



drishti

**Current
Affairs
(CONSOLIDATION)**

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Polity and Governance

Highlights

- Foreign Contribution (Regulation) Amendment Bill, 2020
- Suspension of Amnesty International Operations in India
- Federalism and Emerging Challenges
- No Confidence Resolution against Rajya Sabha Deputy Chairman
- Role of Parliamentary Committees
- Labour Reforms
- Ethical Code for Electronic Media
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- PMNCH Accountability Breakfast

Foreign Contribution (Regulation) Amendment Bill, 2020

Why in News

The **Foreign Contribution (Regulation) Amendment Bill, 2020** was passed by the Parliament. The Bill amends the **Foreign Contribution (Regulation) Act, 2010**.

Key Points

➤ Provisions of the Bill:

- **Prohibition to accept foreign contribution:** The Bill bars public servants from receiving foreign contributions.
 - **Public servant** includes any person who is in service or pay of the government, or remunerated by the government for the performance of any public duty.

- The **FCRA 2010** also bars certain persons to accept any foreign contribution. These include: election candidates, editor or publisher of a newspaper, judges, government servants, members of any legislature, and political parties, among others.
- **Transfer of foreign contribution:** The Bill prohibits the transfer of foreign contribution to any other person.
 - The term '**person**' under the Bill includes an **individual, an association, or a registered company**.
 - The **FCRA 2010** allows transfer of foreign contributions to persons registered to accept foreign contributions.
- **Aadhaar for registration:** The Bill makes **Aadhaar number mandatory** for all office bearers, directors or key functionaries of a person receiving foreign contribution, as an identification document.
 - In case of a foreigner, a copy of the **passport** or the **Overseas Citizen of India card** for identification is required.

Note:

- **FCRA account:** The Bill states that foreign contribution must be received only in an account designated by the bank as **FCRA account** in such branches of the State Bank of India, New Delhi. No funds other than the foreign contribution should be received or deposited in this account.
 - The person may open another FCRA account in any scheduled bank of their choice for keeping or utilising the received contribution.
- **Restriction in utilisation of foreign contribution:** The Bill allows the government to restrict usage of unutilised foreign contribution. This may be done if, based on an inquiry the government believes that such person has contravened provisions of the FCRA.
- **Reduction in use of foreign contribution for administrative purposes:** The Bill proposes that not more than 20% of the total foreign funds received could be defrayed for administrative expenses. In FCRA 2010 the limit was 50%.
- **Surrender of certificate:** The Bill allows the central government to permit a person to surrender their registration certificate.
 - The government may do so if, post an inquiry, it is satisfied that such person has not violated any provisions of the FCRA 2010, and the management of its foreign contribution has been vested in an authority prescribed by the government.
- **Purpose for Amendment:**
 - The annual inflow of **foreign contribution has almost doubled** between the years 2010 and 2019, but many recipients of foreign contribution **have not utilised the same for the purpose** for which they were registered or granted prior permission under the FCRA 2010.
 - Recently, the Union Home Ministry has **suspended licenses of the six (NGOs)** who were alleged to have used foreign contributions for religious conversion.
 - Many persons were **not adhering to statutory compliances** such as submission of annual returns and maintenance of proper accounts.
 - Such a situation could have **adversely affected the internal security** of the country.
 - The new Bill **aims to enhance transparency and accountability** in the receipt and utilisation of foreign contributions and facilitating the genuine non-governmental organisations or associations who are working for the welfare of society.
- **Issues Involved:**
 - The Bill would impact the **livelihoods of workers** associated with the small **Non-Governmental Organisations (NGOs)** and lead to the **killing of the entire social sector** as caps on administrative expenses would make it impossible for even the bigger NGOs to perform.
 - It will **severely impact collaborative research** in critical fields in India as organisations receiving foreign funds will no longer be able to transfer them to small **NGOs** working at the grassroots level.
 - The government aims to control the NGOs which engage in dubious activities. However, by **failing to recognise the diversity of NGOs**, which include world-class organisations that are recognised globally, will crush their competitiveness and creativity.
 - It is also **incompatible with international law.**
 - The **United Nations Human Rights Council** resolution on protecting human rights defenders says that **no law should criminalize or delegitimize activities in defence of human rights on account of the origin of funding.**
 - The Bill also fails to comply with **India's international legal obligations** and **constitutional provisions** to respect and protect the rights to freedom of association, expression, and freedom of assembly.

Foreign Contribution (Regulation) Act (FCRA), 2010

- Foreign funding of persons in India is regulated under FCRA act and is implemented by the **Ministry of Home Affairs.**
 - Individuals **are permitted to accept foreign contributions without permission** of MHA. However, the monetary limit for acceptance of such foreign contributions shall be less than **Rs. 25,000.**
- The Act ensures that the recipients of foreign contributions adhere to the stated purpose for which such contribution has been obtained.
- Under the Act, organisations are required to **register themselves every five years.**

Note:



- The amendments also **assume that NGOs** that are receiving foreign funds **are guilty** unless proven otherwise.

Suspension of Amnesty International Operations in India

Why in News

Amnesty International India has halted its **human rights operations** in India due to the freezing of its bank accounts by the Government of India.

- The government has also set up a **Central Bureau of Investigation (CBI)** inquiry against Amnesty.

Key Points

- **Argument by Amnesty:** It has alleged that the government has frozen its bank accounts due to repeated **calls for transparency** and **against the human rights violations** in the country.
 - The **European Union (EU)** has also expressed its **concerns against the action of the government** citing the valued work of Amnesty International worldwide.
 - Recently, **Amnesty International (AI)** India had demanded an **independent investigation** into all allegations of human rights violations by the police during the **north-east Delhi riots** and the establishment of the **National Commission for Human Rights** in Jammu and Kashmir.
- **Argument by the Government:** The government has accused Amnesty of **defying the law of the land**.
 - India doesn't allow interference in domestic political debates by entities funded by foreign donations. This law applies equally to all and it shall apply to Amnesty International as well.
 - In order to **circumvent** the **Foreign Contribution (Regulation) Act, 2010** (FCRA) regulations, **Amnesty UK** remitted large amounts of money to four entities registered in India, by classifying it as **Foreign Direct Investment (FDI)**.
 - A significant amount of foreign money was also remitted to **Amnesty (India)** without approval of the Ministry of Home Affairs under FCRA. This rerouting of money was **in contravention of extant legal provisions**.

- **Background:** In the past five years, the government has taken action against several foreign donors including **Compassion International, World Movement for Democracy (WMD), Greenpeace**, etc on grounds of FCRA violations.
- The **Foreign Contribution (Regulation) Amendment Bill, 2020** was passed by the Parliament amending Foreign Contribution (Regulation) Act, 2010.

Amnesty International

- It is an **international Non-Governmental Organisation (NGO)** founded in **London (UK)** in **1961**.
- It seeks to **publicize violations by governments** and other entities of rights recognized in the **Universal Declaration of Human Rights (1948)**, especially freedom of speech and of conscience and the right against torture.
- In 1977, it was awarded the **Nobel Prize for Peace**.
- **AI India** is a part of the global human rights movement spearheaded by Amnesty International. It has its registered office in **Bangalore (Karnataka)**.

Federalism and Emerging Challenges

Why in News

Recently, several states have complained about the growing crisis in **Indian federalism**. They have argued about the **Ordinances** and the Bills brought by the Centre which encroaches on their area of legislation, which is an assault on the federal structure of the Constitution.

Key Points

- **Federal Issues Raised by States:**
 - The refusal of the Central government of its legal commitment to **compensate for Goods and Services Tax (GST)** shortfall on account of lower revenue.
 - The Centre argued that the lower revenues are the result of an **"act of God"** for which it cannot be held responsible.
 - As per the **GST Act**, states are **guaranteed compensation** for any revenue **shortfall** below 14% growth (base year 2015-16) for the first five years ending 2022.
 - **Centre transgressing into the powers of the state government.** E.g

Note:

- The **recent Farm Acts** which allow farmers to sell their produce outside the **Agricultural Produce Market Committee (APMC)** and aim to promote inter-state trade. However, the Acts **encroach upon the State list**.
 - Many states are exploring the possibilities of passing legislation under **Article 254(2)** of the Constitution, to negate the enforcement of **three Farm Acts** passed by the Central government under **Entry 33 of the Concurrent List**.
 - **The Article 254(2):**
 1. It **enables a State government to pass a law**, on any subject in the **Concurrent List, that may contradict a Central law**, provided it gets the **President's assent**.
 - i. In 2014, the Rajasthan government took this Article 254 (2) route to make changes to the central labour laws — the Factories Act, the Industrial Disputes act, and the Contract Labour Act — which subsequently got the President's assent.
 2. However, the **Parliament is not barred from enacting** at any time any law with respect to the same matter including a law adding to, amending, varying or repealing the law so made by the Legislature of the State.
 - **Entry 33 of the Concurrent List** mentions trade and commerce, production, supply and distribution of domestic and imported products of an industry; foodstuffs, including oilseeds and oils; cattle fodder; raw cotton and jute.
 - However, **if foodstuffs** are considered **synonymous with agriculture**, then all the powers of states in respect of agriculture, listed so elaborately in the Constitution, shall become redundant.
 - The Parliament cannot legislate a law in respect of agricultural produce and markets under the Seventh Schedule of the Constitution in normal circumstances because **agriculture and markets are State subjects**.
 - The amendment in banking regulations by bringing **cooperative banks under the Reserve Bank of India (RBI) supervision**.
 - **Cooperative societies** come under the **State list** i.e. list 2 of the Seventh Schedule to the Constitution of India.
- **Provisions Related to Federalism:**
- Nations are described as **'federal' or 'unitary'**, depending on the way in which governance is organised.
 - **Federalism** essentially means both the Centre and states have the freedom to operate in their allotted spheres of power, in coordination with each other.
 - In the **unitary system** all powers of the Government are centralized in one Government that is Central Government.
 - In the **State of West Bengal vs Union of India (1962)**, the Supreme Court held that the Indian Constitution is not federal.
 - However, in **S R Bommai vs Union of India (1994)**, a nine-judge Bench of Supreme Court held federalism a part of the **basic structure of the Constitution**.
 - It stated neither the **legislative entries in Seventh Schedule**, nor the **fiscal control by the Union** per se are decisive to conclude the Constitution is **unitary**. The respective legislative powers of states and Centre are traceable to **Articles 245 to 254**.
 - The Court has observed that **Indian federation differs from the USA** significantly.
 - Unlike the USA, **Indian Parliament has the power** to admit new States (**Article 2**), create new States, alter their boundaries and their names, and unite or divide the States (**Article 3**).
 1. Recently, Jammu and Kashmir (J&K) State was converted into two Union Territories - J&K and Ladakh.
 - The **concurrence of States is not needed** for the formation and unmaking of States and Union Territories.
 - Further, the court noted the **existence of several provisions of the Constitution that allow the Centre to override the powers of the States** e.g. legislation on a Concurrent List.
 - Even though the **States are sovereign** in their prescribed legislative field, and their **executive power is co-extensive with their legislative**

Note:



powers, it is clear that the powers of the States are not coordinated with the Union. This is why the Constitution is often described as 'quasi-federal'.

- The **Seventh Schedule of the Constitution** contains **three lists** that distribute power between the Centre and states (**Article 246**).
 - There are **98 subjects (originally 97) in the Union List**, on which Parliament has exclusive power to legislate.
 - The **State List has 59 subjects (originally 66)** on which states alone can legislate.
 - The **Concurrent List has 52 subjects (originally 47)** on which both the Centre and states can legislate.
 - In case of a conflict, the law made by Parliament prevails (Article 254).
 - The **42nd Amendment Act of 1976** transferred five subjects to Concurrent List from State List i.e. **education, forests, weights and measures, protection of wild animals and birds, and administration of justice; constitution and organisation of all courts except the Supreme Court and the High Courts.**
- **Mechanism to Solve Dispute:**
 - The Supreme Court has used **two mechanisms** to solve the dispute between Centre and states over the entry list in Seventh Schedule. The mechanisms are **Doctrine of Pith and Substance** and **Doctrine of Colourable Legislation**.
 - The **Doctrine of Pith and Substance** says that the constitutionality of legislation is upheld if it is largely covered by one list and touches upon the other list only incidentally.
 - The doctrine relates to **finding out the true nature of a statute**.
 - Pith denotes the 'essence of something' or the 'true nature', while substance states the most significant or essential part of something.
 - The **Doctrine of Colourable Legislation** tests the competence of the legislature against an enacted law. This doctrine states the fact that **what cannot be done directly, cannot also be done indirectly**.
 - The doctrine restricts the overstretching of the constituted power of the legislature in a disguised, covert or indirect manner.

No Confidence Resolution against Rajya Sabha Deputy Chairman

Why in News

Rajya Sabha members of 12 opposition parties moved a no-confidence resolution against Rajya Sabha Deputy Chairman **over the passage of two controversial farm Bills** by the voice vote.

Key Points

- **Resolution:**
 - According to the resolution, the Deputy Chairman has violated all the canons of law, procedures, parliamentary procedures, practices and fair play. The Deputy Chairman did not allow **points of order** to be raised and did not allow large numbers of members of Rajya Sabha, from diverse political parties, to even speak against **farm bills**.
 - This no-confidence resolution is for the removal of the Deputy Chairman.
 - It is **not the same as the No-Confidence Motion specified in Rule 198 of the Rules of Procedure and conduct of Lok Sabha**, which can lead to the **resignation of the Council of Ministers**.
 - **Article 75** of the Constitution specifies that the Council of Ministers shall be collectively responsible to the House of People.
 - **Some Precedents:** Earlier, resolutions were moved against the first Lok Sabha Speaker G V Mavalankar in 1951, Speaker Sardar Hukam Singh in 1966, and Speaker Balram Jakhar in 1987.
 - All of these resolutions were **negated by the House**.
- **Options with the Government:**
 - **Suspension of Opposition MPs:** In a counter move, the **government is likely to seek the suspension of Opposition MPs** who were involved in the unruly scenes witnessed in the House.
 - The government can invoke **Rule 256**, which deals with the suspension of a member.
 - The **final decision** of suspension **rests with the Chairman**.

