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# INDEX

| TOPICS                     | PAGES |
|----------------------------|-------|
| 1) Polity and Governance   | 03-16 |
| 2) International Relations | 17-43 |
| 3) Security and Defence    | 44-48 |
| 4) Economy                 | 49-65 |
| 5) Science and Technology  | 66-79 |
| 6) Ecology and Environment | 80-89 |
| 7) Social Issues           | 90-95 |
| 8) Miscellaneous           | 96-99 |



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# POLITY AND GOVERNANCE

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



## 1.1 SUPREME COURT ON HATE SPEECH

**Why in News:** The concept of “hate speech” was highlighted in the recent judgement given by the Supreme Court in the case Amish Devgan v/s union of India.

The judgment delivered by a bench comprising Justices A M Khanwilkar and Sanjay Khanna discussed the distinctions between “hate speech” and “free speech”, the need to criminalise “hate speech” and how it repudiates the right to equality.

### Hate Speech

According to the **United Nations**, ‘hate speech is defined as any kind of communication in speech, writing or behaviour, that attacks or uses pejorative or discriminatory language with reference to a person or a group on the basis of who they are, in other words, based on their religion, ethnicity, nationality, race, colour, descent, gender or other identity factors.’

**Hate speech constitutes a criminal charge under Section 153A**, which is the offence of promoting communal disharmony or feelings of hatred between different religious, racial, language or regional groups or castes or communities.

**153B of the Indian Penal Code** categorises the offence of promoting religious, racist, linguistic, community or caste hatred or incites any religious, caste or any other disharmony or enmity within India, through any speech either in written form or spoken.

### Regulation of Hate Speech

Section 298 of the IPC, similarly, classifies the offence of uttering words with the deliberate intent to wound the religious feelings of any person. Likewise, Section 505 of the IPC criminalises the act of delivering speeches that incite violence.

Sections 295A and 509A also have similar provisions. The 123(3A) of the Representation of the People Act, 1951, also criminalises hate speech by election candidates.

### Previous Judgments

**Shreya Singhal v. Union of India:** Issues were raised about Section 66A of the Information Technology Act, 2000 relating to the fundamental right of free speech and expression guaranteed by Article 19(1) (a) of the Constitution, where the Court differentiated between discussion, advocacy, and incitement and held that the first two were the essence of Article 19(1).

**S. Rangarajan Etc vs P. Jagjivan Ram:** In this case, the Court held that freedom of expression cannot be suppressed unless the situation so created are dangerous to the community/ public

interest wherein this danger should not be remote, conjectural or far-fetched. There should be a proximate and direct nexus with the expression so used.

The SC judgement elucidated three elements of hate speech that legislatures and courts can use to define and identify hate speech:

- Content-based element
- Intent-based element
- Harm-based element (or impact-based element)

### **Hate Speech vs. Freedom of Speech**

The Indian Constitution, under Article 19(1) (a) provides the right to freedom of speech and expression.

However, under Article 19(2), the constitution also provides for the reasonable restrictions against free speech in the interests of sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

Hence, Hate speech is considered a reasonable restriction on freedom of speech and expression.

### **Law Commission of India on 'liberty' and 'freedom of speech'**

**In the 267th Report of Law Commission of India**, it was stated that

“Liberty and equality are contemporary and not antithetical to each other. The intention of having the freedom of speech is not to disregard the weaker sections of society but to give them an equal voice. The intent of equality is not to restrain this liberty but to balance it with the necessities of a multicultural and plural world, provided such constraint does not unduly infringe on the freedom of expression. Thus, incitement to not only violence but also to discrimination has been recognized as a ground for interfering with freedom of expression.”

### **International Regulations/ Guidelines on Hate Speech**

International human rights law has set standards by which states are supposed to adhere to strong directives against hate speech in their respective jurisdictions. Even though the essential right to free speech is a fundamental right, it also has certain reasonable restrictions that go with it.

**International Covenant on Civil and Political Rights (ICCPR):** As per Article 19(3) of the ICCPR, the right of freedom of speech can be regulated in order to honour the rights of others and in the interest of public order, public health or morals.

Article 20(2) of the ICCPR also declares that any advocacy of national, racial, or religious hatred that constitutes incitement to discrimination, hostility or violence shall be prevented by law.

**European Convention on Human Rights:** Similarly, Article 10(2) of the European Convention on Human Rights provides reasonable duties and restrictions during the exercise of one's fundamental right to free speech.

**United Nations Strategy and Plan of Action on Hate Speech:** The United Nations Strategy and Plan of Action on Hate Speech provide that member states must identify and support actors who challenge hate speech. They are also mandated to build capacity and develop policies to address hate speech.

### **Add On**

The Supreme Court refused to quash multiple FIRs in the case against journalist Amish Devgan for his alleged defamatory remarks against Sufi saint Khwaja Moinuddin Chisti, observing that "persons of influence, keeping in view their reach, impact and authority... owe a duty and have to be more responsible".

**Khwaja Moinuddin Chishti** was a 13th-century Sufi mystic saint and philosopher who travelled across South Asia, before eventually settling in Ajmer, where he died. He passed away in 1236 AD. He was almost 114 years old and his sacred mortal remains are what constitute his tomb in Ajmer Sharif Dargah.

Among the Sufi shrines, the shrine of Sufi saint Moinuddin Chishti in Ajmer is one of the most popular.

## **1.2 POSTAL BALLOTS FOR NRI's**

### **Topic: Functions and Responsibilities of Various Constitutional Bodies**

**Why in News:** The Election Commission (EC) has now approached the government to permit Non-Resident Indians (NRIs) to cast their votes through postal ballots.

## **Postal Ballot System in India**

Voting through postal ballot is held as per the Conduct of Election Rules, 1961. Postal Ballot System is a system where electors send their votes through post. This is in contrast to electors voting in person at a polling station via an electronic voting system aided by Electronic Voting Machines (EVMs).

At present, the system followed is that Electronically Transmitted Postal Ballot Papers (ETPB) are distributed to electors and returned by post. Postal voting refers only to the means by which the ballots are submitted. It has no relation to the method by which the votes are counted. These are counted first but along other votes at the time of counting during the elections.

## **Electronically Transmitted Postal Ballot System (ETPBS)**

In the Lok Sabha Elections of 2019, ECI introduced the Electronically Transmitted Postal Ballot System (ETPBS). Electronically Transmitted Postal Ballot System (ETPBS) is the one-way electronic transmission of the Postal ballots to the Service Voters.

The service voters were sent postal ballots electronically one way to save processing time, resources and avoid human errors. The Service Voters then cast their vote and send it to the respective returning officer via post.

## **Postal voting is allowed only for few categories of people in India:**

India's system for postal ballots is restricted to certain categories of people.

### **Service Voters**

According to the Election Commission (EC) of India, the facility is available to a service voter; that is a voter having a service qualification. According to the provisions of sub-section (8) of Section 20 of Representation of People Act, 1950, service qualification means:

- Being a member of the armed forces of the Union; or
- Being a member of a force to which provisions of the Army Act, 1950, have been made applicable (like Assam Rifles, CRPF, BSF, ITBF, CISF etc)
- Being a member of an Armed Police Force of a State, and serving outside that state; or
- Being a person who is employed under the Government of India, in a post outside India
- Note: The wife of a service voter shall, if she is ordinarily residing with him, be also deemed to be a service voter in the constituency specified by that person.
  
- A person having service qualification can get enrolled as 'service voter' at his native place even though he actually may be residing at a different place (of posting).

- He also has an option to get himself enrolled as a general elector at the place of his posting where he factually, at the point of time, is residing ordinarily with his family for a sufficient span of time.
- Note: In 2019 General Elections, a record high of a little more than 18 lakh persons were enrolled as Service Electors in 2019.

### **People under preventive detention**

While prisoners are not allowed to vote, people under preventive detention can cast their votes through postal ballots as well (according to Section 62 (5) of the Representation of the People Act).

### **Disabled and Old people**

In October 2019, the Ministry of Law and Justice amended the Conduct of Election Rules, 1961, on the recommendation of the Election Commission, to allow the disabled and people over 80 years of age to cast their vote through postal ballot.

### **Process to increase coverage of Postal Ballot System**

In case the coverage of the postal ballot has to be extended, the Election Commission asks the Union Law Ministry to expand the ambit of postal ballots. This requires an amendment to the Representation of the People's Act, 1951 (RP Act), and the Conduct of Election Rules, 1961.

### **Postal voting not allowed for overseas voters as of 2020**

An Indian citizen, who has not acquired citizenship of any other country, is eligible to be registered as a voter at the address mentioned in his/her passport. They can vote in person at the polling station in their respective constituencies on production of original passport.

As of 2020, there is no provision for citizens who have migrated to other countries to cast their votes through postal ballots.

### **Background**

There are a large number of NRIs living in different countries across the world. Unofficial data with the EC shows that only 10,000 to 12,000 overseas voters have exercised their franchise in general elections as it involves huge expenditure to come to India and vote.

An expert committee of the Election Commission, working on the issue, had in 2015 forwarded the legal framework to the Law Ministry to amend the electoral laws to allow the overseas Indians to use proxy voting.

In 2018, the government tried to grant proxy voting rights to overseas electors through an amendment to the Representation of the People Act 1951. The Bill was passed by the Lok Sabha and was awaiting Rajya Sabha's approval when it lapsed with the dissolution of the 16th Lok Sabha.

### **News Update**

**The Election Commission (EC) has now approached the government to permit Non-Resident Indians (NRIs) to cast their votes through postal ballots. The EC pushed only for postal voting rights for NRIs, not proxy voting.**

The Commission told the Law Ministry that it is technically and administratively ready to extend the Electronically Transmitted Postal Ballot System (ETPBS) to NRI voters.

It expressed readiness to implement it for state elections next year in Assam, West Bengal, Kerala, Tamil Nadu and Pondicherry. Under ETPBS, the postal ballot is dispatched electronically and returned via ordinary mail.

**To extend this facility to overseas voters, the government only needs to amend the Conduct of Election Rules 1961. It doesn't require any amendment to laws in the Parliament.**

### **Process suggested by the EC**

Any NRI interested in voting through the postal ballot in an election will have to inform the Returning Officer (RO) at least five days after the notification of the election. On receiving such information, the RO will dispatch the ballot paper electronically.

The NRI voters will mark their preference on the ballot printouts and send it back along with a declaration attested by an officer appointed by the diplomatic or consular representative of India in the country where the NRI is resident.

Though, In 2014, the Ministry of External Affairs (MEA) expressed strong reservations over attesting the declaration by officials at diplomatic officials as it is a huge burden considering the large number of overseas electors. They would also have to seek the permission of the host country for organising such activity, which may be difficult in non-democratic countries.

### 1.3 NEW PARLIAMENT BUILDING

**Why in News:** The Indian Prime Minister held the ground-breaking ceremony for the new Parliament building. The old building, which was built nearly 100 years ago, will be turned into a museum.

#### **New Parliament Building**

**The New Parliament Building will be modern, state-of-the-art, earthquake-proof and energy efficient, and will be next to the old Parliament building.**

The national emblem will crown the new parliament. It will have Lok Sabha Secretariat and Rajya Sabha Secretariats. Most of the complex will have four floors, and each floor will have offices of ministers and committee rooms.

The new parliament will also be fully wheelchair- and disabled-access friendly. Dholpur stone will be the primary construction material (as it was with the current building). The interiors of the new building will showcase a rich blend of Indian culture and diversity of our regional arts, crafts, textiles and architecture.

**The project is expected to be completed by 2022, with the 2022 winter session planned to be held in the new building.**

**The Architect Bimal Patel said the triangular shape of the new parliament was a reference to "sacred geometries in various religions and cultures of India".**

#### **Technology**

**The building will be equipped with modern audio-visual communication systems.** Within the Lok Sabha and Rajya Sabha halls, special provisions will be made for smart displays and biometrics to make voting easier and safe.

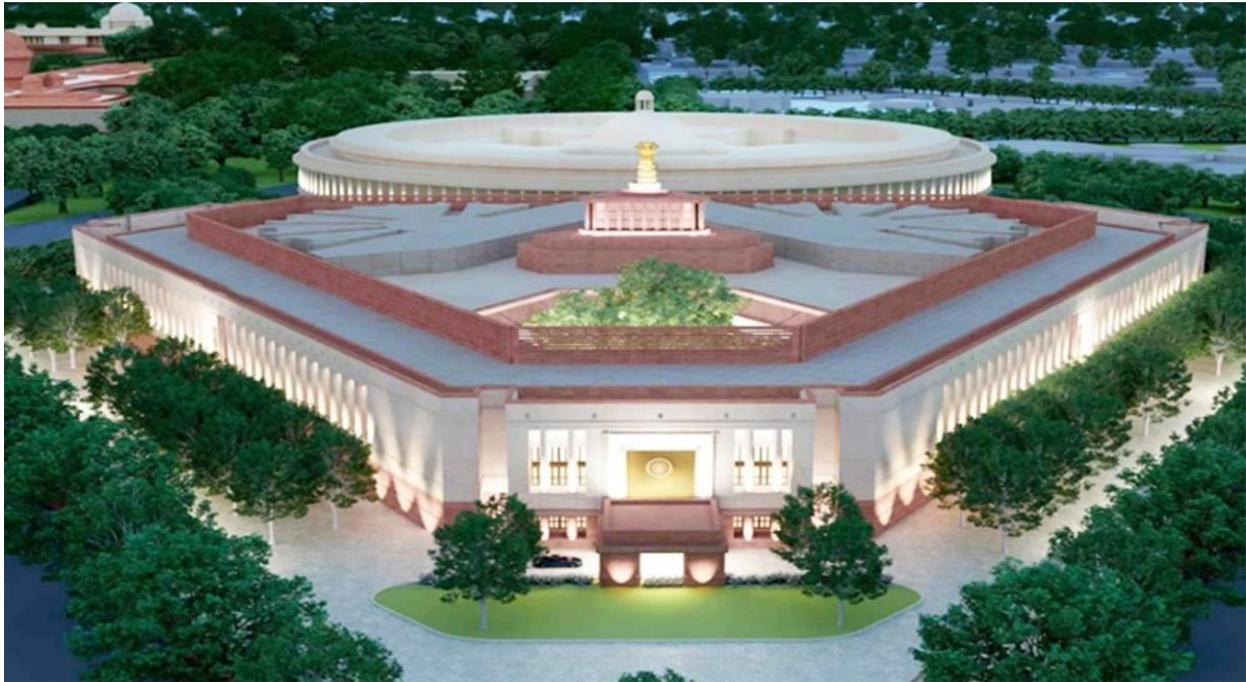
**The technological improvements will include language interpretation facilities and programmable microphones - which will give the Speaker more control in managing the House.** Virtual sound simulations will help set the right levels of reverberation and limit echo and voice feedback.

**Larger chambers:** The new Lok Sabha and Rajya Sabha halls will have increased seating capacities (888 and 384 seats, respectively). This is in anticipation of an expanded Parliament, with a 25-year-old freeze on increasing state-wise distribution of seats ending in 2026.

In addition, seating in the Lok Sabha hall can be expanded to 1,272 to host joint sessions.

### Themes

- The Lok Sabha chamber design will have the national bird (peacock) as the theme.
- The Rajya Sabha chamber will have the national flower (lotus) as the theme.
- The central lounge was designed with the theme of the national tree (banyan).



|  |   |   |  |
|--|---|---|--|
| <h2>New seat of power</h2> <p>A look at some of the features of the proposed four-storey Parliament building</p>   |   | <h2>NEW PARLIAMENT BUILDING</h2>  |  |
| <p><b>Shape:</b> Triangular</p> <p><b>Total area</b><br/><b>64,500</b><br/>square metres</p> <p><b>Main spaces</b><br/>Lok Sabha,<br/>Rajya Sabha and<br/>Central Lounge</p>                                   | <ul style="list-style-type: none"> <li>▪ The National Emblem will crown the new Parliament building</li> </ul>  | <p><b>Gearing up:</b> Construction workers walking past a hoarding featuring the new Parliament building. • REUTERS</p> <ul style="list-style-type: none"> <li>▪ Construction was scheduled to start in December, but the works have been stopped till the Supreme Court disposes of challenges to the project</li> </ul> |  |
| <p><b>THEME OF INTERIORS</b></p> <p><b>Lok Sabha</b><br/>Peacock<br/>(National bird)</p> <p><b>Rajya Sabha</b><br/>Lotus<br/>(National flower)</p> <p><b>Central Lounge</b><br/>Banyan<br/>(National tree)</p> | <p><b>CAPACITY</b></p> <p> <b>Lok Sabha</b><br/><b>888</b><br/>seats (current chamber can accommodate 552 people)</p> <p> <b>Rajya Sabha</b><br/><b>384</b> seats</p> <ul style="list-style-type: none"> <li>▪ The Lok Sabha Hall will also have additional capacity, up to <b>1,272 seats</b>, to host joint sessions</li> </ul> | <p><b>Estimated cost</b><br/><b>₹971</b><br/>crore</p>  | <p><b>Contractor</b><br/>Tata Projects Ltd.</p> <p><b>Architect</b><br/>HCP Design, Planning and Management</p> <p><b>Completion deadline:</b> October 2022, in time for the winter session of Parliament in the 75th year of Independence</p> |

## 1.4 WINTER SESSION OF PARLIAMENT

**Why in News:** The government of India has conveyed that the winter session of Parliament will not be held this year due to the COVID-19 pandemic

### Session of the Parliament

India does not have a set parliamentary calendar, for the houses to be in session. The President from time to time summons each House of Parliament to meet.

The power to convey the parliament rests with the government and is formalized in the name of the President. The decision is taken by the Cabinet Committee on Parliamentary Affairs, which currently comprises nine ministers, including those for Defence, Home, Finance, and Law.

However, under Article 85, the Constitution requires that the maximum gap between two sessions of Parliament cannot be more than six months, i.e. the Parliament should meet at least twice a year.

By convention, Parliament convenes for three sessions a year:

- Budget Session (February-May)
- Monsoon Session (July to September)
- Winter Session (November to December)

### News Update

The government of India has conveyed that the winter session of Parliament will not be held this year due to the COVID-19 pandemic. The Parliament will next meet for the Budget session, which, the government said, will be convened in January 2021.

Explaining the reasons, the Parliamentary Affairs Minister said that some opposition parties have expressed concerns about the ongoing pandemic and asked to do away with winter session. However, the opposition parties criticised the government's decision, saying that the government is avoiding Parliament due to concerns over the farmer protests and the recent farm laws being raised in the Parliament.

### Examples of Parliamentary Sessions being altered:

Over the years, governments have shuffled around the dates of sessions to accommodate political and legislative necessities.

- In 2008, the Monsoon Session was extended until December.
- In 2011, political parties agreed to cut short the Budget Session so they could campaign for Vidhan Sabha elections in five states.
- In 2016, the Budget Session was broken up into two separate sessions to enable the issuance of an Ordinance.
- In 2017, the Winter Session was delayed on account of the Gujarat Assembly elections.

## 1.5 ZOMI TRIBLE AND COUNCIL

**Why in News:** The Zomi Council, representing nine Zomi tribes, has renewed its demand for the creation of Zoland Territorial Council (ZTC) under the Sixth Schedule of the Constitution.

### The Zomi tribe

Zomi council is an apex body of the Zomi tribes which include Gante, Kom, Mate, Paite, Simte, Tedim Chin, Thangkhal, Zou and Vaiphei. Zomi identify themselves as descendants of the Zo, the Tibeto-Burman people that speak Chin-Kuki language group.

They are scattered in Nagaland, Mizoram, Manipur and Assam. The Zomi population is over 2 Lakhs in Churachandpur district (of Manipur) alone.

### Background

The creation of ZTC was desired by majority tribes represented by the tripartite Suspension of Operation (SoO) agreements over the years between the Centre, the Manipur government and 25 extremist groups belonging to the Kuki-Zomi groups.

While 17 of these groups formed the Kuki National Organisation (KNO), eight came together as the United People's Front (UPF). The SoO agreement was first signed by the underground Zomi Revolutionary Army (ZRA) in 2005 and the other groups joined in later. The KNO and UPF had demanded the creation of an autonomous hill state within Manipur 2010. Later in 2017, the demand evolved into a self-administered zone similar to the Bodoland Territorial Council (BTC) in Assam.

