



CURRENT AFFAIRS

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POLITY AND GOVERNANCE

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



KAVISH IAS
Converting Possibilities into Reality

1.1 Right To Information (RTI) ACT

Topic: Important Aspects of Accountability and Transparency

Why in News: October 12, 2020 marked 15 years of the implementation of the RTI Act, which empowers people to question the Government. A report put together by voluntary organisations shows that there are 2.2 lakh cases are pending at the Central and State Information Commissions

Right to Information (RTI) Act

Right to Information (RTI) is an act of the Parliament of India to promote transparency in government institutions in India. The Act came into existence in 2005, after sustained efforts of anti-corruption activists.

Objective: The basic objective of the Act is to empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make our democracy work for the people in real sense.

Who are covered by the Act

- Under the provisions of the Act, **any citizen of India may request information** from a "**public authority**" (a **body of Government** or "**instrumentality of State**") which is required to reply expeditiously or within thirty days.
- A "**public authority**" means any authority or body or institution of self- government established or constituted:
 - by or under the Constitution
 - by any other law made by Parliament
 - by any other law made by State Legislature
 - by notification issued or order made by the appropriate Government, and includes any body owned, controlled or substantially financed
 - NGO substantially financed, directly or indirectly by funds provided by the any government

The Act also requires every public authority to computerise their records for wide dissemination so that the citizens need minimum recourse to request for information formally.

The Right to information in India is governed by two major bodies:

Central Information Commission (CIC): Chief Information commissioner who heads all the central departments and ministries- with their own public Information officers (PIO). CICs are directly under the President of India.

State Information Commissions: State Public Information Officers or SPIOs head over all the state department and ministries. The SPIO office is directly under the corresponding State Governor.

State and Central Information Commissions are independent bodies and Central Information Commission has no jurisdiction over the State Information Commission.

The information which may be obtained is defined under section 2 (f) of the Act, as any material in any form, including records, documents, memos, e-mails, opinions, advices, press releases, circulars, orders, log books, contracts, reports, papers, samples, models, data material held in any electronic form and information relating to any private body which can be accessed by a public authority under any other law for the time being in force.

Issues:

- **Large number of RTI applications:** Every year 40-60 lakh RTI applications are filed across the country.
- **Huge pending complaints and appeals:** The report shows that in 26 information commissions, the number of pending RTI appeals and complaints stood at about 2.2 lakhs. State Information Commission of Maharashtra had the highest number of pending appeals, with over 59,000 cases, followed by Uttar Pradesh (48,000), while pending appeals with the Central Information Commission (CIC) stood at more than 36,500.
- **Increase in RTI appeals' waiting time:** As per earlier report, by 2019, the estimated waiting time on appeals at CIC itself was 1 year and seven months.

Reasons for backlog

Vacancies in information commissions (ICs)

- The reason for the long waiting time for disposal of appeals and complaints can be traced to vacancies in information commissions (ICs) not being filled in a timely manner.
- Under the law, every commission should have chief and up to 10 commissioners. Yet, 9 out of 29 information commissions are functioning without a chief information commissioner. Even the Central Information Commission has been without a chief since August 27. Jharkhand and Tripura have no commissioners at all, and have been defunct for months.

Non-imposition of penalties

- The report found that the commissions have been reluctant to impose penalties on government officials violating the RTI law. The report found that penalties were imposed in only 2.2% of cases that were disposed of, despite some analysis showing more than 50% violations should have triggered the process of penalty imposition.
- RTI activists say that the non-imposition of penalties in deserving cases by commissions sends a signal to public authorities that violating the law will not invite any serious consequences.

The Right to Information Act was made to achieve social justice, transparency and to make accountable government but this act has not achieved its full objectives due to some impediments created due to systematic failures.

It is well recognized that right to information is necessary, but not sufficient, to improve governance. A lot more needs to be done to usher in accountability in governance, including protection of whistleblowers, decentralization of power and fusion of authority with accountability at all levels.

This law provides us a priceless opportunity to redesign the processes of governance.

1.2 Saansad Adarsh Gram Yojana

Topic: Functions and Responsibilities of Union and State; Government Policies

Why in News: The Central government has noted that the number of gram panchayats identified by Members of Parliament (MPs) under the Saansad Adarsh Gram Yojana (SAGY) remains much below the target. Consequently, the Centre has directed state governments to ensure proper implementation of the scheme.

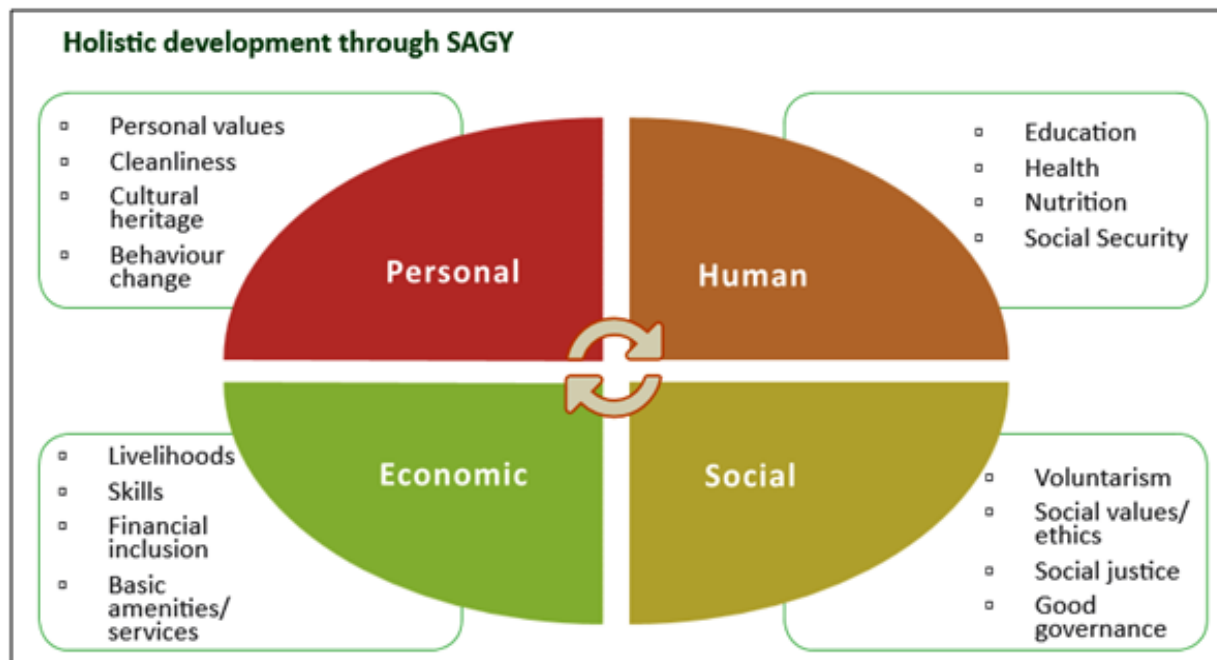
Saansad Adarsh Gram Yojana

Launched in 2014, Saansad Adarsh Gram Yojana is a rural development program broadly focusing upon the development in the villages.

The scheme offers each MP to select a village in his constituency for development. It has no budgetary allocation and aims to bring about convergence in government schemes to improve developmental parameters in the selected village.

The goal was for each MP to develop three Adarsh Grams (model villages) by March 2019, of which one was to be achieved. Thereafter, five such Adarsh Grams (one per year) were to be selected and developed by 2024 under SAGY-II (2019-24).

Far beyond mere infrastructure development, **SAGY aims at instilling certain values, such as people's participation, gender equality, social justice, spirit of community service, eco-friendliness, local self-government, transparency and accountability in public life.**



Objectives

The development of model villages, called Adarsh Grams, through the implementation of existing schemes, and certain new initiatives to be designed for the local context, which may vary from village to village. It also aims to create models of local development which can be replicated in other villages.

Identification of villages

- MPs can select any gram panchayat, other than their own village or that of their spouse, to be developed as an Adarsh Gram.
- The village must have a population of 3000-5000 people if it is located in the plains, or 1000-3000 people if located in hilly areas.
- Lok Sabha MPs can choose a village from their constituency, and Rajya Sabha MPs from the state from which they are elected. Nominated members can choose a village from any district of the country.

Funding

- No new funds have been allocated for the Yojana.
- Resources can be raised through:
 - Funds from existing schemes, such as the Pradhan Mantri Gram Sadak Yojana, Mahatma Gandhi National Rural Employment Guarantee Scheme, and Backward Regions Grant Fund, etc.
 - The Member of Parliament Local Area Development Scheme (MPLADS)
 - The gram panchayat's own revenue
 - Central and State Finance Commission Grants
 - Corporate Social Responsibility funds

Implementation

- A Village Development Plan must be created for each Adarsh Gram. While each village will develop a list of activities to be carried out, based on its own resources and requirements, possible activities have been listed in the guidelines for the scheme.
- For example, Adarsh Grams can work towards providing universal access to basic healthcare facilities, promoting diversified livelihoods through agriculture related livelihoods and skill development, providing pension for all eligible families, housing for all, and promoting social forestry.

Latest Developments

The Union Ministry of Rural Development held the meeting of the first performance review committee (PRC) for the Saansad Adarsh Gram Yojana (SAGY).

More than 400 Gram Panchayats have been identified by the MPs under SAGY-II (2019-24) till 24th August 2019. However, this was far below the targeted identification under SAGY-II (2019-24). The plan was for five Adarsh Grams (one per year) to be selected and developed by 2024 by each MP (nearly 800 MPs) under SAGY-II (2019-24).

The committee reiterated the importance of SAGY among the central schemes, especially for the creation of development clusters and directed the States to ensure diligent implementation of the Scheme.

Issues

Adarsh Village Definition: Earlier, a study commissioned by the Rural Development Ministry observed that the SAGY has not made any perceptible impact and the villages selected under it cannot be called “model (adarsh) villages”.

Budget and Funding: One issue is that the scheme does not provide for a budget but seeks convergence of existing schemes. States have demanded additional funds for the gram panchayats identified under SAGY.

Conflict of Interest: Another issue is that the MPs are being asked to do micro-level monitoring work in gram panchayats, which the MLAs see as their domain, thereby triggering a conflict between central and state legislators.

The vision behind the evolution of SAGY villages was to create model villages by ensuring convergence and dovetailing of schemes and its proper implementation on priority basis. However, the efforts required to achieve the motto is lacking. At the same time, the Ministry of Rural Development should ensure that the SAGY villages are dealt with the vision envisaged under the scheme and are not left behind.

1.3 E- Filing and E-Courts

Topic: Structure, Organization and Functioning of Judiciary

Why in News: A recent status report submitted by the government (law ministry) before a parliamentary committee, showed 11 of the 25 high courts in the country are yet to adopt the e-filing system.

E-Filing in India

Filing of cases electronically, or e-filing, is the first step in migrating to a virtual court (e-court) system, which has become a necessity in the pandemic-hit world. In about half of the states, e-filing is still in the trial stage, both in the high courts and the subordinate courts.

Major Findings of Law Ministry Report

- West Bengal, Telangana, Bihar, Gujarat, Assam, Karnataka and J&K are among states with high pendency of cases where the high courts are yet to implement the very basics of the judicial reforms, either in the HC or in the subordinate courts under them. This only means further delaying the process of digitisation, making the reality of virtual courts a distant dream.
- There is poor implementation of the e-courts project with **over 14,400 courts yet to be provided with video-conferencing facilities.**
- A decade-and a half long drive to modernise the judiciary came under severe attack as the parliamentary panel pointed out that more **than 2,992 courts are yet to get even WAN connectivity.**

E-Courts in India

- The Indian judiciary comprises of nearly 15,000 courts situated in approximately 2,500 court complexes throughout the country.
- **The e-Courts project was conceptualized on the basis of the “National Policy and Action Plan for Implementation of Information and Communication Technology (ICT) in the Indian Judiciary 2005”** submitted by e-Committee, Supreme Court of India with a vision to transform the Indian Judiciary by ICT enablement of Courts.

Features of the E-Courts Project

- The e-courts project is about creating an ICT enabled ecosystem, to enable courts to make justice delivery system affordable and cost-effective.
- In an e-court, the entire work is executed digitally, wherein, the information that is shared and generated is stored as a database and synched to particular software. This software can be accessed by litigants, judges and advocates.

Advantages

The primary intention of e-courts is to make the **justice delivery system affordable, transparent, speedy and accountable by limiting the paper filings.**

This would be beneficial for both improving the court processes and rendering citizen-centric services. E-courts are aimed to make legal processes easier and more users friendly.

E-Courts Mission Mode Project (MMP)

The e-Courts Mission Mode Project, is a Pan-India Project, monitored and funded by Department of Justice, Ministry of Law and Justice, Government of India for the District Courts (and also subordinate courts eventually) across the country.

The MMP aims to develop, deliver, install, and implement automated decision-making and decision-support systems in 700 courts across Delhi, Bombay, Kolkata and Chennai; 900 courts across 29 State/ Union Territory capitals; and 13,000 district and subordinate courts across the Nation.

Objectives of the Project

- To develop, install & implement decision support systems in courts.
- To assist judicial administration in reducing the pendency of cases.

- To help judicial administration in streamlining their day-to-day activities.
- To provide judges with easy access to legal and judicial databases.

Advantages of the Project

- **Citizen-centric services:** E-courts are a step to provide efficient & time-bound citizen centric services delivery as detailed in e-Court Project Litigant's Charter.
- **Transparency and Accountability:** Automation of the processes can ensure transparency in accessibility of information to its stakeholders.
- **Enhanced judicial productivity:** The project will increase judicial productivity both qualitatively & quantitatively, to make the justice delivery system affordable, accessible, cost effective, predictable, reliable and transparent.

Recent Developments and Recommendation

Directions by Supreme Court

During the Coronavirus Pandemic, the Supreme Court (SC) has passed directions for all courts across the country to extensively use video-conferencing for judicial proceedings. **The Supreme Court exercised its plenary power under Article 142 to direct all high courts to frame a mechanism for use of technology during the pandemic.**

Recommendations as per an Interim Report by Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice

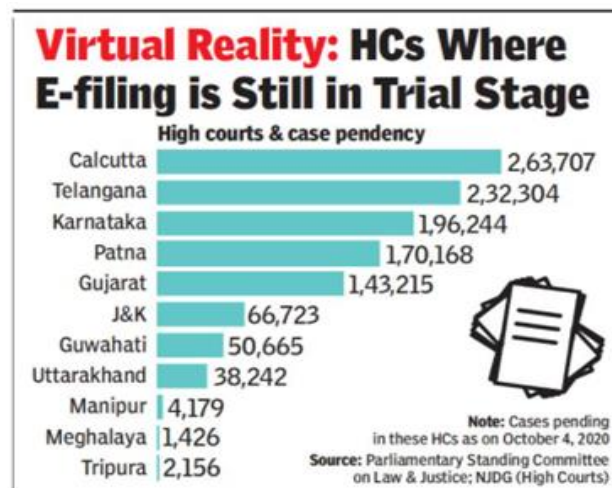
The Parliamentary Panel on Law and Justice suggested in the last monsoon session that virtual courts and hearings through video conference should continue even during non-pandemic times with the consent of parties in certain categories of cases such as appeals and final hearings where physical presence of parties or their counsel is not required.

It suggested that it should be **extended permanently for appellate tribunals such as the Telecom Dispute Settlement Appellate Tribunal, Intellectual Property Appellate Tribunal, and National Company Law Appellate Tribunal.**

Virtual Courts and E-courts

Virtual Court is a concept aimed at eliminating presence of litigant or lawyer in the court and adjudication of the case online.