Note:



- **Privilege Motion:** The ruling party **can also move a privilege motion** against some of the Opposition MPs.
 - A privilege motion is invoked when there is a **breach of parliamentary privileges by a member.**
- **Deputy Chairman of Rajya Sabha:**
 - The Deputy Chairman is elected by the Rajya Sabha itself from amongst its members. The post of the Deputy Chairman is **not subordinate to the Chairman.**
 - **Role of Chairman:** The Deputy Chairman **performs the duties** of the Chairman's office with all powers of the post **when:**
 - The **post is vacant.**
 - The **Vice-President acts as President** or discharges the functions of the President.
 - The **Chairman is absent** from the sitting of the House
 - Like the Chairman, the Deputy Chairman, while presiding over the House, cannot vote in the first instance; and can **only exercise a casting vote in the case of a tie.**
 - **Removal:** According to **Article 90** of the Constitution, the Deputy Chairman vacates his office in any of the following three cases:
 - If (s)he ceases to be a member of the Rajya Sabha.
 - If (s)he resigns by writing to the Chairman.
 - If (s)he is removed by a **resolution** passed by a majority of **all the then members** of the Rajya Sabha. Such a resolution can be moved only after giving **14 days' advance notice.**

Role of Parliamentary Committees

Why in News

Recently, the Government passed **two agriculture Bills** in Rajya Sabha. However, the Opposition protested against the fact that neither Bill had been scrutinised by a **Parliamentary Committee.**

Key Points

- **Parliamentary Committee:**

- Parliament scrutinises legislative proposals (Bills) in **two ways:**
 - The **first way** is by **discussing it on the floor** of the two Houses. This is a legislative requirement; all Bills have to be taken up for debate.
 - The **second way** is by referring a Bill to a **Parliamentary Committee.**
- A Parliamentary Committee **means** a committee that:
 - Is appointed or elected by the House or nominated by the Speaker/ Chairman.
 - Works under the direction of the Speaker/ Chairman.
 - Presents its report to the House or to the Speaker/Chairman.
 - Has a secretariat provided by the Lok Sabha / Rajya Sabha.
- **Purpose of Parliamentary Committees:**
 - Since **Parliament meets only for 70 to 80 days in a year**, there is not enough time to discuss every Bill in detail on the floor of the House. Plus **debate in the house is mostly political** and does not go into the technical details of a legislative proposal.
 - Therefore, it **takes care of the legislative infirmity of debate** on the floor of the House. However, referring Bills to parliamentary committees is **not mandatory.**
- **Types of Parliamentary Committees:**
 - India's Parliament has multiple types of committees. They can be differentiated on the basis of their work, their membership and the length of their tenure.
 - However, **broadly there are two types** of Parliamentary Committees— **Standing Committees** and **Ad Hoc Committees.**
 - The **Standing Committees** are **permanent** (constituted every year or periodically) and work on a continuous basis.
 - Standing Committees can be classified into the following six categories:
 1. Financial Committees
 2. **Departmental Standing Committees**
 3. Committees to Enquire
 4. Committees to Scrutinise and Control
 5. Committees Relating to the Day-to-Day Business of the House

Note:

6. House-Keeping Committees or Service Committees

- While the **Ad Hoc Committees are temporary** and cease to exist on completion of the task assigned to them.
 - They are further subdivided into **Inquiry Committees** and **Advisory Committees**.

➤ Procedure:

- There are **three broad paths** by which a Bill can reach a Parliamentary Committee.
 - The minister introducing the Bill recommends to the House that his Bill be examined by a **Select Committee (Committee of one House i.e either Lok Sabha or Rajya Sabha)** of the House or a Joint Committee of both Houses.
 - The presiding officer of the House can also send a Bill to a Parliamentary Committee.
 - A Bill passed by one House can be sent by the other House to its Select Committee.
- The report of the committee is of a **recommendatory nature**. The Committee can also suggest its own version of the Bill.

Labour Reforms

Why in News

Recently, the recent versions of three labour codes namely **Industrial Relations Code Bill, 2020**, **Code on Social Security Bill, 2020** and **Occupational Safety, Health and Working Conditions Code Bill, 2020** have been introduced in Lok Sabha.

Key Points

➤ Industrial Relations Code Bill, 2020:

- It has **raised the threshold for the requirement of a standing order to over 300 workers** which implies that industrial establishments with up to 300 workers will not be required to furnish a standing order.
 - **Industrial Employment (Standing Orders) Act, 1946** makes it obligatory for employers of an industrial establishment **where 100 or more workers are employed to clearly define the conditions of employment and rules of conduct for workmen**, by way of standing

orders/services rules and to make them known to the workmen employed.

- The new provision for standing order will be **applicable for every industrial establishment wherein 300 or more than 300 workers are employed or were employed on any day of the preceding twelve months**.
- It was **earlier suggested by the Standing Committee on Labour** which also suggested that the **threshold be increased accordingly in the Code itself** and the words **'as may be notified by the Appropriate Government'** be removed because reform of labour laws through the executive route is undesirable and should be avoided to the extent possible.
- After becoming a law, **orders will not be dependent on whims and fancies of executives of state governments**.
- Without the need of a standing order in increased industrial establishments due to the raised threshold, the process of **hiring and firing workers will be more flexible and faster for employers which would result in increased employment**.
 - It also introduces **new conditions for carrying out a legal strike**. The time **period for arbitration proceedings has been included** in the conditions for workers before going on a legal strike **as against only the time for conciliation at present**.
 - No person employed in any industrial establishment shall go on strike **without a 60-day notice and during the pendency of proceedings** before a Tribunal or a **National Industrial Tribunal** and sixty days after the conclusion of such proceedings.
 - **At present**, a person employed in a **public utility service** cannot go on strike unless they give notice for a strike **within six weeks before going on strike or within fourteen days of giving such notice**, which the IR Code now proposes to apply for all the industrial establishments.
 - It has also proposed to set up a **re-skilling fund for training of retrenched workers** with contribution from the employer, of an **amount equal to 15 days last drawn** by the worker.
 - **Concerns:**

Note:



- It will **water down the labour rights for workers in small establishments having less than 300 workers** and would **enable companies to introduce arbitrary service conditions** for workers.
 - It will give **tremendous amounts of flexibility to the employers** in terms of **hiring and firing, dismissal** for alleged misconduct and retrenchment for economic reasons will be completely possible for all the industrial establishments employing less than 300 workers which is complete demolition of employment security.
 - The new conditions for carrying out a legal strike **elongate the legally permissible time frame** before the workers can go on a legal strike, making a legal strike near impossible.
 - It has **expanded to cover all industrial establishments** for the required notice period and other conditions for a legal strike **even though the Standing Committee on Labour had recommended against it beyond the public utility services** like water, electricity, natural gas, telephone and other essential services, as **is the case at present**.
 - The **mention of 'other sources' for funding the re-skilling fund is vague**. The reskilling fund is **arbitrarily framed** as the Code has no idea from where the funds for the same will come apart from employers' contributions.
 - These **ambiguities are left to the rule-making processes** and the bureaucrats and, further, there are **unclearities over who will reskill the workers and how adequate the funding will be**.
- **Social Security Code Bill, 2020:**
 - It **proposes a National Social Security Board** which shall recommend to the central government for formulating suitable schemes for different sections of unorganised workers, gig workers and platform workers.
 - Also, **aggregators employing gig workers will have to contribute 1-2% of their annual turnover for social security**, with the total contribution not exceeding 5% of the amount payable by the aggregator to gig and platform workers.
 - **Occupational Safety, Health and Working Conditions Code Bill, 2020:**

- It has **defined inter-state migrant workers** as the worker who has come on their own from one state and obtained employment in another state, earning up to Rs. 18,000 a month.
- The proposed definition **makes a distinction from the present definition of only contractual employment**.
- It has **dropped the earlier provision for temporary accommodation** for workers near the worksites and has **proposed a journey allowance**, a lump sum amount of fare to be paid by the employer for to and fro journey of the worker to their native place from the place of their employment.

Ethical Code for Electronic Media

Why in News

Recently, the **News Broadcasters Association (NBA)** has asked the **Supreme Court (SC)** to include its **ethical code** in the **Programme Code of the Cable Television Networks Rules, 1994**.

- The **ethical code is against airing malicious, biased and regressive content**.
- **NBA represents the collective voice of the news and current affairs broadcasters** in India. It is an organisation **funded entirely by its members**.

Key Points

- **Background:**
 - A plea was made to stop the telecast of a programme 'Bindas Bol' on Sudarshan TV **containing objectionable content** against the Muslim entries into the civil services.
 - The SC held that the **content was prima facie "plainly hurtful"** to the community and **asked the NBA to suggest measures** to strengthen the self-regulatory mechanism **to prevent or penalise airing of communal or derogatory content in the electronic media**.
- **Suggestions by NBA:**
 - All news channels, whether they are NBA members or not, will have to **follow the Programme Code containing the proposed amendments**.

Note:

- The **News Broadcasters Services Authority (NBSA)** should be granted **recognition as an independent self-regulatory mechanism** to receive and deal with complaints which would strengthen **News Broadcasting Standards Regulations** of NBSA.
 - NBSA is an **independent body set up** by the NBA. Its task is to consider and adjudicate upon complaints about broadcasts.
 - Submission to the NBSA regulatory mechanism should be made **mandatory for granting/renewal of uplinking/downlinking permissions** by the government.
 - The **orders passed by the NBSA should be made binding and enforceable** on the channels and the **penalties should be made stringent**.
- **Challenges:**
- Indian laws present **several complications when an attempt is made to distinguish permissible speech from hate speech**.
 - There is **no international legal definition** of hate speech, and the characterisation of what is 'hateful' is controversial and disputed.
 - **Generally, hate speech** refers to utterances that incite violence, hatred, or discrimination against people on the basis of their collective identity, be it race, ethnicity, religion, gender or sexuality.
 - It **attacks** two key tenets of a democratic republic: the **guarantee of equal dignity to all** and the **public good of inclusiveness**.
 - It is the speech which has reached a level of incitement and is beyond advocacy.
 - **Section 153A and Section 295A of the Indian Penal Code (IPC)**, which criminalise, respectively, speech that seeks to promote enmity between different groups and speech/acts that outrage/s religious feelings.
 - Both of these are **vaguely worded and are frequently invoked to suppress speech**.
 - They **militate against the permissible grounds for limiting free speech** enumerated in **Article 19(2) of the Constitution**, and, in particular, the restrictions allowed on considerations of public order and morality.
 - Just like the substantive hate speech provisions in the IPC, the **Programme Code is also much too vague** and is also **not applied uniformly**.

➤ **Solutions:**

- There is a **need to infuse clarity in legislation by identifying the distinction between merely offensive speech and hate speech**, and by making clearer still those categories of exceptional cases where the Constitution permits prior restraint.
 - Speech that merely causes offence and is no more than disparaging or unpleasant, should continue to remain shielded.
 - However, the speech that treats communities with disparate concern, by creating in them a sense of dread, a sense of exclusion from civic life, should go unprotected.
- **Limitation in cases involving the issue of speech should be restricted** to those categories of minorities who are vulnerable and a **merely offensive statement should not qualify as hate speech**.
- The **SC should not be afraid of delineating the ambiguities** and has to **handle the exercise delicately**. A working definition of hate speech will have to be discovered by interpreting laws in conjunction with the constitutional right to free speech.

Adjournment Motion

Why in News

Recently, an **adjournment motion** notice has been moved in the Lok Sabha over the **surveillance of key Indian personalities by a firm linked to the Chinese government**.

Key Points

- **Adjournment motion** is introduced **only in the Lok Sabha** to draw the attention of the House to a definite matter of urgent public importance.
 - It involves an **element of censure** against the government, therefore, Rajya Sabha is not permitted to make use of this device.
- It is regarded as an **extraordinary device** as it interrupts the normal business of the House. It needs the **support of 50 members** to be admitted.
- The **discussion** on this motion should **last for not less than two hours and thirty minutes**.
- However, the right to move a motion for an adjournment of the business of the House is **subject to the following restrictions**. It should:

Note:

- Raise a **matter** which is definite, factual, urgent and of public importance.
- Not cover **more than one matter**.
- Be restricted to a specific **matter of recent occurrence**.
- Not raise a **question of privilege**.
- Not revive discussion on a matter that has been discussed in the **same session**.
- Not deal with any matter that is **under adjudication of court**.
- Not raise any question that can be raised on a **distinct motion**.

World Bank's Human Capital Index 2020

Why in News

Recently, the **World Bank** released the **Human Capital Index (HCI)** report for 2020. The index **benchmarks key components of human capital** across countries.

- India has been ranked at the **116th position** in the HCI 2020.

Key Points

- **Human Capital:** It consists of the **knowledge, skills, and health** that people accumulate over their lives, enabling them to realize their potential as productive members of society.
- **Parameters Used in HCI:** The HCI 2020 includes **health and education data of children for 174 countries** up to March 2020. Thus providing a pre-pandemic baseline.
 - It covers 98% of the world's population.
- **Outcome:** The HCI 2020 shows that **pre-pandemic**, most countries had made **steady progress** in building human capital of children, with the **biggest strides made in low-income countries**.
 - However, despite this progress, a child born in a typical country could expect to achieve just 56% of their potential human capital, relative to a benchmark of complete education and full health.
- **Pandemic Effect:** The pandemic puts at **risk the decade's progress in building human capital**, including the improvements in health, survival rates, school enrollment, and reduced stunting.

- More than **1 billion children have been out of school** and could lose out, on average, half a year of schooling.
- It has created significant **disruptions to essential health services for women and children**, with many children missing out on crucial vaccinations.
- It has **increased income inequality**, its economic impact has been particularly deep for women and for the most disadvantaged families, leaving many vulnerable to food insecurity and poverty.