### Sixth schedule

The Sixth Schedule consists of provisions for the administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram. It seeks to safeguard the rights of tribal population in these states through the formation of Autonomous District Councils (ADC). The ADCs have varying degrees of autonomy.

Along with ADCs, the Sixth Schedule also provides for separate Regional Councils for each area constituted as an autonomous region. In case one District Council area has more than one kind of tribe a Regional Council is created.

In all, there are 10 areas in the Northeast that are registered as autonomous districts: three in Assam, Meghalaya and Mizoram and one in Tripura. Each autonomous district and regional council consists of not more than 30 members, of which four are nominated by the governor and the rest via elections. All of them remain in power for a term of five years.

### **Powers under the Sixth Schedule**

The ADCs are empowered with civil and judicial powers and can constitute village courts within their jurisdiction to hear trial of cases involving the tribes. The councils are also empowered to make legislative laws on matters like land, forests, fisheries, social security, entertainment, public health, etc. with due approval from the governor. The roles of the central and state governments are restricted from the territorial jurisdiction of these autonomous regions. Also, Acts passed by Parliament and state legislatures may or may not be levied in these regions unless the President and the governor give her or his approval.

### **Bodoland Territorial Council (BTC)**

The Bodoland Territorial Council (BTC) is an autonomous district council (ADC) for the Bodoland Territorial Region in Assam. The BTC has been given greater autonomy to frame laws in comparison to other District Councils. Unlike the other ADCs with limit of 30 members, BTC can constitute up to 46 members out of which 40 are elected.

The Bodoland Territorial Council can make laws on 39 additional subjects such as culture, education, health and agriculture, labour and employment, land and revenue among others.

### **News Update**

The Tribal's in Manipur have also been demanding the extension of Sixth Schedule provisions (currently only extended to Assam, Meghalaya, Tripura and Mizoram) to their state for many decades.

There are talks ongoing between the Manipur government and the Kuki umbrella groups for the creation of Kukiland Territorial Council. Now, the nine Zomi tribes are also raising the demand for the creation of Zoland Territorial Council (ZTC). The tribes in Manipur do not get the benefits of the provisions of Sixth Schedule. Due to this, the Zomi tribe representatives say they have lagged behind in terms of socio-economic and political development.

## 1.6 CONSTITUTIONAL BREAKDOWN

**Why in News:** The Supreme Court has stayed an order of the Andhra Pradesh High Court which intended to examine if there is a "constitutional breakdown" in the state under the current government in Andhra Pradesh (AP).

### Background

- In early October 2020, the Andhra Pradesh (AP) High Court, while hearing various petitions, had asked the AP government to assist the HC to decide if there was a "constitutional breakdown" in Andhra Pradesh or not.
- In response, the AP government had filed an application in the High Court to recall the October 1 order, but it was not taken up by the High Court.
- After this, the AP government filed a petition in the Supreme Court against the High Court order.

### Constitutional breakdown

- **Article 355** imposes a duty on the Centre to ensure that the government of every State is carried on in accordance with the provisions of the Constitution.
- If the President is satisfied that the government of a State cannot be carried in accordance with the provisions of the Constitution, it is called a "breakdown of the constitutional machinery in the state".
- The Centre can take over the government of a State in case of failure of constitutional machinery in the State. This is popularly known as President's rule.
- **Article 356** empowers the President to impose a President's rule in a state if he/she is satisfied that the government of a State cannot be carried in accordance with the provisions of the Constitution.
- In this regard, the President can act on the report of the Governor or even without the report of the Governor.

### Latest Development

#### Andhra Pradesh government's appeal in the Supreme Court

As per the AP government, Courts do not have the power to decide whether the constitutional machinery has broken down in a state. Furthermore, it claims that the judiciary does not have the power to send a report either to the President or the Governor or to record a finding on the issue of constitutional breakdown.

It claims that as per Article 356, only the Union government has the power to decide whether there is a constitutional breakdown in a state. Such a decision has to be based on factual analysis and the courts do not have the means (resources) or the standards required to decide such questions.

It claims that the High Court order is an encroachment on the powers of the executive (government) and violates the doctrine of separation of powers.

### Doctrine of separation of powers

The system of separation of powers divides the tasks of the country into three branches: legislative, executive and judicial. These tasks are assigned to different institutions in such a way that each of them can keep a check on the others.

### Supreme Court's response

The Supreme Court has put a stay on the High Court's order and termed the High Court order as unprecedented (never done before) and disturbing. The Supreme Court has also decided to take up the case in the near future.



## Bone of contention

- On October 1, the Andhra Pradesh High Court passed an interim order which said "on the next date, the learned senior counsel appearing on behalf of the State may come prepared to assist the court as to whether in circumstances, which are prevailing in the State of Andhra Pradesh, the court can record a finding that there is constitutional breakdown in the State or not". The order was passed in *habeas corpus* petitions

### What the State argued

- The order was "replicated" in 14 writ petitions of *habeas corpus* or allegations against the police interfering in civil disputes
- Judiciary has no role in deciding whether there is a constitutional breakdown in a State, necessitating President's rule. This power is vested in the executive under Article 356 of the Constitution
- HC order is a "serious encroachment" on the powers of the executive as enumerated under the Constitution and is thus violative of the doctrine of separation of powers

# 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 AFGAN PEACE (UPDATE)

**Why in News:** Afghan government and Taliban representatives reached a breakthrough preliminary deal to press on with peace talks. This is their first written agreement in 19 years of war, and was welcomed by the US as a chance to halt the violence.

### Background and Chronology

After the 9/11 attacks, the then US President George W. Bush sent U.S. forces into Afghanistan to hunt down their mastermind, Osama Bin Laden.

Osama was a Saudi given sanctuary by the Afghanistan's then Islamist Taliban rulers. Although the Taliban regime was quickly toppled, they regrouped and have since waged an insurgency that has sucked into the war Afghanistan's neighbours and troops from dozens of countries, including NATO forces.

The international coalition of NATO ended its combat mission in 2014 after thousands of soldiers got killed. The US continued on its own, but scaled-back combat operations after 2014.

The Taliban meanwhile continued to gain momentum and started controlling more territory than at any time since 2001. This became America's longest conflict in history.

### Negotiations to End War

Negotiations to end war and embrace peace had long been advocated by the former Afghan President Hamid Karzai, as well as the British government, but resisted by the American government. Karzai offered peace talks with the Taliban in 2007, but this was swiftly rejected by the insurgent group citing the presence of foreign troops.

By 2009, there was broad agreement in Afghanistan that the war should end, but there wasn't clarity over how it should happen.

### Obama Administration

After Obama assumed office of the President of the US, a mindset change and strategy occurred within the US administration in 2010 to allow possible political negotiations to solve the war. Sporadic efforts took place for the peace talks but nothing concrete happened.

### Trump's Presidency

US President Donald Trump, elected at the end of 2016, promised to end the war in Afghanistan and bring back all the country's troops. He accused Pakistan of harboring the Taliban and of inaction against terrorists after his assuming office.

**In 2018, following an increase in violence, Afghan President Ashraf Ghani proposed unconditional peace talks with the Taliban,** offering them recognition as a legal political party and the release of the Taliban prisoners. The offer was the most favorable to the Taliban since the war started. It was preceded by months of national consensus building, which found that Afghans overwhelmingly supported a negotiated end to the war.

### **Efforts at Troop Withdrawal**

Although sporadic efforts have taken place since the war began in 2001, and troop withdrawal started by 2011-12 subsequently negotiations and the peace movement intensified in 2018. Since then, the talks were held between the Taliban (which is the main insurgent group fighting against the Afghan government and American troops) and the United States.

It was expected that a mutual agreement between the Taliban and the United States would be followed by a phased American withdrawal and the start of intra-Afghan peace talks. Besides the United States, regional powers such as Pakistan, China and Russia, as well as NATO play a part in facilitating the peace process.

### **Deal between USA and Taliban- February 2020**

In February 2020, US-Taliban agreement was signed. It was a conditional peace agreement signed by the US with the Taliban, which called for the withdrawal of foreign troops in 14 months if the Taliban upheld the terms of the agreement.

However, the Afghan government, which was excluded from negotiations between the US and the Taliban, rejected the U.S. and Taliban's call for a prisoner swap.

President Ashraf Ghani stated that such an agreement will require further negotiation and will also not be implemented as a precondition for future peace negotiations.

### **Intra-Afghan Peace Talks in September 2020**

The partial success in implementing conditions of US-Taliban agreement presented a major opportunity for peace between Taliban and the Afghanistan government.

It led to the historic first direct talks between the Taliban and representatives of the Afghan government in September 2020.

They discussed joint implementation mechanisms, which will be announced along with the completion and agreement over the future political roadmap of Afghanistan. No declaration of a permanent ceasefire was announced, even at the beginning of talks.

### **India's Stand to Peace Talk**

In October 2020, the Chairman of Afghanistan's High Council for National Reconciliation (HCNR) Abdullah Abdullah visited India, and held talks, including with Indian Prime Minister and National Security Advisor (NSA).

During the talks, Mr. Abdullah briefed the Prime Minister on the deliberations in Doha between the Afghan government and civil society representatives with Taliban representatives.

**Prime Minister reiterated India's commitment towards sustainable peace and prosperity in Afghanistan and welcomed efforts towards a comprehensive and permanent ceasefire in Afghanistan. He assured Abdullah of India's continued backing for the peace process in Afghanistan.**

The NSA told Abdullah that India is in favour of a democratic and sovereign Afghanistan where no terrorists can operate.

### **News Update**

**Afghan government and Taliban representatives reached a preliminary deal to press on with peace talks, after months of talks in Doha, Qatar over the agenda of peace talks.** The agreement codifying rules for their negotiations on a political roadmap and a comprehensive ceasefire, including the preamble, has been finalised, and going ahead, the negotiations will begin on the agenda of peace talks.

The deal lays out the way forward for discussion but is considered a breakthrough because it will allow negotiators to move on to more substantive issues, including talks on a ceasefire, even as Taliban attacks on Afghan forces have continued unabated.

**This is their first written agreement in 19 years of war, and was welcomed by the US as a chance to halt the violence.**

## **2.2 UNITED NATION COMMISSION ON NARCOTICS DRUGS**

**Why in News:** The UN Commission on Narcotic Drugs (CND) recently voted to remove cannabis and cannabis resin from the list of most dangerous substances: the Schedule IV of the Single Convention on Narcotic Drugs, 1961.

### **Narcotic Drugs and Psychotropic Substances**

A narcotic drug is an addictive drug that reduces pain, induces sleep and may alter mood or behaviour. A psychotropic drug is a chemical substance that changes brain function and results in changes in perception, mood, consciousness or behaviour.

Some categories of narcotic and psychoactive drugs, which have therapeutic value, are prescribed by physicians and other healthcare practitioners. These substances are also used illegally (without medical prescription) to improve performance or change one's consciousness.

### **The Single Convention on Narcotic Drugs, 1961**

- **The Single Convention on Narcotic Drugs, 1961 is an international treaty to prohibit production and supply of specific drugs. The Convention has 186 state parties.**
- Before the convention, there were some treaties that had only controlled opium, coca, and derivatives such as morphine, heroin and cocaine. The Single Convention, adopted in 1961, consolidated those treaties and broadened their scope to include drugs whose effects are similar to the drugs specified.
- The UN Commission on Narcotic Drugs (CND) and the World Health Organization (WHO) were empowered to add, remove, and transfer drugs among the treaty's four schedules of controlled substances.
- The International Narcotics Control Board was put in charge of administering controls on drug production, international trade, and dispensation.
- The United Nations Office on Drugs and Crime (UNODC) was delegated the Board's day-to-day work of monitoring the situation in each country and working with national authorities to ensure compliance with the Single Convention.

### **The United Nations Commission on Narcotic Drugs (CND)**

- **The United Nations Commission on Narcotic Drugs (CND) was established by the United Nations Economic and Social Council (ECOSOC) as one of its functional commissions in 1946. It is headquartered in Vienna.**
- It is the central drug policy-making body within the United Nations system and has important functions under the international drug control conventions.
- The CND reviews and analyzes the global drug situation, considering the interrelated issues of prevention of drug abuse, rehabilitation of drug users and supply and trafficking in illicit

drugs. It assists ECOSOC in supervising the application of the international drug control treaties.

- It also advises the ECOSOC on all matters related to the control of narcotic drugs and psychotropic substances. The CND meets annually when it considers and adopts a range of decisions and resolutions.

### **Membership of CND**

The CND consists of 53 states, serving four-year terms, with the following distribution of seats among regions:

- Eleven for African states.
- Eleven for Asian states.
- Ten for Latin American and Caribbean states.
- Six for Eastern European states.
- Fourteen for Western European and other states.
- One seat to rotate between the Asian, and the Latin American and Caribbean states every four years.

**The members are elected from the members of the United Nations and members of the specialized agencies and the Parties to the Single Convention on Narcotic Drugs, 1961.**

### **Background**

Until now, Cannabis was under Schedule IV of the Single Convention on Narcotic Drugs, 1961, where it was listed alongside dangerous and highly addictive drugs like heroin. For 59 years, cannabis had been subject to the strictest control schedules, which even discouraged its use for medical purposes.

In January 2019, the World Health Organisation (WHO) made various recommendations related to the scheduling of cannabis in UN treaties, including the deletion of cannabis and cannabis resin from Schedule IV of the Convention.

The proposals were to be placed before the CND's session in 2019, but members voted to postpone the vote, requesting more time.

### **Status of Cannabis across the world**

As per WHO, cannabis is by far the most widely cultivated and trafficked illicit drug in the world.

Global attitudes towards cannabis have changed significantly since the commencement of the 1961 Convention. Many jurisdictions now permit cannabis use for recreation, medication or both.

Currently, over 50 countries allow medicinal cannabis programs, and its recreational use has been legalised in Canada, Uruguay and 15 US states.

### **Status of cannabis in India**

**Under India's Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, the production, manufacture, possession, sale, purchase, transport, and use of cannabis is a punishable offence.**

Charas, defined as the separated resin in any form, obtained from the cannabis plant, is also covered by the NDPS Act

### **News Update**

The WHO's 2019 proposal on removing cannabis from Schedule IV of the Single Convention was taken up at the December, 2020, session of the UN Commission on Narcotic Drugs (CND). At the session, the CND voted to remove cannabis and cannabis resin from the list of most dangerous substances in the Single Convention on narcotic drugs.

**27 of the CND's 53 Member States, including India, the United States and most European nations, voted in favour to delete cannabis and cannabis resin from Schedule IV of the Single Convention on Narcotic Drugs, 1961.**

**Twenty-five countries, including China, Pakistan, and Russia, voted against the motion, and there was one abstention.**

**Now, both cannabis and cannabis resin will be under Schedule-I of the Convention, which includes the least dangerous category of substances.**

The reclassification of cannabis by the UN agency, although significant, would not immediately change its status worldwide as long as individual countries continue with existing regulations. However, the latest change could impact thinking on cannabis and laws on it, as many nations look at global conventions for guidance, while developing laws.

Thus, the decision could boost additional scientific research into the plant's medicinal properties and act as catalyst for countries to legalize the drug for medicinal use, and reconsider laws on its recreational use.

## 2.3 INDIA-UZBEKISTAN

**Why in News:** Indian PM Narendra Modi and Uzbekistan President Shavkat Mirziyoyev signed nine MoU during the first ever bilateral virtual summit.

### India-Uzbekistan bilateral relations

#### Political Relations

The Consulate General of India was inaugurated in Tashkent in 1987 and upgraded to an Embassy in 1992, after Uzbekistan's independence.

The Tashkent Declaration after the Indo-Pak war of 1965 was signed in Tashkent, Uzbekistan in 1966 by former Prime Minister Lal Bahadur Shastri and he died there soon after, becoming the first Indian Prime Minister to die overseas.

India and Uzbekistan have signed many agreements in the areas of science and technology, civil aviation, trade and investment, IT and the 2019 Security Cooperation Agreement.

#### Economic and Trade Relations

India and Uzbekistan trade relations are governed by the Agreement on Trade and Economic Cooperation, 1993 and provide for a mutual MFN status. In 1993, India and Uzbekistan had signed an Agreement on Avoidance of Double Taxation and in 1999 for Bilateral Investment Promotion and Protection.

India's export to Uzbekistan stood at US \$ 261.3 Million (2018) and consists mainly of Pharmaceutical products and mechanical equipments. India's imports from Uzbekistan stood at US \$ 23.3 Million (2018) and consist of fruits, vegetables and fertilizers.

#### Cultural Relations

The cultural relations between India and Uzbekistan dates back to ancient times with Kamboja, being mentioned frequently in Pali and Sanskrit literature comprising parts of present day Uzbekistan

Babur, Amir Khusro and Mirza Ghalib were prominent personalities of Uzbek parentage who influenced art, architecture and culture of medieval India.

An India- Uzbekistan Centre for information technology was inaugurated in Tashkent University in 2006 for imparting training to government officials and students. Uzbekistan is a partner of

India's ITEC Program since 1993-1994 and various scholarships are offered to Uzbek nationals including study of Hindi at the Kendriya Hindi Sansthan, Agra.

### News Update

**India and Uzbekistan held talks on the Afghan peace process, combating terrorism together and confirmation by India on a \$448 million line of credit.** Both sides emphasized on an Afghan led and Afghan controlled peace process and plan to cooperate on connectivity projects in Afghanistan.

**Uzbekistan has proposed a Trilateral Dialogue with Iran to connect the Afghan city of Herat with the Afghan border and further Chabahar port through a joint railway project.** The Indian side has requested Uzbekistan to consider joining the Eurasian International North-South Corridor which is at present under-utilized.

**Importance of enhancing cooperation in defence and combating terrorism by destroying safe havens and choking financial routes was emphasized on.** India and Uzbekistan in 2019 held their first joint military exercise: Dustlik-2019.

### MoU's

- The agreements signed aimed at further expanding the India-Uzbekistan relations in areas like new and renewable energy, cyber security, digital technologies and sharing of information.
- India confirmed a \$448 million Line of credit for four developmental projects in Uzbekistan in areas of information technology, road construction and sewerage treatment.
- A Joint Feasibility Study for negotiations on a Preferential Trade Agreement between the two sides is being conducted to enhance the potential in trade relations which stand at US \$ 285 Million (2018).

## 2.4 Countering America's Adversaries Through Sanctions Act (CAATSA)

**Why in News:** The United States has imposed sanctions on Turkey over its acquisition of Russian S-400 air defence systems.

### CAATSA

- The Countering America's Adversaries Through Sanctions Act (CAATSA) is a law passed by the US in 2017, to counter its adversaries.

- CAATSA mandates the US administration to punish entities engaging in significant transaction with the defence or intelligence establishment of the countries marked adversaries by USA.
- It is primarily aimed at countering Iran, Russia and North Korea through punitive sanctions.
- The core provisions of the CAATSA, including sanctions on Russian business entities and senior Russian political and business figures, came into effect in January 2018.
- Title II of the Act primarily deals with sanctions on Russian interests such as its oil and gas industry, defence and security sector, and financial institutions, in the backdrop of its military intervention in Ukraine and its alleged meddling in the 2016 US Presidential elections.

### **S-400 Missile system**

- The S-400 Triumf is a mobile multi-layered air-defence surface-to-air missile system developed by Russia. It is Russia's most advanced long-range surface-to-air missile defence system.
- It is considered one of the most powerful operationally deployed modern long-range surface-to-air missile System (MLR SAM) in the world.
- It has been in service with the Russian Armed Forces since 2007.
- It can detect, track and destroy hostile strategic bombers, stealth fighters, spy planes, missiles and drones at a range of up to 400-km and altitude of 30-km.
- It integrates multifunction radar, autonomous detection and targeting systems, anti-aircraft missile systems, launchers, and command and control centre.
- The system can track 100 airborne targets and engage six of them simultaneously.

It uses four missiles to fill its performance envelope:

- The very-long-range 40N6 (400 km)
- The long-range 48N6 (250 km)
- The medium-range 9M96E2 (120 km)
- The short-range 9M96E (40 km)

### **India's S-400 deal and CAATSA exemption**

In October 2018, India signed a deal with Russia to acquire five units of S-400 Triumf multi-layered air defence system.

