families.

The principal goals for dementia care are

- Early diagnosis in order to promote early and optimal management.
- Optimizing physical and mental health and well-being.
- Identifying and treating accompanying physical illness.
- Detecting and treating challenging behavioural and psychological symptoms.

### **Impact of Dementia**

The impact of dementia on care givers, family and the society can be physical, psychological, social and economic. In 2015, the total global societal cost of dementia was estimated to be US\$ 818 billion, equivalent to 1.1% of global gross domestic product (GDP).

Moreover, stigma associated with the disease, lack of adequate services, barriers to access available services worsen the physical, psychological and financial hardships of the families.

### **Dementia and Human Rights**

People with dementia are frequently denied the basic rights and freedoms available to others. In many countries, physical and chemical measures are used extensively in care homes for older people and in health-care settings.

An appropriate and supportive legislative environment based on internationally-accepted human rights standards is required to ensure the highest quality of care for people with dementia.

### 7.3 WHO REPORT ON MALARIA

**Why in News:** The World Health Organisation (WHO) and US Centers for Disease Control and Prevention recently released a report, titled 'Progress Towards Regional Measles Elimination Worldwide 2000-2019'.

The Center for Disease Control and Prevention (CDC), a United States federal agency under the Department of Health, is the leading national public health institute of the United States.

#### Measles

Measles is a serious disease caused by a virus. The virus infects the respiratory tract, and then spreads throughout the body. Measles is one of the world's most contagious diseases and is spread by coughing and sneezing, close personal contact or direct contact with infected nasal or throat secretions.

The virus remains active and contagious in the air or on infected surfaces for up to 2 hours. After getting infected by measles, people gain immunity for the rest of their life and they are very unlikely to contract measles a second time. Measles is a human disease and is not known to occur in animals.

#### Complications associated with Measles

Most measles-related deaths are caused by complications associated with the disease. Serious complications are more common in children under the age of 5, or adults over the age of 30.

The most serious complications include blindness, encephalitis (an infection that causes brain swelling), severe diarrhoea and related dehydration, ear infections, or severe respiratory infections such as pneumonia.

Severe measles is more likely among poorly nourished young children, especially those with insufficient vitamin A, or whose immune systems have been weakened by HIV/AIDS or other diseases.

#### Treatment

No specific antiviral treatment exists for measles virus. Severe complications from measles can be reduced through supportive care that ensures good nutrition, adequate fluid intake and treatment of dehydration with WHO-recommended oral rehydration solution (ORS).

### **Prevention**

Measles can be prevented by a highly-effective measles-containing-vaccine (MCV) given in two doses MCV1 and MCV2. The WHO recommends 95% coverage using two doses of measles vaccine to prevent outbreaks.

Routine measles vaccination for children combined with mass immunization campaigns in countries with high case and death rates are key public health strategies to reduce global measles deaths.

### **Immunisation in India**

The first dose of measles vaccine was introduced in India as part of the national immunisation program in the 1990s. Based on the WHO's recommendation India introduced the second dose from 2010 onwards. India was one of the last countries to add a second dose of measles vaccine as recommended by the WHO.

In India, the first dose of measles vaccine is given at 9-12 months of age and the second dose is given at 16-24 months of age through the national immunisation program.

### **Progress towards Regional Measles Elimination Worldwide 2000-2019 Report**

The report tracks measles cases and deaths related to measles, in 194 WHO member states. It also tracks the progress on vaccination to prevent measles in these countries.

### **Findings of the report**

As per the report, number of measles cases across the world increased to 8, 69,770 in 2019, the highest number reported since 1996 with a rise in all WHO regions. During 2000–2019, the annual number of measles deaths decreased 62%, from 539,000 to 207,500; and an estimated 25.5 million measles deaths were avoided.

Global measles deaths climbed nearly 50 per cent since 2016, claiming an estimated 2,07,500 lives in 2019 alone.

Failure to vaccinate children on time with two doses of MCV1 and MCV2 is the main reason of these increases in cases and deaths.

### **Vaccination coverage**

Vaccination coverage against measles remains well below the 95 per cent level needed to control measles and prevent outbreaks.

MCV1 coverage has been stagnant globally for over a decade at between 84 and 85 per cent. MCV2 coverage has been steadily increasing but is at 71 per cent now.

In 2019, India was among six countries with the highest number of infants who had not received the vaccine against measles. These six countries account for around half (48%) of the world's total.

Around 2 million children in India did not receive the first dose of the measles vaccine in 2019. The other countries are, Nigeria (3.3 million), Ethiopia (1.5 million), the Democratic Republic of the Congo (1.4 million), Pakistan (1.4 million) and the Philippines (0.7 million).

### **Impact of Covid-19 on measles vaccination**

Although reported cases of measles are lower in 2020, efforts to control Covid-19 have had an impact on vaccination drives and efforts to prevent and minimize a measles outbreak.

As of November 2020, over 94 million people across 26 countries were at risk of not getting vaccinated, because vaccination campaigns were postponed following the Covid-19 outbreak. Only eight out of the 26 countries that had stopped the immunization drive for 2020 have resumed their campaigns. This may lead to an increase in the number of measles cases and deaths worldwide.