➤ India Specific Data:

- **Last year India was ranked 115 out of 157 countries.** This year India finds itself at **116th from among 174 countries**. However, India's **score increased to 0.49** in 2020 from 0.44 in 2018.
- **Recent Initiatives by India to Strengthen Human Capital:**
 - **Ayushman Bharat Yojana**
 - **National Education Policy**
 - **Atmanirbhar Bharat Yojana**
 - **TULIP: The Urban Learning Internship Program**
 - **Samagra Shiksha**

➤ Other Reports Published by World Bank:

- **Global Economic Prospects**
- **Ease of Doing Business**
- **World Development Report**

Vaibhav Summit

Why in News

Vaishwik Bharatiya Vaigyanik (**VAIBHAV**) Summit will be inaugurated on **2nd October 2020** - the **birth anniversary of Mahatma Gandhi**.

Key Points

- **About VAIBHAV Summit:**
 - It is a **global summit of Overseas and Resident Indian scientists** and academicians.
 - **Key areas of discussion** will include: **quantum technologies, artificial intelligence** and machine learning, communications technologies, computational and data sciences and aerospace technologies among others.
- **Objectives:**

Note:



- To bring out the comprehensive roadmap to **leverage the expertise and knowledge of global Indian researchers** for solving emerging challenges.
- To reflect in-depth on the collaboration and **cooperation** instruments **with academia and scientists in India**.
- To **create an ecosystem of Knowledge and Innovation** in the country through global outreach.
- **Organisers:** The Summit is a **joint effort of various Science & Technology (S&T) and Academic organisations**, including **Department of S&T, Defence Research and Development Organisation (DRDO)**.
- **Significance:**
 - To boost the innovation ecosystem in India, VAIBHAV will add a new dimension to **Atal Innovation Mission (AIM)**.
 - **AIM (NITI Aayog)** is Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country.
 - The summit seeks active support and ideation from Indian Diaspora for developing skills of Indian aspirants in alignment with the **New Educational Policy**.
 - NEP 2020 aims to pave the way for transformational reforms in school and higher education systems in the country.
 - With Indian roots, global outlook and experience, accomplished scientists, researchers and academicians of Indian descent, around the world can play a vital part in the **"Aatmanirbhar Bharat"** initiative.
 - The initiative is based on **5 pillars**- Economy, Infrastructure, System, Vibrant Demography and Demand.
- **Other Government Initiatives involving Overseas Indian:**
 - **Pravasi Bharatiya Divas (PBD)** is celebrated on **9th January** every year to mark the contribution of Overseas Indian community in the development of India.
 - **Know India Program (KIP)** is a flagship initiative of the **Ministry of External Affairs (MEA)** for diaspora engagement which familiarizes Indian-origin youth (18-30 years) with their Indian roots and contemporary India.
 - **VAJRA (Visiting Advanced Joint Research) Faculty Scheme** of the **Department of S&T** is a dedicated

program exclusively for overseas scientists and academicians with emphasis on Non-resident Indians (NRI) and Persons of Indian Origin (PIO) / Overseas Citizen of India (OCI) to work as adjunct/visiting faculty for a specific period of time in Indian Public funded academic and research institutions.

Free Internet Gadget and Package to Poor Students

Why in News

The Delhi High Court has directed **both private and government schools** in Delhi to provide **gadgets and Internet packages free of cost to poor students** for attending online classes.

Key Points

- **Ruling:** If a school decides to opt for online mode as a medium of instruction, it will have to ensure that students belonging to the **Economically Weaker Section (EWS) and Disadvantaged Group (DG) category** also have access and are able to avail of the same.
 - Private unaided schools will be **entitled to claim reimbursement** of reasonable cost for procurement of the gadget and Internet package from the government under **Section 12(2)** of the **Right to Education (RTE) Act**.
- **Legal Provisions: Intra-class discrimination**, especially between the 75% fee-paying students and the 25% EWS/DG students, **upsets the level playing field** and creates a **digital divide** in the classroom which is violative of **RTE Act, 2009, and Articles 14, 20 and 21 of the Constitution**.
 - According to **RTE Act**, private unaided institutions and special category schools shall provide free and compulsory education to at least **25%** children belonging to DG/EWS category admitted to class I or pre-primary classes. They will also be **reimbursed by the government** for this.
 - **Article 14** of the Constitution of India provides for equality before the law or equal protection of the laws within the territory of India.
 - **Article 20** of the Constitution of India provides that no person shall be convicted of any offence except for violation of the law in force at the time of the offence.

Note:



- **Article 21** provides for the protection of life and personal liberty. It states that no person shall be deprived of his life or personal liberty except according to procedure established by law.
- The ruling is aimed at narrowing the **Covid-19 pandemic-induced digital divide**.
 - According to the recently released **UN Report on the Impact of Covid-19 on Children**, almost **24 million children could drop out** or not have access to school next year due to the **economic impact of Covid-19**.
 - According to the **NSO report on Education**, nearly 4% of rural households and 23% of urban households possessed computers and 24% of the households in the country had internet access.
 - Among persons of age 15-29 years, only 24% in rural areas and 56% in urban areas were able to operate a computer.
 - According to the **Global Education Monitoring Report, 2020**, released by the **United Nations Educational, Scientific and Cultural Organization (UNESCO)**, Covid-19 had worsened the inequalities in education systems worldwide.
 - During the height of school closures in April 2020, almost 91% of students around the world were out of school.
 - About 40% of low and lower middle income countries have not supported learners at risk of exclusion during this crisis, such as the poor, linguistic minorities and learners with disabilities.
- **Other Judgments on Right to Internet Access**
 - The **Kerala High Court, in Faheema Shirin vs the State of Kerala case, 2019** declared the **right to Internet access as a fundamental right** forming a part of the right to privacy and the right to education under Article 21 of the Constitution.
 - In the **Supreme Court decision** in the **Anuradha Bhasin case (2020)**, freedom of free speech and expression on the Internet was accepted as a fundamental right under Article 19(1)(a) of the Constitution. Trade, occupation or commerce dependent on the Internet is a fundamental right under Article 19(1)(g).

Government Initiatives

- The Centre has directed State Education Departments to **map the online access available to all their students**

in order to **adequately plan curriculum and teaching methods** that can reach such students.

- **New Education Policy: National Education Policy, 2020** aims at making “India a global knowledge superpower” by introducing several changes from the school to college level in the Indian education system with special emphasis on digital education.
- **DIKSHA (Digital Infrastructure for Knowledge Sharing) platform- DIKSHA** is the national platform for school education available for all states and the central government for grades 1 to 12 and was launched in September 2017.
 - As part of **PM eVidya** announced under the **Atmanirbhar Bharat** programme, DIKSHA is the ‘one nation; one digital platform’ for school education in India.
- **Swayam Prabha TV Channel-** To support and reach those who do not have access to the internet.
- **Online MOOC courses-** Online Massive Open Online Course MOOC courses relating to NIOS (grades 9 to 12 of open schooling) are uploaded on **SWAYAM portal**; around 92 courses have started and 1.5 crore students are enrolled.
- **On Air – Shiksha Vani, DAISY** by NIOS for differently-abled, e-PathShala- Radio broadcasting is being used for children in remote areas who are not online (especially for grades 1 to 5).

Country of Origin Rules: CAROTAR 2020

Why in News

The **Customs (Administration of Rules of Origin under Trade Agreements) Rules, 2020 (CAROTAR 2020)**, comes into force from 21st September 2020. It was notified on 21st August 2020.

- The importers and other stakeholders were given a 30-day period to familiarise themselves with new provisions.

Key Points

- **Stricter Rules:**
 - Importers will have to ensure that imported goods meet the prescribed ‘**rules of origin**’ provisions for availing concessional rate of customs duty under **Free Trade Agreements (FTAs)**.

Note:



- Importers have to prove that imported products have **undergone value addition of at least 35% in the countries of origin.**
 - Earlier, merely a **country of origin** certificate, issued by a notified agency in the country of export was sufficient to avail the benefits of FTAs.
 - This was exploited in many cases, i.e. the **FTA partner countries have been claiming to have produced the goods in question without having the necessary technological capacity** for the required value addition.
- **Reason Behind the Move:**
- The investigation into FTA imports in the last few years has revealed that the **rules of origin, under respective FTAs, were not being followed** in the true spirit.
 - Customs officials suspect that China diverts its supplies to India through the **Association of Southeast Asian Nations (ASEAN)** nations, abusing rules of origin, to illegally take advantage of **duty-free market access under FTA.**
 - **Major imports to India** come from five ASEAN countries — Indonesia, Malaysia, Thailand, Singapore and Vietnam.
 - The ASEAN FTA allows imports of most items at zero or concessional basic customs duty from the 10-nation bloc.
 - Given the latest **border standoff between India and China**, the diversion may surge.
- **Impact:**
- The new rules will **make the importer to correctly ascertain the country of origin, properly claim the concessional duty and assist customs authorities** in the smooth clearance of legitimate imports under FTAs.
 - The **domestic industry will be protected** from misuse of FTAs.

Arsenic-affected Habitations Increased

Why in News

According to recent data shared in the Parliament, the number of **arsenic-affected habitations in India has increased by 145%** in the last five years (2015-20).

Key Points

- **Increase:** India had **1,800 arsenic-affected habitations** in 2015. This increased to 4,421 habitations as of September 2020.
 - Habitations are the smallest level of settlements that can have between 10-100 households.
- **Regions Affected:** Most of the arsenic-affected habitations lie in the **Ganga and Brahmaputra alluvial plains** i.e in **Assam, Bihar, West Bengal, Punjab, and Uttar Pradesh (UP).**
 - **Assam had the highest share** of such habitations (1,853), followed by **West Bengal** (1,383).
 - **Jharkhand**, which did not have any such habitation in 2015, has two now.
 - However, **Karnataka** which had nine habitations in 2015, had none now.
- **Decrease in Fluoride Habitations:** The number of **fluoride** affected habitations has significantly come down from 12,727 to 5,485.
 - **Rajasthan** had the highest number of such habitations (2,956), followed by **Bihar** (861).
- Under the **Jal Jeevan Mission (JJM)**, priority has been given to such quality-affected habitations through **Community Water Purification Plants (CWPP)** to meet drinking and cooking needs until potable water supply through tap connection is provided.
 - **JJM was started in 2019** with the **aim to provide piped water supply** to every household by **2024.**
 - Under JJM, up to 2% of the allocation to states/UTs can be utilised for **Water Quality Monitoring and Surveillance activities (WQM&S).**
 - The WQM&S includes setting up and strengthening of water quality testing laboratories, surveillance by the community using field test kits (FTKs), awareness generation and educational programmes on water quality, etc.
- A new sub-programme under **National Rural Drinking Water Programme (NRDWP)** viz. **National Water Quality Sub-Mission (NWQSM)** was started by the **Ministry of Drinking Water and Sanitation** (now merged with the **Ministry of Jal Shakti**) in 2017 to address the urgent need for providing clean drinking water in about 28000 **Arsenic and Fluoride affected habitations.**
 - The NWQSM **aims** to cover all rural populations in Arsenic/Fluoride affected habitations with clean drinking water on a sustainable basis by March 2021.

Note:

- The NWQSM was launched with an outlay of Rs. 25,000 crore.
- The **NRDWP was started in 2009**, with a major emphasis on ensuring the sustainability of water availability in terms of potability, adequacy, convenience, affordability and equity.
 - NRDWP is a **Centrally Sponsored Scheme** with 50:50 fund sharing between the Centre and the States.

Arsenic Poisoning

- Arsenic is naturally present at high levels in the **earth crust and groundwater** of a number of countries. It is **highly toxic** in its inorganic form.
- **Contaminated water** used for drinking, food preparation and irrigation of food crops pose the greatest threat to public health from arsenic.
- Long-term exposure to arsenic from drinking-water and food can cause **cancer, skin disease, cardiovascular disease and diabetes**.
 - In early childhood exposure, it has been linked to negative impacts on **cognitive development and increased deaths in young adults**.
- According to the **World Health Organisation (WHO)** guidelines for drinking water quality (2011), the **permissible limit of Arsenic in groundwater is 0.01 mg per litre**.
- However, **in India, the permissible limit** in drinking water has recently been revised from **0.05 mg per litre to 0.01 mg per litre**.
- The most important action in affected communities is the **prevention of further exposure** to arsenic by the provision of a **safe water supply**.

Fluoride Toxicity

- Excessive fluoride intake usually occurs through the **consumption of groundwater naturally rich in fluoride**, particularly in warm climates where water consumption is greater, or where high-fluoride water is used in food preparation or irrigation of crops.
- Such exposure may lead to **dental fluorosis** (tooth decay) or **crippling skeletal fluorosis**, which is associated with **bone deformities**.

Covid-19 Infection in PVTGs

Why in News

Recently, six members of two **Particularly Vulnerable**

Tribal Groups (PVTGs) namely **Bondas and Didiayis in Odisha** contracted Covid-19 and the **National Commission for Scheduled Tribes (NCST)** has sought a report on it from the state government and has termed it a “**matter of grave concern**”.

- PVTGs from **Andaman were also reported** to have contracted Covid-19.

Key Points

➤ Particularly Vulnerable Tribal Groups:

- The classification among tribes was adopted by the Government of India (GoI) after the **Dhebar Commission (1960-1961)** stated that within the Scheduled Tribes (STs) there existed an inequality in the rate of development.
- During the **4th Five Year Plan (1969-74)**, a **sub-category was created within STs** to identify groups at a lower level of development. This sub-category was called “**Primitive Tribal Group**”, which is now called PVTG.

➤ Criteria:

- A PVTG is a **GoI classification for tribes based on their:**
 - Relative physical isolation.
 - Stagnant or declining population.
 - Low levels of literacy.
 - Absence of written language.
 - Pre-agricultural stage of economy, such as hunting, food gathering, shifting cultivation and terrace cultivation.
- **75 tribal groups** have been categorized by the Ministry of Home Affairs as **PVTGs**.
- The **Ministry of Tribal Affairs implements** the scheme of **Development of PVTGs**, exclusively for them.

➤ PVTGs in Odisha:

- Out of the 62 tribal groups in Odisha, **13 are recognised as PVTGs** which is the **highest in the country**.
- Odisha has a population of 2.5 lakh belonging to the PVTGs.
- **Identified PVTGs of the State:** **Bonda**, Birhor, Chuktia, Didayi, Dongaria Kandha, Juang, Kharia, Kutia Kondh, Lanjia Saora, Lodha, Mankirida, Paudi Bhuyan and Saora.