China is also buying the system. In 2015, Beijing signed an agreement with Russia to purchase six battalions of the system. Its delivery began in January 2018.

The US had warned that Indo-Russia deal on S-400 Triumph could invoke sanctions under CAATSA, which penalises defence purchases from Russia. Also, the USA offered India its own defence systems - THAAD and Patriot - as alternatives to S-400.

However, India has narrowed down on S-400 as the one that is most suitable to its geography, and made it clear to the US that it won't cancel the acquisition.

### **Exemption to India**

Invoking CAATSA against India would impact Indo-US ties and dents the image of the US as a reliable partner.

With the US projecting India as a key partner in its Indo-Pacific strategy, with the US National Security Strategy 2017 explicitly supporting New Delhi's vital role in this regard, CAATSA would have severe negative implications.

Also, India's defence purchases from the US have vastly increased, while its purchases from Russia have dropped (as a share of total arms imports). Since 2008, the US has bagged more than \$15 billion in arms deals.

Between 2013-14 and 2015-16, the US has won 13 contracts worth \$4.4 billion. Efforts are on in the US legislature to bring the latest National Defense Authorisation Act (NDAA) amending CAATSA to give waivers from sanctions to some countries.

### **Background**

Turkey has acquired the Russian S-400 defence system in mid-2019, despite US' opposition to it. US opposition to Turkey's acquisition of Russian system was harder as Turkey is part of US-led NATO (North Atlantic Treaty Organization) military alliance.

Since then, the US has long been threatening sanctions on Turkey, and had also removed the country from an F-35 jet program in 2019.

### **News Summary**

The United States has imposed sanctions on Turkey over its acquisition of Russian S-400 air defence systems.

The US said that Turkey's purchase of the S-400 system would endanger the security of US military technology and personnel and provide substantial funds to Russia's defense sector.

Most of India's weapons are of Soviet/Russian origin. CAATSA, if invoked against India's defence purchases, could also impact various other military projects of India, including procurement of equipment and spare parts. However, India is optimistic that Washington understands its security imperatives, especially with a hostile China along the border.

Also, in January 2020, a senior US official had said that the US administration does not want to make a decision, including through CAATSA, that "degrades the defence capabilities" of India which is its 'Major Defence Partner'. With the new Biden administration set to be in place in January 2020, India is waiting to see how the new administration appreciates and understands India's concerns on China, and whether it is going to support New Delhi against a belligerent Beijing.

## 2.5 INDIA-VIETNAM

**Why in News:** The Prime Ministers of India and Vietnam took part in a virtual bilateral summit, and agreed to boost cooperation in the Indo-Pacific region.

### India-Vietnam bilateral relations

#### Political Relations

- Independent India had initially maintained Consulate level relations with the then North Vietnam and South Vietnam.
- In 1972, it established full diplomatic relations with the Unified Vietnam.
- In 2007, the relationship was elevated to 'Strategic Partnership' between the two countries.
- In 2016, it was elevated to 'Comprehensive Strategic Partnership', which India shares with very few countries.

#### Economic and Trade Relations

- Bilateral trade has increased from \$200 million in 2000 to more than \$12 billion in 2019-20.
- Vietnam is India's 18th largest trading partner and 4th largest trading partner within ASEAN.
- India is Vietnam's 7th largest trading partner.
- Key imports from Vietnam include mobile phone, electronic components and natural rubber while key exports include meat, fisheries and pharmaceutical products.
- India's investment in Vietnam is estimated about \$2 billion, and is mainly in energy, mineral exploration, agro-processing etc.
- Vietnam has invested in six projects in India at US \$ 28.55 million and is mostly in Pharmaceutical and information technology sector.

## Developmental Partnership

- India has also been taking Quick Impact Projects under the Mekong- Ganga Cooperation framework for development of community infrastructure in Vietnam.
- Grant-in-assistance aid in seven projects is also being provided by India for the development of Cham community in Vietnam.
- Vietnam has been a large recipient of training programs under Indian Technical and Economic Cooperation (ITEC) program.

## Cultural Relations

- India and Vietnam share deep cultural and historical traditions which include the Buddhist traditions and the Cham Culture, which was influenced by Hinduism.
- The rich cultural exchange has led to many similarities in Ayurveda and the Vietnamese traditional system of medicine.
- To mark the 50th anniversary of Indo-Vietnamese diplomatic relations in 2022, a joint Encyclopedia on Cultural and Civilization relations between the two will be published.
- The year 2019 was celebrated as the India-ASEAN year of tourism.
- The Swami Vivekananda Indian Cultural Centre was established in Hanoi in 2016 for people to people and cultural exchange between the two countries.

## Latest Developments

- India and Vietnam, in the bilateral virtual summit, agreed to cooperation in the Indo-pacific region in the face of growing Chinese aggression in the region.
- While India is currently locked in a military standoff with China in the Ladakh sector of LAC, Vietnam is embroiled in an issue over the South China Sea dispute.
- A document titled 'India- Vietnam Joint Vision for Peace, Prosperity and people' was released after the summit.
- The vision document highlighted the importance of non- militarization and self restraint in conduct of claimants and all other states with respect to the South China Sea dispute.
- In this context, it also highlighted the need to uphold international laws like the 1982 UNCLOS (UN Convention on the Laws of the Sea).
- The vision document said that the two sides will set up military-to -military exchanges, training and capacity building programs across the three services and coast guards.
- Both the sides also agreed on cooperation in combating all forms of terrorism and reiterated that peace, stability and prosperity in the region is a common goal of both sides.

### Seven MOU's/Agreements signed

- Seven agreements to expand bilateral ties in defence, nuclear energy, UN Peace Keeping Operations, the petroleum industry and other sectors were signed between the two countries.
- An agreement to supply 12 high speed patrol vessels to Vietnam, with India extending a \$100 million defence line of credit to Vietnam was signed.

## 2.6 INDIA-BANGLADESH

**Why in News:** India Prime Minister Narendra Modi and Bangladesh Prime Minister Sheikh Hasina met in a virtual summit and discussed a broad range of issues. The virtual summit was held a day after Vijay Diwas, marking India's victory over Pakistan in the 1971 war that led to the creation of Bangladesh.

### India-Bangladesh Relations

India was the first country to recognize Bangladesh as a separate and independent state and established diplomatic relations with the country immediately after its independence in December 1971.

The relationship between India and Bangladesh is rooted in history, culture, language and shared values of secularism, democracy, and many other commonalities between the two countries.

### Bilateral institutional mechanisms

- There are more than 50 bilateral institutional mechanisms between India and Bangladesh in the areas of security, trade & commerce, power & energy, transport & connectivity, science and technology, defence, rivers & maritime affairs etc.
- A Joint Consultative Commission (JCC) led by the Ministers of Foreign/External Affairs coordinates and oversees implementation of initiatives taken between the two countries as well as explores newer avenues for cooperation

### Security & Border Management

- India and Bangladesh share 4096 km of border, which is the longest land boundary that India shares with any of its neighbours.
- A number of agreements related to security cooperation have been signed between both the countries. The Coordinated Border Management Plan (CBMP) signed in 2011 aims to check cross border illegal activities and crimes, and maintain peace along the border.

### Sharing of River Waters

- India and Bangladesh share 54 common rivers. A bilateral Joint Rivers Commission (JRC) is working since 1972 to maintain communication between the two countries to maximize benefits from common river systems.
- The Ganga Waters Treaty signed in 1996 for sharing of waters of river Ganga during lean season (January 1-May 31) is also working satisfactorily.

### Economic and Commercial relations

- Bangladesh is India's biggest trade partner in South Asia and bilateral trade between India and Bangladesh has grown steadily over the last decade.
- India has provided duty free access to Bangladesh under South Asian Free Trade Area (SAFTA) since 2011. India's exports to Bangladesh in FY 2018-19 stood at US\$ 9.21 bn and imports from Bangladesh during the same period were US\$1.04 bn.
- Meetings of various institutional mechanisms to promote bilateral trade including that of border haats, shipping and on establishment of Indian Economic Zone etc were held in 2019. In order to promote cooperation on bilateral trade, both the countries have agreed to create an India-Bangladesh CEO's Forum to provide policy level inputs in various areas of trade and investment.
- Cooperation in power sector has become one of the foundations of India- Bangladesh relations. Bangladesh is currently importing 1160 MW of power from India.

### Development Partnership

- India has extended 3 Lines of Credits (LOC) to Bangladesh in the last 8 years, amounting to US\$ 8 billion. This makes Bangladesh the largest recipient of LOC funds from India till date.
- **A line of credit is a credit (borrowing) facility given by a bank or other financial institution to a government, business or individual customer.** It is effectively a source of funds that a borrower can rely on, when it needs money. In addition to LOC funds, India also provides grant assistance to Bangladesh for projects under 'Aid to Bangladesh'.
- Projects such as construction of school/college buildings, laboratories, deep tube wells, community centers, renovation of historical monuments/buildings etc have been financed by India under this program.

### Human Resource Development cooperation

- Human resource development is a key component of India's development cooperation efforts in Bangladesh through its several ongoing training programs and scholarships.

- India has been training 1800 Bangladesh Civil Service officials from 2019 at National Centre for Good Governance (NCGG), Mussoorie.
- Bangladeshi police officials are also being trained at various premier training institutes in India on various modern policing and new investigative techniques of this information age. Similarly, India has been extending training for 1500 Bangladeshi judicial officials since 2017 at National Judicial Academy, Bhopal and also at various State Judicial Academies in India.
- In addition, 200 scholarships are awarded by ICCR (Indian Council for Cultural Relations) every year to students from Bangladesh for pursuing under-graduation, post-graduation and M.Phil/PhD courses in educational institutes of India including the IITs and NIITs.

### **Connectivity**

- India-Bangladesh is a good example of connectivity through all modes of transport.
- The Protocol on Inland Water Trade and Transit (PIWTT) has been operational since 1972. It permits movement of goods over vessels from India through the river systems of Bangladesh on eight specific routes.
- The movement of goods by road is operationalised through 36 functional Land Customs Stations (LCSs) and 2 Integrated Check Posts (ICPs) along the border.
- There are four Broad Gauge inter-country rail links between the two countries that are operational.
- There are regular bus services between Kolkata-Dhaka, Shillong-Dhaka and Agartala-Kolkata via Dhaka

### **Cultural Exchanges**

- The Indra Gandhi Cultural Centre (IGCC), is a cultural centre of the Indian Council for Cultural Relations of India in Bangladesh.
- Inaugurated in 2010, IGCC regularly organizes programs covering a wide-range of cultural activities.
- The IGCC also holds regular training courses in Yoga, Hindi, Hindustani Classical Music, Manipuri Dance, Kathak and Painting.

### **India-Bangladesh virtual summit**

#### **Highlights**

- At the summit, PM Modi said that Bangladesh is a significant pillar of India's 'Neighbourhood First' policy.

- Both the countries acknowledged that despite a challenging year due to the pandemic, India and Bangladesh had good cooperation on the health front (medicines, medical equipments, health professionals etc.)
- Other than health, the partnership has steadily increased in other areas as well. The countries have reduced barriers in land border trade and expanded connectivity between the two countries.

### **Discussions on improving connectivity**

- Both sides emphasised on simplifying people to people movement between the two countries.
- Bangladesh requested for early implementation of India's commitment to remove remaining restrictions on entry/exit from land ports in India for Bangladeshis travelling on valid documents in a phased manner.
- Bangladesh also expressed a desire to join the trilateral highway project that is being worked out among India, Thailand and Myanmar.
- In the same spirit, the India requested Bangladesh to allow connectivity from West Bengal (Hilli) to Meghalaya (Mahendraganj) via Bangladesh.

### **Discussions on Border issues**

- The two leaders agreed to facilitate completion of border fencing at all pending sectors at the international border between both the countries at the earliest.
- Both leaders also agreed that loss of civilian lives at the border is a matter of concern and directed the border forces to enhance coordination measures to work towards bringing such border incidents to zero.

### **Return of Rohingya refugees**

- India appreciated Bangladesh for sheltering and providing humanitarian assistance to 1.1 million forcibly displaced persons from the Rakhine State of Myanmar (Rohingyas).
- Bangladesh urged India to assist in the speedy return of the Rohingya refugees to Myanmar, who are currently staying in a refugee settlement colonies in Bangladesh.

### **Miscellaneous**

- The two leaders restored the Chilahati (Bangladesh) - Haldibari (West Bengal) rail link. The Chilahati-Haldibari rail link was last operational in 1965.

- The two sides concluded seven agreements covering areas such as hydrocarbon, High Impact Community Development Projects, elephant conservation, solid waste management and agriculture.
- A pact between the National Museum of India and Bangabandhu Sheikh Mujibur Rahman Memorial Museum in Dhaka was also declared.
- Both Prime Ministers directed the officials to quickly conclude the ongoing joint study on the prospects of entering into a bilateral Comprehensive Economic Partnership Agreement (CEPA).
- PM Modi expressed India's commitment to implement the interim agreement on the Teesta water-sharing agreement, which is yet to be signed.
- PM Hasina invited PM Modi to visit Bangladesh for celebrations on the occasion of the 50th anniversary of Bangladesh's Independence and 50 years of Bangladesh-India diplomatic relations in March next year, which he accepted.

### ADD ON

**Bangladesh has begun sending Rohingya refugees from the overcrowded camps on its port town, to Bhashan Char**, a remote island formed by sedimentation (char is Bengali for sediment) close to the coast.

### Rohingya

The Rohingya are a distinct Muslim ethnic group living in Myanmar.

They reside in Rakhine province of Myanmar, a predominantly Buddhist nation.

While the Rohingya's say they are descendants of Arab traders who have been in the region for generations, Myanmar's governments say they are not a genuine ethnic group but are actually Bengali migrants.

### News Update

Most of the Rohingya refugees in Bangladesh are currently in camps in Cox's Bazar, a port town close to Myanmar's Rakhine State, from where Rohingya fled. It is estimated that more than 8 lakh Rohingya



live in the camps at Cox's Bazar in unhygienic conditions. Bangladesh has now begun sending about 1 lakh refugees from the overcrowded camps in Cox's Bazar to Bhasan Char island.

### **Bhasan Char Island**

Bhasan Char is a remote island formed by sedimentation (char is Bengali for sediment) close to the coast. Located near the mouth of the river Meghna where it flows into the Bay of Bengal, Bhasan Char surfaced only in 2006 from the sediment deposited by the river.

Bhasan Char spans 40 sq km, and the Bangladesh government has built shelters, hospitals and masjids on the island, along with flood embankments and cyclone shelters. Activists say that Bhasan Char is more of a mud flat, and is vulnerable to going under water from tides and flooding. Much of it is submerged during the monsoon.

## **2.7 INDIA-QATAR**

**Why in News:** External Affairs Minister S Jaishankar recently visited Qatar. On his visit, Mr. Jaishankar met Qatar's Amir Sheikh Tamim bin Hamad Al-Thani as well as other top leaders of the Gulf country.

### **Highlights**

The agenda of the visit to Qatar included discussions on bilateral, regional as well as international issues.

Discussions were held on ways to strengthen the bilateral relationship, in areas such as energy, trade, investment, food processing, healthcare, education, culture, defence and security. The two countries agreed to maintain regular consultations and coordination on all issues of mutual interest at multilateral forums.

The two sides discussed the progress on setting up task forces on investment and energy, which was decided in the recent past. MEA interacted with business leaders from Qatar and highlighted investment opportunities in India. He also appreciated their commitment for business partnerships with India.

### **India-Qatar Bilateral Relations**

India and Qatar share historically close ties and the cooperation between the two countries has been steadily growing in diverse sectors, due to regular engagements at the highest levels of government.

## **Defence cooperation**

- Defence cooperation is an important pillar of bilateral relations between the two countries. India offers training slots in its defence institutions to a number of partner countries, including Qatar.
- India regularly participates in the biennial Doha International Maritime Defence Exhibition and Conference (DIMDEX) in Qatar
- Indian Naval and Coast Guard ships regularly visit Qatar as part of the bilateral cooperation and interaction.
- India-Qatar Defence Cooperation Agreement, signed in 2008, was extended for a period of five years in 2013, and further extended for a period of five years in 2018.
- The agreement is implemented through the Joint Defence Cooperation Committee (JDCC).

## **Commercial relations**

- India's bilateral trade with Qatar in 2018-19 was US\$ 12.33 billion. India's export to Qatar during 2018-19 was US\$ 1.61 billion and India's import from Qatar was US\$ 10.72 billion.
- Qatar's key exports to India include liquefied natural gas (LNG), liquefied petroleum gas (LPG), chemicals and petrochemicals, plastics, and aluminum articles.
- Qatar is the largest supplier of LNG to India, accounting for over 50% of India's global LNG imports.
- India's key exports to Qatar include cereals, copper, iron and steel articles, vegetables, fruits, spices, electrical and other machinery, construction material, textiles, chemicals, precious stones and rubber.
- India is among the top three largest export destinations for Qatar (Japan and South Korea being the other two) and is also among the top three sources of Qatar's imports, along with China and Japan.

According to the Qatar Chamber of Commerce and Industry (QCCI), there are over 6000 big and small Indian companies operating in Qatar. Indian companies are pursuing collaborations in various sectors like infrastructure, communications and information technology, energy and other areas in Qatar.

## **Tourism**

India is a popular tourist destination amongst Qatari nationals, due to the cultural compatibility and historical contacts between the two countries.

India was the largest source of tourists for Qatar in 2018. The growth is largely due to liberalized visa regime of Qatar. Qatar granted citizens of more than 80 countries, including India, tourist visa on arrival facility in 2017 to promote inbound tourism.

### **Cultural Relations**

Cultural ties between India and Qatar are deep-rooted and actively nurtured by both sides. The year 2019 was celebrated as India-Qatar Year of Culture. There are regular cultural exchanges between the two sides, under the provisions of the Agreement on Cultural Cooperation signed between the two sides in 2012.

The Indian Cultural Centre (ICC), an umbrella community organisation of Indian socio-cultural associations in Qatar, functions under the Embassy of India, Doha. It undertakes a number of cultural and other activities.

As of June 2019, there are around 7, 56,000 Indians living and working in Qatar. Indian nationals comprise the largest expatriate community in Qatar. They are engaged in various professions including medicine, engineering, education, finance, banking, business and media apart from a large number of blue-collared workers.

Blue-collar worker refers to workers who engage in hard manual labor, typically manufacturing, construction, mining, or maintenance. There is a dedicated Labour and Community Welfare Wing that systematically registers and addresses grievances brought to its notice.

The Indian Sports Centre (ISC) is a community based organization working under the Embassy of India, formed exclusively to focus on all aspects relating to the promotion of various sports and games.

## **2.8 BREXIT**

**Why in News:** The EU and the UK have sealed a limited UK-EU post-Brexit trade deal.

### **European Union (EU)**

The European Union (EU) is a political and economic union of 27 member states (after UK's Exit) that are located primarily in Europe. European Union or EU is an experiment to transform the relations between nations based on functionalist ideology.

It envisages transforming the relations between nations by enmeshing them in economic, social, cultural, political partnership.

The 1957 Treaty of Rome created European Economic Community (EEC) of six nations (including France and West Germany), that was the predecessor to the EU.

The 1992 Maastricht Treaty (into force in 1993), formally established the European Union. As of early 2020, the population of the European Union was about 447 million people (5.8% of the world population).

What began as a purely economic union has evolved into an organization spanning policy areas, from climate, environment and health to external relations and security, justice and migration

### **Brexit**

"Brexit" is a word that is used as a shorthand way of saying the UK (The United Kingdom of Great Britain and Northern Ireland) leaving the EU - merging the words Britain and Exit to get Brexit.

A was held on 23 June, 2016, to decide whether the UK should leave or remain in the European Union. 51.9% People voted in favour of Leave and won. To leave the EU, UK had invoked Article 50 of the Lisbon Treaty which gives the two sides two years to agree the terms of the split.

**Lisbon Treaty (Article 50)** provides for exit of member countries from European Union. For any country to come out of European Union, it has to negotiate a deal with EU. UK triggered this process on 29 March, 2017, meaning the UK is scheduled to leave EU on 29 March 2019.