An e-court or Electronic Court means an ecosystem with a well-developed technical infrastructure a location in which matters of law are adjudicated upon, in the presence of qualified judges



1.4 Allotment of Election Symbols

Topic: Functions and Responsibilities of Constitutional Bodies

Why in News: In the Bihar assembly elections, there were nearly 60 different political parties contesting elections with different symbols.

Significance of symbols in elections

Symbols have become a crucial part of the electoral process ever since India held its first national polls in 1951-52. Since nearly 85 per cent of the electorate were illiterate at that point, visual symbols were allotted to parties and candidates to help them identify the party of their choice.

Today, in a vast and diverse country like India, where several small political parties contest in state elections, symbols are crucial campaigning tools to connect with the voters. They also help several unrecognised parties and independent candidates to differentiate themselves from one another.

Types of symbols

As per the Election Symbols (Reservation and Allotment) (Amendment) Order, party symbols are either “reserved” or “free”. For this and other such issues, the EC classifies parties as recognised and unrecognised. A reserved symbol is a symbol reserved for a recognised political party and can be used exclusively by the candidates of that party. There are eight national parties and 64 state parties across the country, who have been allotted “reserved” symbols.

The Election Commission (EC) also has a pool of nearly 200 “free” symbols that are allotted to the thousands of unrecognised regional parties that are formed before elections. According to EC, there are 2,538 unrecognised parties in India.

Symbol allotment process

Through the Election Symbols (Reservation and Allotment) Order, 1968, the Election Commission provides for ‘specification, reservation, choice and allotment of symbols’ in the elections.

A candidate contesting from a national party at any election is allotted the symbol reserved for the party. Similarly, a candidate of a party recognised as a state party in any particular state is allotted the symbol reserved for that party in all constituencies in that state.

To get a free symbol, a party/candidate has to provide a list of three symbols from the EC’s free symbols list at the time of filing nomination papers. Among them, one symbol is allotted to the party/candidate on a first-come-first-serve basis.

Recognised state party contesting elections in another state

If a party recognised in a particular state, contests in elections in another state, it can “reserve” the symbol already being used by it. However, this is possible only if that symbol is not reserved for any other recognised state party in that state. Moreover, the symbol should also not be similar to the symbols in use by other parties.

For example, it is for this reason that Shiv Sena was not allowed to use its ‘bow and arrow’ symbol for Lok Sabha elections in Bihar, due to its similarity to JDU’s symbol.

Split in a party

When a recognised political party splits, it is up to the EC to decide which faction represents the original party and allots the symbol accordingly. E.g. when there was a split in Samajwadi Party, the EC allotted the ‘bicycle’ symbol to the Akhilesh Yadav faction.

1.5 CBI and General Consent

Topic: Separation of Power between various organs; Responsibility of Org

Why in News: The Maharashtra state government has withdrawn the “general consent” given to the CBI to probe cases in the state.

General Consent

The CBI is governed by the Delhi Special Police Establishment (DPSE) Act, which makes consent of a state government mandatory for conducting investigation in that state.

There are two kinds of consent

Case-specific consent

For cases against state government employees or violent and serious crimes within a state, the CBI cannot move in without specific consent of the state government concerned or directives by HCs and Supreme Court.

General consent

“General consent” is normally given to help the CBI seamlessly conduct its investigation into cases of corruption against central government employees in the concerned state. Usually states give such consent. Otherwise, the CBI would require consent in every case.

The Supreme Court and High Courts, however, can order CBI to investigate such a crime anywhere in the country without the consent of the State. In respect of specified offences committed within Union Territory and other offences associated with it, the Supreme Court said that consent of any state government will not be necessary for CBI even if the offender is a resident of the state.

Withdrawal of General Consent

- Withdrawal of General Consent by a state means the CBI will not be able to register any fresh case involving a central government official or a private person stationed in that states without getting case-specific consent. However, CBI would still have the power to investigate old cases registered when general consent existed.
- Also, withdrawal of consent by a state will only bar the CBI from registering a case within the state's jurisdiction.
- CBI can also probe people based in that state (which has withdrawn general consent) who are found involved in cases registered in other states.

Over the years, at various times, several states have done so, including west Bengal, Sikkim, Nagaland, Chhattisgarh, Karnataka etc. have done so. At present, Maharashtra is currently the fourth state to withdrawn general consent, besides West Bengal, Rajasthan and Chhattisgarh

1.6 SVAMITVA Scheme: Physical Distribution of Property Cards

Topic: Government Policies and Development Schemes

Why in News: Prime Minister Narendra Modi launched the physical distribution of property cards under the 'SVAMITVA' (ownership) scheme, and asserted that it is a "historic move" set to transform rural India.

SVAMITVA Scheme

- The SVAMITVA scheme was launched in April this year with the aim to update rural land records, providing record of rights to village households and issue property cards.
- SVAMITVA is a central scheme of the Ministry of Panchayati Raj and Rural Development. It will be implemented across the country in a phased manner over the next four years, covering around 6.62 lakh villages.
- The scheme focuses on mapping rural-inhabited lands using drones as land records are inaccurate or do not exist for vast areas across India.

Launch of physical distribution of property cards

The launch will enable around one lakh property holders to download their property cards through an SMS link sent on their mobile phones. This would be followed by the physical distribution of property cards by respective state governments.

These beneficiaries are from 763 villages across six states, including 346 from Uttar Pradesh, 221 from Haryana, 100 from Maharashtra, 44 from Madhya Pradesh, 50 from Uttarakhand and two from Karnataka.

Land Records

Even though 60 per cent of the country lives in rural areas, villagers do not have ownership documents of their homes despite records being kept of agricultural land. These land records play an important role for Gram Panchayats that currently struggle with generating revenues, especially through property tax, who can better invest in the needs of local communities.

Only 19 per cent of potential property tax was being collected by Gram Panchayats, according to the 2018 Economic Survey. The move will pave the way for villagers to use property as a financial asset for taking loans and other financial benefits. This scheme is an effective step in the direction of economic empowerment in rural India.

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 UN Human Rights Council (UNHRC)

Why in News: Pakistan along with China, Russia and Cuba won seats on the UN Human Rights Council (UNHRC)

UNHRC

- **United Nations Human Rights Council (UNHRC) is an inter-governmental body within the United Nations system** and is responsible for:
 - Strengthening the promotion and protection of human rights around the globe
 - Addressing situations of human rights violations and make recommendations on them.
- It was created by the United Nations General Assembly (UNGA) in 2006 by adopting the resolution 60/251 to promote human rights globally. It replaced former UN Commission on Human Rights.
- Headquarters: Geneva, Switzerland
- It meets 3 times a year to examine human rights violations worldwide. Its **resolutions are not legally binding but carry moral authority.**

Membership

The Council is made of 47 Member States. They are elected by the majority of members of the United Nations General Assembly (UNGA) through direct and secret ballot by all 193 members of the United Nations.

UNGA considers the candidate States' contribution to the promotion and protection of human rights, as well as their voluntary pledges and commitments in this regard. The Council's Membership is based on equitable geographical distribution between five regional groups

- African States: 13 seats
- Asia-Pacific States: 13 seats
- Latin American and Caribbean States: 8 seats
- Western European and other States: 7 seats
- Eastern European States: 6 seats

Members are elected by the UNGA for 3-year terms, with a maximum of 2 consecutive terms. The Bureau of the Council consists of five people: one President and four Vice-presidents, representing the five regional groups.

Suspension

The General Assembly can suspend the rights and privileges of any Council member that it decides has persistently committed gross and systematic violations of human rights during its term of membership. The suspension process requires a two-thirds majority vote by the General Assembly.

Latest Development

Pakistan along with China, Russia and Cuba were among the 15 countries that won seats on the 47 member UN Human Rights Council (UNHRC) despite their poor human rights records. Russia and Cuba won unopposed from their respective regions.

In the "Asia-Pacific States" region, Saudi Arabia, China, Pakistan, Uzbekistan and Nepal were the five nations who contended for four spots available. In a secret-ballot voting in the 193-member UN General Assembly (UNGA), Pakistan secured 169 votes, Uzbekistan received 164, Nepal 150 and China 139. **Saudi Arabia, which was trying for a second consecutive term, failed in its attempt to become a member.** To win the seat, a member has to secure vote of a majority of members of the 193 member UNGA.

Functions

- Members of the council are required to uphold the highest standards in the promotion and protection of human rights.
- They work to engage countries on improving human rights.
- They make decisions ranging from exposing violations to recommending that UN Security Council (UNSC) make referral to International Criminal Court (ICC).
- The council works closely with the Office of the High Commissioner for Human Rights (OHCHR) and engages the United Nations' special procedures.

Significance of UNHRC

- UNHRC facilitated the evolution of human rights norms. It has a track record of taking up human rights agenda.
- Issues that have been the source of much controversy have been addressed at the HRC, including LGBTQ rights.
- It is also a forum to monitor international obligations of a state based on international law.
- HRC is thus seen as an important component of the UN rights system.

India and UNHRC

In 2018, India was elected unopposed to the UN Human Rights Council, as a candidate from the Asia-Pacific region, for a period of three years beginning January 1, 2019. This is the fifth time that India will serve on the Geneva-based UNHRC.

The country was among the first batch of 47 countries elected to the Council in 2006 soon after it was set up and received an initial one-year term instead of three to facilitate a rotating roster of vacancies each year. After that, India was again elected in 2007, 2011 and 2014 to three-year terms.

Countries can be elected to only two consecutive terms and India took a year's break when its term ended in 2017.

2.2 INDIA – US (2+2) Dialogue

Why in News: India and the United States held the third edition of 2+2 dialogue in New Delhi. It saw talks on issues ranging from counter-terrorism to health, trade, energy, higher education and innovation.

2+2 dialogue

A **'two plus two dialogue'** is a term used for installation of a dialogue mechanism between two countries' defence and external affairs ministries. It is an expression used to indicate that two appointed ministers from each country, will meet up to discuss the two countries' strategic and security interests.

The goal is to establish a diplomatic and fruitful conversation between the two countries' respective heads of defence and external affairs.

Highlights

During the bilateral talks, the two sides shared views on the global situation and its contemporary (current) challenges and discussed shared concerns and interests including stability and security in Asia. They **reviewed bilateral defence cooperation, including military-to-military cooperation, secure communication systems and information-sharing, and defence trade and industrial issues.**

They also discussed potential new areas of cooperation, both at service-to-service level and at the joint level.

India **highlighted its defence sector initiatives under Atmanirbhar Bharat** and invited US companies to take advantage of "liberalised policies" and the "favourable Defence Industry

ecosystem in India". The US welcomed Australia's participation in this year's edition of the **Malabar exercise that features the navies of India, Japan and the US.**

India had invited Australia to join the exercise, making it the first military drill in recent years to feature all members of the Quadrilateral Security Dialogue (Quad).

Defence

- The two countries agreed on establishing a secure video-teleconferencing capability between the three services of both countries, and foreign and defence ministries.
- They also **agreed to increase sharing of maritime information and a meeting of a Military Cooperation Group later in the year to review the military-to-military engagement** including joint exercises, training and expert exchanges.
- On joint military exercises, the ministers welcomed inclusion of the Royal Australian Navy in the U.S.-India-Japan MALABAR Naval Exercise scheduled to be held in the Bay of Bengal and the Arabian Sea in November 2020.
- Regarding better cooperation between defence industries of the two nations, the countries decided to work together for the development of their respective defence industries.
- To strengthen **defence industrial cooperation, the first summit of the Industrial Security Annex, (signed at the second 2+2 dialogue held in Washington in December 2019), will be held later this year.** They also stressed the importance of fast tracking projects under Defence Technology and Trade Initiative (DTTI).

Additional liaison officers

- As part of measures to enhance military to military cooperation, the two countries agreed to assign additional liaison officers, at each other's establishments. A decision to place an Indian liaison officer in the US 5th Fleet headquarters in Bahrain has been taken.
- The United States would also place a liaison officer at the Indian Information Fusion Centre (IFC) of Indian Navy that monitors the Indian Ocean region. The liaison officers will be used to improve the information sharing architecture.

BECA

India and USA signed the Basic Exchange and Cooperation Agreement (BECA), in the meeting. This agreement is related to geo-spatial cooperation, which includes sharing classified information on maps and satellites for defence purposes.

BECA is considered the last of the foundational agreements to be signed by India and the US. The two sides have been sharing real-time intelligence under the **Communications Compatibility**

and Security Agreement (COMCASA), which was signed in 2018. The two countries have also signed the **General Security of Military Information Agreement (GSOMIA)** in 2002 and the **Logistics Exchange Memorandum of Agreement (LEMOA)** in 2016.

Benefits of BECA

- The signing of BECA will allow India to use US geospatial intelligence and enhance accuracy of automated systems and weapons like missiles and armed drones.
- It will also include sharing precise and real time information on enemy positions during any potential border conflict.

Discussions on bilateral Trade

They two sides agreed on increasing efforts to expand bilateral India-US trade, which has become even more important due to the Covid-19 pandemic.

The meeting highlighted ongoing discussions between the United States Trade Representative and India's Ministry of Commerce and Industry to improve market access, remove barriers to trade, and improve the business environment.

Discussion related to China

During the meeting, US highlighted the increasing aggression and destabilising activities by China. India shared that a multi-polar world must have a multi-polar Asia as its basis.

In reference to China, the two sides stressed their commitment to maintaining a free, open, inclusive, peaceful, and prosperous Indo-Pacific.

The 2+2 India-US bilateral dialogue specifically mentioned the South China Sea (SCS), where China continues to state its authority over disputed waters. The two sides agreed that the Code of Conduct (CoC) in the SCS should not be against the legitimate rights and interests of any nation in accordance with international law.

Discussion related to Pakistan

The joint statement strongly condemned cross-border terrorism in all its forms. It specifically named Pakistan and urged it to take immediate, sustained and irreversible action to ensure that territory under its control is not be used for terrorist attacks.

It also stated that the planners of all such attacks, including 26/11 Mumbai, Uri and Pathankot, should be punished quickly. Uri was previously not mentioned in the joint statement of the 2+2 dialogue held in December 2019.

Other Pacts and Discussions

- Apart from BECA, four more pacts were signed on earth sciences, nuclear energy, Customs data, and Ayurveda and cancer research.
- The two sides stressed on their commitment towards an open, reliable and secure internet, as well as the multi-stakeholder model of internet governance. They also agreed to independently evaluate the risk associated with implementation of emerging information and communication technologies (ICT), including 5G networks.
- A new India-US Counter-Narcotics Working Group will hold its first virtual meeting later this year, and an in-person meeting in 2021.
- An initiative to collaborate through an International Center of Excellence in Research focused on infectious diseases, including COVID-19 and other emerging threats was also agreed upon.
- Highlighting the importance of ties between the legislatures of the two countries, the ministers agreed to launch an India-US Parliamentary Exchange. They also decided to issue 12-month reciprocal temporary duty visas to officials from both governments as a step to facilitate the growing partnership.

In order to counter China in the maritime domain, India needs to balance its engagement with the US and other partners in the Indo-Pacific region, in order to preserve the freedom of navigation and the rules-based order. India-US relation remains critical for the shaping of world order in the 21st century. In order to realise the full potential of relations, the two governments must now strive to complete the unfinished agreements and set the course for a Comprehensive Strategic Global Partnership.

2.3 INDO-PACIFIC – US Secretary of State Visit

Why in News: Recently, after the 2+2 US-India talks in India, the US Secretary of State Mike Pompeo visited three countries viz. Sri Lanka, Maldives and Indonesia. All three countries are strategically vital to China's Belt and Road Initiative (BRI). Discussion on the Emergence of China was the common theme on Pompeo's trip to these countries in the Indian Ocean.