Note:

- **Bondas and Didiayis Tribes:** These are found in the **Malkangiri district** of the state, which shares its **border with Andhra Pradesh and Chhattisgarh**.
 - The **Bondas**, scattered across **32 remote hilltop villages in the Eastern Ghats**, are believed to have come to India as part of the **first wave of migration out of Africa** about 60,000 years ago.
 - The **Didayis**, an **Austro-Asiatic tribe**, live in the immediate neighbourhood of the Bondas. The population of Didayis is 7,250 according to the 2011 Census. They live in the **Konda Kamberu hills of Malkangiri**.
- **Matter of Grave Concern:** According to the 2018 newsletter of the **Poverty and Human Development Monitoring Agency (PHDMA)**:
 - **Low Health Status:** Diseases like upper respiratory problem and **malaria**, gastrointestinal disorders like acute diarrhoea and intestinal protozoa, micronutrient deficiency, and skin infection are common among PVTGs.
 - **Reasons:** Multiple factors like poverty, illiteracy, lack of safe drinking water, poor sanitary conditions, difficult terrain, malnutrition, poor access to maternal and child health care services, superstition, nonavailability of adequate health care services and deforestation.
- An **Unconnected Habitation** is one with a population of designated size located at a distance of at least 500 metres or more (1.5 km of path distance in case of Hills) from an All-weather road or a connected Habitation.
- **Core Network:** It is that minimal Network of roads (routes) that is essential to provide Basic access to essential social and economic services to all eligible habitations in the selected areas through at least single all-weather road connectivity.
- **Latest Funding Pattern:** The fund allocation to states has been made in subsequent years commensurate with the value of projects sanctioned to states.
 - The **Union Government bears 90% of the project cost** in respect of projects sanctioned under the scheme in **North-Eastern and Himalayan States**, whereas **for other states** the Union Government bears **60% of the cost**.
- **Construction of Rural Roads:** The Rural Roads constructed under the PMGSY will be in accordance with the provision of the **Indian Roads Congress (IRC)**.
 - IRC is the **Apex Body of Highway Engineers** in the country.
 - The IRC was set up in **1934**.
- **PMGSY - Phase I**
 - PMGSY - Phase I was launched in December, 2000 as a 100 % **centrally sponsored scheme**.
 - Under the scheme, 1,35,436 habitations were targeted for providing road connectivity and 3.68 lakh km. for upgradation of existing rural roads in order to ensure full farm to market connectivity.
- **PMGSY - Phase II**
 - The Government of India subsequently launched **PMGSY-II in 2013** for **upgradation of 50,000 Kms of existing rural road network** to improve its overall efficiency.
 - While the ongoing PMGSY - I continued, under PMGSY phase II, the **roads already built for village connectivity was to be upgraded** to enhance rural infrastructure.
 - The cost was **shared between the centre and the states/UTs**.
- **PMGSY - Phase III**
 - Phase III was approved by the Cabinet during July **2019**.
 - It gives priorities to facilities like:

Pradhan Mantri Gram Sadak Yojana

Why in News

Recently, the **Union Minister of Rural Development** provided information on implementation of the **Pradhan Mantri Gram Sadak Yojana (PMGSY)**, in Rajya Sabha.

Key Points

- **Launched on:** 25th December, 2000.
- **Objective:** To provide connectivity, by way of an all-weather road to unconnected habitations.
- **Eligibility:** Unconnected habitations of designated population size (500+ in plain areas and 250+ in North-Eastern States, Himalayan States, Deserts and Tribal Areas as per 2001 census) in the core network for uplifting the socio-economic condition of the rural population.

Note:



- Gramin Agricultural Markets (GrAMs)
 - GrAMs are retail agricultural markets in close proximity to the farm gate, that promote and service a more efficient transaction of the farmers' produce.
- Higher Secondary Schools and
- Hospitals.
- Under the PMGSY-III Scheme, it is proposed to consolidate **1,25,000 Km** road length in the States. The duration of the scheme is **2019-20 to 2024-25**.
- **Challenges:**
 - Lack of dedicated **funds**.
 - Limited involvement of the **Panchayati Raj Institutions**.
 - **Inadequate execution** and contracting capacity.
 - Less working season and **difficult terrain** particularly in Hill States.
 - **Scarcity** of the **construction materials**.
 - **Security concerns** particularly in **Left Wing Extremism (LWE)** areas.

Samarth Scheme for Textile Sector

Why in News

The **Ministry of Textiles** is implementing the Samarth-Scheme for Capacity Building in the Textiles Sector.

- Samarth Scheme, also known as **Scheme for Capacity Building in the Textile Sector (SCBTS)**, was approved by **Cabinet Committee on Economic Affairs (CCEA)** in **2017** in order to ensure steady supply of skilled manpower in the labour-intensive textile sector.

Key Points

- **Objectives:**
 - Provide **demand driven, placement oriented National Skills Qualifications Framework (NSQF) compliant skilling programmes** to create jobs in the organized textile and related sectors, covering the **entire value chain of textile, excluding Spinning and Weaving**.
 - Promote **skilling and skill upgradation** in the traditional sectors of handlooms, handicrafts, sericulture and jute.

- Enable provision of **sustainable livelihood** either by wage or self employment.
- 18 State Governments have been allocated a training target of 3.6 lakh beneficiaries for conducting **training programmes in traditional and organized sectors**.
- Industry/industry associations are being empanelled for undertaking **industry oriented entry level skilling programmes** in the organized sectors.
- Other Schemes of the Textile Sector
 - **Scheme for Integrated Textile Park (SITP)**
 - **Power-Tex India**
 - **Silk Samagra Scheme**
 - **Amended Technology Upgradation Fund Scheme (ATUFS)**
 - **National Handloom Day**
 - **Jute ICARE**
 - **National Technical Textile Mission**

MedSpark in Kerala

Why in News

Kerala is set to lay the foundation stone for **MedSpark**, one of the first **medical device** parks in the country, in Thiruvananthapuram.

- **Medical devices** include **surgical equipment, diagnostic equipment** like Cardiac Imaging, CT scans, X-ray, Molecular Imaging, MRI and Ultrasound-imaging, **life support equipment** like ventilator, etc. as well as **implants and disposables**.
- Medical devices, unlike pharmaceuticals, are **dependent on a mix of technologies such as engineering, electronics, material sciences and information technology (IT)**.

Key Points

- **Established By:**
 - **Technical Research Centre for Biomedical Devices Programme** of the **Department of Science and Technology (DST)**, Government of India.
 - **Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST)**, an **autonomous institute of the DST**.
 - **Kerala State Industrial Development Corporation Ltd. (KSIDC)** which is the **industrial and investment promotion agency** of the Government of Kerala.

Note:

- **Fundings:**
 - **Funding from the state and central governments** will meet the capital expenditure and deficit in income against expenses during the initial stages.
 - The business model for the MedSpark is **self-sustaining** in which its **operational expenses will be generated from its revenue streams**.
- **Functions:** It will **focus on the high-risk medical device sector**.
 - It will provide a full range of services for the industry like **research and development support, testing, and evaluation** of medical devices.
 - Create an **enabling support system** for manufacturing support, technology innovation, and knowledge dissemination.
 - **High-risk medical device sector** deals with the category of high-risk devices which include **medical implants and extracorporeal devices** (mechanical organs used in blood purification).
 - For example, **pacemakers, coronary stents, artificial heart valves**, etc.
- **Benefits:**
 - These services can be **utilised by the medical device industries** located **within the MedSpark as well from other parts of India**.

Medical Devices Sector in India

- The medical devices industry in India is **valued at USD 5.2 billion**, contributing about **4-5% to the USD 96.7 billion Indian healthcare industry**.
- Medical devices sector in India is **very small in size as compared to the rest of the manufacturing industry**, though **India is one of the top twenty markets for medical devices** in the world and is the **4th largest market in Asia** after Japan, China, and South Korea.
- India's medical devices industry is **poised for significant growth in the next five years** and the market size is **expected to reach USD 50 bn by 2025**.
- India **currently imports 80-90% of medical devices** and the vast majority of which are **unregulated for quality and safety**.
 - The **USA, Germany, China, Japan, and Singapore** constitute the **five largest exporters** of high technology medical equipment to India.

- It will **benefit small and medium-sized medical devices industries**, which dominate the medical devices sector.
- It can **leverage the existing advantage of Kerala in the high-risk medical device manufacture** and develop it into the most sought after destination for setting up the medical device industry in India.
- It is expected that it would **provide direct employment to 1200 people** and generate up to **4000-5000 jobs through the supporting industries**.

Shuchi Scheme: Karnataka

Why in News

The **Karnataka government** has not allocated funds to the **Shuchi Scheme (a menstrual hygiene project)**, in its budget for 2020-21.

- As a result, the distribution of sanitary napkins has come to halt under the Scheme, affecting over 17 lakh school and college girls.

Key Points

- The **Shuchi Scheme**, started in **2013-14**, was **initially a Centrally-sponsored one**. However, the Centre asked States to take over the scheme from 2015-16.
 - The central government has supported the States/UTs through **National Health Mission (NHM)** in their programme implementation plans for decentralised procurement of sanitary napkin packs.
- It is aimed at **instilling awareness about menstrual hygiene** among adolescent girls.
- A national level scheme- **Kishori Shakti Yojana (KSY)** of the **Union Ministry of Women & Child Development** seeks to empower adolescent girls, so as to enable them to take charge of their lives.
 - The **broad objectives** of the Scheme are to improve the nutritional, health and development status of adolescent girls, promote awareness of health, hygiene, nutrition and family care, link them to opportunities for learning life skills, going back to school, help them gain a better understanding of their social environment and take initiatives to become productive members of the society.

Note:



YuWaah Platform

Why in News

Recently, the Government has launched YuWaah – a multi-stakeholder platform to make young people career ready.

- The **Ministry of Youth Affairs & Sports** and **United Nations Children's Fund (UNICEF)** had signed a 'Statement of Intent' to establish **Generation Unlimited in India (YuWaah)**.

Key Points

- **Generation Unlimited (GenU):**
 - Founded in September **2018**, GenU aims to **transform education, employment and entrepreneurial outcomes for young people** around the world at a global and local level, by joining together partners from business and governments with the reach and network of the **United Nations (UN)**.
 - It was **launched by UNICEF** at the 73rd session of the UN General Assembly.
- **Objectives of YuWaah:**
 - Providing **career guidance support** to young people through career portal as well as through job-readiness and self-exploration sessions to make young people career-ready.
 - Supporting young people by providing **entrepreneurship classes** with successful entrepreneurs and experts.
 - Creating **linkages with aspirational economic opportunities** to connect young people with jobs or self-employment. For this, innovative solutions and technology platforms will be engaged to maximize the scale and reach.
 - **Upskilling** young people on 21st century skills, life skills, digital skills and supporting them through self-learning, for their productive lives and the future of work.
- **Significance:**
 - It will help the youth in contributing towards **Atmanirbhar Bharat Abhiyan**.
 - It will give a strong focus to India's existing policies, such as the **National Youth Policy, 2014**.

O-SMART Scheme

Why in News

The **Ocean Services, Modelling, Applications, Resources and Technology (O-SMART) Scheme** was **approved by the Union Cabinet in August 2018** and is implemented by the **Ministry of Earth Sciences**.

Key Points

- It aims at **stepping up ocean research** and **setting up early warning weather systems**.
- It addresses ocean development activities such as services, technology, resources, observations and science and provides necessary scientific and technological background required for implementation of various aspects of **Blue Economy**.
- **Objectives:**
 - To **generate and regularly update information** on Marine Living Resources and their relationship with the physical environment in the Indian **Exclusive Economic Zone (EEZ)**.
 - To **periodically monitor levels of seawater pollutants** for health assessment of coastal waters of India, to **develop shoreline change maps** for assessment of **coastal erosion** due to natural and anthropogenic activities.
 - To **develop a wide range of state-of-the-art ocean observation systems** for the acquisition of real-time data from the seas around India and to cater to the testing and sea trial activities of **ocean technology**.
 - To **generate and disseminate a suite of user-oriented ocean information**, advisories, warnings, data and data products for the benefit of society.
 - To **develop high-resolution models for ocean forecast** and reanalysis systems.
 - To **develop algorithms for validation of satellite data for coastal research** and to monitor changes in the coastal research.
 - **Acquisition of Coastal Research Vessels (CRVs)** for coastal pollution monitoring, testing of various underwater components and technology demonstration and to support their operation and maintenance.
 - To **develop technologies to tap the marine bioresources**, generate freshwater and **ocean energy** and develop **underwater vehicles** and technologies.

Note:



- **Establishment of Ballast water treatment facility.**
 - Ballast Water Discharge by ships is **responsible for the introduction of invasive species** in the oceans by taking water from one port and discharging it during the next port call.
- To **carry out exploration of Polymetallic Nodules (MPN)** from water depth of 5500 m in site of 75000 sq. km allotted to India by **United Nations** in Central Indian Ocean Basin, and **to carry out investigations of gas hydrates.**
 - MPN, also called manganese nodules, are **rock concretions formed of concentric layers of iron and manganese hydroxides around a core.**
 - MPN contain multiple metals like copper, nickel, cobalt, manganese, iron, lead, zinc, aluminium, silver, gold and platinum etc. in variable constitutions and are precipitate of hot fluids from upwelling hot magma from the deep interior of the oceanic crust.
 - Mining for Polymetallic nodules is of **strategic importance** for India as there are **no terrestrial sources of these metals in India.**
- Exploration of **polymetallic sulphides** near Rodrigues Triple junction (convergence of Central Indian Ridge, the Southeast Indian Ridge, and the Southwest Indian Ridge) in 10000 sq. km of area allotted to India in International waters by **International Seabed Authority.**
- **Submission of India's claim over continental shelf** extending beyond the EEZ supported by scientific data, and the **Topographic survey of EEZ of India.**
- To provide **advice and support to the Department of Telecommunications (DoT)** in the monitoring and enforcement of net neutrality principles.
- To **investigate complaints** regarding the violation of net neutrality.
- To help DoT in the **maintenance of a repository of reasonable traffic management practices.**

➤ Stakeholders:

- It could include telecom service providers, Internet service providers, content providers, researchers, academic and technical community, civil society organisations, and the government.