The deadline got extended after the failure to reach a deal between the UK and EU that is acceptable to the UK parliament. UK was to remain bound by the EU's rules during a transition period that runs until midnight on December 31, 2020, when the U.K. will leave the bloc's single market and customs union.

### **Background: Negotiations for Britain-EU Trade Agreement**

The UK has voted to leave the EU in a referendum in 2016, referred to as "Brexit". After Brexit, to compensate for losing the single market, Britain and EU were keen to negotiate a trade deal, preferably a Free Trade Agreement (FTA) that will benefit both sides.

Under the Withdrawal Agreement, they have until December 31, 2020 to define their future trading arrangements. The agreement seeks to take in elements of current single market arrangements in certain areas, like cars and financial services.

Otherwise, they have to separate with no deal; which would end the current tariff-free and quota-free partnership they share in most sectors of the economy.

### **Points of difficulty in reaching a trade deal**

**The two sides are far apart from agreement on some key sticking points, including fishing rights and competition rules.** The central issue in the talks is how close the UK should stick to EU economic rules in the future.

The EU does not want to give UK tariff-free access to its markets if UK sets its own standards on products, employment rights and business subsidies, different from the EU rules they both operated on till now. Meanwhile, UK insists that, as any sovereign nation, its wider business rules should be under its control, and not EU's control, once it exits the EU.

**Fishing rights is another major area of disagreement.** The EU wants access to UK waters for EU's fishing fleets. Otherwise, it says, UK fishermen will no longer get special access to EU markets to sell their goods.

### **News Update**

The EU and the UK have sealed a limited UK-EU post-Brexit trade deal that aims to lay the groundwork for long-term future cooperation. The deal, which must be ratified by the British and European Parliaments.

Once it is signed off and the text published in the EU's official journal, it will go into effect on January 1 when Britain would have left the EU bloc's single market.

### **Limited deal**

The UK is set to exit EU trading rules on 1st of January, 2021, and it will mean big changes for business, with the UK and EU forming two separate markets, and the end of free movement. The limited trade deal eases some of the concerns. Despite running into 2,000 pages, the agreement leaves critical parts of the relationship to be worked out later.

The trade pact will not cover services, which make up 80% of the British economy, including banking industry.

### **Free goods trade**

The deal enables UK goods to be sold without tariffs, and without quotas in the EU market. It comes as a major relief to many British businesses, which feared disruption at the borders and the imposition of tariffs, or taxes on imports.

### **Fishing rights**

- **Under the new deal, EU fishing fleets will have to give up about 25% of their current catch in British waters over the next five and a half years**, officials said. Britain was pushing for an 80 or 60% cut in the EU's share.
- On the other hand, giving up share of their catch was seen as difficult for many fishing communities in northwestern Europe, which have worked what are now U.K. waters for centuries. **Boats from the continent will also be allowed to work in British inshore waters less than 12 nautical miles from shore during the transition.**
- After this transitional period, access to its rich fishing grounds would be negotiated on an annual basis. With 'Brexit' legally coming into effect on December 31, the British Prime Minister said the post-Brexit trade deal is a new starting point for Britain and the European Union (EU).

### **UK-EU Trade & Cooperation Agreement post-Brexit**

With 'Brexit' legally coming into effect, on December 31, the UK will leave the EU Single Market and Customs Union, all EU policies and international agreements. A new trade and co-operation agreement unanimously approved by the EU nations will come into effect from January 1.

Despite running into 2,000 pages, the agreement is a limited one, and leaves critical parts of the relationship to be worked out later. However, the deal is not yet law and needs to be ratified by the parliaments of the UK and EU, a process which will likely take a few more weeks.

Until the agreement is formally approved and signed, it will be applicable on a provisional basis.

### **Impact of the deal**

The UK will leave the EU Single Market and Customs Union. This means that the free movement of goods, people, services and capital will stop from January 1 onwards as the EU and UK will become two separate market spaces, with distinct regulations.

### **Movement of people**

For people travelling between the UK and EU, it means that while their entry will still be visa-free, they may be subject to screening and will no longer be able to use the biometric passports.

### **Free goods trade**

The deal enables UK goods to be sold without tariffs, and without quotas in the EU market. This will be the first time that the EU has agreed to zero quotas and zero tariffs with a trading partner. It comes as a major relief to many British businesses, which feared disruption at the borders and the imposition of tariffs, or taxes on imports.

## Services

The trade pact will not cover services, and a deal for services will have to be negotiated later. Services make up 80% of the British economy, including banking industry.



European Commission

December 2020

### EU-UK RELATIONS: Big changes compared to benefits of EU membership

CHECKLIST

|  | EU-UK Trade and Cooperation Agreement | EU Member State |
|--|---------------------------------------|-----------------|
| <b>FREE MOVEMENT OF PEOPLE</b>                     |                                       |                 |
| ▶ Removal of border checks                         | ✗                                     | ✓               |
| ▶ Pet passports                                    | ✗                                     | ✓               |
| ▶ Visa-free travel (90 days in a 180-day period)   | ✓                                     | ✓               |
| ▶ Visa-free travel (beyond 90 days)                | ✗                                     | ✓               |
| ▶ Right to work, study, live in another EU country | ○                                     | ✓               |
| ▶ Removal of roaming charges                       | ✗                                     | ✓               |
| <b>TRADE IN GOODS</b>                              |                                       |                 |
| ▶ Frictionless trade                               | ✗                                     | ✓               |
| ▶ Zero tariffs or quotas                           | ✓                                     | ✓               |
| ▶ Zero customs formalities                         | ○                                     | ✓               |
| ▶ Zero SPS checks                                  | ✗                                     | ✓               |
| ▶ Zero rules of origin procedures                  | ○                                     | ✓               |
| ▶ Fisheries agreement                              | ○                                     | ✓               |

○ specific conditions related to EU-UK Trade and Cooperation Agreement

|   |   | EU-UK Trade and Cooperation Agreement | EU Member State |
|---|---|---------------------------------------|-----------------|
|   | ▶ Benefit from the EU's international agreements            | ✗                                     | ✓               |
|    | <b>TRADE IN SERVICES</b>                                    |                                       |                 |
|   | ▶ Financial services passport                               | ✗                                     | ✓               |
|   | ▶ Easy recognition of professional qualifications           | ✗                                     | ✓               |
|    | <b>AIR TRANSPORT</b>  |                                       |                 |
|   | ▶ Single aviation area, full freedoms                       | ✗                                     | ✓               |
|   | ▶ Bilateral 5 <sup>th</sup> freedoms for extra-EU air cargo | ○                                     | ✓               |
|    | <b>ROAD TRANSPORT</b>                                       |                                       |                 |
|   | ▶ Single internal transport market for hauliers             | ✗                                     | ✓               |
|   | ▶ Cross-trade operations                                    | ○                                     | ✓               |
|  | <b>ENERGY</b>   |                                       |                 |
|   | ▶ Single internal energy market                             | ✗                                     | ✓               |
|   | ▶ Energy trading platforms                                  | ○                                     | ✓               |
|  | <b>EU PROGRAMMES</b>  |                                       |                 |
|   | ▶ Access to Erasmus   | ✗                                     | ✓               |
|   | ▶ Access to NextGenerationEU, SURE                          | ✗                                     | ✓               |
|   | ▶ Galileo encrypted military signal                         | ✗                                     | ✓               |
|   | ▶ Access to Horizon Europe                                  | ○                                     | ✓               |

○ specific conditions related to EU-UK Trade and Cooperation Agreement

### Changes for the UK

Regaining its sovereignty is seen as the biggest win by most of the pro-Brexit people, as EU membership involved giving up some control over domestic affairs.

The European Court of Justice can no longer play a role in the affairs of the UK, and the UK does not have to follow EU law. The UK will now be able to hold its own trade negotiations, separate from EU, with countries such as the US and Australia, and will be able to set its own trade policy.

Leaving the EU would result in an immediate cost saving for the UK, as the country would no longer contribute to the EU budget. In 2016, Britain paid in £13.1bn, but it also received £4.5bn worth of spending, so the UK's net contribution was £8.5bn. UK could also set its own rules on immigration.

Under EU law, Britain could not prevent a citizen of another member state from coming to live in the UK. The result was a huge increase in immigration into Britain, particularly from eastern and southern Europe.



# 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 COASTAL RADAR CHAIN NETWORK

**Why in News:** In order to expand the coastal radar chain network, efforts are in advanced stages to set up coastal radar stations in Maldives, Myanmar, Bangladesh and Thailand. Similar proposals are being developed for some more countries.

### Coastal radar chain network

- After the 2008 Mumbai attacks in which terrorists used a fishing boat to enter the city, the government decided to set up a chain of static sensors to improve coastal surveillance and keep track of boats entering Indian territorial waters.
- Under Phase-I of the coastal radar chain network, 46 coastal radar stations have been set up across the country's coastline. Under the ongoing Phase-II of the project, 38 static radar stations and four mobile radar stations are being set up by the Coast Guard.
- The information received from the various stations and sensors is collated at the Information Management and Analysis Centre (IMAC). The data is used by the Navy for real-time monitoring of the sea for threats and overall maritime domain awareness.

### Radar stations of the network in Indian Ocean countries

India is also setting up similar radar stations in friendly Indian Ocean littoral nations, which are integrated into India's own radar network. A littoral nation is a country with land territory adjacent to a particular maritime area. Mauritius, Seychelles and Sri Lanka have already been integrated into the India's coastal radar chain network.

### Maritime data exchange

As part of information exchange regarding traffic on the high seas, the Navy has been authorised by the government to conclude white shipping agreements with 36 countries and three multilateral constructs.

So far, agreements have been concluded with 22 countries and one multilateral construct. Of these, 17 agreements and the one multilateral construct have been operationalised. International Liaison Officers (ILO) from France, Japan and the U.S. have already joined Navy's Information Fusion Centre for the Indian Ocean Region (IFC-IOR). Three more International Liaison Officers (ILO) are expected to join soon.

### 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.

### In real time

The Navy's Information Fusion Centre-Indian Ocean Region (IFC-IOR) in Gurugram is the single-point centre linking all coastal radar chain networks along the 7,500-km Indian coastline and in some neighbouring countries

■ The IFC tracks and monitors 75,000 - 1.5 lakh shipping vessels in real time round-the-clock

■ The IFC actively interacts with the maritime community and has already built linkages with 18 countries and 15 multinational and maritime security centres



■ The major centres with which regular exchange of maritime security information is being undertaken include Virtual Regional Maritime Traffic Centre, Maritime Security Centre- Horn of Africa, Regional Cooperation Agreement on Combating Piracy and Armed Robbery, Information Fusion Centre-Singapore, and International Maritime Bureau-Piracy Reporting Centre

### IFC-IOR

- The Navy's Information Fusion Centre for the Indian Ocean Region (IFC-IOR) was inaugurated in 2018, within the premises of IMAC, to promote Maritime Domain Awareness.
- It is the single point centre linking all coastal radar chain networks along the 7,500 km Indian coastline. It tracks and monitors 75,000 - 1.5 Lakh shipping vessels in real time round the clock.
- It interacts with the maritime community and has already built linkages with various countries and multinational and maritime security centers.

### **3.2 ADVANCED TOWED ARTILLERY GUN SYSTEM**

**Why in News:** The Army will soon begin testing an indigenously-developed artillery system (ATAGS) with 48-km strike range.

#### **Advanced Towed Artillery Gun System (ATAGS)**

Built by DRDO and partners, India's ATAGS is a 155 mm/52 caliber towed howitzer artillery gun. Artillery is a class of heavy military ranged weapons (like modern day canons) built to launch munitions far beyond the range and power of normal firearms. The new version has a 48-km strike range, higher than the 35-40 km range of other artillery gun systems in this category.

Range tests of this ATAGS system have been going on from 2017.

#### **Development of indigenous ATAGS**

The development of ATAGS was started in 2013 as a part of artillery modernisation program for Indian Army. It is being jointly developed by the Defence Research and Development Organisation (DRDO) and the private sector.

The DRDO's Armament Research and Development Establishment (ARDE) has partnered with Kalyani Group, Tata Power and Ordnance Factory Board etc for the development of ATAGS.

#### **Advanced features of ATAGS:**

- It is configured with all-electric drive for the first time in the world to ensure maintenance free and reliable operation over a longer period of time.
- It has advanced features like high mobility, advanced communication system, automatic command and control system with night firing capability in direct fire mode etc.

- It has a five round magazine, compared to the standard three round magazines in similar foreign systems.

### News Update

The Army will soon begin testing an indigenously-developed ATAGS artillery system. It will first undergo “winter user trials” by the Army in Sikkim in January-February.

That will be followed by the “mobility trials” and then the “summer trials” in May-June.



# 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



KAVISH IAS  
Converting Possibilities into Reality

## 4.1 CROP DIVERSIFICATION

**Why in News:** The ongoing farmer's protest has brought into focus the question of sustainability of wheat and paddy cultivation in Punjab, and the need to explore options of crop diversification.

### Paddy-wheat Monoculture in Punjab

- Out of Punjab's 78.30 lakh hectare gross cropped area in 2018-2019, 84.6% is under paddy-wheat cultivation. The ratio was 32% in 1960-61 and 47.4% in 1970-71.
- The above gains have been at the expense of pulses (after 1960-61), maize, bajra and oilseeds (after 1970-71) and cotton (after 1990-91).
- Wheat replaced chana, masur, mustard and sunflower. Paddy replaced cotton, maize, groundnut and sugarcane
- The only crops that have registered some acreage expansions are vegetables like potato and peas and fruits like kinnow.

### Issues with Paddy-wheat Monoculture

**Wheat and paddy cannot fix nitrogen from air like legumes and pulses.** Continuously growing them, without growing other crops in between can lead to depletion of soil nutrients, which in turn leads to over-utilization of chemical fertilizers.

**Paddy's water consumption** is also very high, leading to depleting water tables in the state.

**Apart from that, repeating the same crop again and again increases the vulnerability to pest attacks and diseases.** On the other hand, sowing different varieties of crops increases genetic diversity and makes it difficult for the pests to devise ways to attack the crop.

### Paddy cultivation is a serious problem

- The share of paddy cultivation per real acreage has been continuously increasing from 7% in 1970-71 to almost 40% in 2018-19. Paddy is a warm season crop which is not very sensitive to high temperature stress and can hence be grown in much of eastern, central and southern India, where water is sufficiently available.
- Punjab has contributed 10.88 mt of rice (milled paddy) to the Central pool procurement of 52 mt in 2019-20. It is estimated that half of this rice of Punjab can be procured from Eastern Uttar Pradesh, Bihar, West Bengal or Assam.
- Paddy is a water-intensive crop. While wheat needs to be irrigated five times, it is as high as 30 times for paddy.

- Punjab also has a state policy of supplying free power for irrigation, which has also encouraged farmers to grow long duration water guzzling rice varieties like Pusa-44. This has led to Punjab's water table declining at the rate of 0.5 meters on an average.

**TABLE 1: CROP-WISE PERCENTAGE SHARE OF TOTAL PLANTED AREA IN PUNJAB**

|             | 1960-61 | 1970-71 | 1980-81 | 1990-91 | 2000-01 | 2018-19 |
|-------------|---------|---------|---------|---------|---------|---------|
| Wheat       | 27.3    | 40.5    | 41.6    | 43.6    | 43.1    | 44.9    |
| Paddy       | 4.8     | 6.9     | 17.5    | 26.9    | 31.3    | 39.6    |
| Pulses      | 19.1    | 7.3     | 5.0     | 1.9     | 0.7     | 0.4     |
| Cotton      | 9.4     | 7.0     | 9.6     | 9.3     | 7.6     | 5.1     |
| Maize       | 6.9     | 9.8     | 5.6     | 2.5     | 2.1     | 1.4     |
| Oilseeds    | 3.9     | 5.2     | 3.7     | 1.5     | 1.1     | 0.5     |
| Bajra       | 2.7     | 3.7     | 1.0     | 0.2     | 0.1     | 0       |
| Sugarcane   | 2.8     | 2.3     | 1.0     | 1.3     | 1.8     | 1.2     |
| Barley      | 1.4     | 1.0     | 0.9     | 0.5     | 0.3     | 0.1     |
| Vegetables  | 1.2     | 0.9     | 1.1     | 0.7     | 1.3     | 3.3     |
| Fruits      | 0.6     | 0.6     | 0.4     | 0.8     | 0.5     | 1.1     |
| Other crops | 17.7    | 14.8    | 12.6    | 10.8    | 10.1    | 2.4     |

Source: Punjab Economic Survey 2019-20

## 4.2 NEW SECURITY DIRECTIVE ON TELECOMUNICATION SECTOR

**Why in News:** The Cabinet Committee on Security (CCS) has approved a new National Security Directive on telecommunication sector.

### Background

In recent months, India has banned the import of equipment from China for use in sectors ranging from telecom to power, due to national security reasons.

The government has also banned various Chinese apps in the recent past due to national security concerns. Last year, the government had banned imports of Chinese handsets without the

International Mobile Equipment Identity, or IMEI, number, again due to security reasons such as the use of stolen handsets to make terror or hoax calls.

**The IMEI number of a mobile phone is a 15-digit number unique to every handset. It prevents stolen handsets from making calls and allows security agencies to track down a specific user.**

### News Update

The Cabinet Committee on Security (CCS) has approved a new National Security Directive on telecommunication sector. Under the provisions of this directive, the government will declare a list of 'trusted sources' and 'trusted products' for installation in the country's telecom network.

The government said that the current policy is framed to address the country's security needs. Although the government did not mention China specifically, the current move is seen as an economic attack by India against Chinese equipment vendors, amid tensions at the Ladakh border.

### Reasons for the move

- Telecom infrastructure forms the backbone for the power, financial and other sectors and is highly sensitive to face any threat. Further, networks offering 5G services are expected to be even more vulnerable to threats.
- Chinese companies have been under global scrutiny for installing 'backdoor' or 'trap door' vulnerabilities and spying for the Chinese government and have been banned by several countries.
- A 'backdoor' or a 'trap door' is a bug installed in the telecom hardware that allows companies to listen in or collect data being shared on the network.
- The current move by India is also connected to a strategic decision to join partners like the US and Japan to design and build 5G networks without China's involvement. The US and Japan have already announced a project to move ahead on this and India has been invited to join this project.

### Details of the move

- **The 'methodology' to designate trusted products will be devised by the designated authority - the National Cyber Security Coordinator.**
- The designated authority will make its decision based on approval of a committee headed by the deputy National Security Advisor. The policy will come in to operation after 180 days from the date of approval.
- **The committee will be called the national security committee on telecom** and will consist of members from relevant departments, ministries and will also have two members from the industry and independent experts.

- As a part of the directive, a list of sources from whom no product can be procured will also be provided to the telecom service providers.
- From the sources declared as trusted source by the designated authority, those which meet the criteria of the Department of Telecom's preferential market access scheme will be certified as India trusted sources.
- Apart from the directive, the government will also release at regular intervals new guidelines for effective monitoring and effective control of the network security of the telecom service providers.

| <b>NAT'L SECURITY DIRECTIVE...</b>   | <b>... AND ITS IMPACT</b>  |
|--|--|
| <ul style="list-style-type: none"> <li>➤ The National Cyber Security Coordinator will make a list of trusted sources for equipment</li> <li>➤ The National Security Committee on Telecom will identify equipment, countries</li> <li>➤ The panel will take steps to increase use of equipment from 'Indian Trusted Sources'</li> <li>➤ The new policy will be implemented in 180 days; DoT will amend licence norms</li> </ul> | <ul style="list-style-type: none"> <li>➤ Chinese vendors like ZTE and Huawei will be hit as govt readies 5G auctions and rollou</li> <li>➤ Govt, however, says action not targeted at any country</li> <li>➤ Chinese companies may seek permission to sell, claim their operations are 'transparent and clean'</li> <li>➤ There will be no impact on existing equipment</li> </ul> |

### Impact

The move could potentially make it more difficult for Chinese telecom equipment vendors like Huawei and ZTE to supply equipment to Indian telecom players. The directive will not affect ongoing annual maintenance contracts or updates to existing equipment already a part of the network.