Indo-Pacific

In recent years, the term 'Indo-Pacific' has become widely resonant in the geo-strategic discourse. **Geographically, the Indo-Pacific refers to the Indian and the Pacific Oceans between the east coast of Africa and the American west coast and their several littoral countries.**

However, there are slight differences in what various countries perceive as the geographical spread of "Asia-Pacific". While a 2017 US National Security Strategy document described the Indo-Pacific as the region from the "west coast of India to the west coast of the United States",

India looks at it as a wider region, which extends all the way to West Asia and the east coast of Africa.

It is both a strategic as well as an economic concept that includes important sea-lines of communication that connect the two oceans. Since it is primarily a maritime space, the Indo-Pacific is associated with maritime security and cooperation. **Strategically, the term 'Indo-Pacific' highlights the importance of the "Indian Ocean" in which India and ASEAN would play a greater role in the regional affairs.** This is a shift away from the Asia-Pacific concept that was prominent earlier, with China's centrality and India sidelines.



Latest Developments

3 visits, Common theme

In US Secretary of State Mike Pompeo's visit to all three countries viz. Sri Lanka, Maldives and Indonesia, the message from US was that China is a lawless country and does not respect international rules. It further claimed that China makes claims on territories that fall within the boundaries of other nations, and that the US will work to prevent that.

Sri Lanka

China has a strong presence in Sri Lanka, where it has control of the Hambantota port. It is also making a terminal at the Colombo port, a new city off the Colombo seafront and is involved in various other infrastructure projects.

In his visit to Sri Lanka, the Secretary of State claimed that China acts like a predator by trapping countries in debt traps, but the US works with countries as a friend and a partner. Debt traps are situations which make it difficult or impossible for the borrower to repay the loan, including through high interest rates. However, the Sri Lankan President did not agree with America's claims that Sri Lanka was caught in a debt trap with China and claimed that China had provided crucial assistance to Sri Lanka in the last 10 years.

Maldives

In the Maldives, which signed a framework defence and security agreement with the US in September, Mr. Pompeo repeated that China operates in a lawless and threatening manner with other countries. Since 2018, when Ibrahim Solih became President of Maldives, the country has dropped its earlier shift towards China, and its foreign policy now focuses on other ties that have existed since a long time, which includes India.

India, which had prevented a US-Maldives defence treaty back in 2013, welcomed the new agreement and said that the treaty was aligned with India's interests and regional stability.

Indonesia

In Indonesia, America appreciated both Indonesia and ASEAN for their strong leadership and for rejecting the unlawful claims by China in the South China Sea (SCS).

China's growing presence in the Indo-Pacific Region raises an alarm for US to intervene and review its policies to the member countries of this region.

2.4 India-Myanmar

Why in News: India and Myanmar recently held foreign office consultations, during which they carried out a comprehensive review of their multi-faceted relationship.

India Myanmar

India shares a long land border of over 1600 Km with Myanmar as well as a maritime boundary in the Bay of Bengal. Four north-eastern states viz. Arunachal Pradesh, Nagaland, Manipur and Mizoram share boundary with Myanmar.

India is the fifth largest trading partner of Myanmar but trade remains below potential. India is the tenth largest investor with an approved investment of US\$ 740.64 million (till 2017) by 25 Indian companies. India's investments have mostly been in oil & gas sector.

Bilateral trade has been growing steadily to reach US\$2178.44 million (2016-17), of which Indian exports amounted to US\$1111.19 million and Indian's imports to US\$1067.25 million. Agriculture sector dominates trade, particularly supply of beans, pulses and timber to India. India's exports to Myanmar include sugar, pharmaceuticals etc.

Development Assistance to Myanmar

India has extended development assistance to Myanmar on generous terms, which is now over \$1.75 billion. Various projects under the assistance are:

- The Kaladan Multimodal Transit Transport Project, which connects the port of Kolkata with Sittwe port in Myanmar. The project provides three modes of transport Viz. Sea, river, & road.
- The Trilateral Highway Project, which is an East-West corridor connecting India's Northeast with Myanmar and Thailand.
- Assistance for border area development in Chin State (in Myanmar) and the Naga Self-Administered Zone by financing bridges, roads, schools and small health centers.
- Assistance in setting up institutions for higher learning and research, in Myanmar.



Both countries share a heritage of religious, linguistic and ethnic ties due to India's Buddhist heritage. India has helped Myanmar in humanitarian relief operations following natural calamities like Cyclone Mora (2017), Komen (2015), Cyclone Nargis in 2008, and earthquake in Shan State in 2010. India provided US\$ 1 million to Myanmar in Rakhine State which was used to construct 10 schools.

India has also offered to provide support in capacity building in disaster risk mitigation as well as in strengthening Myanmar's National Disaster Response Mechanism.

Latest Developments

- India stressed on the priority it attaches to its partnership with Myanmar in accordance with its 'Neighborhood First' and 'Act East' policies. Both sides reviewed their relations, including border cooperation and up-gradation of border infrastructure and status of India's ongoing development projects in Myanmar.
- Cooperation in trade and investment ties, power and energy, consular matters and culture was also discussed in the meeting.
- Both sides are working on the modalities of a training program for the Myanmar Financial Intelligence Unit (FIU). Further, India will continue to extend assistance and support to Myanmar in meeting its Financial Action Task Force (FATF) related obligations.

Discussion on Covid-19

Both sides held extensive discussions on the challenges associated with Covid-19 and ways to reduce its impact, including through vaccine development, supply of medicines, equipment, technology and capacity building.

India has agreed to provide debt service relief (postponement of debt payment) under the G-20 Debt Service Suspension Initiative (for the period May 1 to December 31) to Myanmar, to further assist in reducing the impact of COVID-19.

Rohingyas Issues

Rohingyas are an ethnic group, largely comprising Muslims, who predominantly live in the Western Myanmar province of Rakhine. They speak a dialect of Bengali, instead of the commonly spoken Burmese language.

Though they have been living in the South East Asian country for generations, Myanmar considers them as persons who migrated to their land during the colonial rule. Therefore, Myanmar has not granted full citizenship to Rohingyas. They were even excluded from the 2014 census in Myanmar.

When the Myanmar military launched violent attacks on Rohingya villages in the country's coastal Rakhine state, lakhs of refugees fled the country, seeking refuge in Bangladesh, India and many Southeast Asian countries. Since then, various efforts are on to rehabilitate them back in Rakhine state in Myanmar.

- Both the countries reviewed progress in the work on development projects being carried out by India in the Rakhine state which saw mass exodus (departure) by the internally displaced Rohingyas. The two countries have entered into a trilateral cooperation with Japan on the Rakhine State, under which infrastructure will be created for 15 schools.
- India highlighted that work under the Border Area Development Program and Rakhine State Development Program is being conducted at a fast pace.
- India also shared that it will continue to work towards ensuring an early, safe and sustainable return of internally displaced persons to Myanmar.

2.5 Quadrilateral Security Dialogue (QUAD)

Why in News: Quadrilateral Security Dialogue, comprising India, Japan, the US and Australia took place in Tokyo

Quadrilateral Security Dialogue (Quad)

- The Quadrilateral Security Dialogue (QSD, also known as the Quad) is an informal strategic forum between
 - The United States
 - Japan
 - Australia
 - India
- Quad is a bloc of like-minded democracies that advocate “the rule of law” and “freedom of navigation” in contrast to China. An **important objective** of Quad is to ensure and support a “free, open and prosperous” Indo-Pacific region.
- Quad is maintained by semi-regular summits, information exchanges and military drills between member countries.
- The forum was initiated as a dialogue in 2007 by Prime Minister Shinzo Abe of Japan, with the support of Vice President Dick Cheney of the US, Prime Minister John Howard of Australia and Prime Minister Manmohan Singh of India. The dialogue was paralleled by joint military exercises of an unprecedented scale, titled Exercise Malabar.
- All four nations of Quad find a common ground of being the democratic nations and common interests of unhindered maritime trade and security.

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 Financial Action Task Force (FATF)

Topic: Money- Laundering and role of external non state actors in internal security

Why in News: After its latest review, the Financial Action Task Force (FATF) has decided to keep Pakistan on its 'grey', list.

Financial Action Task Force (FATF)

- The Financial Action Task Force is an intergovernmental organization founded in 1989 on the initiative of the G7 to develop policies to combat money laundering. In 2001 its mandate expanded to include terrorism financing. It is also termed as "**international terror financing watchdog**".
- The FATF is seen as a "policy-making body" which works to generate the necessary political will to bring about national legislative and regulatory reforms in combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.
- The FATF has developed a series of recommendations that are recognised as the international standard for combating of money laundering and terror financing.
- The **FATF Secretariat is housed at the OECD headquarters in Paris.**

Members

Currently, FATF consists of 39 members, including:

- 37-member jurisdictions with voting powers
- Two regional organisations - the European Commission and the Gulf Co-operation Council
- India is a member, as well as important countries like China, US, UK, France, Germany, Russia and Saudi Arabia.
- Interestingly, Hong Kong is also a separate member jurisdiction.

Asia/Pacific Group on Money Laundering (APG), Eurasian Group (EAG), Caribbean Financial Action Task Force (CFATF), and Financial Action Task Force of Latin America (GAFILAT) etc. are FATF Associate Members.

Functions

- It Sets international standards to combat money laundering and terrorist financing, and promotes effective implementation of legal, regulatory and operational measures
- It Assesses and monitors compliance with the FATF standards

- It Conducts studies and research on money laundering and terrorist financing methods, trends and techniques

Lists maintained by FATF

FATF maintains two different lists of countries

Grey List

This refers to countries under “increased monitoring” by the FATF. These are countries that have deficiencies in their Anti Money Laundering /Counter Terrorist Financing (AML/CTF) regimes but they commit to an action plan to address these loopholes. For e.g., Pakistan was made to commit to a 27-point action plan

There are eight countries in Grey list: Pakistan, Ethiopia, Serbia, Sri Lanka, Syria, Trinidad and Tobago, Tunisia and Yemen. As per the FATF charter, fifteen members need to support a country’s move off of the Grey list.

Impact

Though 'grey-listing' a country doesn’t amount to international sanctions, countries will be wary of investing in grey-listed knowing that it is not a jurisdiction seen as compliant with FATF rules.

Black List

The FATF black list means the country concerned is a "high risk jurisdiction" and "non-cooperative" in the global fight against money laundering and terrorist financing. There are two countries in the blacklist: Iran and North Korea.

As per the FATF charter, to stay off of the FATF blacklist, the support of at least three of a total of 36 (excluding two regional organisations) FATF members is required. For example, Pakistan has often managed to stay off the blacklist with the support of China, Malaysia and Turkey.

Impact

Once a country is blacklisted, FATF calls on other countries to apply enhanced due diligence and counter measures, increasing the cost of doing business with the country and in some cases severing it altogether. Companies planning to invest in blacklisted countries will find it difficult to raise money or will have to pay higher rates of interest while borrowing to invest.

Following grey listing, three reviews are conducted, followed by a round at which it will be decided whether a country is to be blacklisted.

Latest Developments

- After its latest review, the Financial Action Task Force (FATF) has decided to keep Pakistan on its 'grey', or 'increased monitoring', list till February 2021. **This was mainly due to Pakistan's failure to address 6 items in its 27-point action plan to check terror-financing.** One of the items where Pakistan failed relates to action against UNSC proscribed terrorists like Masood Azhar.
- At the FATF plenary, India highlighted that Pakistan continued to provide a safe haven to terrorists and that it had not acted against the likes of Azhar, Dawood Ibrahim and Zaki-ur-Rehman Lakhvi, all proscribed by the UNSC. **FATF described the fact that Pakistan had not yet complied with 6 important items in the action plan as "serious deficiencies".**
- The agency acknowledged progress made by Pakistan in mostly addressing 21 items on the action plan related to terror-financing and money laundering.

The agency urged Pakistan to swiftly complete its action plan by February 2021 as all FATF action plan deadlines have already expired. Most of the six remaining issues are related to terror-financing. FATF asked Pakistan to address its strategic deficiencies by taking effective action against all UN 1267 and 1373 designated terrorists and those acting for or on their behalf by:

- Demonstrating effective implementation of targeted financial sanctions
- Preventing the raising and moving of funds including in relation to NPOs (non-profit organisations)
- Identifying and freezing assets (movable and immovable), and prohibiting access to funds and financial services

3.2 No First Use Nuclear Doctrine

Why in News: India participated in the high-level plenary meeting to commemorate and promote the International Day for the Total Elimination of Nuclear

India's Policy of No First Use (NFU)-India's Nuclear Doctrine

It was first time released in 2003 and was based on the **No First Use Policy principle**. The doctrine also stated that government may consider using nuclear weapons to retaliate against any attacks by chemical and biological weapons.

India reiterated its nuclear doctrine of "No First Use" against nuclear weapon states and non-use against non-nuclear weapon states. This implies that India's nuclear arsenal would be used only as a nuclear deterrent.

India firmly believes in world free of nuclear weapons but reserves the right to retaliate if attacked by nukes. India's stance has remained same since 1998 when India carried out series of nuclear tests in 1998.

India's Commitment to Nuclear Disarmament

India has repeatedly reiterated its commitment to a universal, verifiable and non-discriminatory nuclear disarmament for the complete elimination of nuclear weapons. This will be in line with the final document of the First Special Session of the UN General Assembly on disarmament. India's approach to nuclear disarmament was encapsulated in its working paper submitted to the UNGA First Committee in 2006 and to the Conference on Disarmament in 2007.

India believes that nuclear disarmament can be achieved through a step-by-step process underwritten by a universal commitment and an agreed multilateral framework. India remains convinced of the need for dialogue among all states possessing nuclear weapons, for building trust and confidence.

International Day for the Total Elimination of Nuclear Weapons

The UN General Assembly commemorates 26 September as the International Day for the Total Elimination of Nuclear Weapons. The General Assembly declared the International Day in December 2013, in its resolution 68/32 as a follow-up to the high-level meeting of the General Assembly on nuclear disarmament held on 26 September 2013.

The International Day for the Total Elimination of Nuclear Weapons has been observed annually since 2014.

Objective

This Day provides an occasion for the world community to reaffirm its commitment to global nuclear disarmament as a priority. The purpose of the International Day is to further the objective of the total elimination of nuclear weapons through enhancing public awareness and education about the threat posed to humanity by nuclear weapons and the necessity for their total elimination.

3.3 Nuclear Capable Shaurya Missile

Why in News: India successfully test-fired indigenously developed hypersonic nuclear-capable Shaurya missile, an advanced version of Submarine Launched Ballistic Missile (SLBM) K-15

Shaurya missile

- Shaurya is a surface-to-surface medium range missile, which has a strike range of 750 to 1,000-km and can reach speeds of 7.5 Mach (seven and half times the speed of sound).
- The 10-meter-long missile can carry both nuclear and conventional warheads weighing up to 1,000 kilograms.
- It is equipped with multiple advanced computing technology and high accuracy navigation and sophisticated control and guidance systems.
- The two-stage missile powered by solid fuel is so fast that the enemy's radar will get less than 400 seconds to detect, track, and intercept it.
- **Launching platform:** The missile can be launched from silos and canisters mounted on a truck and fixed on the ground, they said adding that it can be easily moved around. A truck itself can become a launching platform.

Canister based system

Shaurya, like many of the modern missiles, is a canister based system, which means that it is stored and operated from specially designed compartments.

The canister launch makes the missile deadlier because the armed forces get the operational flexibility to swiftly transport and fire it from anywhere they want. The canister based system also improves the shelf life of weapons significantly.