➤ Net Neutrality in India: The DoT accepts TRAI's recommendations in favour of net neutrality which:

- **Bars telcos from discriminatory treatment** on the web, based on content, sender, receiver, protocols or equipment.
- **Penalties for violation of license rules** on net neutrality.
- **Includes exceptions for critical services** such as remote healthcare diagnostics, self-driving cars, etc.
- **Exempts content delivery networks**, which do not use public Internet from open web rules.
- **Applies equally to 5G technology** as well because the principles are technology-neutral.

Net Neutrality

- Net neutrality has been defined as a principle that **Internet Service Providers (ISP)** also called **Internet Access Providers (IAP)** should **enable access to all content and applications regardless of the source, and without favouring or blocking particular products or websites.**
- This means when the **customers pay an ISP for a data plan**, they should be able to **access all content online** (news, social media, videos, games, etc.) at the **same broadband speed** which they had opted for.
- **Arguments in Favour:**
 - It **democratises the internet space** as the telecom provider cannot charge differently for different websites and allows everyone on the internet to participate in it.
 - It **does not let ISPs to act as "gatekeepers"** and control, filter or block data according to their will without a court order.

Multi-stakeholder Body for Net Neutrality

Why in News

Recently, the **Telecom Regulatory Authority of India (TRAI)** has recommended the creation of a **multi-stakeholder body (MSB)** to ensure that Internet access providers adhere to the provisions of **net neutrality.**

- The MSB should be set up as a **non-profit entity.**

Key Points

- **Roles and Responsibilities:**

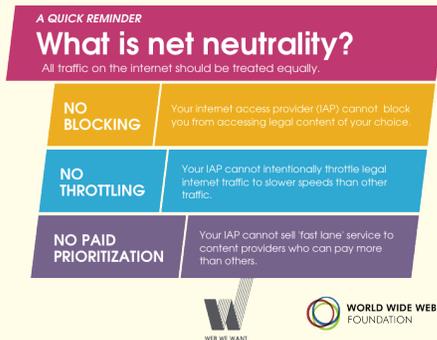
Note:



- It **provides a level playing field** to all the big and small companies in the Information Technology (IT) sector and does not let a handful of companies control the internet.
- It **ensures that all people and websites have equal access** to each other, regardless of their ability to pay hence fosters the principle of freedom of speech.

➤ **Arguments Against:**

- It will **stifle innovation** on the internet as it will **not be possible to explore consumer choices** and create content accordingly.
- ISPs will **not be able to make an investment in Broadband** services.
- It will **kill competition** as every data packet will **be treated the same** and content providers will not get a chance to advance their data at a better rate by paying the telecom providers.



Destination North East Festival

Why in News

The **Ministry of Development of North-East Region (DoNER)** has launched the logo and song for festival “Destination North East-2020”.

Key Points

- **About the Festival:**
 - **Aim:** To bring the rest of India closer to **North East (NE)** India.
 - **Four-Day Event:** It holds a special presentation of art and craft, textiles, ethnic products, tourism promotion etc. of the eight northeastern states.
 - **Organisations Involved:**
 - **Ministry of Development of North-East Region:**

It is responsible for the matters relating to the planning, execution and monitoring of development schemes and projects in the NE Region.

- **North Eastern Council (NEC):** It is the **nodal agency** for the economic and social development of the NE Region which consists of the **eight States** of **Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim** and **Tripura**. It was **constituted in 1971 by an Act of Parliament**.
- **NERCORMP: North Eastern Region Community Resource Management Project (NERCORMP)** is a livelihood and rural development project aimed to **transform the lives of the poor and marginalized tribal families** in NE India. It is a **joint developmental initiative** of the NEC, Ministry of DoNER and **International Fund for Agricultural Development (IFAD)**.
 - **IFAD** is an **international financial institution** and a **specialized agency of the United Nations** dedicated to eradicating poverty and hunger in rural areas of developing countries. It is **headquartered in Rome, Italy**.

- **2020 Focus:** The Emerging Delightful Destinations.
- **2020 Venue:** Virtually from 27th to 30th September 2020.
 - The previous editions of the festival were held in Varanasi, Delhi and Chandigarh.

World Tourism Day 2020

Why in News

Every year, **27th September** has been celebrated as the **World Tourism Day since 1980**. It was on this day in 1970 when the **Statutes of the United Nations World Tourism Organization (UNWTO) were adopted** which are considered a milestone in global tourism.

- The UNWTO is a **United Nations specialised agency** responsible for the **promotion of responsible, sustainable and universally accessible tourism**.

Key Points

- **Significance:**
 - The day **highlights the unique role of the tourism sector in preserving cultural and natural heritage** all around the world. It acts as an auxiliary in safeguarding habitat and endangered species.

Note:

- It addresses the **importance of the tourism sector in providing jobs and opportunities**, mostly for women and youth, in rural as well as urban areas.
- **2020 Celebrations:**
 - **Theme for 2020: 'Tourism and Rural Development'.**
 - The theme encourages the celebration of the unique role played by tourism in job creation outside of the big cities.
 - **Joint Hosts:**
 - In the history of 40 years, the official celebration of the day will not be hosted by a single member state of the **UNWTO**.
 - Nations from the **MERCOSUR bloc** (Argentina, Brazil, Paraguay and Uruguay, with Chile joining as member associate status) **will also be the joint hosts**.
 - **Covid-19 Impact:** As per the data of the UNWTO, about 100 to 120 million jobs in the tourism industry are at direct risk.

National Medical Commission

Why in News

Recently, the **National Medical Commission (NMC)** has **replaced the Medical Council of India (MCI)**, as per the gazette notification issued by the Ministry of Health and Family Welfare.

- **MCI was established in 1934** under the **Indian Medical Council (IMC) Act, 1933** with the main function of **establishing uniform standards of higher qualifications in medicine and recognition of medical qualifications in India and abroad**.
- The **old Act was repealed in 1956 and a new act was enacted** in its place. The new act was further modified in 1964, 1993 and 2001.

Key Points

- The government **dissolved the MCI in 2018** and replaced it with a **Board of Governors (BoG)**, which was chaired by a member of **NITI Aayog**.
- Now, the **IMC Act, 1956 stands repealed** after the gazette notification, and has been replaced by the **National Medical Commission Act** that came into existence on **8th August 2019**.
- The change is aimed at bringing in **reforms in the medical education sector** and especially aimed at

replacing the MCI, which was tainted by corruption and other problems.

- The NMC will function as the **country's top regulator of medical education**.
- It will have **four separate autonomous boards** for:
 - Undergraduate medical education.
 - Postgraduate medical education.
 - Medical assessment and rating.
 - Ethics and medical registration.
- The **common final year Bachelor of Medicine and Bachelor of Surgery (MBBS)** examination will now be known as the **National Exit Test (NEXT)**, according to the new medical education structure under the NMC.
 - NEXT will **act as licentiate examination to practice medicine**, the **criteria for admission to postgraduate medical courses**, and also for **screening of foreign medical graduates**.
- Besides the **National Eligibility and Entrance Test (NEET)**, **NEXT will also be applicable to institutes of national importance** such as all the **All India Institutes of Medical Sciences (AIIMS)** in a bid to **ensure a common standard** in the medical education sector in the country.
 - NEET is conducted by the **National Testing Agency (NTA)**.
- **Dr Suresh Chandra Sharma**, former head of ENT (**Otorhinolaryngology, the study of diseases of the ear, nose, and throat**) AIIMS Delhi, has been appointed as its **chairman for three years**.

Lok Adalat

Why in News

Recently, a daily wager in Odisha's Kandhamal district has moved the **Lok Adalat** against the Prime Minister of India but the hearing is yet to begin.

- He allegedly failed to get an **Aadhaar card** registered in his name despite various attempts due to technical glitches in taking his fingerprint.

Key Points

- **About:**
 - The term 'Lok Adalat' means '**People's Court**' and is based on **Gandhian principles**.
 - As per the **Supreme Court**, it is an old form of adjudicating system **prevailed in ancient India**

Note:



and its validity has not been taken away even in the modern days too.

- It is **one of the components of the Alternative Dispute Resolution (ADR)** system and delivers **informal, cheap and expeditious justice** to the common people.
- The **first Lok Adalat camp** was organised in **Gujarat in 1982** as a **voluntary and conciliatory agency** without any statutory backing for its decisions.
- In view of its growing popularity over time, it was **given statutory status** under the **Legal Services Authorities Act, 1987**. The Act makes the provisions relating to the organisation and functioning of the Lok Adalats.
- **Organisation:**
 - The **State/District Legal Services Authority** or the **Supreme Court/High Court/Taluk Legal Services Committee** may organise Lok Adalats at such intervals and places and for exercising such jurisdiction and for such areas as it thinks fit.
 - Every Lok Adalat organised for an area shall **consist of such number of serving or retired judicial officers and other persons of the area as may be specified** by the agency organising.
 - Generally, a Lok Adalat consists of a **judicial officer as the chairman** and a **lawyer (advocate) and a social worker as members**.
 - **National Legal Services Authority (NALSA)** along with other Legal Services Institutions **conducts Lok Adalats**.
 - NALSA was constituted under the **Legal Services Authorities Act, 1987** which came into **force on 9th Nov 1995** to establish a **nationwide uniform network for providing free and competent legal services to the weaker sections** of the society.
- **Jurisdiction:**
 - A Lok Adalat shall have jurisdiction to determine and to arrive at a compromise or settlement between the parties to a dispute **in respect of:**
 - Any case pending before any court, or
 - Any matter which is falling within the jurisdiction of any court and is not brought before such court.
 - **Any case** pending before the court can be referred to the Lok Adalat for **settlement if:**
 - Parties agree to settle the dispute in the Lok Adalat or one of the parties applies for referral

of the case to the Lok Adalat or court is satisfied that the matter can be solved by a Lok Adalat.

- In the case of a pre-litigation dispute, the matter can be referred to the Lok Adalat on receipt of an application from any one of the parties to the dispute.
- **Matters** such as matrimonial/family disputes, criminal (compoundable offences) cases, land acquisition cases, labour disputes, workmen's compensation cases, bank recovery cases, etc. are being taken up in Lok Adalats.
- However, the Lok Adalat shall have **no jurisdiction in respect of any case or matter relating to an offence not compoundable under any law**. In other words, the offences which are non-compoundable under any law fall outside the purview of the Lok Adalat.
- **Powers:**
 - The Lok Adalat shall have the **same powers as are vested in a Civil Court under the Code of Civil Procedure (1908)**.
 - Further, a Lok Adalat shall have the **requisite powers to specify its own procedure for the determination of any dispute** coming before it.
 - All proceedings before a Lok Adalat shall be **deemed to be judicial proceedings within the meaning of the Indian Penal Code (1860)** and every Lok Adalat shall be **deemed to be a Civil Court for the purpose of the Code of Criminal Procedure (1973)**.
 - An **award** of a Lok Adalat shall be **deemed to be a decree of a Civil Court or an order of any other court**.
 - Every award made by a Lok Adalat shall be **final and binding on all the parties to the dispute**. **No appeal shall lie to any court against the award** of the Lok Adalat.
- **Benefits:**
 - There is **no court fee** and if court fee is already paid the **amount will be refunded** if the dispute is settled at Lok Adalat.
 - There is **procedural flexibility and speedy trial** of the disputes. There is **no strict application of procedural laws** while assessing the claim by Lok Adalat.
 - The parties to the dispute can **directly interact with the judge through their counsel which is not possible in regular courts** of law.

Note:

- The **award by the Lok Adalat is binding** on the parties and it has the status of a decree of a civil court and it is **non-appealable**, which **does not cause the delay** in the settlement of disputes finally.

Permanent Lok Adalats

- The **Legal Services Authorities Act, 1987** was amended in **2002** to provide for the establishment of the Permanent Lok Adalats to **deal with cases pertaining to the public utility services** like transport, postal, telegraph etc.
- **Features:**
 - These have been **set up as permanent bodies**.
 - It shall consist of a **Chairman** who is or has been a district judge or additional district judge or has held judicial office higher in rank than that of the district judge and **two other persons having adequate experience in public utility services**.
 - It **shall not have jurisdiction in respect of any matter relating to an offence not compoundable under any law**. The jurisdiction of the Permanent Lok Adalats is **upto Rs. 1 Crore**.
 - Before the dispute is brought before any court, any party to the dispute may make an application to the Permanent Lok Adalat for settlement of the dispute. **After an application is made** to the Permanent Lok Adalat, **no party to that application shall invoke jurisdiction of any court** in the same dispute.
 - It shall **formulate the terms of a possible settlement and submit them to the parties for their observations** and in case the parties reach an agreement, the Permanent Lok Adalat shall pass an award in terms thereof. In case parties to the dispute **fail to reach an agreement**, the Permanent Lok Adalat **shall decide the dispute on merits**.
 - A **major drawback of the Lok Adalats** is that if the parties do not arrive at any compromise or settlement, the **case is either returned to the court of law or the parties are advised to seek a remedy in a court of law**. This causes **unnecessary delay** in the dispensation of justice.
 - Every award made by the Permanent Lok Adalat shall be **final and binding** on all the parties thereto and **shall be by a majority of the persons constituting the Permanent Lok Adalat**.

Kaushal Se Kal Badleng: DDU-GKY

Why in News

Recently, the **Ministry of Rural Development (MoRD)** has celebrated the **foundation day of Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)** as “**Kaushal Se Kal Badleng**” on the occasion of **Antyodaya Diwas (25th September)**.