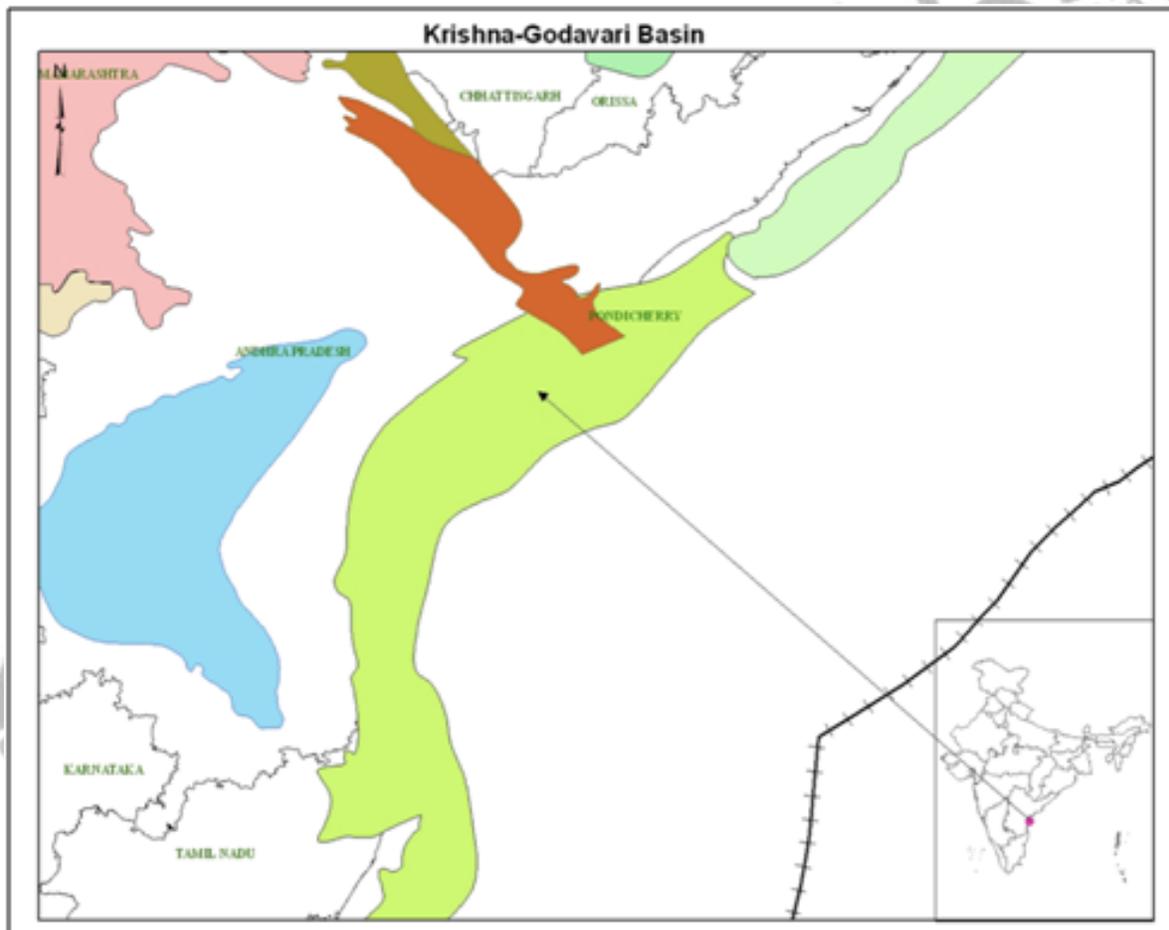
However, going forward all telecom equipments especially those used for 5G services will be strictly scrutinized.

## 4.3 GAS PRODUCTION AND NEW TARRIF STRUCTURE

**Why in News:** Reliance Industries Ltd (RIL) and British Petroleum (BP) have announced the start of gas production from R cluster in the Krishna Godavari D6 (KG-D6) block.

### **Krishna Godavari basin**

- The delta plain formed by Krishna and Godavari rivers in the state of Andhra Pradesh and the adjoining areas of Bay of Bengal is known as Krishna Godavari Basin.
- It is a proven hydrocarbon reserve, with an inland part that covers an area of 28,000 sq. km and an offshore (located in the sea or near the coast) part that covers an area of 2 lakh sq. km. Several oil and gas fields are located both on land and offshore parts of the basin.
- The region is primarily known for the D-6 block where Reliance Industries discovered the biggest natural gas reserves in India.



### **Latest Update**

- Reliance Industries Ltd (RIL) and British Petroleum (BP) have announced the start of gas production from R cluster in the Krishna Godavari D6 (KG-D6) block. Located at a depth of more than two kilometers, the R Cluster is the deepest offshore gas field in Asia.
- R Cluster is the first of three deep water gas projects in the KG-D6 block jointly developed by RIL and BP. The other two clusters are Satellites Cluster and MJ.
- Production of gas from the R cluster was expected to start in May 2020 but was delayed due to the impact of the Covid-19 pandemic. The Satellite cluster is expected to start production in 2021. RIL has a participating interest of 66.7% in the KG-D6 block and BP has a participating interest of 33.3% in the block.

### Significance

- In FY20, demand for natural gas in India was around 153 MMSCMD and around half the demand was met through imports. Increasing domestic production of natural gas is important to reduce India's dependence on imports and improve energy security.
- The three clusters mentioned above are a key part of the plan to boost domestic production of natural gas and to increase the share of natural gas in India's overall energy consumption from 6.2% now to 15% by 2030.
- The three clusters in the Krishna Godavari Basin are expected to produce around 30 MMSCMD (Million standard cubic meters per day) of natural gas or about 15% of India's projected demand for natural gas by 2023.
- The R cluster field alone is expected to have a peak production of 12.9 MMSCMSD or about 10% of India's current natural gas output.

**Recent changes in the formula for gas transport tariffs acted as additional incentive to Reliance and BP's investments in these three fields. Earlier, the tariff was based on the distance of transportation of gas - the longer the distance, the higher the charge.**

However, the new regulations have a two-zone tariff structure. There will be one tariff for gas transported within 300 kms and another tariff for gas transported beyond 300 kms from the source of the natural gas.

This will help to make the gas more affordable to customers who are far away from the source of the gas.

**The Petroleum and Natural Gas Regulatory Board (PNGRB) has notified a unified tariff structure for 14 natural gas pipelines. The move is aligned with the government's emphasis on boosting the consumption of natural gas in the country.**

### **Existing tariff structure**

**The existing tariff is based on the distance of transportation of gas - the longer the distance, the higher is the charge.** Due to this, consumers that were at a greater distance had to pay higher charges compared to the consumers who were near the source.

### **New tariff structure**

Under the new unified tariff structure, PNGRB has notified a two-zone tariff structure. Under Zone-1, buyers that are within 300-km from the source of gas (gas field or Liquefied Natural Gas import terminal) will be charged a fixed tariff for the transport of gas.

- Under Zone-II, buyers beyond 300-km from the source of gas will be charged a separate fixed tariff.
- The tariff for Zone-I will be around 40 per cent of the tariff for Zone-II.
- Unified tariff will be determined by the Board for each financial year before the start of the financial year.

### **Impact of the change**

- Entities that are away from the source, for example in Uttar Pradesh, Bihar and especially in the north-east will benefit substantially from the change, as they will now pay a lesser tariff.
- The new tariff structure would help to create a single gas market in the country by attracting investment into gas transmission infrastructure and make it more easily accessible.
- However, it will lead to an immediate increase in tariff for companies which use natural gas as an input and have set up fertilizer units and power plants close to gas terminals on the west coast in Gujarat (near the source).
- The change would have an impact of over Rs 400 crore on fertilizer units located along the Hazira-Vijaipur-Jagdishpur pipeline alone, producing the majority of India's urea output.
- The ministry of fertilizers also pointed out that this would lead to an increase in the subsidy burden on the government.

### **Petroleum and Natural Gas Regulatory Board (PNGRB)**

- **Petroleum and Natural Gas Regulatory Board (PNGRB) is a statutory body constituted under the Petroleum and Natural Gas Regulatory Board Act, 2006.**

- PNGRB was established to protect the interests of consumers and entities involved in activities relating to petroleum, petroleum products and natural gas.
- Its primary functions include regulation of refining, transportation, distribution, storage, marketing, supply and sale of petroleum products and natural gas

#### **4.4 DEDICATED FRIEGHT CORRIDOR**

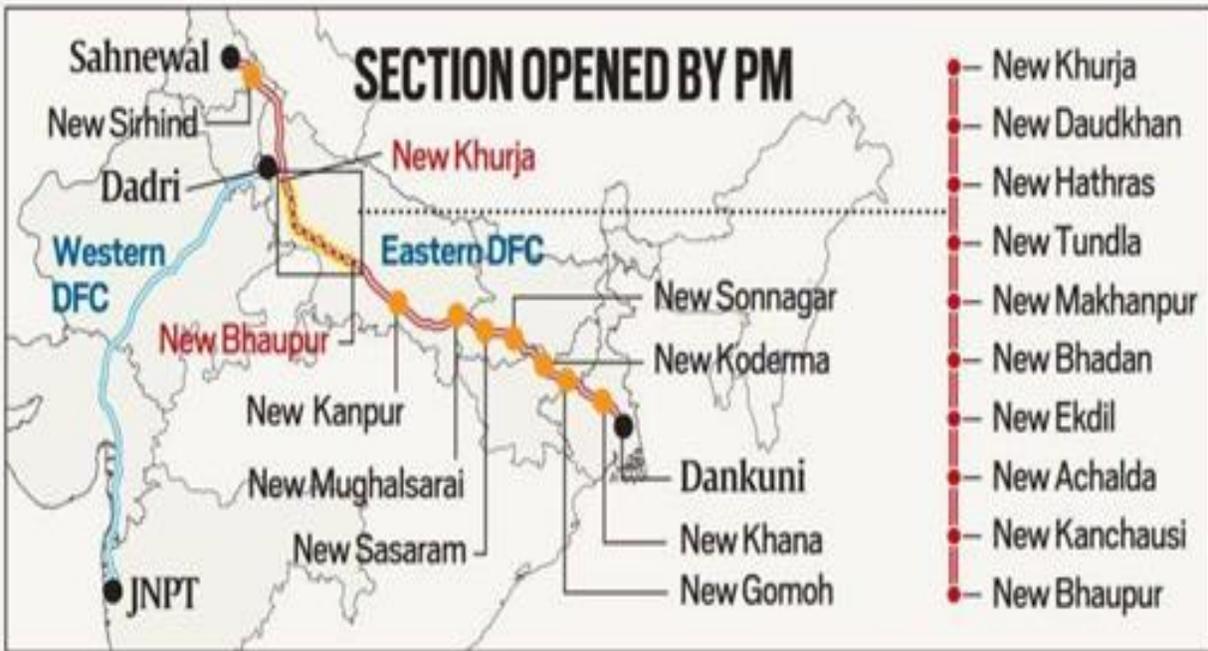
**Why in News:** Prime Minister recently inaugurated the 351-km 'New Bhaupur- New Khurja section' in Uttar Pradesh of the Eastern Dedicated Freight Corridor (EDFC).

He also inaugurated the EDFC's Operation Control Centre (OCC) at Prayagraj, Uttar Pradesh. The OCC will be the command centre for the entire route of the EDFC and will control and monitor all systems, including train operation and power supply system. It is said to be one of the largest control centers in the world.

##### **Dedicated Freight Corridor**

The Dedicated Freight Corridor consists of two arms - Eastern Dedicated Freight Corridor (EDFC) and Western Dedicated Freight Corridor (WDFC).

- **The over 1800-km long Eastern DFC starts at Sohnewal (Ludhiana) in Punjab and ends at Dankuni in West Bengal. It passes through Haryana, Uttar Pradesh, Bihar and Jharkhand.**
- **The other arm is Western DFC of around 1500 km, from Dadri in Uttar Pradesh to Jawaharlal Nehru Port in Mumbai, touching all major ports along the way. It passes through the states of Haryana, Rajasthan, Gujarat and Maharashtra.**
- There is also a section under construction between Dadri and Khurja to connect the Eastern and Western arms.
- **The DFC is being constructed by the Dedicated Freight Corridor Corporation of India Limited (DFCCIL). DFCCIL has been set up as a special purpose vehicle to build and operate dedicated freight corridors.**
- The World Bank is funding majority of the EDFC and the WDFC is being funded by the Japan International Cooperation Agency.



### Need and Benefits of DFC

- Farms, industries as well as markets all are dependent on freight movement and the railways have always played a big role in it.
- Currently passenger and freight trains run on the same track, due to which passenger trains are stopped at stations to allow the freight trains to pass.
- This not only leads to delay of passenger trains, but also for freight trains due to lower speeds and frequent stops, which increases the cost of freight movement.

### Benefits of DFC

- Around 70% of the freight trains currently running on the Indian Railway network will shift to the freight corridors after its completion and freight trains will run three times faster on the DFC.
- This will improve the punctuality of passenger trains as well as freight trains and create space for more passenger trains.
- As tracks on DFC are designed to carry heavier loads, they will be able to transport twice the amount of freight by running double-decker trains.
- Since freight trains will reach on time and carry more load, it will bring down the transportation costs, leading to reduction in cost of various goods.
- **The boost in connectivity with the development of the freight corridor will also help Kisan Rail and farmers to transport their harvest on time.**

- It will also increase the ease of doing business and attract greater foreign investment.

The newly opened section will help to decongest (reduce the load) on the existing Kanpur-Delhi main line and enable trains to run faster. The Kanpur-Delhi main line currently handles trains at 150% of its line capacity.

68 existing level crossings have been eliminated on this section to improve speed. This makes it the only major section on Indian Railways that is free from any permanent or temporary speed restrictions. This can be used as an example for rest of the DFC, to make stretches free from speed restrictions, or “cautions” as they are termed in Railways.

The new section will support the freight traffic originating from key centers such as Kanpur Dehat, Aurayia, Etawah, Firozabad, Hathras, Aligarh and Bulandshahr. It will help the existing industrial areas of Aligarh, Khuja, Firozabad, Agra and Bhaupur to become major growth centers of the area.

Work is in progress on different sections of the DFC and they are at different stages of completion. Several sections are expected to begin operations in the next two years.

## 4.5 ZERO COUPON BONDS

**Why in News:** Recently, the government has used an innovative financial instrument to recapitalise Punjab & Sind Bank. Bank re-capitalisation, means investing more capital (money) in banks to improve their balance sheet

A Special Type of Zero Coupon Bonds (non-interest bearing bonds) worth Rs 5,500 crore were issued by the government.

### Zero Coupon Bonds

- In the context of bonds, the coupon is a periodic interest received by a bond-holder, from the time of issuance of the bond till the maturity of the bond.
- Zero coupon bonds, also known as discount bonds, do not pay any interest to the bondholders. Instead, the holders get a large discount on the face value of the bond.
- On maturity, the bondholder receives the face value of his investment. In simple words, the investor purchasing a zero coupon bond, profits from the difference between the buying price and the face value.

### Face Value of the bond

- Face value, also known as par value is the amount of money stated on a bond. For example, if a bond certificate says \$1,000, the face value is \$1,000.
- Bonds pay the face value at maturity, and calculate coupons (interest) as a percentage of the face value.
- Many bonds are issued at their face value, but discount bonds are not issued at face value but at a price lower than the face value.
- Example: A Zero Coupon Bond of \$1,000 face value may be offered at a discounted price of \$950. A buyer of the bond can buy it at \$950, but he will get no periodic interest on them till the bond matures, but when it matures he will receive \$1,000.

### News Update

- The Central government has taken up a novel re-capitalisation exercise to provide Rs 5,500-crore support to state-owned listed Punjab & Sind Bank.
- On the one side, the government will subscribe to equities worth Rs 5,500 crore to be issued by the bank on a preferential allotment basis (PSB Board approved this in November). On the other hand, the bank has been asked to subscribe to 'non-interest bearing' and 'non-transferable' Special GoI securities (Special Type of Zero Coupon Bonds) maturing from 2030-35 and with aggregate maturity amount being Rs 5,500 crore.
- These securities have since been issued in the name of Punjab & Sind Bank. This way, the bank will have Rs 5,500 crore on its account while the government does not have to release any money now.

### Difference from traditional zero coupon bonds

The zero coupon bonds issued to P&S bank are different from traditional zero coupon bonds, as they are being issued at par (on par value/face value) and not at a discount. Normally zero coupon bonds are issued at a discount (at a price lower than the par or face value) and are tradable.

These bonds will be held under the held-to-maturity (HTM) category of the bank. Held-to-maturity (HTM) securities are purchased to be owned until maturity and are not tradable.

Put simply, Punjab & Sind Bank will not earn interest income during the tenure of these non-interest bearing special securities, but having these bonds on its account helps it in its lending operations.

It is a rarest of the rare situation in which the government re-capitalisation exercise has been done through securities that do not give interest to the subscribing entity or institution. Through this innovative way, the fiscal deficit numbers of the government are not impacted and at the same time provide much needed equity capital to the banks.

The re-capitalisation will increase the lending capacity of the bank and will facilitate the bank to use this capital to expand its banking activities for agriculture, rural and MSME sectors. This government support will help Punjab & Sind Bank improve its capital adequacy, but when it comes to assessing performance of the bank on return on assets, it will be seen in poor light as no interest income is coming the way of the bank.

However, the experts also warn that this may not be a permanent solution for the banking sector's problems.

## 4.6 MUNICIPAL BONDS

**Why in News:** The Vadodara Municipal Corporation (VMC) is expected to launch municipal bonds in January, 2021.

VMC will become the third Urban Local Body (ULB) in Gujarat to use this method to raise money to fund development work sanctioned under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT).

Ahmedabad was the first city in south Asia to launch a municipal bond of Rs 100 crore in 1998. Surat Municipal Corporation was the second city in Gujarat to announce bonds in 2018, to fund a sewage treatment project worth Rs 450 crore. Other ULBs that have issued municipal bonds are Lucknow, Pune and Indore.

### Municipal bonds

A municipal bond is a kind of debt instrument where investors give loans to local governments (ULBs). It helps to raise funds from the stock market. Bidding takes place on an electronic trading platform after the bond is listed on the exchange.

Municipal bonds are issued by civic bodies for specific projects and usually have 10-year tenure. The ULB pays the annual interest on the bonds to the investor at the decided rate. The face value (cost) of each instrument slot (piece) of a municipal bond is a minimum of Rs 10 lakh.

Bonds are issued to institutional and high net worth individuals. It can be subscribed to (purchase) by a single investor or multiple investors.

### **Municipal bonds under AMRUT Scheme**

- The bonds are an integral part of the AMRUT scheme and the urban local bodies are encouraged to use the bond market for funding.
- Under AMRUT, ULBs are paid Rs 13 crore for every Rs 100 crore raised via bonds, subject to a maximum limit of Rs 26 crore for each ULB.
- This incentive helps the ULBs to repay the lender, including the interest component on the bond.

### **Conditions for approval of bonds**

- The bonds can only be issued after an in-depth analysis of the debt paying capacity of the ULB, which is based on various parameters including the balance sheet for the past five years.
- Credit rating firms assess the financial health of the ULBs and give credit ratings. This indicates that the ULB has the capacity to repay the annual amount owed to the lender.
- AA++ is considered to be the best rating — which was given to Ahmedabad and Surat in Gujarat. The next best rating is the AA rating.
- It is compulsory to open an escrow account, in which the Central government transfers all the annual incentives (Rs 13 crore per Rs 100 crore bond issued) so that the payment to be made to the investor is assured.
- An escrow account is a third party account where funds are kept before they are transferred to the actual beneficiary.
- It provides security against scams and frauds especially with high asset value and dispute-prone sectors like real estate.
- ULBs also share an information memorandum that carries details of the ULB and its financial performance.

### **Benefits of municipal bonds**

The difference between a bank loan and a municipal bond is that an institution can issue a bond only if it has favourable credit ratings. The bond also increases the number of investors available to the civic body, as compared to a loan from a single bank. Bonds lead to transfer of funds from the Centre, increase in transparency and efficient revenue generation

### **AMRUT**

- Atal Mission for Rejuvenation and Urban Transformation (AMRUT) was launched in 2015 for urban transformation by implementing urban revival projects.