To control measles and prevent outbreaks and deaths, vaccination coverage rates with the required MCV1 and MCV2 must reach 95 per cent and must be maintained at national and sub national levels.

## **7.4 AVERTING A LOST COVID GENERATION**

**Why in News:** The United Nations Children's Fund (UNICEF), has released a report titled, 'Averting a Lost COVID Generation'. **It is the first UNICEF report to comprehensively highlight the growing consequences of the pandemic for children.**

### **Averting a Lost COVID Generation Report**

#### **Findings of the report:**

Throughout the COVID-19 pandemic there has been a belief that the pandemic does not have a significant effect on the children. However, data shows that this is not true. The report shows that while symptoms among infected children are mild, infections in children are rising.

As of November, 2020, in 87 countries, children and adolescents under 20 years of age accounted for 11 per cent of the 25.7 million infections reported by these countries

### **School closures**

Globally, 90% of children were impacted due to school closures because of Covid-19, including 743 million girls. More than 111 million of them are in the least developed countries. As of October 2020, 265 million children were still missing out on school meals globally.

The report states that schools are not the main reason of community transmission, and children are more likely to get the virus outside of school settings. Moreover, there is strong evidence that, with basic safety measures in place, the net benefits of keeping schools open are higher than the costs of closing them.

### **Impact on health and social services**

As per data from UNICEF surveys across 140 countries, Covid-19 related disruptions to critical health and social services for children are the most serious threats to children.

Globally, the number of children living in multidimensional poverty without access to education, health, housing, nutrition, sanitation or water is estimated to have increased by 15 per cent, or an additional 150 million children by mid-2020.

Around one-third of the countries analyzed, witnessed a drop of at least 10 per cent in coverage for health services such as routine vaccinations, outpatient care for childhood infectious diseases, and maternal health services.

There is a 40 per cent decline in the coverage of nutrition services for women and children across 135 countries. Further, more than 250 million children under 5 could miss the life-protecting benefits of vitamin A supplementation programs

An estimated 2 million additional child deaths and 200,000 additional stillbirths could occur over a 12-month period due to interruptions to services and rising malnutrition. The longer-term impact on the education, nutrition and well-being of an entire generation of children and young people can be life-changing. Thus, the future of an entire generation is at risk.

### Findings from India

- Nearly 12% of Covid-19 infections in India are among children and adolescents under 20 years.
- In India, 5 million school closures have impacted 247 million children enrolled in elementary and secondary education, and 28 million children who were attending pre-school education in anganwadi centers.
- This is in addition to more than 6 million girls and boys who were already out of school prior to the covid-19 crisis.
- UNICEF and partners are now supporting the Ministry of Education to enable access to safe sanitation, water supply and hygiene spaces for children in 150,000 vulnerable schools across the country.

To respond to this crisis, UNICEF has urged governments to:

- Make efforts to ensure that learning of all children continues, along with a reduction in the digital divide.
- Guarantee access to nutrition and health services and make vaccines affordable and available to every child.
- Support and protect the mental health of children and young people and bring an end to abuse, gender-based violence and neglect in childhood.
- Increase access to safe drinking water, sanitation and hygiene and address environmental degradation and climate change.
- Reverse the rise in child poverty and ensure an inclusive recovery for all.

### UNICEF

The United Nations Children's Fund (UNICEF), originally known as the United Nations International Children's Emergency Fund is a United Nations agency responsible for providing humanitarian and developmental aid to children worldwide.

It was created by the United Nations General Assembly in 1946, to provide emergency food and healthcare to children and mothers in countries that had been devastated by World War II

Headquartered in New York City, it is among the most widespread and recognizable social welfare organizations in the world, with a presence in 192 countries and territories.

## MISCELLANEOUS

### ➤ Chang'e-5 Lunar Probe

China has recently launched its first unmanned Chang'e-5 lunar probe (named after the ancient Chinese goddess of the moon), to collect samples from the lunar surface and return to earth.

If the mission is completed as planned, it would make China only the third country to extract and bring lunar samples back to earth, after the United States and the Soviet Union.

### Previous missions to collect lunar samples

The United States, landed 12 astronauts on Moon, in its Apollo program over six flights from 1969 to 1972, and brought back lunar rocks and soil. Similarly, the Soviet Union deployed three successful unmanned lunar sample-return missions in the 1970s.

### Mission details

The Chang'e-5 Mission comprises four independent but interactive components - an orbiter, a lander, an ascender and a returner. After the spacecraft enters the lunar orbit, the lander-ascender combination will separate from the orbiter-returner combination.

While the orbiter-returner will orbit about 200 km above the lunar surface, the lander-ascender will land on the northwest region of Moon called Oceanus Procellarum, also known as the Ocean of Storms, in early December.

The lander will drill into the lunar surface, with a robotic arm and collect around 2 kg of sample. The lunar sample would be transferred to the ascender vehicle, which will carry it from the lunar surface to the orbiting

#### CHANG'E-5

One of the most complicated and challenging missions in China's aerospace history, as well as the world's first Moon-sample mission for more than 40 years.