Key Points

- **Inaugurations and New Releases:**
 - Agripreneurship (entrepreneurship in agriculture) Programme.
 - **Agripreneurship** is defined as generally, sustainable, community-orientated, directly marketed agriculture.
 - Sustainable agriculture denotes a holistic, systems-oriented approach to farming that focuses on the interrelationships of social, economic, and environmental processes.
 - Guidelines regarding Captive Employment under DDU-GKY.
 - Captive employers are **businesses which can employ 500 or more** in their own organisation or one of their subsidiaries and have **suitable in-house training facilities**.
 - Guidelines for Promotion of Integrated Farming Cluster (IFC).
 - **Integrated Farming is a combined approach** aimed at efficient sustainable resource management for increased productivity in the cropping system.
 - It has multiple objectives of sustainability, **food security**, farmer’s security and **poverty** reduction by involving livestock, vermicomposting, **organic farming**, etc.
 - Memorandum of Understanding (MoU) for capacity building of **Farmer Producer Organisations (FPOs)**/ StartUps and providing incubation support in rural areas.

Deen Dayal Upadhyaya Grameen Kaushalya Yojana

- MoRD announced it on **Antyodaya Diwas in 2014**.

Note:



- It is a **demand-driven placement linked skill training initiative** working under the **National Rural Livelihood Mission (NRLM)**.
- It uses skill training and placement in wage employment as a tool to **diversify income and enable sustained upward movement** out of poverty.
- DDU-GKY is **uniquely focused on rural youth between the ages of 15 and 35 years from poor families**.
- **Achievements:** Under DDU-GKY, 10.51 lakh rural youth have been trained and 6.65 lakh successfully placed so far.
 - All **stakeholders need to bring more rural youths under DDU-GKY**, who are interested to become independent and bring a change in society.
- **Significance:**
 - DDU-GKY and integrated farming initiatives for rural development across the country are **important for greater success in skilling and placing the rural youth**.
 - DDU-GKY has played a **significant role in the context of Aatmanirbhar Bharat** through skilling.

Antyodaya Diwas

- Every year, 25th September is observed as Antyodaya Diwas to mark the **birth anniversary of Pandit Deendayal Upadhyaya**, one of the great thinkers and philosophers of the nationalist movement of the country.
- The Government of India announced it for the **first time in 2014** along with the **Deendayal Antyodaya Yojana**.
- Antyodaya means “**uplifting the poorest of the poor**” and the day aims to reach the person in the last mile.

FAME India Scheme Phase II

Why in News

The Government of India has sanctioned **670 Electric buses** in the states of Maharashtra, Goa, Gujarat and Chandigarh and **241 Charging Stations** in Madhya Pradesh, Tamil Nadu, Kerala, Gujarat and Port Blair under **Phase-II of FAME India Scheme**.

Key Points

- **Background:**

- **FAME India** is a part of the **National Electric Mobility Mission Plan**. Main thrust of FAME is to encourage electric vehicles by providing subsidies.
- The **FAME India Scheme** is aimed at incentivising all vehicle segments.
- Two phases of the scheme:
 - **Phase I:** started in 2015 and was completed on 31st March, 2019
 - **Phase II:** started from **April, 2019**, will be completed by 31st March, **2022**
- The scheme covers **Hybrid & Electric** technologies like **Mild Hybrid, Strong Hybrid, Plug in Hybrid & Battery Electric Vehicles**.
- **Monitoring Authority** : Department of Heavy Industries, **the Ministry of Heavy Industries and Public Enterprises**.
- FAME India Scheme has four focus Areas:
 - Technology development
 - Demand Creation
 - Pilot Projects
 - Charging Infrastructure

Objectives of FAME Scheme:

- **Encourage faster adoption of electric and hybrid vehicles** by way of offering upfront Incentive on purchase of Electric vehicles.
- Establish a **necessary charging Infrastructure** for electric vehicles.
- To address **the issue of environmental pollution and fuel security**.

Salient Features of Phase II:

- Emphasis on **electrification of the public transportation** that includes shared transport.
- This phase aims to support, through subsidies, approximately 7000 e-Buses, 5 lakh e-3 Wheelers, 55000 e-4 Wheeler Passenger Cars and 10 lakh e-2 Wheelers.
- In **3-Wheel (W) and 4-Wheel (W) segment** incentives will be applicable mainly to vehicles used for **public transport or registered for commercial purposes**.
- In the **2-Wheel (W) segment**, the focus will be on the **private vehicles**.
- To encourage advanced technologies, the benefits of incentives will be extended to **only those vehicles** which are fitted with advanced **batteries like a Lithium Ion battery and other new technology batteries**.

Note:



- The scheme proposes for establishment of **charging infrastructure**, whereby about 2700 charging stations will be established in metros, other million plus cities, smart cities and cities of Hilly states across the country so that there will be availability of at least one charging station in a grid of 3 km x 3 km.
- Establishment of Charging stations are also **proposed on major highways connecting major city clusters**.
 - On such highways, charging stations will be established on both sides of the road at an interval of about 25 km each.

Arrest Under Official Secrets Act

Why in News

Recently, Delhi police has arrested a strategic affairs analyst under the **Official Secrets Act (OSA), 1923** for passing information such as the deployment of Indian troops on the border to Chinese intelligence officers.

Key Points

➤ Official Secrets Act:

- OSA broadly deals with two aspects — **spying** or espionage and **disclosure of secret information** of the government.
 - However, the **OSA does not define the secret information**, the government follows the **Manual of Departmental Security Instructions, 1994** for classifying a document as secret.
 - Generally **secret information includes** any official code, password, sketch, plan, model, article, note, document, or information.
- If guilty, a person may get up to **14 years' imprisonment, a fine, or both**. Both the person communicating the information and the person receiving the information can be punished under the OSA.

➤ Background:

- OSA has its roots in the British colonial era. The **Indian Official Secrets Act (Act XIV), 1889** was brought in, with the objective of muzzling the voice of a large number of newspapers that had come up in several languages, and were opposing the British policies.

- The Act XIV was amended and **made more stringent** in the form of The Indian Official Secrets Act, 1904, during Lord Curzon's tenure as Viceroy of India.
- In 1923, a newer version was notified, the **Indian Official Secrets Act (Act No XIX of 1923)**.
 - It was **extended to all matters of secrecy and confidentiality** in governance in the country.
- **Issues Involved:**
 - **Conflict with Right to Information Act:** It has often been argued that the OSA is in direct conflict with the **Right to Information (RTI) Act, 2005**.
 - Section 22 of the RTI Act provides for its **primacy vis-a-vis provisions of other laws, including OSA**. So if there is any inconsistency in OSA with regard to furnishing of information, it will be superseded by the RTI Act.
 - However, under **Sections 8 and 9 of the RTI Act**, the government can **refuse information**. Effectively, if the government classifies a document as secret under OSA, that document can be kept outside the ambit of the RTI Act, and the government can invoke Sections 8 or 9.
 - **Misinterpretation of Breach of National Security: Section 5** of OSA, which deals with potential breaches of national security, is **often misinterpreted**.
 - The Section makes it a punishable offence to share information that may help an enemy state.
 - The Section comes in handy for booking journalists when they publicise information that may cause embarrassment to the government or the armed forces.
- **Suggestions Made:**
 - In 1971, the Law Commission in its report on '**Offences Against National Security**', observed that merely because a circular is marked secret or confidential, it should not attract the provisions of the OSA if the publication thereof is in the interest of the public and no question of national emergency and interest of the State as such arises.
 - The Law Commission, however, **did not recommend any changes to the OSA**.
 - In 2006, the **2nd Administrative Reforms Commission (ARC)** recommended that **OSA be repealed**, and **replaced with a chapter in the National Security Act, 1980** containing provisions relating to official secrets.

Note:



- It observed that **OSA was unsuitable with the regime of transparency** in a democratic society.
- In 2015, the government had set up a committee to look into provisions of the OSA in light of the RTI Act which submitted its report in June 2017, recommending that **OSA be made more transparent and in line with the RTI Act.**

Education Through Radio in Odisha

Why in News

Recently, the state government of **Odisha** has decided to reach out to children in remote areas through the **radio** as online classes fail to reach most students due to poor mobile connectivity.

Key Points

- **Education Through Radio:**
 - The state's **School and Mass Education Department** has launched **classroom teaching through All India Radio.**
 - Students from **Class I to VIII** can learn their lessons through **15-minutes of teaching by experienced teachers** through radio.
 - It has been highlighted that a student can **cover six pages of his textbook within 15 minutes** of a radio programme.
 - Although teaching through radio **would not be effective as it could have been in a physical classroom**, the dire situation has **forced the administration to try different methods** for reaching students.
- **Other Initiatives:**
 - Students have been provided with textbooks even though schools in Odisha have been closed since **17th March 2020.**
 - **Three hours of classroom instruction** are also available **through Doordarshan.**
 - Since considerable time has been lost due to the closure of schools, school **syllabus has been reduced by 30%.**
- **Reasons for the Move:**
 - The schools could not be opened due to **Covid-19 pandemic** so the education department **tried to**

reach students with online classes, mostly through smartphones.

- However, out of the 60 lakh students, hardly 22 lakhs were being reached during the lockdowns.
- The **situation worsened when the lockdown was lifted** and parents started going to their workplaces taking the only smartphone in the family with them.
 - It led to a further **drop of 6 to 7 lakh students attending virtual classes.**
- Those who have a sufficient number of smart devices for students, **suffer due to poor network coverage.**

EPFO's New Facility on UMANG App

Why in News

Recently, the **Employees' Provident Fund Organisation (EPFO)** has started a facility on the **Unified Mobile Application for New-age Governance (UMANG) App** which enables members of the **Employees' Pension Scheme (EPS) 1995** to apply online for Scheme Certificates.

- EPS is a **social security scheme** that was launched in **1995** and is provided by EPFO.
- It makes **provisions for pensions for the employees in the organised sector** after the retirement at the age of **58 years.**

Key Points

- **Scheme Certificate:**
 - It is issued to **members who withdraw their Employees' Provident Fund (EPF) contribution but wish to retain their membership** with EPFO, to avail pension benefits on the attainment of retirement age.
 - Members become eligible for pension only if they have been, **cumulatively, a member of the EPS, 1995 for at least 10 years.**
 - Upon joining a new job, Scheme Certificate ensures that **previous pensionable service is added to pensionable service rendered with the new employer** thereby, increasing the number of pension benefits.

Note:

- Further, Scheme Certificate is also **useful for family members to avail family pension**, in case of the untimely death of the eligible member.
- **Requirements for Online Application:**
 - For availing the service, an **active Universal Account Number (UAN)** and a **mobile number registered with the EPFO** is required.
- **Benefits:**
 - The online application will help **members avoid unnecessary hardship of physically applying** for it, especially during **pandemic** times and will also **eliminate unnecessary paperwork**.
- **Role of EPFO in Current Times:**
 - EPFO was **already providing 16 services on the App** allowing EPF subscribers to access services during **Covid-19** from the comfort of their homes in a hassle-free manner.
 - By **successfully bringing state-of-the-art technology to the doorstep** of its subscribers, EPFO has **remained to be a very popular service provider** on UMANG App.
 - With India witnessing massive growth in digital connectivity through mobile phones, **EPFO is making more and more services digitally accessible to members even in remotest locations** through the App.

UMANG App

- It is a **unified, secure, multi-channel, multi-platform, multi-lingual, multi-service mobile app**.
- It is developed by the **Ministry of Electronics and Information Technology (MeitY)** and **National e-Governance Division (NeGD)** to drive mobile governance under **Digital India**.
- It **provides a single platform to citizens for accessing pan India e-Government services** ranging from central to local government bodies and other citizen-centric services.
- **Services Provided:** Filing income tax, EPFO services, **Aadhar, Pension, ePathshala**, e- Land Records, **Crop Insurance** etc.

Employees' Provident Fund Organisation

- It is a government organisation that **manages the provident fund and pension accounts for the workforce engaged in the organized sector** in India.

- It implements the **Employees' Provident Fund and Miscellaneous Provisions Act, 1952**.
 - The Act provides for the institution of provident funds for employees in factories and other establishments.
- It is administered by the **Ministry of Labour and Employment**.
- It is **one of the world's largest social security organisations** in terms of clientele and the volume of financial transactions undertaken.

PMNCH

Accountability Breakfast

Why in News

The **Union Ministry for Health and Family Welfare** participated in the **Partnership for Maternal, Newborn and Child Health (PMNCH) 'Accountability Breakfast'** (an annual event) to discuss the issues of maternal and child health.

- The event was **co-hosted by the White Ribbon Alliance (WRA)** and **Every Woman Every Child (EWEC)**.
- **Theme of the Event:** Protecting gains in Reproductive, Maternal and Child Health from the Covid pandemic.

PMNCH

- The Partnership (**PMNCH**) is a global health partnership founded in **2005**.
- It is hosted at the **World Health Organization in Geneva, Switzerland** which joins the maternal, newborn and child health (MNCH) communities into an alliance.
- The **Accountability Breakfast** aims to convert talk into action for the health and rights of women, children and adolescents.

The White Ribbon Alliance

- WRA is a nonpartisan, non-profit and non-governmental membership organization that aims to decrease maternal and newborn death globally.
- Founded in 1999 and same year it came to India as WRA India
- Headquarters: Washington, D.C., USA

'Every Woman Every Child' (EWEC) Movement

- It was launched by the United Nations during the

Note:



United Nations Millennium Development Goals Summit in September 2010.

- Every Woman Every Child is an unprecedented global movement that mobilizes and intensifies international and national action by governments, the private sector, and civil society to address the major health challenges facing women, children, and adolescents around the world.

Key Points

- Indian Government Initiatives during Covid-19 Pandemic:
 - At the national level, the Ministry of Health and Family Welfare has issued **guidance to the States** to ensure that women, children and adolescents **continue to get all the healthcare services** even under severe strain due to **Covid** pandemic.
 - Further, the government has **included Covid** in the medical conditions covered under the **Ayushman Bharat – PM JAY insurance package** provided by the government.
 - The government has tried to **reduce out-of-pocket expenditure** through its policy of **no denial for essential services**, like-
 - **Reproductive Maternal Newborn, Child and Adolescent Health (RMNCAH)**: It was launched in **2013** to address the major causes of mortality among women and children as well as the delays in accessing and utilizing health care and services.

- **Tuberculosis**, chemotherapy, dialysis and healthcare of the elderly, irrespective of the Covid-19 status.