- Its purpose is to:
  - Ensure that every household has access to a tap with the assured supply of water and a sewerage connection.
  - Increase the amenity value of cities by developing greenery and well maintained open spaces (e.g. parks) and
  - Reduce pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling).

#### **Focus areas**

- Water Supply
- Sewerage management
- Storm water drainage to reduce flooding
- Non-motorized urban transport
- Green space/parks

### **4.7 PM SVANidhi**

**Why in News:** The government is planning to launch the 'Main Bhi Digital (me too digital)' drive in the new year to enable over a million street vendors across India to accept and make payments digitally.

#### **Prime Minister Street Vendors Atma-Nirbhar Nidhi Scheme (PM SVANidhi)**

- **Background**
- Street vendors represent a very important constituent of the urban informal economy and play a significant role in ensuring availability of the goods and services at affordable rates at the door-step of the city dwellers.
- The COVID-19 pandemic and consequent lockdowns have adversely impacted the livelihoods of street vendors. They usually work with a small capital base and might have consumed the same during the lockdown.
- Therefore, there is an urgent need to provide credit for working capital to street vendors to resume their business.

#### **Objective**

- Its objective is to provide affordable working capital loan to street vendors to resume their livelihoods that have been adversely affected due to Covid-19 lockdown.

- It aims to empower Street Vendors by not only extending loans to them, but also for their holistic development and economic upliftment.
- The street vendors can achieve their ambition of going up the economic ladder by availing the facility of enhancement of the credit limit on timely/ early repayment of loan.

### Features

PM SVANidhi was launched by the Ministry of Housing and Urban Affairs on June 01, 2020 and has a sanctioned budget of Rs 700 crore.

The scheme intends to facilitate collateral free working capital loans of up to INR10,000/- of one-year tenure, to approximately 50 lakh street vendors, to help resume their businesses in the urban areas, including surrounding peri-urban/rural areas.

### Beneficiaries

This scheme targets to benefit over 50 lakh Street Vendors who had been vending on or before 24 March, 2020, in urban areas including those from surrounding urban/rural areas.

### Benefits

- Under the Scheme, the vendors can avail a working capital loan of up to Rs. 10,000, which is repayable in monthly installments in the tenure of one year.
- The loan needs to be repaid within a year under the scheme.
- On timely/ early repayment of the loan, an interest subsidy @ 7% per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on quarterly basis.
- There will be no penalty on early repayment of loan and upon repayment, a vendor is eligible for another Rs 10,000 as loan.
- The scheme promotes digital transactions through cash-back incentives up to an amount of Rs. 100 per month.
- **Implementing Agency:** Small Industries Development Bank of India (SIDBI) is the Implementation Agency for PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi).
- SIDBI will implement the PM SVANidhi Scheme under the guidance of MoHUA.
- It will also manage the credit guarantee to the lending institutions through Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE).
- It will develop and maintain a customized and integrated IT Platform providing end-to-end solutions, including documentation of all the processes and workflows for an end-to-end solution, through a Portal and a Mobile App, to ensure engagement and information flow between Urban Local Bodies (ULBs), Lending Institutions, Digital Payment Aggregators and other stakeholders.

PM SVANidhi scheme for street vendors was successful: Launched in June, 2020, to facilitate collateral-free working capital loans to street vendors, the Prime Minister Street Vendor's Atmanirbhar Nidhi (PM SVANidhi) was a big success.

As per official data, 12 lakh street vendors have already availed of the loan while the total number of applicants has crossed 30 lakh (of about an estimated 60 lakh estimated number of street vendors).

- Government data show that around 46 per cent of the street vendors who have applied for the loan so far are fruit and vegetable sellers, while some 21 per cent sell fast food.
- Over 41 per cent are women.

### **Digital payments adoption low**

However, available data show that only 20 per cent of the beneficiaries are digitally enabled. Even among those who accept payments digitally, not all use digital payments to purchase material.

### **Latest Update**

With PM SVANidhi's scheme's success in mind, the government of India is now launching drive to get street vendors to accept and make payments digitally.

As part of the 'Main Bhi Digital (me too digital)' drive, between January 4 and 22, over 10 lakh street vendors across the country who have availed loan under PM SVANidhi scheme will be trained in using digital payments.

### **Main Bhi Digital (me too digital) drive**

- The government seeks to enable the vendors to not just receive payments digitally but also to pay for material they procure from sellers using unique QR codes.
- The mobile phones of the vendors will be equipped with the software needed for the transactions, and training provided to them on safe and secure payments.

# 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



**KAVISH IAS**  
Converting Possibilities into Reality

## 5.1 VIRUS VARIANT

**Why in News:** The emergence of corona-virus variants, first in the United Kingdom and later in South Africa, has increased COVID-19 restrictions across the globe.

The new variant circulating in UK is being referred to as VUI (Variant Under Investigation) 202012/01, and has been reported to have the capability of transmitting faster among people.

**This variant is defined by 14 mutations and three deletions in its genetic material. One particular mutation, called N501Y, is particularly concerning. According to the World Health Organization (WHO), other than N501Y, mutations that may influence the transmissibility of the virus in humans are P681H and HV 69/70.**

### Virus Variant vs. New Virus Strain

#### Virus Strain

- In the current context, the term "strain" can be used while referring to Sars-Cov-2 – the main virus causing COVID.
- The Sars-Cov-2 is a strain of the larger family of corona-viruses, which have been around for a long time.
- Various strains of the corona-virus family can cause a variety of illnesses, from a mild cough to severe respiratory illnesses, including Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS).
- Other viruses like influenza and rotavirus also produce many different strains.
- A new virus strain is more concerning, as in biological terms, it is a subtype of a species of microorganisms. For example, in the beginning, Sars-Cov-2 was thought of as a variant of a previously well-known Sars-Cov but later identified as different enough to be subtype and hence named as Sars-Cov-2.

#### Variant of a virus

- A variant of a virus means it has slight genetic changes, but the changes are not enough to be classified as a "new strain".
- Various variants of Sars-cov-2 have been in the news recently, with the UK variant being the most prominent and the most contagious so far.

### Mutation

Mutations are a change in the genetic material in (the genome) of a cell or virus and viruses often mutate in small ways while replicating or making copies of itself.

Mutations in viruses are common and a normal part of the virus life cycle through which a strain develops new variants. In the majority of the cases, viral mutations do not have any impact on the way the virus affects individuals. In fact, in many cases, the mutation could actually make a virus less effective.

However, in certain instances, a mutation could give the virus an advantage - which may be happening in the United Kingdom. In such cases, the changes results in a virus variant that adapts to its environment in a better way compared to the original virus.

### **Mutations in RNA virus**

- In an RNA virus such as SARS-CoV-2, proteins are made of a sequence of amino acids. Such a virus contains some 30,000 'base pairs'.
- A change in this base can be a mutation, effectively changing the shape and behaviour of the virus.
- RNA viruses, like those causing flu, measles and Covid, are more likely to mutate as compared to DNA viruses, which cause diseases such as herpes or smallpox.

### **Types of mutations**

Mutations are common, but the majority of them cause no alteration in the structure of the proteins: these are called 'synonymous' mutations, as they eventually translate to the same amino acids.

Another type is 'non-synonymous' mutation, which could lead to a change in the amino acid. In the variant circulating in the UK, there are six synonymous alterations and fourteen non-synonymous mutations. In addition, there are three 'deletions' (amino acids removed from the sequence).

### **N501Y mutation**

One particular mutation, called N501Y, in the UK variant of the virus is particularly concerning. **Understanding N501Y:** In simple words, the amino acid represented by the letter N, and present at position 501 in the corona virus genetic structure, has been replaced in that position with another amino acid, represented by Y.

- The position where this change has taken place is in the spike protein's receptor-binding domain. This is where the spike protein makes first contact with the surface of the human body's cells.

- This is an indication that the changes may, theoretically, result in the virus becoming more infectious and may lead to a quicker spread of COVID between people. The mutated virus reportedly accounts for 60% of recent infections in London.
- **According to the Global Initiative on Sharing Avian Influenza Data (GISAID) database, the same mutation in the receptor binding region has been independently reported in several countries including South Africa and Australia.** Analysis has shown that this mutation originated separately in the UK and South Africa.

### **P681H mutation**

- This mutation has occurred in the amino acid present at 681 — another position in the receptor-binding domain. Here the amino acid P has been replaced with H.
- The WHO has said this mutation is of “biological significance”, as this mutation can promote entry into respiratory cells.
- This variant has been found in Nigeria, however, there is no evidence to suggest that the P681H variant is contributing to increased transmission of the virus in Nigeria.

### **HV 69/70 mutation**

- This mutation is the result of a deletion of amino acids at positions 69 and 70. These positions are again in the spike protein of the virus.
- This deletion has been observed in France and South Africa as well. The Genomics Consortium UK (CoG-UK), has said that this deletion was also seen in a mink-associated outbreak in Denmark.
- According to CDC, this double deletion likely leads to a change in the shape of the spike protein.
- In humans, this deletion has been associated with another mutation, N439K, which again occurred in the receptor-binding domain.

The WHO has highlighted that this deletion can affect the performance of some RT-PCR tests that detect the novel corona virus. **However, the WHO has also said, that since most RT-PCR tests use different ways to detect the virus, the impact of the variant on detection through tests is not expected to be significant.**

### **Impact on vaccine development**

As per WHO, at present adequate information is not there to determine if the variants are associated with any change in severity of clinical disease, antibody response or vaccine efficacy. Laboratory studies are being conducted to determine whether these variant viruses have different biological properties or alter vaccine efficacy.

The CDC has said vaccines approved by the US Food and Drug Administration (FDA) are “polyclonal”, i.e. they produce antibodies that target several parts of the spike protein. Thus, the virus will have to accumulate multiple mutations in the spike protein to overcome immunity developed by vaccines or by natural infection.

### Measures in India to deal with new variants

- Due to the new mutations in the SARS-CoV-2 strain, a meeting of the National Task Force (NTF) on COVID-19 was recently conducted in India.
- The NTF has decided that 5% of the positive cases from all the States and Union Territories would now be sent for whole genome sequencing (WGS).
- **Genome sequencing is the process of identifying the complete DNA sequence of an organism's genome at a single time.** This is in addition to more than 50 samples of people who recently returned from UK, that are currently under sequencing.
- The NTF also recommended the setting up of a ‘Genomic Surveillance Consortium’ (INSACOG) to map the various strains circulating in India.

## 5.2 NATURE INDEX 2020

**Why in News:** The Nature Index 2020 Artificial Intelligence was recently released by 'Nature Research'.

### Nature Research

- Nature Research is a division of the international scientific publishing company Springer Nature that publishes academic journals, magazines, online databases, and services in science and medicine.
- Nature Research's flagship publication is Nature, a weekly multidisciplinary journal first published in 1869.
- Nature, an international journal, publishes high quality research in all fields of science and technology. It also provides authoritative and insightful news and interpretation of current and upcoming trends affecting science, scientists and the wider public.

### Nature Index (Artificial Intelligence)

- The Nature Index is a database of author affiliation information, tracking contributions of authors (of research) to research articles published in 82 high-quality natural-science journals.

- The Index provides counts of article publication at the institutional and national level and is an indicator of global high-quality research output and collaboration of various institutions and nations.
- The Artificial Intelligence supplement explores artificial intelligence (AI), one of the most rapidly advancing and controversial topics in scientific research.
- The articles tracked for Nature Index 2020 Artificial Intelligence supplement are primarily related to the application of AI to research in the broad fields of chemistry, the physical sciences, life sciences, and Earth and environmental sciences.

### Nature Index metrics

The Nature Index uses Count and Share to track research output.

- **Count:** A country/territory or an institution is given a Count of 1 for each article that has at least one author from that country/territory or institution.
- **Share:** To obtain a country's or an institution's contribution to an article, and to ensure they are not counted more than once, the Index uses Share. It is a fractional count that takes into account the share of authorship on each article.
- For instance, if an article has 10 authors, that means that each author (and the institution/country she represents) receives a Share of 0.1

### Significance

- Users of the Nature Index are those with an interest in the origin of high-quality scientific research from around the world.
- It helps them to track the amount of high quality research taking place across the world and gives them an idea on which countries/research organisations performing the best.
- It also provides institutions an easy means to highlight some of their best scientific research.

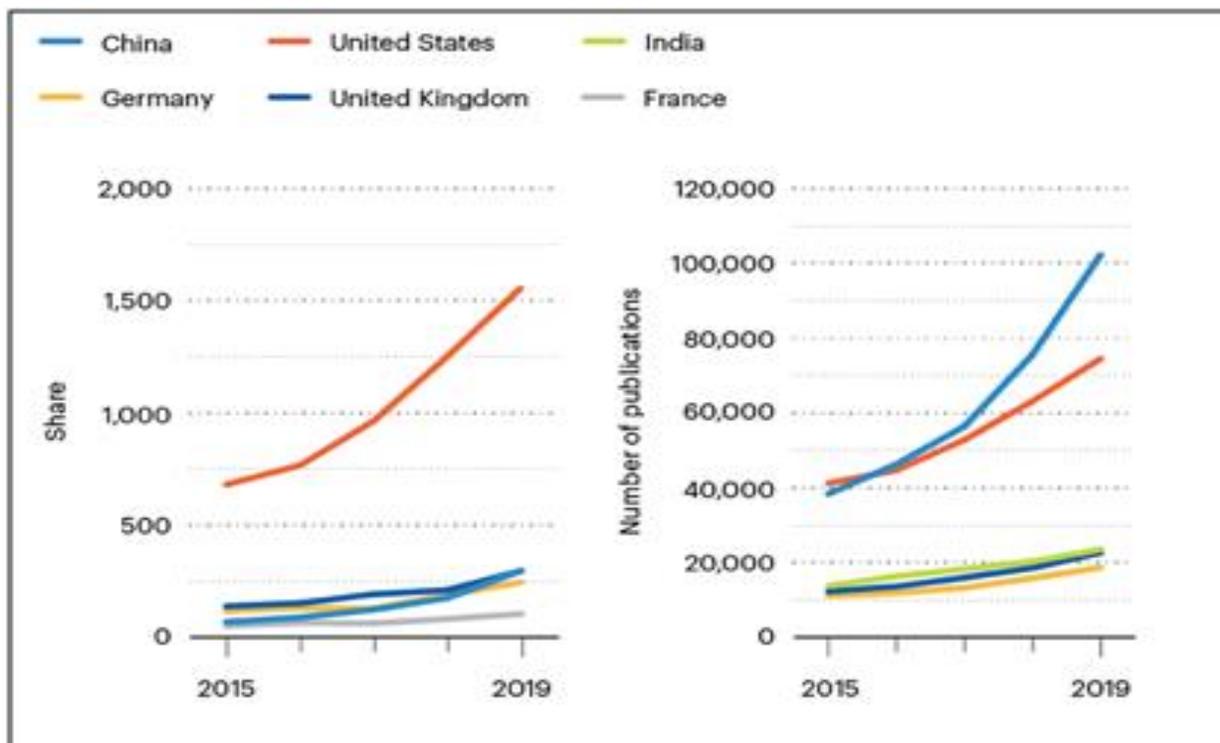
### Nature Index 2020 Artificial Intelligence

#### Highlights

The United States has historically been the leader in AI-related research output, accumulating the highest number of publications over the past two decades. Between 2015 and 2019, in terms of global output for AI research, the US was the leader, with the UK, Germany and China in second, third and fourth place, respectively.

In each year from 2016 to 2019, China produced more AI-related papers than any other nation. Over this period, China's output of AI-related research increased by just over 120%, whereas output in the US increased by almost 70%.

In 2019, India has been the third most productive country in AI research, with over 23,000 papers. On the overall AI Index, it is at the 20th position in a list dominated by European countries.



AI's influence continues to grow, but there is lack of diversity of researchers in the field. As of 2019, fewer than 14% of AI research authors were women.

Researchers in East Asia, Europe and North America authored 86% of papers published in 2018 and researchers in regions including Latin America, the Caribbean, the Middle East, north Africa, sub-Saharan Africa and south Asia represented the remaining 14%.

Due to this lack of diversity, the world will miss the perspectives that could shape the solutions to the current and future challenges. Thus, it is important to create structures that will support long-term, positive changes.

### 5.3 INDIA INTERNATIONAL SCIENCE FESTIVAL

**Why in News:** Prime Minister Narendra Modi inaugurated the sixth India International Science Festival (IISF). The theme for this year's festival is 'Science for Self-Reliant India and Global Welfare'.

This year's festival aims to promote Atma Nirbhar Bharat and global welfare through science, technology and innovation.

### **IISF**

- The idea of IISF was conceived and initiated by Ministry of Science & Technology and Ministry of Earth Sciences, along with Vijnana Bharati (VIBHA), in the year 2015.
- It was decided that one of the departments of Ministry of Science and Technology and Earth Sciences will organize this festival annually, along with the cooperation of other departments of ministries and the VIBHA.
- The festival aims to engage common people of the country to celebrate the achievements and advancements of India's Science & Technology and project it globally.
- The goal of the festival is to help youth to develop 21st century skills, with a focus on scientific knowledge, creativity, critical thinking, problem-solving, and teamwork.
- A long term objective is to encourage students to study and work in scientific fields.

### **Summary of PM's speech on Scientific Innovation**

The PM said that the biggest long term challenge for science is to attract and retain quality youngsters. He said that India has a rich legacy in science, technology and innovation and shared that the government's efforts are aimed at making India the most trustworthy centre for scientific learning.

The PM stressed on the need for increased cooperation between science and industry, and invited the global community to invest in Indian talent and innovate in the country. He highlighted that the country has data, demography, demand and democracy to achieve world-class scientific solutions.

With digital advances, the Prime Minister said, India is becoming a centre of evolution and revolution of global hi-tech power.

### **Measures to improve scientific ecosystem in the country**

For quality research, the government is running the Prime Minister's Research Fellows Scheme to encourage the country's best talent to undertake research as per their talent and interest.

The new National Education Policy will help to build scientific temper from an early age, with the focus of education shifting from outlays (funding) to outcome, and from textbooks to

research and application. **The National Education Policy will also encourage creation of a pool of top quality teachers, which will help upcoming scientists.**

**Atal Innovation Mission and Atal Tinkering labs being developed in schools across the country, is helping to upgrade the scientific infrastructure. Atal Incubation Centers are also being created for higher education facilities.**

### **Atal Innovation Mission**

Atal Innovation Mission (AIM) is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the country. AIM's objective is to serve as a platform for the promotion of innovation hubs, grand challenges, startup businesses and other activities, particularly in technology driven areas.

AIM has the following programs to encourage and support innovation in the country.

- Atal Tinkering Labs
- Atal Incubation Centers
- Atal New India Challenges and Atal Grand Challenges
- Industry, Academia, Government and Global Collaboration

### **Atal Tinkering Labs**

**Atal Tinkering Laboratories (ATLs) are established in schools across India with a vision to cultivate one million children in India as new innovators.**

**The aim is to have at least one or more Atal Tinkering Labs in each district of the country.** The objective of this scheme is to promote curiosity, creativity, and imagination in young minds and develop skills such as design mindset, computational thinking etc.

ATL is a workspace where young children can give shape to their ideas through hands-on do-it-yourself mode, and learn innovation skills. They also get a chance to work with tools and equipment to understand the concepts of STEM (Science, Technology, Engineering, and Math).

### **Eligibility**

Schools (minimum Grade VI-X) managed by Government, local body or private trusts or societies are eligible.

### **Atal Incubation Centers (AIC)**

Atal Incubation Centers (AICs) are set up to support innovative startup businesses and help them to become sustainable enterprises. The AICs create incubation facilities across various parts of India with suitable physical infrastructure in terms of capital equipment and operating facilities.

They also provide sectoral experts for mentoring startups, business planning support, access to capital and industry training required for encouraging innovative startups.

### **Eligibility**

Higher educational institutions, R&D institutes, corporate sector, alternative investment funds registered with SEBI, business accelerators, group of individuals, and individuals are eligible to apply.

### **Atal New India Challenges and Atal Grand Challenges**

To promote technology driven innovations and product creation for social and commercial impact, Atal New India Challenges / Atal Grand Challenges are being launched in specific areas and sectors of national importance. AIM is also partnering with corporate and other institutions to launch such challenges to promote new product and service development in various sectors.