K Family of missiles

The K families of missiles are primarily Submarine Launched Ballistic Missiles (SLBMs), which have been indigenously developed by Defence Research and Development Organisation (DRDO) and are named after Dr APJ Kalam

The development of these missiles began in the late 1990s as a step towards completing India's nuclear triad. The capability of launching nuclear weapons from land, sea and air based assets. As these missiles are to be launched from submarines, they are lighter, smaller and stealthier (secretive) than similar land-based missiles.

Missiles in the K-family

The early development trials of K-15 and K-4 missiles had begun in the early 2010s. SLBM K-15 Sagarika has a range of at least 750 kilometers. K-15s have been integrated into INS Arihant submarine of the Indian Navy.

India has developed and successfully tested multiple times the intermediate-range SLBM K-4 missiles from the family which has a range of 3500 km

Land variants of K-missiles

While K family is primarily submarine-fired missiles, the land and air variants of some of its members have also been developed by the DRDO. **Shaurya missile, whose user trial was recently conducted, is a land variant of short range SLBM K-15 missile.**

Strategic importance of SLBMs

The capability of being able to launch nuclear weapons from submarine platforms is important due to India's relations with its two neighbours China and Pakistan. With China having deployed many of its submarines, including some which are nuclear powered and nuclear capable, this capacity building is crucial for India's nuclear deterrence.

The 2016 commissioned nuclear powered Arihant submarine and its class members which are in the pipeline, are the vessels capable of launching missiles with nuclear warheads. These submarines can not only survive a first strike by the enemy but can also launch a strike in response which gives Credible Nuclear Deterrence to India.

India's nuclear doctrine is based on a policy of minimum credible deterrence, with no-first-use and non-use of nuclear weapons against non-nuclear weapon states.

3.4 Rudram -1

Why in News: The Defence Research and Development Organisation (DRDO) has successfully tested the New Generation Anti Radiation Missile (NGRAM) also called the Rudram-1.

This is the first indigenous anti-radiation missile of the country. The missile was launched from Sukhoi-30 MKI fighter aircraft and all mission objectives were successfully met.

Anti-radiation missiles are designed to detect, track and neutralise (disrupt) the enemy's radar, communication assets and other radio frequency sources, which are generally part of their air defence systems.

By doing so, they clear the path for own fighters to carry out an offensive attack and also prevent own systems from being blocked.

Radar

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

A radar system consists of a transmitter producing radio waves. Radio waves from the transmitter reflect off the target object and return to the receiver, giving information about the object's location and speed.

Rudram-1

The New Generation Anti Radiation Missile (NGRAM), also called the Rudram missile, is designed and developed by the DRDO. The Sanskrit name Rudram is given because it includes the letters ARM (the acronym for anti-radiation missile) and the word Rudram in Sanskrit describes “remover of sorrows” (one of its meanings).

Capabilities

Rudram is an air-to-surface anti-radiation missile with a speed of Mach two (twice the speed of sound).

It is capable of bringing down (attacking) a wide-range of enemy radar systems, communication networks and air defence systems. Its range depends on the height at which the fighter jet from which it is launched is flying.

It can be launched from a height ranging from 500 meters to 15 km and can hit radiation emitting targets within a range of 250 km. For guidance, the missile is equipped with a **Passive Homing Head (PHH)**. The PHH is a system that can detect, classify and engage targets (sources of radiation) over a wide band of frequencies as programmed.

It also has the capability to engage targets that have a shutdown capability. This means that even if the enemy shuts down the radar after the missile is launched, it will still hit the target.

Significance

Modern-day warfare is more and more network-centric, which means it comprises elaborate detection, surveillance (monitoring) and communication systems that are integrated with the weapon systems.

Disrupting the operations of the enemy's early warning radars, command and control systems, surveillance systems that use radio frequencies can be very crucial.

Rudram has been developed for the IAF's requirement to enhance its **Suppression of Enemy Air Defence (SEAD) capability**. As one of the many aspects of SEAD tactics, anti-radiation missiles are used mainly in the initial part of air conflict to strike at the air defence assets of the enemy (and also in later parts), leading to higher survivability to a country's own aircraft.

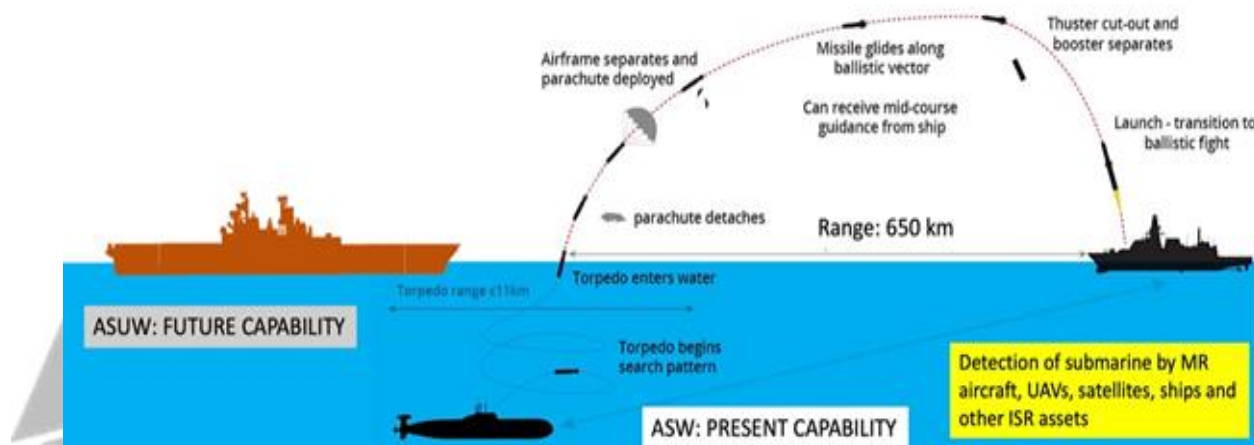
Thus, with this, India has established indigenous capability to develop long-range air-launched anti-radiation missiles for disrupting enemy radars, communication sites and other such targets.

3.5 SMART System

Why in News: A successful flight test of the Supersonic Missile Assisted Release of Torpedo (SMART) system was conducted from Wheeler Island, off the coast of Odisha.

- SMART is a missile-assisted release of lightweight anti-submarine torpedo system for anti-submarine warfare (ASW) operations far beyond torpedo range.
- SMART is a hybrid missile that incorporates technologies of two different weapon systems making it faster and stealthier. With this, India has got an anti-submarine weapon having much higher range.
- While the long range torpedo available in the world is around 50 km and rocket-assisted torpedoes can strike at a range of 150 km, the SMART will have a range of over 600 km.

Supersonic Missile Assisted Release of Torpedo (SMART) CONOPS



ECONOMY

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

- Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.
- Inclusive growth and issues arising from it.
- Government Budgeting.
- Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
- Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
- Investment models.
- Agriculture

4.1 Land Titling : Draft Model Act and Rules

Topic: Land Reforms

Why in News: Niti Aayog has released a draft model Act and rules for States for regulation on conclusive land titling.

Land titling is the procedure followed for providing Title over any type of immovable property.

In a conclusive titling system, the government provides guaranteed titles for the land, and compensation in case of any ownership disputes. The aim of the draft model Act is to reduce a large number of land related litigations and also improve land acquisitions for the infrastructure projects.

Draft Model Act on Conclusive Land Titling

The model Act and rules contain provisions for the establishment, administration and management of a system of title registration of immovable properties. The states can use this as guide to come up with their own laws, as Land is a State subject.

Land Authority

It provides for a 'Land Authority' for the purpose of the Act. The Land Authority will be a body corporate and will have the power to acquire, hold and dispose a property. A body corporate broadly means a corporate entity which has a legal existence.

Composition of the Land Authority

- The Land Authority shall consist of a Chairperson, the Commissioner Land Titling, and three other members, to be appointed by the government. The chairperson will be:
 - A serving or retired officer of the Indian Administrative Service not below the rank of Chief Secretary or Special Chief Secretary or Principal Secretary to the Government or A non-government expert from the fields such as law, land administration, registration, survey & settlement, and management of land records.
 - The chairperson shall hold office for not more than 3 three years and shall be eligible for reappointment only once.

Land Dispute Resolution Officer and Land Titling Appellate Tribunals

- The Land Authority can appoint one or more Land Dispute Resolution Officers, to deal with objections filed under the Act.
- The Land Dispute Resolution Officer will be retired or serving officer not below the rank of Joint Collector of a District. Further, the Land Authority will establish one or more Land Titling Appellate Tribunals to hear the appeals filed under the Act.
- **The Land Titling Appellate Tribunal will be presided by a serving or retired judicial officer in the rank of District Judge.** It will also consist of an administrative member not below the rank of an Additional Collector.
- While hearing an objection or dispute under the Act, The Land Dispute Resolution Officer and the Land Titling Appellate Tribunal will have the powers of a civil court under the Code of Civil Procedure, 1908.
- However, The Land Dispute Resolution Officer and the Land Titling Appellate Tribunal will be guided by the principles of natural justice and will not be bound by the procedure laid down by the Code of Civil Procedure, 1908.

Dispute resolution

- Any person who has an objection to an entry in the Record of Titles can file an objection before the Title Registration Officer within three years from the date of such notification.
- Following this, the Title Registration Officer shall make an entry in Register of Titles and in the Register of Disputes and refer the case to the land dispute resolution officer.
- If the party has an objection with the order of the land dispute resolution officer, it can file an appeal before the Land Titling Appellate Tribunal within 30 days of passing of such an order.
- Further, a special bench of High court shall be designated to deal with appeals against the orders passed by the Land Titling Appellate Tribunal. The window for an appeal to the High Court is 30 days.

4.2 Ambedkar Social Innovation and Incubation Mission (ASIIM)

Topic: Technology Missions and Inclusive Growth

Why in News: The Ministry of Social Justice and Empowerment has launched the Ambedkar Social Innovation and Incubation Mission (ASIIM) under Venture Capital Fund for SCs. It intends to encourage SC students studying in higher educational institutions to innovate and become entrepreneurs.

Ambedkar Social Innovation and Incubation Mission (ASIIM)

Objectives of ASIIM

- Promote entrepreneurship among the Scheduled Caste (SC) youth, with special preference to Divyangs.
- Support, promote and hand-hold the start-up ideas till they reach commercial stage by providing equity support.
- Incentivise students with innovative mind-set to take up entrepreneurship with confidence.

Provisions under ASIIM

1,000 SC youth with start-up ideas would be identified in the next 4 years (till 2024), in various higher educational institutions.

They will be funded up to Rs. 30 lakhs in 3 years as equity funding so that they can translate their start-up ideas into commercial ventures. Successful ventures would further qualify for funding of up to Rs. 5 Crore from the Venture Capital Fund for SCs.

Equity funding

- Equity funding is a form of financing in which a business owner sells a partial stake in the company to an investor, for a specific amount of money. For e.g., a business owner might offer 2% of their company in exchange for US \$20,000.
- This form of financing enables a business to receive the capital it needs without taking on additional debt.

Eligibility

The following SC/Divyang youth would be eligible for support under ASIIM:

- Youth who have been identified by the Technology Business Incubators (TBIs) being promoted by Department of Science & Technology.
- Youth who are identified by reputed private TBIs.
- Students who have been awarded under the Smart India Hackathon or Smart India Hardware Hackathon being conducted by Ministry of Education.
- Innovative ideas focusing on the socio-economic development of the society identified in the TBIs.
- Start-ups nominated and supported by corporates through Corporate Social Responsibility (CSR) funds.

Business Incubator

A business incubator is a company that helps in the development of early-stage companies and start-ups by providing various services and resources to them.

The initiative will promote innovation in the SC youth and would help them to become job-givers from job-seekers. It would give a further boost to the Stand Up India initiative.

Venture Capital Fund for SCs (VCF-SC)

The ASIIM initiative will be implemented by the Venture Capital Fund for SCs which was set up in 2016, with the fund size of Rs. 500 crore. The fund was launched to develop entrepreneurship among the SC/ Divyang youth by providing concessional finance to them. Since its inception, VCF-SC has sanctioned financial assistance to 118 companies with an amount of Rs. 444.14 crore.

4.3 GST Compensation Cess

Why in News: The differences over shortfall in compensation cess, between states and the Centre remained unresolved at the recently held 42nd Goods and Services Tax Council meeting. However, the Centre has decided to release Rs 45,000 crore of GST dues to States by next week to help them meet immediate spending needs amid the pandemic.

Compensation Cess under GST

The Compensation Cess is a cess that will be collected on the supply of select goods and or services or both till 1st July 2022.

All the taxpayers, except those who export specific notified goods and those who have opted for GST composition scheme, are liable to collect and remit the GST compensation cess to the central government. Subsequently, the central government distributes it to the states.

Under GST, a compensation cess ranging from 1-200% is imposed on sin and luxury goods like cigarettes, pan masala and certain categories of automobiles, over and above the topmost slab of 28%. For e.g.; SUV vehicles (more than 4 meters) are charged 50 per cent GST, of which the GST tax rate is 28 per cent and the compensation cess is 22 per cent. Sin goods are goods which are considered harmful to society.

Reasons for introducing the compensation cess

- Compensation cess was introduced to compensate States for the loss in their revenue due to the implementation of GST.
- Thus, the GST (Compensation to States) Act guarantees all states an annual growth rate of 14 per cent in their GST revenue in the first five years of implementation of GST beginning July

2017. If a state's revenue grows slower than 14 per cent, it is supposed to be compensated by the Centre using the funds collected as compensation cess.

Recent issues with compensation cess

In the recent past, the issue of compensation cess has led to differences between the Centre and states, as states have not been paid their promised compensation since the last fiscal year.

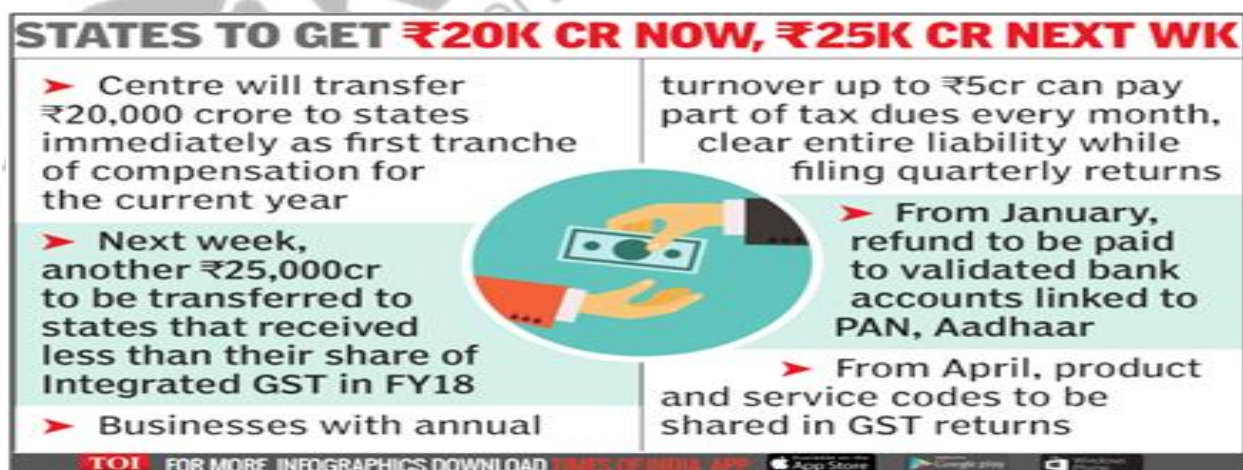
As per the Centre, due to the slowdown in economy, the collection of money through compensation cess has reduced significantly. While compensation cess collections this year are expected to be just around Rs 65,000 crore, compensation due to States is around Rs 3 lakh crore. Thus, the states are facing a Rs 2.35 lakh crore revenue shortfall.