- **Reproductive Rights**: A woman's choice during maternal care reckoned that maternity care goes much beyond healthcare services, also including **dignity, privacy, confidentiality, choice and respect** for her as well as her baby.
 - **India's Zero-tolerance approach**: For service denial to pregnant women and their new-born babies.
 - **Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act**:
 - **PCPNDT Act** was enacted in 1994 and amended in 2003 and is an important tool for addressing sex-selective eliminations.
 - **Objectives**: To ban the use of sex selection techniques before or after conception and prevent the misuse of a prenatal diagnostic technique for sex-selective abortion.
 - **The Medical Termination of Pregnancy Act, 1971**
 - **The Act** provides for termination up to 20 weeks. If an unwanted pregnancy has proceeded beyond 20 weeks, women have to approach a medical board and courts to seek permission for termination, which is extremely difficult and cumbersome. For this a **new bill** to amend the MTP Act is under the consideration of the Parliament.



Note:

Economic Scenario

Highlights

- Parliamentary Committee Report on Startups
- Need for Balanced Loan Restructuring Scheme: RBI Governor
- Scheme for Integrated Textile Parks
- Essential Commodities (Amendment) Bill, 2020
- Support to Self-Employment Schemes: MSME
- World Bamboo Day
- FinCEN and FIU-IND
- PCA Decision on Retrospective Taxation by India
- MSP Raised for Rabi Crops
- Infrastructure Investment Trusts as Fundraiser
- Report on 2020-21 Kharif Marketing Season: CACP
- Plastic Parks Scheme
- Non-utilisation of Cesses & Levies
- Domestic Systemically Important Insurers
- ESG Funds Becoming Popular in India

Parliamentary Committee Report on Startups

Why in News

Recently, the **Parliamentary Standing Committee on Finance** tabled a report related to **startups** in Parliament. The Government of India has initiated a **Startup India Scheme** in 2016.

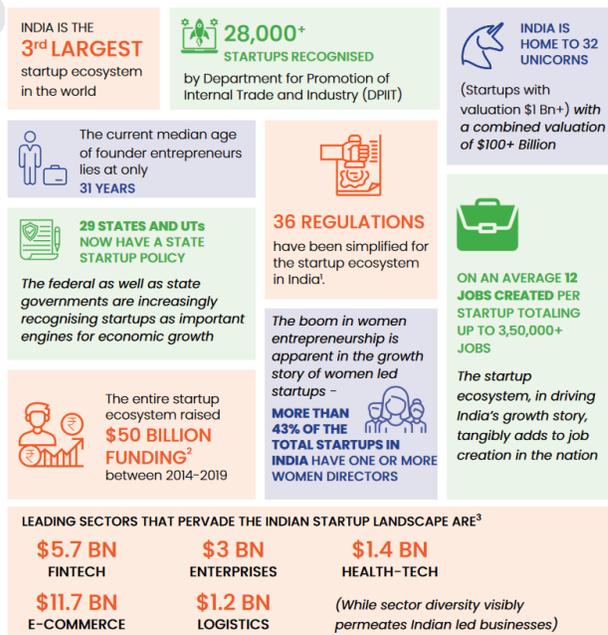
Key Points

➤ Recommendations:

- Indian start-ups **need to reduce their dependence on China and the USA**, so that India becomes self-reliant by having several large domestic growth funds powered by domestic capital.
 - E.g **Small Industries Development Bank of India (SIDBI) Fund-of-Funds** vehicle should be expanded and fully operationalised to play an investment role.
 - A **fund-of-funds** also known as a **multi-manager investment**—is a **pooled investment fund** that invests in other types of funds.
 - **Foreign development finance institutions** may also be encouraged to **participate** with local asset management companies to set up fund-of-funds structures.
- The **companies** and **Limited Liability Partnerships (LLPs)** should be allowed to invest in start-ups

without being classified as **Non-banking Financial Companies (NBFCs)** by the **Reserve Bank of India (RBI)** to expand capital sources for start-ups.

- **Abolition of Long Term Capital Gains (LTCG) tax on Collective Investment Vehicles (CIVs)** for at least the **next two years** to encourage investment in start-ups and to drive a sharp post-pandemic revival.
 - At present, LTCG earned by foreign investors in private companies attracts taxation at a rate of 10%, in comparison to the domestic venture capital investments which are taxed at 20% (for LTCG) with an enhanced surcharge of 37%.



Note:

- After a two-year period, the **Securities Transaction Tax (STT)** may be applied to CIVs so that revenue neutrality is maintained.
 - A **CIV is any entity** that allows investors to pool their money and invest the pooled funds, rather than buying securities directly as individuals. It is usually managed by a fund management company which is paid a fee for doing so.
 - **Examples of CIV: angel funds, alternate investment funds** and investment LLP.
- **Benefits:** A strong start-up ecosystem can propel investment, jobs, and demand creation in the economy.

Startup India Scheme

- It is a flagship initiative of the Government of India, **intended to catalyse startup culture** and build a **strong and inclusive ecosystem** for innovation and entrepreneurship in India.
- Since the **launch of the initiative in 2016**, Startup India has rolled out several programs with the objective of supporting entrepreneurs, and transforming India into a country of job creators instead of job seekers.
- A startup is an enterprise that is initiated by its founders around an idea or a problem with a potential for significant business opportunity and impact.

Securities Transaction Tax:

- It is a tax levied at the time of purchase and sale of securities listed on stock exchanges in India.
- Both purchaser and seller both need to pay 0.1% of share value as STT.

Capital Gain Tax

- Any profit or gain that arises from the sale of a **'capital asset'** is a capital gain. This gain or profit comes under the category of 'income'.
 - Land, building, house property, vehicles, patents, trademarks, leasehold rights, machinery, and jewellery are a **few examples of capital assets**.
- Hence, the **capital gain tax** will be required to be paid for that amount in the year in which the transfer of the capital asset takes place. This is called the capital gains tax, which can be both short-term or long-term.
- **Long-term Capital Gains Tax:** It is a levy on the profits from the sale of assets held for more than a year.
- **Short-term Capital Gains Tax:** It applies to assets held for a year or less and is taxed as ordinary income.

SIDBI

- **Small Industries Development Bank of India (SIDBI)** was set up in 1990. It is a **statutory body** established under an **Act of Parliament**.
- It **acts as the principal financial institution** for promotion, financing and development of the **Micro, Small and Medium Enterprise (MSME)** sector as well as for coordination of functions of institutions engaged in similar activities.

Need for Balanced Loan Restructuring Scheme: RBI Governor

Why in News

Recently, the **Reserve Bank of India (RBI)** governor has called for a balanced loan restructuring scheme to tackle the **Covid-19** related stress.

Key Points

- The **financial stability of the banking sector** needs to be kept in mind while providing loan restructuring along with **depositors' interest**.
 - There are crores of depositors (small depositors, middle-class people, retired persons) who depend on deposit income while borrowers are only in lakhs.
 - The **loan restructuring** includes **altering the terms of existing loans**, usually to make them more favorable to the borrower. For example, the lender may restructure a loan to receive a **lower interest rate or monthly payment**.
 - Restructured loans are most common if the borrower states that he/she can no longer afford payments under the old terms.
- The governor does not want a repeat of the **Non-Performing Asset (NPA)** surge that happened after 2014 with loan restructuring.
 - The **economic measures** taken by the RBI in the wake of the global financial crisis of 2008-09, led to a surge in bad loans from 2014-15.
- The idea behind loan restructuring was **to protect viable businesses** that are facing genuine cash flow problems. The revival of business **will ensure NPA levels are kept low** and also ensure quick economic recovery.

Note:

- However, the governor cautioned that the economic recovery would be gradual, as the upticks in some sectors appear to be levelling off as **efforts towards reopening of the economy are confronted with rising infections.**

Background

- In the recent **Monetary Policy report**, RBI has allowed banks to restructure loans to reduce the rising stress on incomes and balance sheets of large corporates, Micro, Small and Medium Enterprises (MSMEs) as well as individuals.
 - A large number of firms that otherwise maintain a good track record are facing the challenge as their debt burden is becoming disproportionate, relative to their cash flow generation abilities.
- The RBI set up a committee headed by **K.V. Kamath** on restructuring of loans impacted by the Covid-19 pandemic.
 - The committee was tasked to recommend parameters for one-time restructuring of corporate loans.
 - The committee recommended **five financial ratios and sector-specific thresholds** for resolution of Covid-19 related stressed assets in **26 sectors**.
 - It also specified that restructured loan tenure cannot be extended beyond two years.

Issues Involved

- The major criticism of the **restructuring scheme** is the select 26 sectors identified by the **K V. Kamath committee**. However, there are many other sectors that are eligible for a restructuring scheme.
 - The 26 sectors include automobiles, power, tourism, cement, chemicals, gems and jewellery, logistics, mining, manufacturing, real estate, and shipping among others.
- As per the RBI, **only those borrowers** which were classified as standard and with arrears less than 30 days as at 1st March 2020 are eligible for restructuring.
- The **two year period is also very short for economic recovery**. Given the GDP contraction and no second economic stimulus by the government in sight, the recovery will take longer than two years.
 - In May 2020, the government announced the '**Atmanirbhar Bharat Abhiyan** (or Self-reliant India Mission)' with an economic stimulus package — worth Rs. 20 lakh crores aimed towards achieving the mission.

Scheme for Integrated Textile Parks

Why in News

Recently, the Union Minister of Textiles provided information on the implementation of Scheme for Integrated Textile Park (SITP), in Rajya Sabha.

Key Points

- **Scheme for Integrated Textile Parks:**
 - It was launched in 2005.
 - **Objectives:**
 - To provide the industry with a world-class state of the art infrastructure facilities for setting up their textile units.
 - To attract foreign investors to the domestic textile sector.
 - **Features:**
 - Under the SITP, infrastructure facilities for setting up textile units are developed in a **Public-Private-Partnership (PPP) model**.
 - The **Government of India grants up to 40%** of the project cost.
 - However, it grants **up to 90%** of the project cost for the **first two projects (each)** in the North Eastern States, Himachal Pradesh, Uttarakhand and Union Territories of Jammu and Kashmir and Ladakh.
 - The government's support is **limited to Rs. 40 crore for each textile park**.
 - Each **Integrated Textile Park (ITP)** under the scheme would normally have 50 units. The number of entrepreneurs and the resultant investments in each ITP could vary from project to project.
- **Status:**
 - A **total of 59 textile parks have been sanctioned** under SITP by the Textiles Ministry out of which **22 have been completed**.
 - Further, the proposal to set up Mega Textile Parks is at the advanced stage of discussion.
 - The government is considering a plan to set up 1,000-acre mega textile parks.
 - The **slow progress of SITP is attributed to:**

Note:

- Delay in obtaining land.
- Other statutory clearances from state governments.
- Slow fund mobilisation by the textile parks.

Significance of Textile Sector

- The sector accounts for **7% of India's manufacturing output, 2% of GDP, 12% of exports** and **employs directly and indirectly about 10 crore people**.
- Owing to the abundant supply of raw material and labour, India is the:
 - **Largest producer of cotton**, accounting for 25% of the global output.
 - **World's second-largest producer of textiles and garments** after China.
 - **Second-largest producer of man-made fibres** viz. polyester and viscose.
- As per **India Brand Equity Foundation**, the sector has demonstrated encouraging growth trends in India with a **compounded annual growth rate (CAGR)** of 8% for the last few years wherein it has reached a size of USD 13 billion.

Challenges

- Highly fragmentation and domination by the unorganized sector.
- The introduction of a new tax structure under the **Goods and Service Tax (GST)** makes the garments expensive.
- Increasing interest rates and labour wages and workers' salaries.
- Faces a lack of access to the latest technology and fails to meet the global standards in the highly competitive export market.
- The fierce competition from China, Bangladesh and Sri Lanka in the low price garment market.
- Environmental and social issues like child labour and personal safety.

Major Government Initiatives

- **Comprehensive Scheme for Development of Knitting and Knitwear Sector:** For the development of knitting and knitwear sector to boost production in the knitting and knitwear cluster at Ludhiana, Kolkata and Tirupur.
 - The scheme is launched **under Power-Tex India**.
- **North East Region Textile Promotion Scheme:** For promoting textiles industry in the north-east

by providing infrastructure, capacity building and marketing support to all segments of the textile industry.

- **Scheme for Capacity Building in Textile Sector (SAMARTH):** Skill development scheme covering the entire value chain of the textile sector, excluding spinning and weaving in the organised sector, on pan India basis.
- **Power-Tex India.**
- **Silk Samagra Scheme.**
- **Amended Technology Upgradation Fund Scheme (ATUFS).**
- **National Handloom Day.**
- **Jute ICARE.**
- **National Technical Textile Mission.**

Essential Commodities (Amendment) Bill, 2020

Why in News

Recently, Parliament has passed the **Essential Commodities (Amendment) Bill, 2020** which replaces an **Ordinance promulgated in June 2020** and amends the **Essential Commodities Act (ECA), 1955**.

Key Points

- **Features of the Bill:**
 - **Removes commodities** like cereals, pulses, oilseeds, edible oils, onion and potatoes from the list of **essential commodities**.
 - Aims to **remove fears of private investors** of excessive regulatory interference in their business operations.
 - **Ensures that interests of consumers** are safeguarded by regulating agricultural foodstuff in situations such as **war, famine, extraordinary price rise and natural calamity**.
 - However, the installed capacity of a value chain participant and the export demand of an exporter will remain exempted from such regulation so as to ensure that investments in agriculture are not discouraged.
- **Background:**
 - The ECA 1955 was **used to curb inflation** by allowing the Centre to enable control by state governments of trade in a wide variety of commodities.