### **Prime Minister's Research Fellows Scheme (PMRFS)**

- PMRFS has been designed for improving the quality of research in various higher educational institutions in the country. The scheme was announced in the Budget 2018-19. With attractive fellowships, the scheme seeks to attract the best talent into research and achieve the vision of development through innovation.
- The institutes which can offer PMRF include all the IITs, all the IISERs, Indian Institute of Science, and some of the top Central Universities/NITs that offer science and/or technology degree.

## **5.4 COMMUNICATION SATELLITE (CMS-01)**

**Why in News:** ISRO has successfully launched its 42nd communication satellite 'CMS-01' on PSLV-50 rocket.

### **Communication Satellites**

- A communication satellite is an artificial satellite and a self contained communication system with the ability to receive signals from Earth and to re-transmit those signals back to the Earth (with the use of a transponder).

- A transponder is an integrated receiver and transmitter of radio signals in a communication satellite. Most communication satellites are placed in geostationary orbits 36000 km above the equator.
- A geostationary orbit is a circular orbit 36,000 km above the Earth's equator in which a satellite's orbital period is equal to Earth's rotation period of 23 hours and 56 minutes. Thus, any object in this orbit appears to an observer on Earth to be stationary.
- Placing these satellites in such a high orbit allow for the potential coverage of one-third of the earth's surface.

### **INSAT**

The Indian National Satellite (INSAT) system is one of the largest domestic communication satellite systems in Asia-Pacific region. It contains operational satellites of the INSAT and GSAT series, as well as the newly named CMS series of satellites.

### **PSLV**

- Polar Satellite Launch Vehicle (PSLV) is the third generation launch vehicle of India. It is the first Indian launch vehicle to be equipped with liquid stages. Initially, the PSLV had a carrying capacity of 850 kg, and over the years it has been enhanced to 1.9 tones.
- PSLV has been in use since 1994, and has built a reputation for reliability. In the last 26 years, the PSLV had lifted more than 52 tones into space, while failing only twice in its history.
- PSLV has earned the title of 'Work Horse of ISRO' through consistently delivering various satellites to Low-Earth orbits.

### **Wide variety of missions**

- PSLV has been consistently delivering various satellites to Low Earth Orbits, particularly the remote sensing satellites.
- PSLV has also been used to launch various satellites into Geosynchronous and Geostationary orbits, like satellites from the IRNSS constellation.
- Besides, the vehicle successfully launched two spacecraft – Chandrayaan-1 in 2008 and Mangalyaan (Mars Orbiter Spacecraft) in 2013 – that later traveled to Moon and Mars respectively. PSLV is not a reusable rocket and crashes into Indian Ocean at the end of its mission.

### **News Update**

ISRO has successfully launched its 42nd Communication Satellite-CMS-01 from Satish Dhawan Space Centre. This is ISRO's second launch amid the Corona virus Pandemic.

In November, ISRO launched 10 satellites, including India's 'EOS-01' which is an Earth Observation Satellite that will provide for agriculture, forestry and disaster management support.

### **CMS-01**

CMS-01 is the first in a new series of communication satellites that India is set to launch after the GSAT and INSAT series. It will replace the GSAT-12 satellite which is at the end of its lifecycle.

GSAT-12 was launched in 2011 and was supposed to serve 7 years, but it ended up serving nine years.

CMS-01 is expected to have a lifespan of seven years.

It will provide telecom services to the Extended-C band of the frequency spectrum.

Extended C-Band coverage will include Indian mainland, Andaman and Nicobar and Lakshadweep Islands.

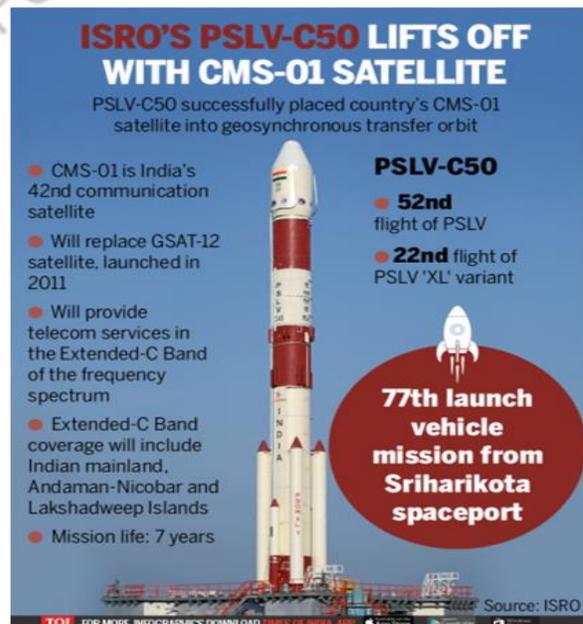
CMS-01 will finally be set in the Geostationary orbit (GEO) at 83 degree inclination.

## **5.5 3D PRINTING POLICY**

**Why in News:** The Ministry of Electronics and Information Technology (MeitY) will soon come up with a policy aimed at promoting 3D printing on an industrial scale.

### **Objectives of the policy**

- The policy will help to develop an ecosystem for design, development and deployment of 3D printing in the country.
- It will look to encourage market leaders to establish global bases for 3D manufacturing in India. It will also discourage imports of printed material for domestic requirements.



- The policy will also help domestic companies to overcome technical and economic barriers so that they can build supportive facilities for world leaders in the technology, such as the US and China.

### **3D Printing**

- Three-dimensional (3-D) printing is an additive manufacturing process that creates a physical object from a digital design.
- The term 3D printing can refer to a variety of processes in which material is deposited, joined or solidified under computer control to create a three-dimensional object.
- The process works by laying down thin layers of material in the form of liquid or powdered plastic, metal or cement, and then fusing (join) the layers together.

### **Advantages of 3D printing**

3D printing offers a significant advantage over traditional fabrication, as it does not require expensive tools used in milling processes.

Another key advantage is the ability to produce very complex shapes or geometries that would be otherwise impossible to construct by hand. Moreover, it leads to less generation of waste.

### **Disadvantages of 3D printing**

The disadvantages of 3D printing include low production rates, less precision and surface polish than parts manufactured by machines.

Only a limited range of materials can be processed in 3D printing and there are severe limitations on the size of parts that can be made inexpensively and without distortion.

### **Applications of 3D printing**

- 3D printing has applications in the auto and motor spare part industry, such as engines, interior and exterior parts of luxury vehicles, turbine blades etc.
- It is already being used in the aircraft industry. The U.S. and Israeli air forces have used 3-D printers to manufacture spare parts.
- It can be used in consumer electronics, printed circuit boards, clothing, toys and jewellery as well.
- In the fashion world, Nike, Adidas are using 3-D printing to create prototypes (models) of their shoes.

- In medical sciences, 3-D printing is being used to customize implants. In the future, organs and body parts may be created using 3D printing techniques.
- The use of 3-D printing accelerates the process of manufacturing and enables manufacturers to make custom hearing aids.
- In the construction industry, companies around the world are using 3-D printing to build homes. Using layers of concrete, homes can be built in 48 hours.

### **Global market of 3D printing**

The global market for 3D printing is expected to reach \$ 34.8 billion by 2024 and is growing at an annual growth rate of 23.2 per cent.

Asia leads the world in 3D printing, and about 50 per cent of its market is held by China, followed by Japan at 30 per cent, and South Korea 10 per cent. However, globally, the US remains the leader, with more than 35 per cent market share.

At present, India is at the research and development stage and the technology in India has not yet evolved for strategic industrial integration in sectors like aerospace, which require high accuracy.

# 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



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## 6.1 GI TAG

**Why in News:** The Himachal Pradesh (HP) government is trying to obtain Geographical Indication (GIs) for five products from the state.

### Geographical Indication

**The World Intellectual Property Organisation defines a GI** as a sign that can be used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.

GIs are typically used for agricultural products, foodstuffs, handicrafts, industrial products, wines and spirit drinks. Some examples of GI are, Darjeeling tea, Kullu shawl, Mysore agarbathi, champagne (France), Swiss watches etc.

Internationally, GIs are covered as an element of intellectual property rights under the Paris Convention for the Protection of Industrial Property. They are also covered under the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement.

### Benefits of GI

- Getting a GI tag can provide a better market for the products and also helps to prevent misuse of the product names.
- A GI registration is given to an area, not a trader, but once a product gets the registration, traders dealing in the product can apply for selling it with the GI logo. Authorised traders are given a unique GI number. For example, Kullu shawl has 135 authorised traders and a shawl made in Ludhiana cannot be sold as a Kullu shawl.
- If any unauthorised trader, even from Kullu, tries to sell a shawl under the name of Kullu shawl, he/she can be prosecuted under The Geographical Indications of Goods (Registration and Protection) Act, 1999.
- GIs are also expected to boost or revive the items whose production has declined. This is being aimed in the case of Chamba Chukh and Chamba metal crafts.

### Karsog Kulth

Kulthi or Kulth (horse gram) is a legume grown as a kharif crop in Himachal Pradesh. Kulth grown in the Karsog area of Mandi district is believed to be particularly rich in amino acids.

### Pangiki Thangi

It is a type of hazelnut which grows in Pangi valley located in the north-western edge of Himachal. It is known for its unique flavour and sweetness.

### **Chamba metal crafts**

These include items such as metal idols and brass utensils which, historically, were made by skilled artisans in the courts of kings of Chamba. There are efforts to revive the trade, and a plate made from a brass-like alloy and having carvings of gods and goddesses is still popular.

### **Chamba Chukh**

It is a recipe (chutney) made from green and red chillies grown in Chamba. The recipe is a generation's old, traditional and unique preparation made from sun-dried red chillies or fresh green chillies and is blended with citrus extract from a local fruit.

The practice has largely declined in rural households of Chamba, but survives to some extent at the small-scale industrial level.

### **Bharmouri Rajmah**

It is more specifically called the Kugtalu Rajmah, since it grows in the area around Kugti Pass in the Bharmour region of Chamba district. It is rich in proteins and has a unique flavour.

The Himachal Pradesh (HP) government is trying to obtain Geographical Indication (GIs) for five products from the state. These products are Karsog Kulth, Thangi of Pangi, Chamba Metal Crafts, Chamba Chukh, and Rajmah of Bharmour.

For the Chamba metal crafts, historical literature can help establish their unique characteristics and reputation. For the other four agricultural products, the State will have to identify their distinctive characteristics. Researchers from an agricultural university are helping the state to establish this.

Once the characteristic features of all products are identified, HP will apply for GI status to the central government's Office of the Controller General of Patents, Designs and Trademarks under the Ministry of Commerce and Industry.

## 6.2 MALAYAN GIANT SQUIRREL

**Why in News:** The Malayan Giant Squirrel, found in the forests of India's Northeast, may soon disappear, as per a study by the Zoological Survey of India (ZSI).

### Giant squirrel species in India

Giant squirrels are arboreal (tree-dwelling) and herbivorous like the flying squirrels. However, while the flying squirrels are nocturnal (active during the night, giant squirrels are diurnal (active during the day and sleeping at night).

India is home to three giant squirrel species:

- The Malayan Giant Squirrel - found mostly in Northeast India
- The Indian Giant Squirrel - found in peninsular India
- The Grizzled Giant Squirrel - found in peninsular India

### Malayan Giant Squirrel

- The Malayan giant squirrel (*Ratufa bicolor*), or the black giant squirrel, are tree squirrels, and one of the largest members of the squirrel family.
- They are characterized by their bicolor (deep dark brown to black on the back and a light beige on the underside), distinct larger size and a long, bushy tail.
- They are only found in heavily forested areas, and make its nests in the canopy of tall trees. They are very agile and jump in great leap from tree to tree.
- These diurnal squirrels are found mostly in evergreen and semi-evergreen forests, from plains to hills at elevations of 50 m to 2,000 m above sea level.
- In India, some 20% of the population of the species is found at elevations between 1,500 m and 2,700 m; the rest live in the plains and up to 1,500 m.
- They breed twice yearly, giving birth to one or two offspring.
- Unlike many squirrels, black giant squirrels do not have a tail that curls over its back. Instead, their tail lays limp behind them.

The Malayan Giant Squirrel is found in the forest of India, Nepal, Bhutan, Bangladesh, Myanmar, and Southeast Asian countries of Vietnam, Thailand, Malasia, Indonesia etc. as well as Southern China.

Of the roughly 1.8 lakh sq km of the squirrel's range in Asia, about 8.5 per cent is in India. In India, it is found mainly in the Northeast region in Sikkim, Assam, Arunachal Pradesh, Meghalaya and Nagaland as well as in parts of West Bengal.

### Threats

Black giant squirrels are susceptible to hunting and deforestation (leading to habitat loss).

### Conservation Status:

- IUCN Red List: Near Threatened
- CITES: Appendix II
- Wildlife Protection Act: Schedule II



It is considered to be a “forest health indicator species”, as it is only found in heavily forested areas.

The population of the species indicates the health of the forest, of the vegetation and plants in the forest on which the species feeds, as well as that of the other symbiotic species that inhabit the region.

## 6.3 STATE OF GLOBAL CLIMATE REPORT

**Why in News:** The World Meteorological Organisation (WMO) recently released the provisional 2020 State of the Global Climate report.

The 2020 provisional report is based on temperature data from January to October, 2020. The final 2020 report will be published in March 2021.

### State of the Global Climate report

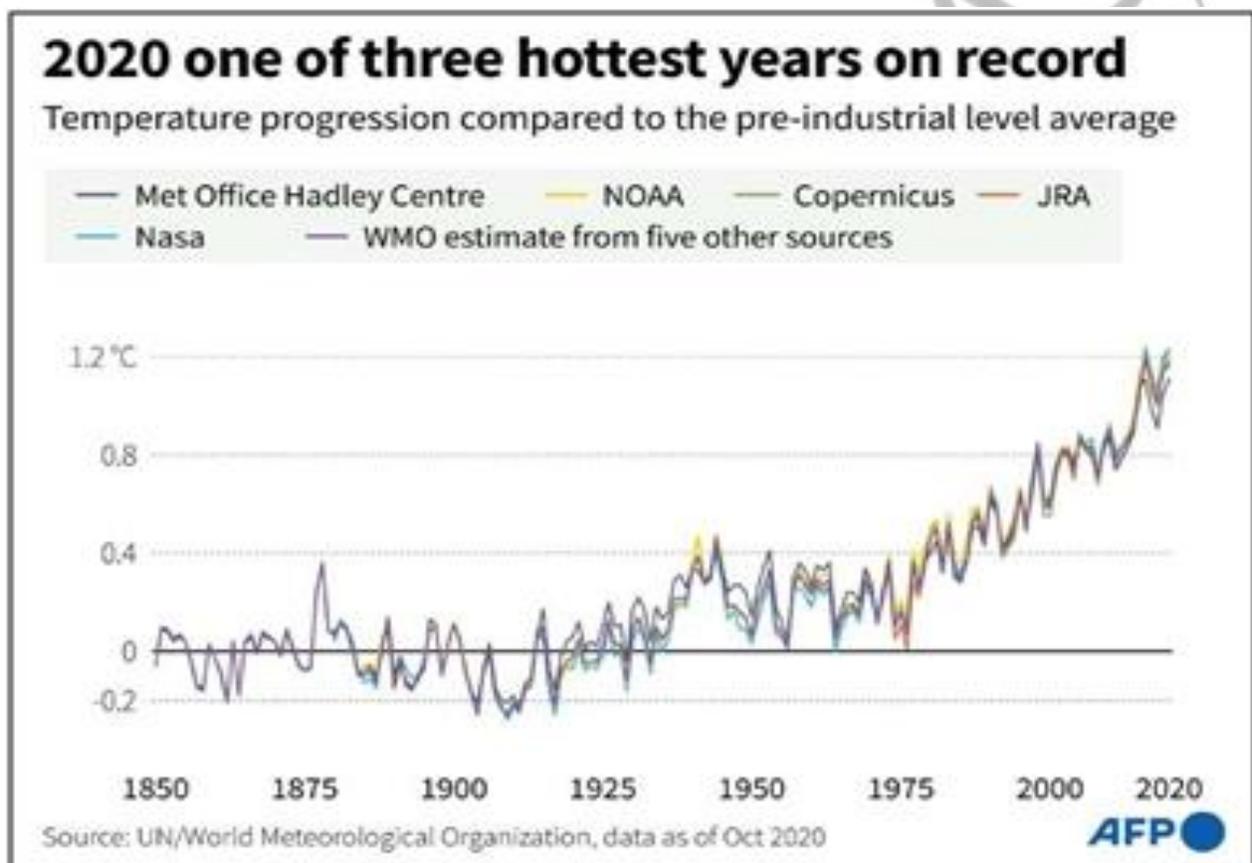
The report uses several global climate indicators to describe the changing climate and provides a broad view of the climate at a global scale.

The report is based on contributions of various international organisations and shows how extreme weather events increase threats to human health and security and economic stability.

### 2020 State of the Global Climate report

### Findings of the report:

- As per the report, 2020 is on track to be one of the three warmest years on record. The average global temperature in 2020 is set to be about 1.2 °C above the pre-industrial (1850-1900) level.
- There is at least a one in five chance (20% chance) that the average global temperature will temporarily exceed 1.5 °C by 2024.
- The 2015 Paris Agreement on climate change, calls for keeping the global temperature to 1.5°C above pre-industrial era levels.
- The past six years, 2015 to 2020, are set to be six of the hottest years since modern records began in 1850. Moreover, 2011-2020 will be the warmest decade on record.



### Increase in Greenhouse gases

Despite the COVID-19 lockdown, atmospheric concentrations of major greenhouse gases (carbon dioxide, methane and nitrous oxide) continued to rise.

The annual impact of the corona virus crisis was expected to have a drop of between 4.2 and 7.5 percent in carbon dioxide emissions. However, as carbon dioxide remains in the atmosphere for centuries, the effect of the pandemic is negligible.

### **Sea Ice Extent**

Sea ice extent serves as a useful indicator of climate change particularly because of the quick change that occurs at the poles and its widespread impact. Since the mid-1980s, the Arctic has warmed at least twice as fast as the global average.

Arctic sea-ice reached its annual minimum in September, 2020, and was the second lowest in the 42-year-old satellite record. Arctic sea ice for July and October 2020 was the lowest on record.

### **Ocean Heat Content**

More than 90% of the excess energy accumulating in the climate system as a result of increased concentrations of greenhouse gases goes into the ocean. Ocean Heat Content (OHC) is a measure of this heat accumulation in the Earth system

Records show that ocean warming rates show a particularly strong increase in the past two decades and across all depths.

Ocean heat content for 2019 was highest on record in the datasets going back to 1960. More than 80 percent of the ocean area had experienced at least one marine heat wave so far in 2020.

### **Extreme events**

Severe flooding affected millions of people in East Africa and the Sahel, South Asia, China and Viet Nam.

In South Asia – India experienced one of the two wettest monsoon seasons since 1994 and August was the wettest month on record for Pakistan.

Further, widespread flooding was observed throughout South Asia (including Bangladesh, Nepal and Myanmar).

In the interior of South America, severe drought affected many parts in 2020, with the worst-affected areas being northern Argentina, Paraguay and the western border areas of Brazil.

### **Tropical Cyclones**

The number of tropical cyclones globally was above average in 2020.

The North Atlantic region had an exceptionally active season, with 30 tropical cyclones as of 17 November, more than double the long-term average (1981-2010) and breaking the record for a full season, set in 2005.

Cyclone Amphan, which made landfall near the India-Bangladesh border was the costliest tropical cyclone on record for the North Indian Ocean, with reported economic losses in India of approximately US\$14 billion.

### **Impact of extreme events**

- Approximately 10 million displacements, largely due to climate related hazards and disasters, were recorded during the first half of 2020, mainly concentrated in South and South-east Asia and the Horn of Africa.
- According to Food and Agriculture Organization, nearly 690 million people, or 9% of the world population, were undernourished and about 750 million experienced severe levels of food insecurity in 2019.
- After decades of decline, the recent increase in food insecurity since 2014 is driven by conflicts and economic slowdown as well as by climate variability and extreme weather events.
- The COVID-19 pandemic has added another layer of risk to evacuation, recovery and relief operations related to high-impact events.