Of this, as per Centre's calculation, about Rs 97,000 crore is on account of GST implementation and rest Rs 1.38 lakh crore is the impact of COVID-19 on states' revenues. To address this shortfall, the Centre in August gave two borrowing options to the states: to borrow either Rs 97,000 crore from a special window facilitated by the RBI or Rs 2.35 lakh crore from market.

Highlights of the recent GST Council meeting

Revised breakup

At the recent meeting, the centre has revised the breakup and said that Rs 1.10 lakh crore (earlier calculated as Rs 97,000 crore) of the shortfall is due to GST implementation and the balance due to COVID-19. Following this revision, under the first borrowing option, States can now borrow Rs 1.1 lakh crore. The second option continues to remain the same, where States can borrow the entire Rs 2.35 lakh crore shortfall



Stand taken by various states

Around 21 states have opted to borrow Rs 97,000 crore to meet the GST revenue shortfall in the current fiscal. However, 10 states demand that full compensation should be paid to the states during the current year and the centre should borrow the amount.

Extension of Compensation Cess

The Council has agreed to extend the levy of compensation cess under the GST regime, beyond the five-year period. It was originally planned that the compensation cess would be levied till, June 2022. The cess collections will be used to repay borrowings to be made this year for meeting the compensation shortfall.

Aadhaar authentication for refunds

Based on investigations of cases where taxpayers disappeared after claiming GST refunds, the Council has decided to restrict refunds to bank accounts validated by Aadhaar. It also made Aadhaar authentication mandatory for all refund applications.

Declaration of HSN Code

The Council approved the revised requirement of declaring HSN (Harmonised System of Nomenclature) Code for goods in invoices and in sales return form, with effect from April 1, 2021. Taxpayers with a turnover of over Rs 5 crore will have to quote the six-digit HSN, while those up to Rs 5 crore will have to quote up to four digits for business to business (B2B) supplies of goods and services.

HSN Code

The Harmonised System Nomenclature, or HSN is a six-digit identification code developed by the World Customs Organization (WCO). Over 200 countries use the system as a basis for their customs tariffs, gathering international trade statistics, making trade policies, and for monitoring goods. The system helps in harmonising of customs and trade procedures, thus reducing costs in international trade.

The system currently comprises of around 5,000 commodity groups, each identified by a unique six-digit code. Of the six digits, the first two denote the HS Chapter, the next two give the HS heading, and the last two give the HS subheading.

4.4 NOBLE Prize: Auction Theory

Why in News: The Royal Swedish Academy of Sciences awarded this year's Sveriges Riksbank Prize in Economic Sciences to Paul Milgrom and Robert Wilson. The award is popularly (although incorrectly) referred to as the Nobel Prize for Economics.

In its announcement, the Academy said the pair is receiving the award for improvements to "auction theory" and inventions of new auction formats.

Auctions

An auction is usually a process of buying and selling goods or services by inviting bids (offered price). The oldest form of auction is one in which the highest bidder gets the property (or the commodity being sold). However, over time, and especially over the last three decades, more and more goods and services have been brought under auction.

Public authorities offer airport landings slots and mineral rights via auctions. Global financial markets also operate on these principles.

Auction theory

Essentially, auction theory is about how auctions lead to the discovery of the price of a commodity. It studies how auctions are designed, what rules govern them, how bidders behave and what outcomes are achieved.

As auctions help to sell a variety of products, a single auction design does not fit all types of commodities or sellers. This is also true because the purpose of an auction also differs with the commodity and the entity conducting the auction.

Variables that determine the outcome of an auction

Three key variables need to be understood while designing an auction.

First variable

The first variable is the **rules of the auction**. The bidding behaviour in an auction varies depending on whether the rules specify open bids or closed/sealed bids. The behaviour would also change in case of single bids versus multiple bids, or whether bids are made one after another or everyone bids at the same time.

Second variable

The second variable is the commodity or service being sold in the auction. The important point over here is how each bidder values an item, which is not always easy to calculate. For example, in terms of telecom spectrum, it might be easier to find the right value for each bidder because most bidders are likely to put the spectrum to the same use. This is called the “common” value of an object.

However, this may not be the case with some other commodities, for example a painting. A particular person may derive considerably more “private” or personal value (just by looking at the painting) than some other person. In most auctions, bidders allocate both “common” as well as “private” values to the object being auctioned and this affects their eventual bids.

Third Variable

The third variable is uncertainty. For instance, which bidder has what information about the object, or even the value another bidder associates with the object. Using auction theory, it is possible to explain how these three factors influence the bidders’ strategic behaviour and thus the auction’s outcome. The theory can also show how to design an auction to create as much value as possible.

The Academy noted that, Wilson developed the theory for auctions of objects with a common value, a value which is uncertain before the auction but, in the end, is the same for everyone. Wilson showed what the “winner’s curse” is in an auction and how it affects bidding. For example, it is possible to overbid \$50 when the real value is closer to \$25. In doing so, one wins the auction but loses out in reality.

He developed a theory explaining the tendency of successful bidders to place bids lower than their own estimate of the item’s value to themselves or other buyers, because they feared paying too much (due to winner’s curse).

Milgrom came up with a theory to deal with a mix of common and private value, and he examined the role of winner’s curse in such instances. He demonstrated that an auction format will give the seller higher expected revenue when bidders learn more about each other’s estimated values during the bidding process.

According to the committee, **the pair’s “best-known contribution,”** is their work in designing new auction formats for complex situations, including the format that governments now use to allocate radio frequencies to telecom operators.

4.5 World Energy Outlook

Why in News: The International Energy Agency (IEA), recently released the World Energy Outlook (WEO) 2020. The World Energy Outlook 2020 focuses on the important period of the next 10 years, exploring different pathways out of the pandemic.

World Energy Outlook

The annual World Energy Outlook is the International Energy Agency's flagship publication, widely recognised as the most authoritative source for global energy projections and analysis. It represents the leading source for medium to long-term energy market projections, extensive statistics, analysis and advice for both governments and the energy business. The annual report is produced by the Office of the Chief Economist.

Highlights

The four pathways out of the pandemic presented in WEO 2020 are as follows:

Under the Stated Policies Scenario (STEPS), Covid-19 will be brought under control in 2021 and energy demand will rebound to its pre-crisis level in 2023.

Under the Delayed Recovery Scenario (DRS), it assumes that the global economy would return to its pre-crisis size only in 2023 and the energy demand will not rebound until 2025.

As per the DRS, the pandemic would lead to a decade (2020-2030) with the lowest rate of energy demand growth since the 1930s. The other two scenarios — the Sustainable Development Scenario (SDS) and Net Zero Emissions by 2050 — outline the necessary steps to reach stated climate goals.

In the SDS, net-zero emissions will be achieved by 2070, while in NZE 2050; the goal of net emissions will be achieved by 2050, by implementing aggressive policies. The NZE 2050 includes the first detailed IEA modeling of what would be needed in the next ten years to put global carbon dioxide emissions on track for a net zero emissions scenario by 2050.

Energy demand projections

Energy demand was projected to grow by 12 per cent between 2019 and 2030 before the pandemic struck. However, the growth over this period will now decline to nine per cent under the STEPS, and to four per cent in the DRS.

Due to the ongoing impacts of Covid-19, the IEA expects global energy demand to fall by 5% in 2020, with oil and coal consumption falling 8% and 7%, respectively.

IEA expects oil demand to grow till 2030 and at this point (2030) it will reach its peak consumption. Natural gas demand is expected to decline by 3% this year; the largest decline since

it became a major source of fuel in the 1930s. However, the IEA expects an increase in demand over the next decade.

Increase in renewable sources

Under STEPS, renewable sources will meet around 80% of the growth in electricity demand over the next 10 years. By 2025, renewable will overtake coal as the primary means of producing electricity

Hydropower remains the largest renewable source, but solar will be the main source of growth in the next decade, followed by onshore and offshore wind. The combined share of solar and wind in global generation will rise to almost 30% in 2030 from 8% in 2019, with the solar capacity growing by an average 12% a year.

Improving technology and support mechanisms have cut financing costs for major solar PV projects, which has helped in bringing down overall output costs. Solar PV is now cheaper than new coal- or gas-fired power plants in most countries.

Highlights on India

As per the report, India has started showing signs of recovery in energy demand, which is an indicator of economic activity. With demand for energy in advanced economies on a declining trend, most of the increase will come from emerging market and developing economies, led by India, over the next 10 years.

A slower pace of growth in global oil demand with a growing oil production outlook will help the Indian government through lower oil import and fuel subsidy bills. It will also benefit the consumers with cheaper fuels. However, low oil and gas prices will hurt domestic producers and their ability to spend on future projects.

The large drop in investments globally will increase the risk of future market volatility (unpredictability), which will be a negative for India, as the country depends on imports for 83% of its oil needs.

Way Ahead

While, the clean energy transition continues to show improvement, faster and bolder structural changes are needed if the world plans to reach net-zero carbon emissions.

A significant part of those efforts would have to focus on reducing emissions from existing energy infrastructure – such as coal plants, steel mills and cement factories. Maintaining a strong pace

of emissions reductions post-2030 requires a strong focus on energy and material efficiency, electrification, and a strong role for low-carbon liquids and gases.

The finance sector will have to facilitate a significant increase in clean technologies, aid the transitions of fossil fuel companies and bring low-cost capital to the countries and communities that need it most. Governments have the capacity and the responsibility to take decisive actions to accelerate clean energy transitions and put the world on a path to reaching the climate goals, including net-zero emissions.

International Energy Agency

The International Energy Agency is a Paris-based autonomous intergovernmental organization established in the framework of the Organisation for Economic Co-operation and Development (OECD) in 1974 in the wake of the 1973 oil crisis.

The IEA was initially dedicated to responding to physical disruptions in the supply of oil, as well as serving as an information source on statistics about the international oil market and other energy sectors.

It acts as a policy adviser to its member states, but also works with non-member countries, especially China, India, and Russia. The Agency's mandate has broadened to focus on the **3Es of effectual energy policy: energy security, economic development, and environmental protection.**

SCIENCE AND TECHNOLOGY

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

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

5.1 NOBLE Prize (Physics) : Black Hole

Why in News: The 2020 Nobel Prize for physics has been awarded to Roger Penrose for black hole discovery.

Reinhard Genzel and Andrea Ghez have also been jointly awarded the 2020 Nobel Prize for physics, for discovering a super massive compact object at the centre of the galaxy. Ghez is just the fourth woman to receive the physics prize since 1901 when the first Nobel prizes were first given. The first woman to win the prize was Marie Curie in 1903, who was also the first person to receive two Nobel prizes when she won the 1911 chemistry prize.

Black Hole

Black hole is a region with extreme density; with an escape velocity so high that even light cannot escape it. **Escape velocity** is the speed at which an object must travel to overcome a planet or an object's gravitational force.

Black holes generally emerge from the explosive deaths of certain large stars. When large stars, exhaust their nuclear fuel, they experience an explosive collapse in their core, to produce a black hole. **Thus black hole is a point in space where matter is so compressed that it creates an extremely strong gravity field.**

The boundary of the black hole is known as the event horizon i.e. the point of no return. Matter that crosses the event horizon towards the black hole can never return outside.



Work of the three scientists

Penrose's discovery

For years, physicists questioned whether black holes could really exist. Penrose used Einstein's general theory of relativity in order to prove that the process of formation of black holes is a stable one. Penrose invented mathematical methods to explore Albert Einstein's general theory of relativity and showed that the theory explains the formation of black holes.

The general theory of relativity is a major building block of modern physics published by Albert Einstein in 1915. It is the current description of gravitation in modern physics. He proved that black holes exist and described them in detail back in 1965.

The Royal Swedish Academy of Sciences, which awards the Nobel Prize winners, said Mr. Penrose's 1965 article is still regarded as the most important contribution to the general theory of relativity since Einstein.

Genzel and Ghez's discovery

Genzel and Ghez discovered that an invisible and an extremely heavy object govern the stars' orbit at the centre of the Milky Way. Essentially, their work shows that at the centre of our Milky Way galaxy lies an invisible super massive object, for which a black hole provides a reasonable explanation.

In order to see through to the middle of the Milky Way, Genzel and Ghez worked on developing methods and used some of the world's largest telescopes. They made precise measurements of the orbits of the brightest stars in the area considered the middle of the Milky Way.

Their studies showed that the slightly unusual trajectories and the speed of the stars could only be explained by the presence of a very massive but invisible, heavenly body.

This is now known to be the Sagittarius A* super massive black hole, which has a mass four million times that of the Sun and is restricted to an area roughly the size of our Solar System.

The work done by Penrose has established that black holes are explained through the theory of relativity and that they are formed naturally in very over-dense regions. However, the theory does not apply at the centre of the black hole called the singularity; a boundary at which all the known laws of nature break down (fail).

5.2 NOBLE Prize(Chemistry)

Why in News: The Royal Swedish Academy of Sciences has awarded the 2020 Nobel Prize in Chemistry to Emmanuelle Charpentier and Jennifer A. Doudna for development of a method for genome editing.

Their discovery, known as Crispr-Cas9, is a way of making specific and precise changes to the DNA contained in living cells. The CRISPR (short for Clustered Regularly Interspaced Short Palindromic Repeats) technology for gene-editing was developed in the year 2012. Using these, researchers can change the DNA of animals, plants, and microorganisms with extremely high precision.

DNA and RNA

Deoxyribonucleic acid (DNA) and Ribonucleic acid (RNA) are nucleic acids. Along with lipids, proteins, and carbohydrates, nucleic acids constitute one of the four major macromolecules essential for all known forms of life.

DNA is the chemical name for the molecule that carries genetic information in all living things. The DNA molecule consists of two strands that wind around one another to form a shape known as a double helix.

RNA is a molecule essential in various biological roles in coding, decoding, regulation and expression of genes. Unlike DNA, RNA is single-stranded.

Genome editing

Genome editing (or genome engineering, or gene editing) enable scientists to make changes to DNA, leading to changes in physical traits, like eye colour, and disease risk. Editing, or modifying gene sequences is not new and scientists have been using different technologies for gene editing for several decades.