#### Samples

- 2kg will be collected and stored inside a sealed container in the spacecraft.

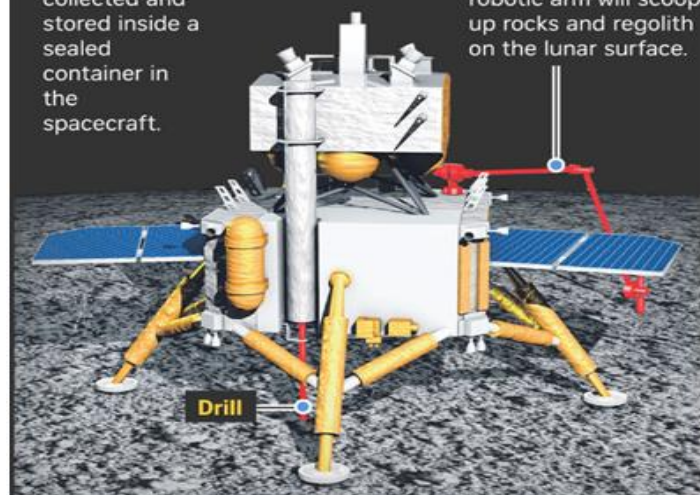
#### Goal

Rock and soil samples will help give insights into the Moon's:

- Origins
- Formation
- Volcanic activity

#### Robotic arm

- Within 48 hours, a robotic arm will scoop up rocks and regolith on the lunar surface.



module.

The samples would then be transferred to a returner capsule for the return trip to Earth, with a landing in China's Inner Mongolia region. The whole flight will last more than 20 days

### **Significance of the Mission**

Rocks found on the Moon are valuable in providing information about the Earth and the Moon's shared history. Further, tiny cracks in rocks can tell about the radiation history of the Sun in the last 100,000 years.

Lunar samples can help to answer some important questions in lunar science and astronomy, including the Moon's age, the formation of the Moon and volcanic activity on Moon.

Analysis of the lunar samples show whether contents within the soil and rocks could be turned into water and oxygen. This can be useful in supporting the operations on the Moon base and serve as supplementary (additional) fuel for lunar landing vehicles.

### **➤ Cyclone NIVAR**

Cyclone 'NIVAR' made a landfall 30 km north of Pondicherry and 115 km south of Chennai on the night of 25th November.

### **Cyclone landfall**

Landfall is the event of a storm or waterspout moving over land after being over water. A tropical cyclone is classified as making landfall when the center of the storm moves across the coast; in strong tropical cyclones this is when the eye moves over land.

### **Cyclones**

Cyclones are centers of low pressure surrounded by closed isobars and having increasing pressure outwards.

As air enters an area of low pressure from all directions, the Coriolis Effect bends the direction of the wind to the right of its path. This creates a counter clockwise rotation around the low and convergence near the centre of the system. As the air collides near the centre it is forced aloft where divergence takes air away from the centre of the system.

A Cyclone is a system of low level convergence and high level divergence with a rising column of air in the centre of the rotating air mass. If the upper air is not diverging then there cannot be a cyclone present.

### ➤ **ARIEL MISSION**

The European Space Agency (ESA) has formally adopted Ariel, the explorer that will study the nature, formation and evolution of exoplanets

- **Ariel is the first mission of its kind dedicated to measuring the chemical composition and thermal structures of hundreds of exoplanets.**
- Ariel (Atmospheric Remote-sensing Infrared Exoplanet Large-survey) will perform a large-scale survey of over a thousand exoplanets over a period of four years.
- These thousand exoplanets will range from gas giants to rocky planets, which will help them to compile a list of their compositions and properties thereby providing insights about how planetary systems form and evolve.
- The mission is expected to be launched in 2029.

### **Exoplanets**

Planets that lie outside of the Solar System and orbit around stars other than the Sun are called exoplanets or extra-solar planets. Exoplanets are not easy to detect since they are much less brighter than the stars they orbit and hence it is difficult to see them directly using telescopes.

### ➤ **Daylight saving time (DST)**

- During the summer months, the sun stays visible for a longer time and sunset happens late in the day - there is an extra hour of daylight in the evening.
- Daylight saving time (or referred to as Summer Time in Europe) is the practice by some countries of advancing clocks during summer months by one hour so that in the evening hours day light is experienced later, while sacrificing normal sunrise times. The idea behind DST is to make better use of daylight.
- In the autumn/winter, as the days begin to become shorter and nights longer, the clocks are again set back by one hour signaling the end of DST or Summer time. In effect, it transfers an hour of daylight from evening to morning, when it is assumed to be of greater use to most people.

New Zealander George Hudson is said to have proposed the modern idea of daylight saving in 1895. By some accounts, a group of Canadians in Port Arthur (Ontario) were the first to adopt the practice in 1908. Germany and Austria-Hungary organized the first implementation, starting on 30 April 1916, during World War I. Several European countries dropped it after the War ended in 1918. The practice returned again during the energy crises of the 1970s.