**To slow temperature increase, the countries must decrease production of fossil fuels by 6 per cent per year between 2020 and 2030.** The current global recession also acts as an opportunity to boost investment in green public infrastructure, thus supporting GDP and employment during the recovery phase.

### **World Meteorological Organization (WMO)**

WMO is a specialized agency of the United Nations (UN) with 193 Member States and Territories. It originated from the International Meteorological Organization (IMO), which was founded in 1873.

Established in 1950, the WMO became a specialized agency of the United Nations in 1951 and is headquartered in Geneva. Its mandate is in the areas of meteorology (weather and climate), operational hydrology and related geophysical sciences.

## 6.4 TSO KAR WETLAND

**Why in News:** India has added Tso Kar Wetland Complex in Ladakh as its 42nd Ramsar site, the second one in the Union Territory (UT) of Ladakh.

### Wetlands

- The wetlands are actually land areas covered by water, either temporarily/seasonally or permanently. The wetlands play a key role in hydrological cycle and flood control, water supply and providing food, fiber and raw materials.
- It includes: swamps, marshes, lakes, lagoons salt marshes, mud flats, mangroves, coral reefs fens, and peat lands.

### Wetlands in India

- As per the National Wetlands Atlas given by ISRO, India has 15.26 million ha area under wetlands, roughly equal to 4.6% of its land area.
- Of this, inland wetlands constitute 69.22% (10.56 million ha). Nearly 12% of the inland wetland area is in the form of lakes and ponds (including those less than 2.25 ha).
- Examples of India's prominent wetlands are Chilika lake (Odisha), Wular lake (J&K), Sambhar lake (Rajasthan), Deepor Beel (Assam) and East Kolkata wetlands (West Bengal).

### Importance

- Wetlands are a critical part of our natural environment and are vital link between land and water.
- Wetlands provide a wide range of important resources and ecosystem services such as food, water, fibre, groundwater recharge, water purification, flood moderation, erosion control and climate regulation.
- They are a major source of water and India's main supply of freshwater comes from an array of wetlands which help soak rainfall and recharge groundwater.
- They prevent land degradation and desertification.
- They protect shores from wave action, reduce the impacts of floods, absorb pollutants and improve water quality.
- They provide habitat for animals and plants hosting a huge diversity of life, including that of migratory birds.

### Ramsar Convention

- **Ramsar Convention (signed in 1971) is an intergovernmental treaty which provides the framework for national action and international cooperation for conservation and wise use of wetlands and their resources.**
- It is one of the oldest inter-governmental accord signed by members countries to preserve the ecological character of their wetlands of international importance.
- **Aim:** The aim of the Ramsar list is to develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits.
- Wetlands declared as Ramsar sites are protected under strict guidelines of the convention.
- **Criteria:** Wetlands can be designated to the Ramsar List under any (one or more) of the nine criteria that ranges from uniqueness of the site to those based on species and ecological communities supported.
- Globally, there are over 2,300 Ramsar sites around the world, covering over 2.1 million sq km.

### **Tso Kar**

Tso Kar is at more than 4,500 meters above sea level in the Changthang region of Ladakh. Tso Kar Wetland Complex includes two connected lakes, the freshwater lake "Startsapuk Tso" and the larger hypersaline lake "Tso Kar".

The name Tso Kar (White Lake) refers to the white salt efflorescence on the margins of the lake caused by the evaporation of the saline waters.

# 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 POLICY ON SCHOOL BAG 2020

**Why in News:** The Ministry of Education recently released the Policy on School Bag 2020.

- The Policy includes various recommendations based on surveys and studies conducted by the National Council of Educational Research and Training (NCERT).
- The survey collected data from 3,624 students and 2,992 parents from 352 schools, which include Kendriya Vidyalayas and state government schools.

### Issues related to the weight of the school bag

- Heavy school bags are a common cause of backache in school-going children. Moreover, it can affect their spinal posture, foot shape and walk.
- It is universally acknowledged that the weight of the school bag to be carried by students should be related primarily to the individual's body weight.
- At the same time, it is also important to look at other factors contributing to this load, such as, capacity to carry weight, mental or physical disorder, disability, disease, distance for which the bag is to be carried, etc., which cannot easily be measured.

### Policy on School Bag 2020

#### Recommendations for reduction of the weight of school bag:

- The weight of school bag for students between classes 1-10 should not be more than 10 per cent of their body weight and there should be no bags for pre-primary students.
- Weight of school bag needs to be monitored and checked on a regular basis in the school. For this, every school needs to keep a digital weighing machine in the school
- School bag needs to be light-weight with proper compartments and contain two padded and adjustable straps that can fit on both the shoulders. Wheeled carriers should not be allowed as it may hurt children while climbing stairs.
- For selecting a textbook for children, the criterion of weight should be taken into consideration and weight of each textbook should be printed on the textbook by the publishers.
- Schools need to ensure that there are facilities to provide good quality mid-day meals, so that children do not have to carry a lunch box.
- Further, it is the duty and responsibility of school management to provide good quality water in the school, so that children do not have to carry water bottle in school bags.

### Recommendations for children with special needs

- Children with special needs can be provided double set of textbooks, through book banks in schools.
- Further, lockers may be installed in classes for students with disabilities for storing books and other items.

### Recommendations for homework

- The policy also gives recommendations about homework for students at various levels, starting with no homework for children up to Class 2.
- Children in classes 3, 4 and 5 should be given a maximum of two hours of homework per week. For Classes 6 to 8, the homework should be a maximum of one hour a day.
- For children in Classes 9 to 12, the policy recommends a maximum of two hours of homework every day.

### Guidelines for implementation

- School Bag Awareness Program needs to be held in the beginning of every academic session, where parents and students would be given an orientation on this issue.
- Sharing of textbooks among students should be promoted so that children sitting together need not carry all the textbooks every day.
- There are lessons when the textbook is not used at all. With adequate planning, students should be given an advance notice by the subject teacher so that they can leave textbooks at home when they are not required.
- Teachers should engage students in activity based teaching-learning process, where students can go beyond textbooks.

Children are the future of the nation and their good health and stress free mind contributes to nation building.

Therefore, every school irrespective of its management (Government, Government aided, unaided) should ensure the implementation of School Bag Policy for the betterment of the children.

## 7.2 MALNUTRITION

**Why in News:** The Health Ministry recently released data from Phase I of the fifth edition of the National Family Health Survey (NFHS-5).

### 5th Edition of NFHS

- The National Family Health Survey (NFHS-5) is being conducted on 6.1 lakh sample households, involving household level interviews to collect information on population, health, family planning and nutrition related indicators.
- Phase I of NFHS-5 covers 17 States and five Union Territories.
- The field work of Phase II covering the remaining 12 States and two UTs, was suspended because of COVID-19, but was resumed in November and is expected to be completed by May 2021.

#### Key findings from Phase I of NFHS-5

Data from the first phase shows that several states have either witnessed small improvements or have worsened on child (under 5 years of age) malnutrition parameters such as child stunting; child wasting etc.

These parameters are important as they are used in several global indices such as the Global Hunger Index.

#### Increase in stunting:

- Stunting is caused by long term deprivation of food and refers to the percentage of children who have low height for their age.
- Stunting, more than any other factor, is likely to have long-lasting negative effects on the mental and physical development of a child.
- Thirteen states and UTs out of the 22 surveyed recorded a rise in the percentage of children under five years who are stunted in comparison to NFHS-4 (in 2015-16).
- Telangana, Gujarat, Kerala, Maharashtra, and West Bengal — all saw increased levels of child stunting.

#### Increase in Child Wasting:

- Child wasting reflects under nutrition and refers to children having low weight for their height.
- Twelve states and UTs out of the 22 surveyed recorded a rise in the percentage of children under five years who are wasted in comparison to NFHS-4.
- India has always had a high level of child wasting but instead of reducing it, several states such as Telangana, Kerala, Bihar, and Assam as well as the UT of J&K have witnessed an increase.

- Maharashtra and West Bengal, recorded the same percentage as in NFHS-4.

### Increase in Anemia:

- There has also been a huge increase in the proportion of children with anaemia in most states, with Assam showing an increase of almost 33 percentage, which means more than two-thirds of children (68%) below 5 years in the state are anemic.
- Gujarat is the state with the highest proportion of anemic children, 80%, a significant increase from about 63% in the last survey.
- Anemia is a condition in which the blood doesn't have enough healthy red blood cells.

### Child mortality indicators

- However, child mortality indicators have improved in most states with some like Jammu & Kashmir and Assam showing significant improvement.
- The neonatal mortality rate (NMR) which is deaths in the first four weeks of life, dropped in 15 states and UTs in comparison to NFHS-4.
- Infant mortality rate (IMR), which accounts for deaths before the completion of one year, and the under-five mortality rate (UMR) fell in 18 states and UTs.
- Maharashtra, Manipur, Meghalaya, Mizoram, Tripura, Andaman and Nicobar Islands and Dadra & Nagar Haveli and Daman & Diu recorded rise in NMR in comparison to NFHS-4.
- Manipur, Meghalaya, Tripura and Andaman and Nicobar Islands recorded rise in IMR and UMR in comparison to NFHS-4.

| <b>SHARP REVERSALS IN CHILD HEALTH</b> |                                 |                                 |                                      |                                      |                     |                     |
|--|---------------------------------|---------------------------------|--------------------------------------|--------------------------------------|---------------------|---------------------|
|  | <b>Wasted children 2019-20*</b> | <b>Wasted children 2015-16*</b> | <b>Underweight children 2019-20*</b> | <b>Underweight children 2015-16*</b> | <b>IMR 2019-20#</b> | <b>IMR 2015-16#</b> |
| Andhra Pradesh                         | 16.1%                           | 17.2%                           | 29.6%                                | 31.9%                                | 30.3                | 34.9                |
| Telangana                              | 21.7%                           | 18%                             | 31.8%                                | 28.4%                                | 26.4                | 27.7                |
| Assam                                  | 21.7%                           | 17%                             | 32.8%                                | 29.8%                                | 31.9                | 47.6                |
| Bihar                                  | 22.9%                           | 20.8%                           | 41%                                  | 43.9%                                | 46.8                | 48.1                |
| Gujarat                                | 25.1%                           | 26.4%                           | 39.7%                                | 39.3%                                | 31.2                | 34.2                |
| Karnataka                              | 19.5%                           | 26.1%                           | 32.9%                                | 35.2%                                | 25.4                | 26.9                |
| Kerala                                 | 15.8%                           | 15.7%                           | 19.7%                                | 16.1%                                | 4.4                 | 5.6                 |
| Maharashtra                            | 25.6%                           | 25.6%                           | 36.1%                                | 36%                                  | 23.2                | 23.7                |
| West Bengal                            | 20.3%                           | 20.3%                           | 32.2%                                | 31.6%                                | 22                  | 27.5                |
| J&K                                    | 19%                             | 12.2%                           | 21%                                  | 16.6%                                | 16.3                | 32.4                |

*\*Data are for children under 5; #per 1,000 live births*

### Improvement in Sex ratio

According to the NFHS-5, sex ratio of the total population (females per 1,000 males) rose in 17 states and UTs in comparison to NFHS-4.

The states which observed a drop in sex ratio of the total population were Himachal Pradesh, Kerala, Andaman and Nicobar Islands, Jammu and Kashmir and Ladakh.

### **Miscellaneous findings**

- The survey found considerable improvement in vaccination coverage among children aged 12-23 months across all States/UTs.
- The fertility rate has further declined, and contraceptive use has increased in most Phase I States. Fertility rate is the average number of children that would be born to a woman over her lifetime.
- Women's empowerment indicators (including women with bank account) also show considerable progress.

The deterioration in child nutritional status shows that enough efforts are not being made for prevention and management of malnutrition and raises serious concerns.

The government must urgently identify the poor performing pockets and take adequate measures to address the issues.



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## MISCELLANEOUS

### ➤ NAVAL VERSION OF BrahMos Supersonic Cruise Missile

Continuing with its recent tests of BrahMos, India has successfully test-fired the anti-ship naval version of BrahMos supersonic cruise missile.

#### **BrahMos Supersonic Cruise Missile**

- BrahMos is a supersonic cruise missile that can attain speeds 2.8 times that of sound (Mach 2.8). This cruise missile can be guided towards a pre-determined land- or sea-based target.
- It can be launched from land, sea and air, from warships, submarines, aircraft, and mobile autonomous launchers.
- BrahMos is the world's fastest supersonic cruise missile.
- The original BrahMos is of 290-km range, with development works happening on extending its range.
- In October 2020, DRDO successfully tested the extended range (400 km) Brah-Mos supersonic surface-to-surface cruise missile or Land-Attack Cruise Missile (LACM).

The Brahmos ASHM (Anti Ship Missile) was successfully test fired, from the Indian Navy's Rajput-class destroyer INS Ranvijay. The missile, with a strike range of about 300 km, hit a decommissioned target ship in the Bay of Bengal.

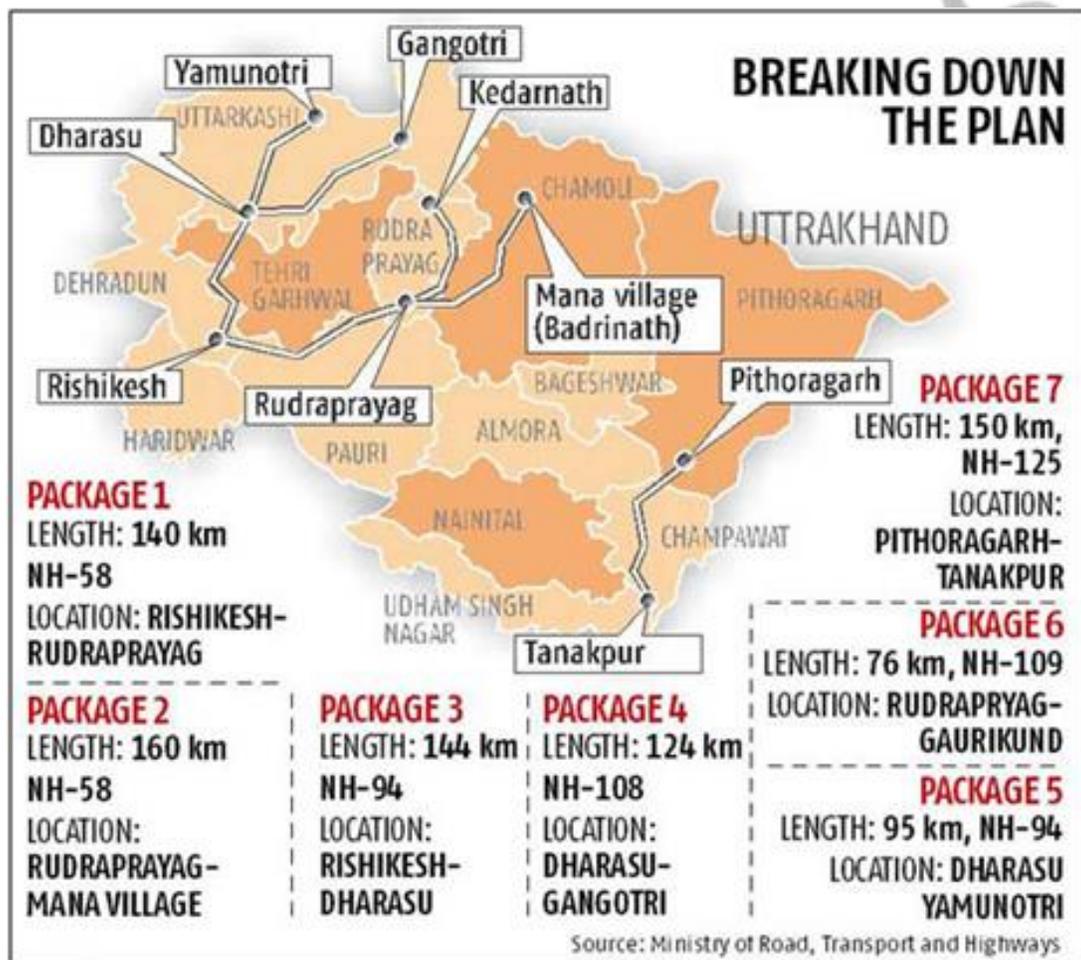
This latest test comes as a part of a series of tests carried out by the DRDO in the last two months, test-firing the India's tactical cruise missile triad, in the backdrop of ongoing tensions with China across the Line of Actual Control (LAC) in eastern Ladakh.

Apart from the Navy testing the Brahmos, the Indian Army in the recent months tested the surface-to-surface version while the Indian Air Force test-fired the air to land/sea version.

### ➤ Char Dham Highway Project

The Chardham Mahamarg Vikas Pariyojna, or the Char Dham National Highway project, is an initiative to improve connectivity to the Char Dham pilgrimage centres (Gangotri, Yamunotri, Kedarnath and Badrinath), and part of the route leading to Kailash Mansarovar yatra.

- It involves improvement as well as the development of about 900 km length of national highways, at an approximate cost of Rs 12,000 crore.
- The Prime Minister had launched the construction of the Char Dham Mahamarg in December, 2016, as a tribute to those who died in the 2013 Kedarnath disaster.
- It is an under construction four-lane express National Highway with a minimum width of 10 metres in the Indian state of Uttarakhand.
- The project will have bypasses, bridges, viaducts, pit stops, parking, helipads and helicopter emergency response services, etc. along the way.



### ➤ Banks Board Bureau (BBB)

Founded in 2016, Banks Board Bureau is an autonomous body of Government of India. The Body comprises of ex-officio members from Government and eminent professionals.

Mission: To promote excellence in corporate governance in public sector financial institutions

Vision:

- Search and select suitable personnel for the boards of Public Sector Banks, Public Sector Financial Institutions and Public Sector Insurance Companies
- Recommend measures to improve corporate governance in these Institutions.
- The expenses of the Bureau shall be met by all nationalised banks, public sector insurance companies and public sector financial institutions on a pro-rata basis

#### **The functions of the Bureau:**

To recommend the selection and appointment of Board of Directors in Nationalised Banks, Financial Institutions and Public Sector Insurance Companies (Whole Time Directors and Chairman)

To advise the Central Government on the following matters in relation to nationalised banks:

- Matters relating to appointments, confirmation or extension of tenure and termination of services of the Directors
- One of the mandates of the Bureau is to help banks to develop a robust leadership succession plan for critical positions
- The desired management structure, at the level of Board of Directors and senior management
- Suitable performance appraisal system
- Formulation and enforcement of a code of conduct and ethics for managerial personnel
- Evolving suitable training and development programs for managerial personnel
- To build a data bank containing data relating to the performance of nationalised banks and its officers
- To help the banks in terms of developing business strategies, capital raising plans etc

#### ➤ **'Intangible Cultural Heritage' by the UNESCO**

**Singapore's street hawker food culture has been designated as 'Intangible Cultural Heritage' by the UNESCO.**

Hawker culture refers to the community of vendors who cook and sell meals in the 114 hawker centers across Singapore.

## **Cultural Heritage**

Cultural Heritage is an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions and values.

Cultural Heritage is often expressed as either Intangible or Tangible Cultural Heritage. Tangible Heritage includes monuments, collections of objects etc.

### **Intangible Cultural Heritage (ICH)**

Intangible Heritage includes traditions, living expressions, wealth of knowledge and skills that is transmitted through it from one generation to the next, such as performing arts, social practices, knowledge on nature and crafts etc.

Intangible cultural heritage does not only represent inherited traditions from the past but also contemporary rural and urban practices in which diverse cultural groups take part.

Intangible cultural heritage is an important factor in maintaining cultural diversity in the face of growing globalization. An understanding of the intangible cultural heritage of different communities helps with intercultural dialogue, and encourages mutual respect for other ways of life.

### **Convention for the Safeguarding of the Intangible Cultural Heritage**

Considering the importance of the intangible cultural heritage as a mainspring of cultural diversity and a guarantee of sustainable development, UNESCO adopted the 'Convention for the Safeguarding of the Intangible Cultural Heritage' in 2003.

The Convention proposed five broad 'domains' in which intangible cultural heritage is manifested:

- Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage
- Performing arts
- Social practices, rituals and festive events
- Knowledge and practices concerning nature and the universe
- Traditional craftsmanship