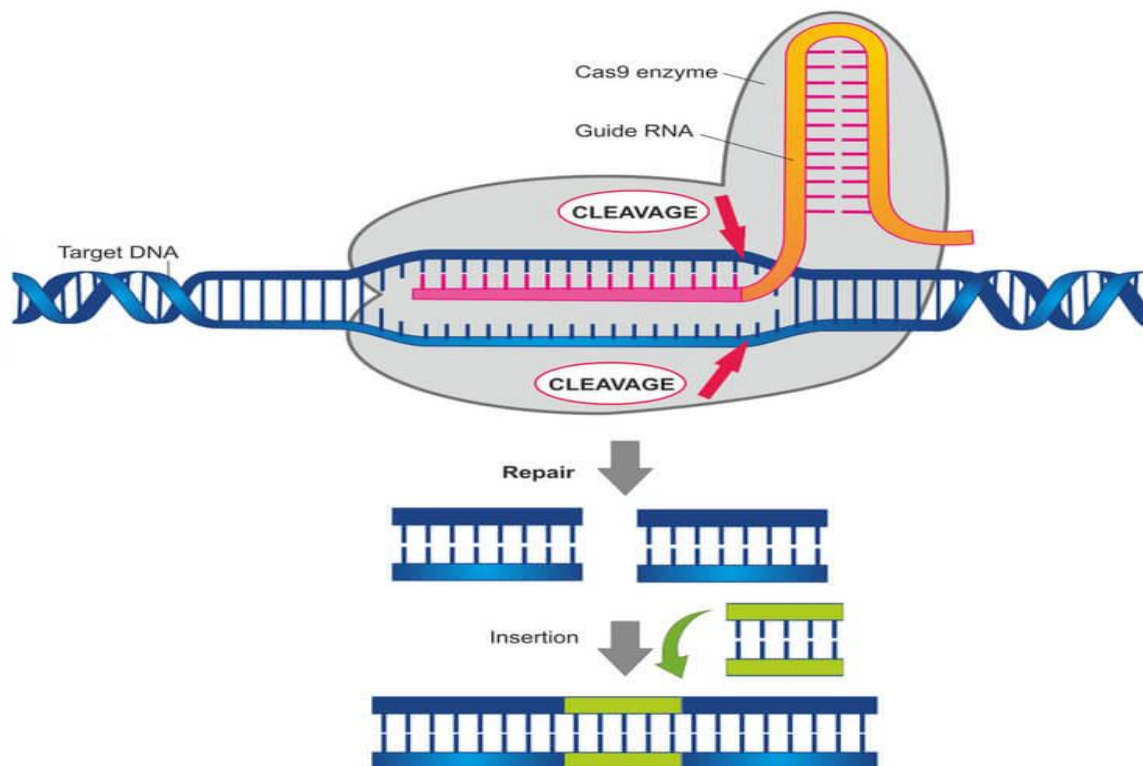
These technologies have been used particularly in the field of agriculture, where several crops have been genetically modified to provide particular traits.

CRISPR/Cas9 technology

In essence, the technology works in a simple way. It locates the specific area in the genetic sequence which has been diagnosed to be the cause of the problem. It then cuts that area and replaces it with a new and correct sequence that no longer causes the problem. The technology replicates a natural defence mechanism in some bacteria that uses a similar method to protect itself from virus attacks. An RNA molecule is programmed to locate the particular problematic sequence on the DNA strand.

A special protein called Cas9, which is now often described as a 'genetic scissor', is used to break and remove the problematic sequence. A DNA strand, when broken, has a natural tendency to repair itself, but the auto-repair mechanism can lead to the re-growth of a problematic sequence.

Scientists intervene during this auto-repair process by supplying the desired sequence of genetic codes, which replaces the original sequence.



During her research on common harmful bacteria, Prof. Charpentier discovered a previously unknown molecule. This was a part of the bacteria's immune system that made viruses powerless, by cutting off parts of the virus' DNA.

Later Prof. Charpentier worked with Prof. Doudna to recreate the bacteria's genetic scissors and simplified the tool to use and apply it to other genetic material. They then reprogrammed the scissors to cut any DNA molecule at a predetermined site.

Benefits of the technology

The CRISPR technology is simpler, faster, cheaper, and more accurate than older genome editing methods. Many scientists who perform genome editing now use CRISPR. The technology can not only transform basic research but can also be used to treat various illnesses.

It has led to innovative cancer treatments, and many experts hope it could one day make inherited diseases curable through gene manipulation.

It is currently being investigated for its potential to treat sickle cell anaemia, a blood disorder that affects millions of people worldwide. It has already contributed to significant gains in agriculture, by altering the genetic code of crops to help them withstand drought and pests.

5.3 SOFIA MISSION

Why in News: NASA (National Aeronautics and Space Administration) has confirmed the presence of water on the moon's sunlit surface for the first time.

NASA made the discovery using the SOFIA flying observatory. The results showed that there may be more water on the moon's surface than previously thought.

Background

The Moon was believed to be dry until around a decade ago, when a series of findings suggested that moon has traces of water trapped in the surface.

India's first lunar mission, Chandrayaan-1, was the first to find evidences of water on the moon's surface, in 2009. However, researchers were unable to confirm whether it was water (H₂O) or hydroxyl molecules (OH). Hydroxyl is a molecule made up of one hydrogen atom and one oxygen atom.

SOFIA

SOFIA, (Stratospheric Observatory for Infrared Astronomy), is a joint project of Nasa and the German Aerospace Center to maintain and construct an airborne observatory.

It is a modified Boeing 747SP aircraft that flies high in the atmosphere to provide its telescope a clear view of the universe and objects in the solar system.

It is designed for infrared astronomy observations in the stratosphere at altitudes of about 12 kilometers (41,000 ft). SOFIA's flight capability allows it to rise above almost 99% of the water

vapour in the Earth's atmosphere that blocks some infrared wavelengths from reaching the ground.

The observatory's mobility allows researchers to observe from almost anywhere in the world, and enables studies of events that often take place over oceans where there are no telescopes.

Lunar Reconnaissance Orbiter (LRO)

The LRO is a robotic spacecraft launched in 2009 and is currently orbiting the Moon. It studies the Moon's surface, clicks pictures, and collects data that help in figuring out the presence and possibility of water ice and other resources on the Moon, as well as plan future missions to it.

The instruments on board the spacecraft return global data, such as day-night temperature maps, high resolution colour imaging etc.

Latest Development

SOFIA has detected water molecules (H₂O) in Clavius Crater, one of the largest craters visible from Earth, located in the Moon's southern hemisphere. This discovery indicates that water may be distributed across the lunar surface, and is not limited to cold, shadowed places on the Moon.

The amount of water detected was very small, and is about the equivalent of a 12-ounce bottle of water trapped in a cubic meter of soil spread across Clavius Crater. The water molecules discovered are so spread out they don't interact with each other to form water ice or even liquid water and are not in the form of puddles (a small pool).

Researchers believe the water might be trapped in glass beads, or another substance that protects it from the harsh lunar environment.

The second study focused on "cold traps" on the Moon. These areas exist in darkness and temperatures fall below - 160 degrees Celsius, due to which frozen water in these regions can stay stable for billions of years.

Using data from NASA's Lunar Reconnaissance Orbiter (LRO) spacecraft, researchers detected tens of billions of small shadows in the cold traps (most of them of the size of a small coin). Based on this finding researchers claim more than 15,400 square miles (40,000 square kilometres) of lunar territory can trap water in the form of ice. This is 20 per cent more area than previous estimates. These ice-rich areas have been found near the moon's north and south poles.

Significance

The new finding suggests that water may be present across more of the lunar surface, beyond the areas that are cold and permanently in shadow. Water is heavy, due to which it is expensive to launch it from the surface of the Earth. If water can be mined on the moon, future expeditions might be able to free up precious cargo space.

Water on the moon could be used as a resource for astronaut crews in the form of drinking water and breathable oxygen. It can also be used as fuel for expeditions traveling deeper into space, such as future missions to Mars.

The researchers plan to collect more data on future flights of the SOFIA observatory. NASA also plans to send a golf cart-size rover to the lunar surface in late 2023 to study the origin and distribution of water.

The rover, known as the Volatiles Investigating Polar Exploration Rover, is expected to assemble the first maps of water resources on the moon.



KAVISH IAS
Converting Possibilities into Reality

ECOLOGY and ENVIRONMENT

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

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

❖ Prelims Oriented Questions

6.1 Above Normal Monsoon

Why in News: For the first time in 61 years, India recorded back-to-back “above normal” monsoon years.

Quantification of monsoon rainfall

To categorize monsoon, the weather department benchmarks compares that season’s rainfall against a ‘normal’ derived from long period average (LPA) of 50 years. IMD changes the ‘normal’ roughly every 10 years and it starts using it whenever the data of all the meteorological stations get updated using new 50-year period.

In late 2019, the LPA was updated, based on the average monsoon (June-September) rainfall over the country as a whole during 1961-2010 period, to better reflect the average rainfall in India. Based on this data, the new 'normal' figure of LPA was arrived at 88 cm, indicating a decline in the average yearly rainfall in India. Before that, till 2018 monsoon, the IMD used 'normal' of 89 cm based on during 1951-2000 period.

Categories of Indian Monsoon

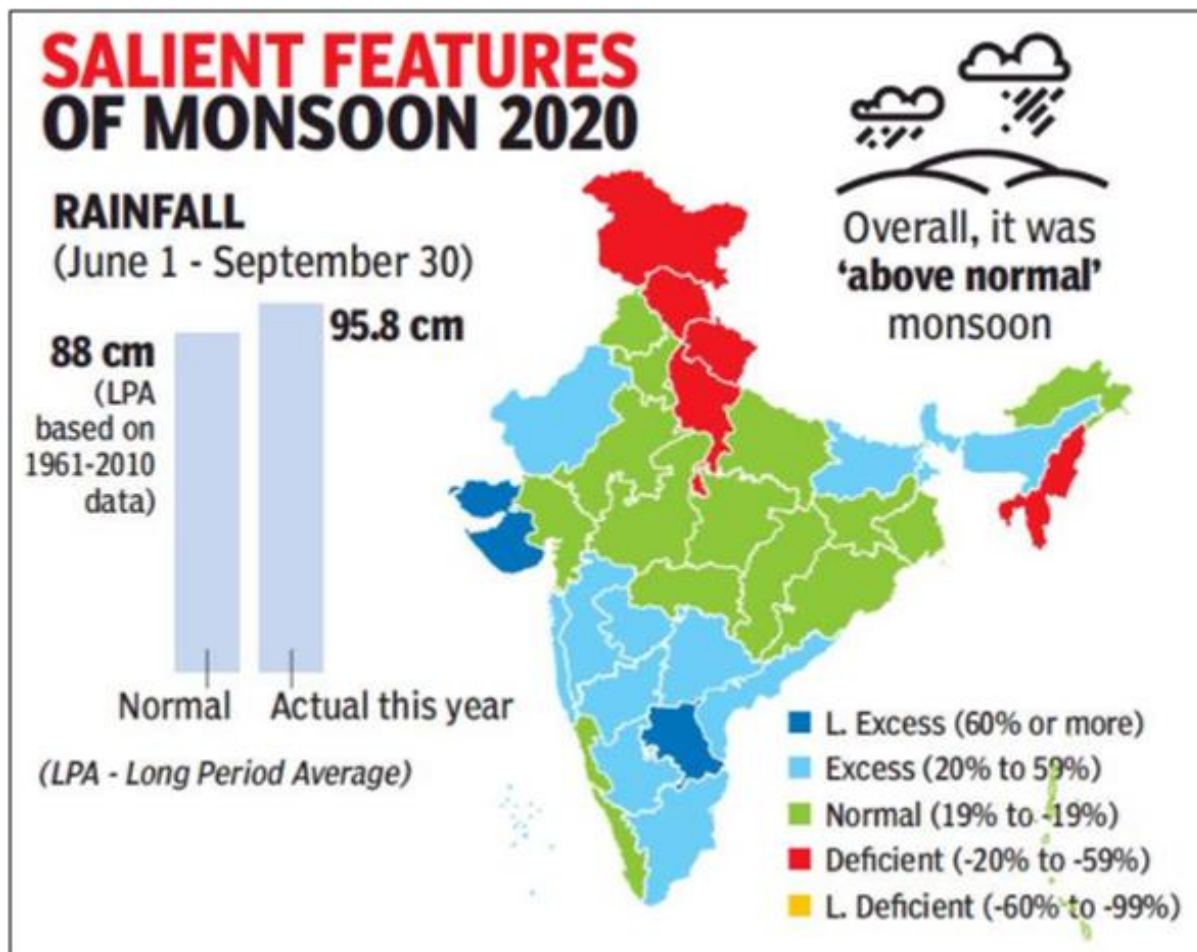
The status of the monsoon in India is arrived at from the amount of rain received when compared to the average ‘normal’ rainfall (LPA) during the June-September period. The IMD has five categories to classify the ‘status’ of the monsoon:

- Rainfall range of less than 90% of the LPA normal is considered ‘deficient’ (category-wise) monsoon
- 90-96% of the LPA as ‘below normal’
- 96-104% of the LPA as ‘normal’
- 104-110% of the LPA as ‘above normal’
- More than 110% as ‘excess’

This year, an average of 95.8cm of rain was recorded during the monsoon season in the country, as against the LPA of 88cm. Thus, this year’s season ended with countrywide rainfall at 109% of LPA (9% above the long period average), officially categorized as 'above normal' monsoon.

This means, for the first time in 61 years, India recorded back-to-back “above normal” monsoon years. Monsoon rains this year were also the second highest in 26 years after 2019, when rainfall across the country was 10% above the LPA.

The last time India had two consecutive years of above normal monsoon was in 1958 (110% of LPA) and 1959 (114% of LPA).



6.2 MIGRATORY SPECIES

Why in News: A first-of-its-kind dolphin safaris were started at six places in the country.

Gangetic Dolphin

The Gangetic Dolphin is a fresh-water species, and one of the few river dolphins found in the world. It inhabits the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh.

Common Names: Blind dolphin, Ganges dolphin, Ganges susu, hihi, side-swimming dolphin, South Asian River Dolphin

Scientific name: Platanista Gangetica

The Gangetic Dolphin has been recognized as India's National Aquatic Animal and is the official animal of the Indian city of Guwahati.

Characteristics

A long thin snout, rounded belly, stocky body and large flippers are characteristics of the Ganges River dolphin. It feeds majorly on fishes and is usually found in counter current systems of the main river channel.

Its eyes lack lens, and as a result, this species is also referred to as the "blind dolphin". They have a highly developed bio sonar system that facilitates them to hunt for fish even in murky waters.

Being a mammal, the Ganges River dolphin cannot breathe in the water and must surface every 30-120 seconds. Because of the sound it produces when breathing, the animal is popularly referred to as the '**Susu**'.

Conservation status

The population of the Gangetic dolphin is estimated to be a few hundred.

IUCN Status: Endangered

It is placed in Schedule-I of the Wildlife (Protection) Act. It is listed on CITES Appendix I, which lists species that are the most endangered among CITES-listed animals and plants

Latest Developments

First-of-its-kind dolphin safaris were started at six places in the country. National Mission for Clean Ganga (NMCG) launched the 'Dolphin Jalaj Safari' at six locations:

- Bijnor (UP)
- Brijghat (UP)
- Prayagraj (UP)
- Varanasi (Uttar Pradesh)
- Kahalgaon (Bihar)
- Bandel (West Bengal)

This occasion also coincided with the Gangetic Dolphin Day. This concept is similar to Gharial Safari in the Chambal which has been running uninterrupted since its launch in 1999.

Aim

This is aimed at preserving Ganga ecology as well as promoting tourism in the region. This is a unique initiative to integrate Gangetic dolphin and Ganga conservation with local livelihoods which is in line with the concept of Arth Ganga.

The 'Ganga Praharis' who are trained volunteers from among the local community working for cleanliness of Ganga will take tourists at these sites on boat rides to view dolphins in the Ganga.

My Ganga My Dolphin Campaign

Also a new campaign, 'My Ganga My Dolphin', was also launched on the occasion to conduct a dolphin census in a 250 km- stretch from Bijnor to Narora. Currently, there are 36 dolphins in the Hastinapur Wildlife Sanctuary comprising five districts of west UP Bijnor, Amroha, Meerut, Muzaffarnagar and Hapur.

6.3 Blue Flag Certification

Why in News: Eight Indian beaches have got the coveted 'Blue Flag' certification, one of the world's most recognised awards for clean, safe and environment-friendly beaches.

Blue Flag Program

The Blue Flag Program for beaches is run by the Copenhagen-based Foundation for Environmental Education (FEE). It started in France in 1985 and has been implemented in Europe since 1987. The campaign spread outside Europe, to South Africa, in 2001.

It aims to promote sustainable development in freshwater and marine areas. The program also awards certification to marinas and boats.

Globally, there are over 4,000 Blue Flag beaches. Spain and Greece have more than 500 such beaches, with France having about 400 such certified beaches.

Jury

The jury, which takes a final call on the Blue Flag certification, comprises eminent members from the UN Environment Program (UNEP), World Tourism Organisation, FEE and IUCN.

Criteria

It challenges local authorities to achieve high standards for the beaches in nearly 33 criteria under four major heads:

- Environmental Education and Information
- Bathing Water Quality
- Environment Management and Conservation
- Safety and Services

If a Blue Flag beach does not comply with the criteria for accreditation, the flag may be permanently or temporarily withdrawn.

Mission

- Promote and participate in environmental education program for the users of beaches, boating operators.
- Implement sound safety and environmental management systems.
- Monitor environmental conditions to reduce the impact of human activity at the beaches, marinas and boating operators.
- Commit to partnerships and collaborative action to promote the sustainable development of tourism.

Foundation for Environmental Education

The Foundation for Environmental Education (FEE) is a non-governmental, non-profit organisation promoting sustainable development through environmental education. It was established in 1981 as the Foundation for Environmental Education in Europe (FEEE).

However, at its 20th anniversary general assembly, held in Copenhagen in 2001, the organisation decided, because of growing interest from outside Europe, to become more global and dropped Europe from its name, to become the Foundation for Environmental Education (FEE). With members in 77 countries it is the world's largest environmental education organization. It is recognised by UNESCO and UNEP as a world-leader within the fields of Environmental Education and Education for Sustainable Development.

The union environment ministry started a pilot project to develop the Indian beaches according to the Blue Flag standards in December 2017. Work began on developing the Indian beaches according to the Blue Flag certification standards, by the Society for Integrated Coastal Management (SICOM), under a Unified Coastal Areas Management Program.

SICOM is an environment ministry's body working for the management of coastal areas. To help Indian beaches meet the required criteria, the Ministry has allowed structures such as container toilet blocks, change rooms, shower panels, mini grey water treatment plants, mini solid waste recycling plants, off-grid solar photovoltaic panels etc.

In June 2019, the Chandrabhaga beach on the Konark coast of Odisha became the first in Asia to be awarded the Blue Flag certification on World Environment Day on June 5. Eight Indian beaches have got the coveted 'Blue Flag' certification, which are:

- Shivrajpur (Dwarka, Gujarat)
- Ghoghla (Diu)
- Kasarkod and Padubidri (Karnataka)
- Kappad (Kerala)
- Rushikonda (Andhra Pradesh)
- Golden Beach (Puri, Odisha)
- Radhanagar (Andaman & Nicobar Islands)

India has plans to expand the network of Blue Flag certification to 100 such beaches in the country in the next five years. In order to achieve this goal, the environment ministry has in September, 2020, launched **India's own eco-label "BEAMS" (Beach Environment & Aesthetics Management Services) under its Integrated Coastal Zone Management (ICZM) project.**

6.4 Stubble Burning

Why in News: The share of PM 2.5 pollutants from stubble burning in other states in Delhi's air rose to 19% on Saturday, the highest so far this season, according to SAFAR.

SAFAR

System of Air Quality and Weather Forecasting and Research (SAFAR) is the forecasting body under the Union Ministry of Earth Sciences (MoES). MoES introduced SAFAR for greater metropolitan cities of India to provide location specific information on air quality in near real time.

The SAFAR system is developed by Indian Institute of Tropical Meteorology, Pune, along with IMD and National Centre for Medium Range Weather Forecasting (NCMRWF).

The ultimate objective of the project is to increase awareness among general public regarding the air quality in their city well in advance so that appropriate mitigation measures and systematic action can be taken up for betterment of air quality and related health issues.

The SAFAR observational network of Air Quality Monitoring Stations (AQMS) and Automatic Weather Stations (AWS) are established within city limits as per international guidelines which ensure the true representation of city environment.

PM 2.5

PM 2.5 is defined as ambient airborne particulate matter which measure up to 2.5 microns (micrometers) or less in diameter. It is a mixture of solid particles and liquid droplets found in the air. PM 2.5 is the pollutant widely regarded as most harmful to human health.

The WHO prescribed safe PM 2.5 concentration is 10 microgram per cubic meter. In 2017, 92% of the population lived in areas that exceeded the WHO limit.

Increase in PM 2.5 concentration in NCR due to farm fires: NCR already has its own sources of PM 2.5 including vehicular pollution, power plant pollution, fires etc. Farm fires in Punjab and Haryana lead to increase in PM 2.5 concentrations in NCR. Because fine particles can be carried long distances from their sources, events such as farm fires can raise fine particle concentrations hundreds of kilometers from the event.

Latest Developments

The share of PM_{2.5} pollutants from stubble burning in other states in Delhi's air rose to 19% on Saturday, the highest so far this season, according to SAFAR. In 2019, the highest proportion of farm fire emissions to the city pollution was 44% on a single day.

SAFAR identified about 1,500 farm fire counts over two days of the last week in the neighbouring states of the NCR region. The prevailing northwesterly wind is transporting the pollutants from Punjab and Haryana to Delhi. Apart from that, as the winds have remained calm during the nights for the past few days, the pollutants have not dispersed from the NCR region.

Recently PUSA Institute in Delhi has developed **PUSA tablets** which can be used to decompose the stubble in the farm and it can act as a game changer. Though, Long-term plans are needed, with focus on both the in-situ and ex-situ management of crop residue.

A sustainable business model needs to be created to collect, store and process waste into useful materials. Farmers should feel that the remnant of the harvest is not waste, but a resource for them.

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 ASER Report 2020

Why in News: The latest Annual Status of Education Report (ASER 2020) was recently released by the non-profit Pratham Education Foundation. The survey was conducted via phone calls, in September, 2020 - the sixth month of national school closures due to the pandemic.

The survey was conducted in 26 states and four Union Territories and a total of 52,227 households and 59,251 children in the 5-16 age groups were surveyed. This year the survey explores access to distance education mechanisms, materials and activities for children in rural India. It also explores the ways in which children and families are engaging with these remote learning alternatives from their homes.

Annual Status of Education Report (ASER) is a nationwide survey of rural education and learning outcomes in terms of reading and arithmetic skills that has been conducted by the NGO Pratham, since 2005.

Highlights

School enrolment

At the all-India level, there has been a small shift towards government schools between 2018 and 2020, across all grades and among both girls and boys.

The proportion of boys enrolled in government schools rose from 62.8% in 2018 to 66.4% in 2020. Similarly, the proportion of girls enrolled in government schools rose from 70% to 73% during the same period.

The survey shows that 5 per cent children are not currently enrolled for the 2020-21 school year, up from 4 per cent in 2018. This increase is the highest among the youngest children (ages 6 to 10). 5.3% of rural children aged 6-10 years had not enrolled in school this year, in comparison to just 1.8% in 2018.

Digital learning

Among enrolled children, the percentage of families with at least one smart phone, has increased significantly in the past two years, from 36.5% to 61.8%

Maharashtra, Gujarat, Madhya Pradesh, Himachal Pradesh and Tripura have reported more than 30 percent increase in the proportion of children whose families own a smart phone.

In households where children are enrolled in government schools, the percentage of smart phone ownership has increased from 29.6% in 2018 to 56.2% in 2020. In the same period, in households where children are in private schools, the percentage of smart phone ownership has increased by 24% to 74.2% in 2020.

Despite the high smart phone penetration, only about one-third of them reported getting some form of learning material from their teachers in the week before the survey. This proportion was higher in higher grades than in lower grades; and higher among students in private schools than in government schools.

Textbook availability

In a sign that governments have improved their systems to respond to the crisis, overall more than 80 per cent children said they had textbooks for their current grade. This proportion was higher among students enrolled in government schools (84.1 per cent) than in private ones (72.2 per cent). Across states, the proportion of children with textbooks at home falls below 70% in only three states: Rajasthan (60.4%), Telangana (68.1%), and Andhra Pradesh (34.6%).

After schools re-open, it will be important to monitor who goes back to school, and whether there is learning loss in students, as compared to previous years. Taking note of the high proportion of learning support provided by families, the report recommends that schools must find ways to take advantage of the home support in improving education levels. There is a need to invest more in improving the digital infrastructure to aid learning of students.

7.2 Ayushman Sahakar Scheme

Why in News: The Centre has launched the Ayushman Sahakar scheme to involve co-operatives in creating healthcare infrastructure in the country.

Background

It has been observed that due to lack of credit support, many cooperative hospitals find difficulty to start new aspects of medical education including colleges offering MBBS, BDS, BAMS programs.

Moreover, the ongoing pandemic has brought into focus the need to strengthen health infrastructure in rural areas. The scheme takes inspiration from the successful work cooperatives have done in the healthcare sector in Kerala. The NCDC has so far financed around 30 hospitals in Kerala.

Ayushman Sahakar scheme

- Under the scheme, the National Cooperative Development Corporation (NCDC) will give loans to cooperatives to set up healthcare facilities.
- The scheme aligns itself with the focus of the National Health Policy 2017, covering health systems in all their dimensions.
- The various dimensions include investments in health, organisation of healthcare services, access to technologies, development of human resources and affordable healthcare to farmers.

Objectives

- Assist cooperative societies to provide comprehensive healthcare including education, services, insurance and related activities.
- Assist promotion of AYUSH facilities by cooperative societies.
- Assist cooperative societies to meet the objectives of National Health Policy.
- Assist cooperative societies to participate in the National Digital Health Mission.

Provisions

- Under the scheme, the National Cooperative Development Corporation (NCDC) will give loans to eligible cooperatives totaling Rs 10,000 crore in the coming years. The assistance will flow either through state governments/ UT administrations or directly to the eligible cooperatives.
- The scheme would specifically cover establishment, modernisation, expansion, repairs, renovation of hospitals, and healthcare and education infrastructure encompassing all hospitals and Ayush facilities.
- It would also cover yoga wellness centre, ayurveda, allopathy, unani, siddha, homoeopathy and other traditional medicine healthcare centers.
- The scheme provides also working capital to meet operational requirements. It also provides interest subvention of one percent to women majority cooperatives.

Benefits

There are about 52 hospitals across the country run by cooperatives, with a cumulative bed strength of more than 5,000. The NCDC fund will give a boost to provision of healthcare services run by cooperatives. In the process, the scheme would revolutionise the way healthcare delivery takes place in rural areas.

National Cooperative Development Corporation (NCDC)

NCDC is an apex level statutory autonomous institution set up in 1963. It functions under the administrative control of the Ministry of Agriculture and Farmers Welfare.

It has been created for the purpose of promoting programs for the production, marketing, storage, export and import of agricultural produce, industrial goods and services like hospital & healthcare and education etc. on cooperative principles.

It extends financial assistance to cooperatives and is the most preferred financial institution for cooperatives.

7.3 World Food Program: Cost of Plate of Food 2020

Why in News: World Food Program (WFP) recently published the 'Cost of a Plate of Food 2020' report, on the occasion of World Food Day (October 16).

Cost of a Plate of Food report

- The report highlights the impact of various factors on people's access to affordable food. It is published by the **World Food Program (WFP)**.
- It takes an estimated per capita average income across each country and calculates the percentage of income that people have to spend for a basic meal (some beans or lentils for example, and a carbohydrate matching local preferences).
- This is the third edition of the report (formerly called Counting the Beans) with 36 countries featuring in the report this year.

Highlights of the report

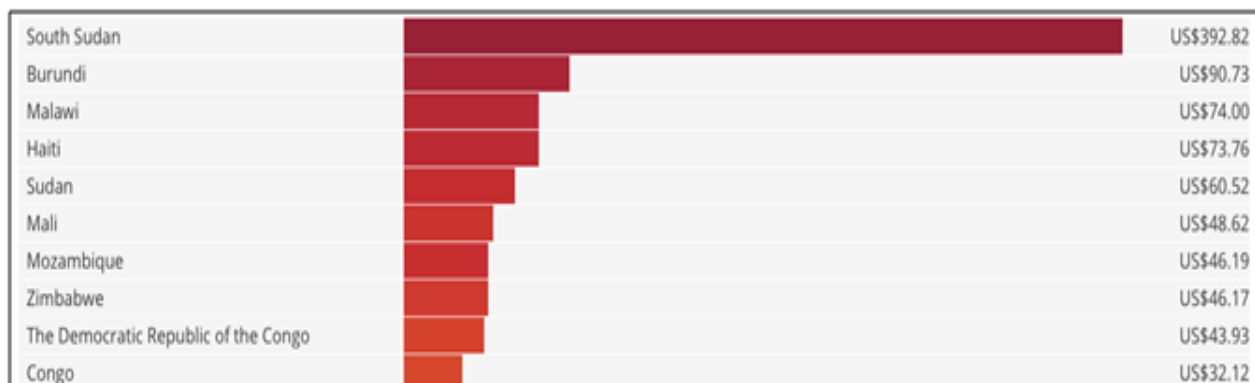
The report highlights conflict and climate change as the core reasons for hunger in many countries, as they force people to move away from their homes, land and jobs.

This leads to a drastic reduction in incomes and the availability of affordable food. Now COVID-19 has added another challenge faced by most vulnerable groups, through increased unemployment, loss of remittances and weak economies.

The pandemic has also disrupted trade and supply chains resulting in local food price increases, which contribute to making food more unaffordable to millions of people in the world.

With COVID-19 leading to huge rises in unemployment, people in urban areas will also become highly vulnerable

For millions of people, missing a day's wages means missing a day's worth of food, for themselves and their children. This can also cause rising social tensions and instability.



Status in various countries and regions

South Sudan is at the top of the list, with basic ingredients costing 186 percent of a person's daily income. Sub-Saharan Africa in particular is the worst affected, with 17 out of the top 20 countries in the report coming from this region.

The region's high dependency on food imports makes it vulnerable to global economic conditions. Moreover, due to its dependence on high informal labour, huge number of workers are vulnerable to sudden losses of income.

India stands at 28th position as per the percentage of money; people have to pay on a plate of food compared to their salaries. On an average an Indian spends 3.5% of his/ her daily income (or US\$7.37) for a plate of food as compared to 0.6% (US\$1.26) by a person living in New York.

Such differences bring into focus the huge inequalities between people living in developing countries and others in more prosperous parts of the world.

Way Ahead

The report highlights the work that still needs to be done, with multiple pressures continuing to put affordable food beyond the reach of millions. The goal of a zero hunger world will truly be realized, only when these issues are addressed effectively.

Further, greater emphasis is needed on building sustainable food systems in the long term as a foundation for access to affordable and nutritious food. Thus, countries should work towards sustainable local food systems that are climate smart, culture and context specific, inclusive, caring and accountable.

World Food Program (WFP)

The World Food Program (WFP) is the food-assistance branch of the United Nations and the world's largest humanitarian organization addressing hunger and promoting food security.

WFP was established in 1961 after the 1960 Food and Agriculture Organization (FAO) Conference, when the US Food for Peace Programs, proposed establishing a multilateral food aid program.

The WFP was formally established in 1963 by the FAO and the United Nations General Assembly on a three-year experimental basis. In 1965, the program was extended to a continuing basis.

From its headquarters in Rome, the WFP works to help people who cannot produce or obtain enough food for themselves and their families. Further, food-for-work program help promote environmental and economic stability and agricultural production. It aims to eradicate hunger and malnutrition, with the ultimate goal of eliminating the need for food aid itself.

7.4 Global Hunger Index

Why in News: The Global Hunger Index 2020 was recently published by Concern Worldwide and Welthungerhilfe. For the 2020 GHI report, data was assessed for 132 countries. Out of these, there was sufficient data to rank 107 countries.

The scores for GHI 2020 reflect data from 2015-19. Data from the United Nations and other multilateral agencies are used for the calculation.

Global Hunger Index

The Global Hunger Index is an annual report, created in 2006. Currently, it is published by Welthungerhilfe (a private aid organisation in Germany) and Concern Worldwide (an NGO).

GHI was initially published by International Food Policy Research Institute (IFPRI) and Welthungerhilfe. In 2007, Concern Worldwide, an NGO, also became a co-publisher.

In 2018, IFPRI stepped aside from its involvement in the project and the GHI became a joint project of Welthungerhilfe and Concern Worldwide. GHI is designed to comprehensively measure and track hunger at the global, regional, and country levels.

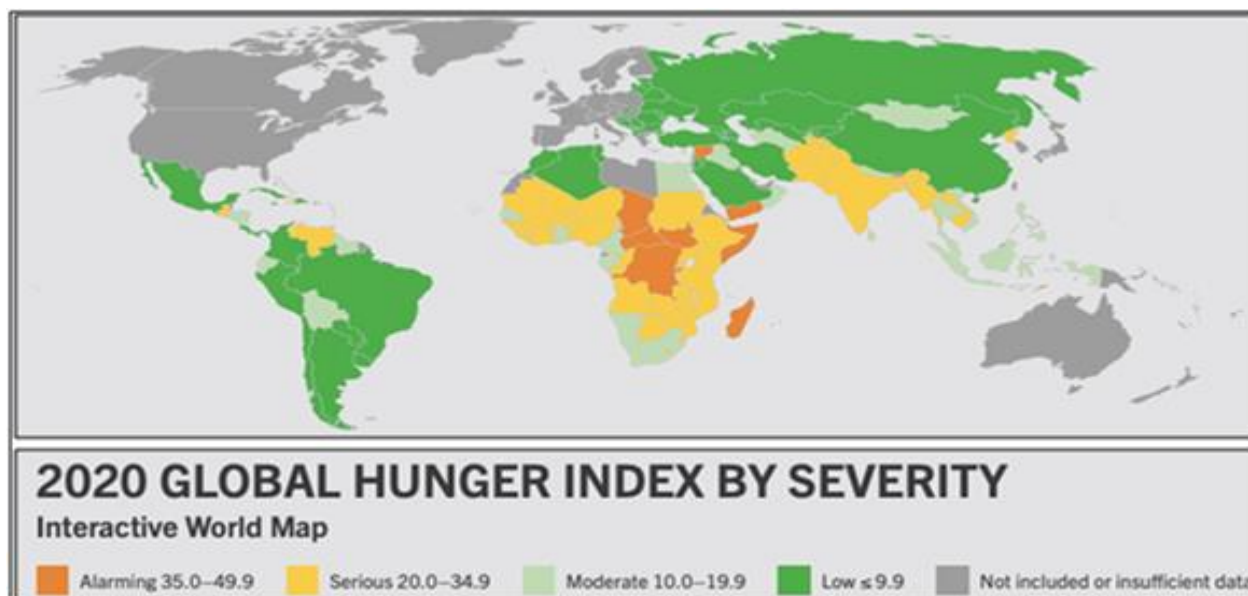
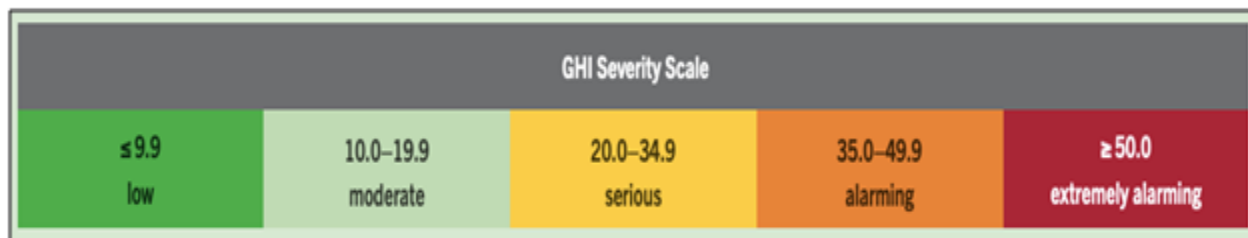
Components used to calculate GHI

GHI scores are based on the values of four component indicators:

- **Undernourishment:** Share of the population with insufficient caloric intake
- **Child wasting:** Share of children under age five who have low weight for their height

- **Child stunting:** Share of children under age five who have low height for their age
- **Child mortality:** Mortality rate of children under age five

Based on the values of the four indicators, the GHI determines hunger on a 100-point scale, where 0 is the best possible score (no hunger) and 100 is the worst.



Rankings and severity of hunger

Seventeen nations, including China, Belarus, Ukraine, Turkey, Cuba and Kuwait, shared the top rank with GHI scores of less than five.

No country that has been ranked falls in the “extremely alarming” category on hunger. Three countries: Chad, Timor-Leste and Madagascar have come under the “alarming” category.

Africa South of the Sahara and South Asia have the highest hunger and under-nutrition levels among world regions, with scores of 27.8 and 26.0, respectively—both considered serious.

Highlights from South Asia

South Asia has the highest number of undernourished people in absolute terms, with 255 million people undernourished in the region. In recent decades, the prevalence of undernourishment in South Asia has declined, from 20 percent in 2004–2006 to 13.4 percent in 2017–2019.

The main factors that have driven down undernourishment rates in South Asia are increasing cereal production and yields and rising government spending as a share of GDP.

The world is not on track to achieve the second Sustainable Development Goal known as Zero Hunger by 2030. At the current pace, approximately 37 countries will fail even to reach low hunger, by 2030

India's Position

India ranks 94 among 107 countries in GHI 2020. India's rank was 102 out of 117 countries last year.

With a score of 27.2, India has a level of hunger that is “**serious**”. India ranks lower than most of its neighbours Nepal (73), Pakistan (88), Bangladesh (75), Sri Lanka (64) and Myanmar (78) among others.

According to the report, 14 per cent of India's population was undernourished. The country recorded a 4 per cent stunting rate among children under five and a wasting rate of 17.3 per cent. The under-five mortality rate was at 3.7 per cent.

One positive in the report on India is the reduction in under-five mortality. This has been achieved largely due to decrease in deaths from birth asphyxia (oxygen deprivation), neonatal infections, pneumonia, and diarrhea. However, child mortality, caused by prematurity and low birth weight, increased particularly in poorer states and rural areas.

India's top-down approach, poor implementation processes, lack of effective monitoring and lack of convergence in approaches in tackling malnutrition are the reasons behind its poor nutrition indices.

Way Ahead

It is important to aim at addressing multiple forms of malnutrition holistically instead of single short-term measures.

Hunger and under nutrition cannot and should not be fixed by merely providing calories. All stakeholders must pay attention to making balanced healthy diets which are climate-friendly, affordable and accessible to all.

Further, investments should be made in improving maternal and child nutrition through pregnancy, infancy, and early childhood. With collective effort, and the dedication of sufficient resources, the world can overcome these crises. If done properly, the response will build a stronger foundation upon, leaving the world less vulnerable and better prepared for future challenges.

7.5 STARS Project

Why in News: The Union Cabinet has approved the implementation of Strengthening Teaching-Learning and Results for States (STARS) project, partially funded by the World Bank. The project will have a total project cost of Rs 5,718 crore, with the World Bank's support amounting to about Rs 3,700 crore (\$500 million).

STARS project

- The STARS project would be implemented as a new centrally Sponsored Scheme under Department of School Education and Literacy, Ministry of Education (MOE).
- The overall focus and components of the STARS project are aligned with the objectives of National Education Policy (NEP) 2020 of 'quality based learning outcomes'.
- The project shifts focus from the provision of inputs and maintaining of outputs to actual outcomes by linking the funds to these outcomes.

Components under STARS project

The STARS project has two main components

- National level component
- State level component

National level component under STARS

- At the national level, the project has planned the interventions which will benefit all states and UTs
- Strengthen MOE's data systems to capture information on the retention, transition and completion rates of students
- To support MOE in improving states Performance Grading Index (PGI) scores by incentivizing states governance reform agenda through SIG (State Incentive Grants)
- To support the strengthening of learning assessment systems
- To support MOE's efforts to establish a National Assessment Center (PARAKH)
- A Contingency Emergency Response Component (CERC) to be more responsive to any natural, man-made and health disasters

National Assessment Centre (PARAKH)

- A key component of the project is the establishment of PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development) as a National Assessment Centre.
- Included in NEP, 2020, this autonomous institution under the Union Education Ministry will set norms for student assessment and evaluation for all school boards across the country. Currently most state boards follow norms set by State governments.
- It will also guide standardised testing to monitor learning outcomes at the State and national levels, according to the NEP.
- Among the tasks of such a center would be to leverage the experiences of states selected by sharing these experiences with other states through online portals (e.g. Shagun and DIKSHA), technical workshops, state visits and conferences.

Emergency Response

- The project includes a Contingency Emergency Response Component (CERC) under the National Component which would enable it to be more responsive to any natural, man-made and health disasters.
- It will help the government to respond to situations that lead to loss of learning such as school closures/infrastructure damage, inadequate facilities etc.
- The CERC component will also facilitate the quick re-categorization of financing and the utilization of streamlined financing request procedures.

State Level Component under STARS

- At the State level, the project covers 6 States namely Himachal Pradesh, Rajasthan, Maharashtra, Madhya Pradesh, Kerala and Odisha.
- The project aims to improve the overall monitoring and measurement activities in the Indian school education system through interventions in selected states.

In these states, the project seeks to improve education outcomes and school-to-work transition strategies for better labour market outcomes. The identified States will be supported for various interventions in the following areas:

- Strengthening early childhood education and foundational learning.
- Improving learning assessment systems.
- Strengthening classroom instruction through teacher development and school leadership
- Decentralized management for improved service delivery.

- Strengthening vocational education in schools through career guidance and counseling, internships and coverage of out of school children.

Significance

The project has the scope to bring about significant improvements in the education sector of the country.

Measurable outcomes of the project

- Increase in students achieving minimum proficiency in grade 3 language in selected states
- Improvement in governance index scores
- Strengthened learning assessment systems
- Strengthened school management by training of Head Teachers and Principals for improved education service delivery



ETHICS

Paper IV

8.1 Relevance of Mahatma Gandhi Ideas

Are Mahatma Gandhi's Ideas are Relevant Today?

Gandhi's ideas are very much relevant today

The thoughts of Mahatma Gandhi, the Father of the Nation, are proving their usefulness across the world today.

Environment

The issue of environmental protection in the world is fast becoming the priority of society these days. Although the term environment was not in vogue during Bapu's lifetime, he understood the importance of environment.

In his article 'Swasthya ki Kunji', he expressed his views on clean air, saying there are three types of natural ingredients needed – air, water and food, but clean air being the most important. He also understood the importance of sustainability when he said "there is enough on earth for everybody's need but not enough for everybody's greed".

Hint: Paris Pact-Clean Air-Air Pollution-SDG

Rural development

Gandhiji was a great advocate of rural development. Advocating the upliftment of villages, Gandhiji wrote in Harijan Sevak in 1946, "There should be development of such art and workmanship in the countryside, that their products are valued outside of villages too".

Swadeshi

Gandhiji noted that India will become a self-sufficient and strong country only through Swadeshi. Today, there is an increasing move towards Swadeshi in India.

ATMANIRBHAR BHARAT

This gives an opportunity for small industries to flourish. Rural people from far flung areas now get a chance to become financially self-reliant.

NOTE: WRITE ANSWER ON THE ABOVE QUESTION IN 250 WORDS

MISCELLANEOUS

➤ Atal Tunnel

- Atal tunnel is at an altitude of above 3000 meters in Himachal Pradesh.
- **The tunnel is under the Pir Panjal range and is the world's longest highway tunnel.** It connects Manali to Lahaul-Spiti valley.
- The tunnel's opening is also significant amid the ongoing India-China standoff along the Line of Actual Control.
- It is going to help sustain troops mobilised in eastern Ladakh by providing almost all-weather connectivity between Manali and Leh during the long, harsh winter months.

➤ NOBLE Prize Medicine

American scientists Harvey J Alter and Charles M Rice and British-born scientist Michael Houghton jointly won the 2020 Nobel Prize for medicine/ physiology for their discovery of the hepatitis C virus.

The Nobel committee noted that the trio's work identified a major source of blood-borne hepatitis that couldn't be explained by the previously discovered hepatitis A and B viruses. The prize carried particular significance this year due to the Covid pandemic, which has highlighted the importance medical research has for societies and economies and the damage that a virus can wreak.

Hepatitis C Virus

- Hepatitis C virus is the cause of a vast majority of chronic hepatitis cases, or cases of serious liver inflammation, in patients who required blood transfusion.
- Hepatitis C virus and liver diseases caused by it afflict over 70 million people and cause about 4,00,000 deaths each year. About 6-11 million of the cases out of the total belong to India.

Treatment of Hepatitis C

A vaccine for the disease has still not been developed mainly because it's a very fast-changing virus. Anti-viral drugs could be developed based on the understanding of the biology of the virus.

➤ **Poverty and Shared Prosperity 2020 Report**

- The World Bank recently released its biennial (released once every two years) Poverty and Shared Prosperity 2020 report.
- The Poverty and Shared Prosperity series provides the latest and most accurate estimates on trends in global poverty and shared prosperity.
- **The Poverty and Shared Prosperity 2020: Reversals of Fortune report presents new estimates of COVID-19's impacts on global poverty.**
- It also shows COVID-19 impact on world poorest and how to put poverty reduction and development back on track.

➤ **Noble Peace Prize**

- The Norwegian Nobel Committee announced the **2020 Nobel Peace Prize to the UN agency World Food Program (WFP).**
- The agency was given the prize for its efforts to combat hunger and improve conditions for peace.
- It was established in 1961 when then US President Dwight Eisenhower had suggested the idea of providing food aid through the UN system.

➤ **Commitment to Reducing Inequality (CRI) Index 2020**

- **The CRI Index is developed and delivered through a partnership between Development Finance International and Oxfam International, with inputs from independent experts.**
- The index doesn't aim to measure inequality; instead it focuses on what each government is doing to fight inequality.
- It shows how governments are performing in relation to each other, and how each country is improving (or not) in fighting inequality.
- The 2020 index ranks 158 governments on their policies on public services, tax and workers' rights, the three crucial areas to reduce inequality.

➤ **State of Global Air Report**

- State of Global Air, 2020, a report on global exposure to air pollution was recently released by Health Effects Institute (HEI).

- The report's findings are based on the most recent Global Burden of Disease (GBD) study published in the international medical journal The Lancet. The report focuses on data from 2019, so does not include the impacts of the lockdown policies around the world this year
- The report is collaboration between the Health Effects Institute and the Institute for Health Metrics and Evaluation's Global Burden of Disease (GBD) project.
- Each year, the State of Global Air reports on pollution levels and trends around the world.
- It is designed to give citizens, journalists, policy makers, and scientists' access to reliable, meaningful information about air pollution exposure and its health effects.
- Knowledge of these trends is essential to understanding patterns in the burden of disease across countries and regions to reduce pollution in ways that have the greatest potential to benefit health.

➤ **International Labour Organization (ILO)**

- India has taken up the Chairmanship of Governing Body of International Labour Organisation (ILO).
- ILO was established in 1919, as part of the Treaty of Versailles that ended World War I. It was intended to reflect the belief that universal and lasting peace can be accomplished only if it is based on social justice.
- India is a founder member of ILO. The ILO became the first specialized agency of the UN in 1946. It is the only tripartite U.N. agency, bringing together governments, employers and workers. Headquarters: Geneva, Switzerland
- ILO's mandate of social justice as the basis for peace is expressed today as Decent Work for all.
- It sets international labour standards, develops policies and programs promoting decent work for all women and men and improving working conditions and social rights of all employees.