Note:

- The states **imposed stock limits** to restrict the movement of any commodity deemed **essential**. It helped to **discourage hoarding** of items, including food commodities, such as pulses, edible oils and vegetables.
- However, the **Economic Survey 2019-20** highlighted that government intervention under the ECA 1955 often **distorted agricultural trade** while being totally **ineffective in curbing inflation**.
 - Such intervention does enable opportunities for **rent-seeking** and **harassment**.
 - **Rent-seeking** is a term used by economists to describe unproductive income, including from corruption.
- Traders tend to **buy far less** than their usual capacity and **farmers often suffer huge losses** during surplus harvests of perishables since large stocks held by traders can be outlawed under the ECA 1955 anytime.
- This led to **farmers being unable to get better prices** due to **lack of investment in cold storage, warehouses, processing and export**.
- Also, with the **Food Corporation of India (FCI)** controlling stocks before, there were less investment and buyers.
- **Benefits:**
 - The freedom to produce, hold, move, distribute and supply will lead to **harnessing economies of scale** and **attract private sector/foreign direct investment** into the agriculture sector.
 - **Investment in cold storages** and **modernisation of the food supply chain** will increase.
 - It will create a **competitive market environment** and also **prevent wastage of agri-produce** that happens due to lack of storage facilities.
 - It will **help both farmers and consumers** while bringing in **price stability**.
- **Issues Involved:**
 - It will be a **highly centralized law** and will **infringe upon the States' powers**, as they will not be able to regulate let say the menace of hoarding, black marketing, etc.
 - The stock limit relaxations under the ECA may lead to **black marketing** and **hoarding** rather than benefiting the producers. This will lead to an **increase in inflation** and the **monopoly of a few individuals** over prices of certain goods.

Support to Self-Employment Schemes: MSME

Why in News

The **Ministry of Micro, Small and Medium Enterprises (MSME)** has announced expansion of and doubling of support to beneficiary oriented Self-Employment schemes aimed at contributing to **Atmanirbhar Bharat Abhiyan**.

Key Points

- The government will provide assistance to artisans engaged in **Pottery Activity and Beekeeping Activity**.
- Previously, the Ministry of MSME approved a programme for the benefit of artisans involved in **manufacturing of Agarbatti under the Gramodyog Vikas Yojana**.
- **Pottery Activity:**
 - The assistance includes **technical knowhow, quality standardization of products, skill-development to Self Help Groups (SHGs), encouragement to the successful traditional potter to set up units** under **Prime Minister's Employment Generation Programme (PMEGP)** scheme, necessary market linkages by tying up with exports and large buying houses etc.
 - PMEGP is a **credit-linked subsidy scheme** which promotes self-employment through setting up of micro-enterprises.
 - It also includes setting up of clusters in **Terracotta, Red clay pottery**, with new innovative value added products to build pottery to crockery/tile making capabilities under the **SFURTI scheme**.
 - The **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)** aims to make traditional industries more productive and competitive by organizing the traditional industries and artisans into **clusters**.

Terracotta

- Terracotta is a type of ceramic pottery, made by baking terracotta clay.
- The word "terracotta" comes from the Italian words for "baked earth."
- It is often used for making pipes, bricks, and sculptures.

Note:

- Recently, a **Terracotta Grinder** was launched at Varanasi by the **Khadi and Village Industries Commission (KVIC)**.
- The **Gorakhpur (Uttar Pradesh) terracotta** has been given the **Geographical Indication (GI) tag**.
- **Terracotta Figurines** were also made during the **Indus Valley Civilization**. They were either used as toys or objects of worship and represented birds, dogs, sheep, cattle and monkeys.
 - The famous terracotta figure of the Mother Goddess was discovered in Mohen-jodaro which shows the Mother Goddess as the symbol of fertility and prosperity.

➤ **Beekeeping Activity:**

- It aims to **create sustainable employment for the beekeepers/farmers**, help artisans adopt **scientific Beekeeping & Management** practices, utilize available natural resources; and **create awareness about the benefits** of beekeeping in cross pollination.
- It involves distributing tools and equipment to migrant labourers in the **Prime Minister Gareeb Kalyan Rozgar Abhiyaan** (PMGKRA) districts and providing training to the beneficiaries, setting up clusters under the SFURTI Scheme.
 - PMGKRA empowers and provides livelihood opportunities to the **returnee migrant workers and rural citizens** who have returned to their home states due to the **Covid-19** induced **lockdown**.
- Recently, the Ministry of MSME flagged off '**Apiary on Wheels**'.
 - 'Apiary on Wheels' is a unique concept designed by the KVIC for the easy upkeep and migration of Bee Boxes having live Bee colonies.
- A **Beekeeping Development Committee** was also constituted in 2019 under the **Economic Advisory Council to the Prime Minister** (EAC-PM) to give recommendations to enhance the contribution of the beekeeping sector for achieving the target of **doubling farmers' incomes by 2022**.
- KVIC also launched a **Honey Mission** in 2017 under which it provides awareness, training and '**Bee Boxes**' along with **Bee Colonies** to the farmers.
 - The Honey mission was in line with the 'Sweet Revolution', launched in 2016 to promote beekeeping and associated activities.

➤ **Benefits:**

- The program will immediately benefit about 1500 artisans, in providing sustainable employment with increased earnings.
- Artisans living in **rural areas, Self Help Groups and Migrant workers** will particularly benefit from the program.
- In addition to enhancing employment opportunities locally, the programme will also help in **capturing the export market** in such products.

World Bamboo Day

Why in News

World Bamboo Day is celebrated every year on **18th September**.

- Theme of 2020: **Bamboo Now**



Key Points

- **World Bamboo Day** : It was officially established by the **World Bamboo Organization** at the **8th World Bamboo Congress** held in Bangkok in 2009.
- **World Bamboo Organization** : It was set up at the **1992 International Bamboo Congress in Japan**.
 - It is an international coordinating body for bamboo practitioners dedicated to promoting the use of bamboo and bamboo products for the sake of the environment and economy.
- **Properties of Bamboo:**
 - **Versatile Uses:** Bamboo can be used in 1,500 different ways including as food, a substitute for wood, building and construction material, for handicrafts and paper. Due to its versatile nature and multiple uses, it is also called '**poor man's timber**'.
 - **Environmental Benefits:** It can be planted to **reclaim severely degraded sites and wastelands**. It is a good **soil binder** owing to its peculiar clump formation and fibrous root system and hence also plays an important role in soil and water conservation.
 - It is the fastest growing canopy, **releasing 35% more oxygen than trees** and can sequester 12 tonnes of carbon dioxide from per hectare.
 - **Use in Covid-19** : Bamboo has been a key ingredient in new antimicrobial soaps and hand mists developed by scientists from the Philippines to fight the novel **coronavirus**.

Note:

- **Nutraceutical Bamboo Shoot:** Bamboo shoots have nutraceutical properties, according to experts.
 - The term 'nutraceutical' is used to describe **medicinally or nutritionally functional foods**.
 - Bamboo shoots or bamboo sprouts are the edible newly sprouted canes of bamboo that form just under the soil and have a firm, crisp texture.
 - Bamboo shoots are emerging as **high-value and safe edibles** and are also among the **cheapest immunity boosters** for increasing the human body's resistance to viral attacks.
 - The **protein** content in fresh bamboo shoots can range between 1.49-4.04%. They also contain **17 amino acids**, eight of which are essential for the human body.
- **Global Market:**
 - The present global market of bamboo shoots is around **1,700 million USD**.
 - More than **3 million tonnes** of bamboo shoots are consumed across the earth annually.
 - According to the **International Network for Bamboo and Rattan (INBAR)**, China exports 68% of the world's bamboo and rattan (a type of Palm fibre) products valued at 1,112 million USD.
 - INBAR is a multilateral development organisation, founded in 1997 which promotes environmentally sustainable development using bamboo and rattan.
- **Indian Scenario:**
 - According to the **National Bamboo Mission**, India has the highest area (13.96 million hectares) under bamboo.
 - It is the **second richest country after China** in terms of bamboo diversity with 136 species.
 - The annual production of bamboo in India is **14.6 million tonnes** and the bamboo-rattan industry in the country was worth Rs. 28,005 crore in 2017.
 - Bamboo shoot production and consumption in India are **confined mostly to the north-eastern States**.
- **MSP Hike:** Recently, the Central government has revised the **Minimum Support Price (MSP) for Minor Forest Produce (MFP)**.
 - MFP includes all non-timber forest produce of plant origin and includes bamboo, canes, fodder, leaves, waxes, resins and many forms of food including nuts, wild fruits, lac, tusser etc.
- **National Bamboo Mission:** The restructured NBM was **launched in 2018-19** for the holistic development of the complete value chain of the bamboo sector and is being implemented in a **hub (industry) and spoke model**.
 - It supports local artisans through locally grown bamboo species, which will actualise the goal of **Vocal for Local** and help increase the income of farmers, reducing dependency on imports of raw material.
- **Removal of Bamboo from 'Tree' Category:** The **Indian Forest Act 1927** was **amended in 2017 to remove bamboo for the category of trees**.
 - As a result, anyone can undertake cultivation and business in bamboo and its products without the need of a felling and transit permission.
- **Farmer Producer Organisations (FPOs): 10,000 new FPOs will be formed in 5 years.**
 - FPOs engage in providing a range of assistance to farmers like **imparting better farm practices, collectivisation of input purchases, transportation, linkage with markets, and better price realisation** as they do away with the intermediaries.

FinCEN and FIU-IND

Why in News

Recently, over 2100 **Suspicious Activity Reports (SARs)** were filed by banks with the **United States Department of the Treasury's Financial Crimes Enforcement Network (FinCEN)**.

- The FinCEN files identify at least **USD 2 trillion** in transactions between **1999 and 2017** flagged as possible **evidence of money laundering or other criminal activity** by compliance officers of banks and financial institutions.

Key Points

- **FinCEN:**
 - It was set up in 1990.

Initiatives to Promote Bamboo

- **Bamboo Clusters:** Recently, the Union Minister for Agriculture and Farmers' Welfare has virtually inaugurated 22 **bamboo clusters** in 9 states viz. Gujarat, Madhya Pradesh, Maharashtra, Odisha, Assam, Nagaland, Tripura, Uttarakhand and Karnataka.

Note:



- It serves as the **leading global regulator** in the battle against **money laundering**.
- It collects and analyzes information about financial transactions in order to combat domestic and international money laundering, terrorist financing, and other financial crimes.
- **Suspicious Activity Report:**
 - SAR is a **document filed by banks and financial institutions** to report suspicious activity to the USA FinCEN.
 - These are meant to **red flag, within 30 days** of the transaction's occurrence: criminal funds or any form of dirty money; **insider trading**; potential money laundering; terror financing; any transaction that raises suspicion.
 - These are **used to detect crime but cannot be used as direct evidence** to prove legal cases.
 - There are details of banking transactions that give a clear indication of **round-tripping, money laundering** or dealings with **shell-like entities**.
 - FinCEN **shares SARs with law-enforcement authorities** including FBI, US Immigration and Customs.
- **Significance:**
 - The FinCEN files **highlight the dangers correspondent banking pose**.
 - The term correspondent bank refers to a financial institution that provides services to another one—usually in another country.
 - It acts as an intermediary or agent, facilitating wire transfers, conducting business transactions, accepting deposits, and gathering documents on behalf of another bank.
- **For India:**
 - Individuals and companies being probed by Indian agencies in different cases are part of the SAR flagged to FinCEN.
 - Like, transactions of Indian entities named in scams such as the **2G scam**, the Agusta-westland scandal, etc. cases have all been listed with the FinCEN.

Indian Scenario

- The **Financial Intelligence Unit-India (FIU-IND)** performs the same functions as FinCEN in the USA.
 - Under the Finance Ministry, this was **set up in 2004** as the nodal agency for receiving, analyzing

and disseminating information relating to suspect financial transactions.

Note:

- **Round tripping** refers to money that leaves the country through various channels and makes its way back into the country often as foreign investment. This mostly involves black money and is allegedly often used for stock price manipulation.
- **Money laundering** is concealing or disguising the identity of illegally obtained proceeds so that they appear to have originated from legitimate sources. It is frequently a component of other, much more serious, crimes such as drug trafficking, robbery or extortion.
- **Shell companies** are typically **corporate** entities which do not have any active business operations or significant assets in their possession. The government views them with suspicion as some of them could be used for money laundering, tax evasion and other illegal activities.
- The agency is authorised to obtain:
 - **Cash transaction reports (CTRs)**
 - **Suspicious transaction reports (STRs)**
 - **Cross border wire transfer reports**
- These reports are obtained from **private and public sector banks every month**.
- This happens under the **Prevention of Money Laundering Act, 2002 (PMLA)**.
- **Mandatory:** It is mandatory for banks in India to furnish a **monthly CTR** to the FIU on:
 - All transactions **over Rs. 10 lakh** or its equivalent in foreign currency or a series of integrally connected transactions that add up to more than Rs.10 lakh or its equivalent in foreign currency.
- **Process:** The STRs and CTRs are **analysed** by FIU.
 - Suspicious or doubtful transactions are shared with agencies like the **Enforcement Directorate**, the **Central Bureau of Investigation** and the **Tax Authority** for the purpose of launching probes to check possible instances of money laundering, tax evasion and terror financing.
- FIU's **2017-2018 annual report** reveals that it had received a record number of **14 lakh STRs** following demonetization which was three times the number of STRs filed in the previous year.

Note:



PCA Decision on Retrospective Taxation by India

Why in News

Recently, the **Permanent Court of Arbitration (PCA)** at **The Hague** (Netherlands) has ruled that **India's retrospective imposition of tax liability**, as well as **interest and penalties on Vodafone Group for a 2007 deal**, was a **violation** of the **Bilateral Investment Treaty (BIT)** with the Netherlands and the arbitration rules of the **United Nations Commission on International Trade Law (UNCITRAL)**.

Key Points

➤ About the Case:

- In **May 2007**, the British telecommunication company Vodafone Group had bought a 67% stake in a company called Hutchison Whampoa.
- For this, the Indian government for the first time **raised a demand for capital gains and withholding tax** from Vodafone, under the **Income Tax Act of 1961**.
- The government argued that Vodafone should have **deducted the tax at source** before making a payment to Hutchison.
 - **Capital Gains Tax:** It is the tax paid on income that derives from the sale or exchange of an asset, such as a stock or property that's categorized as a capital asset.
- In **2012**, the **Supreme Court** ruled in favour of the **Vodafone Group**.
- Later, the **Finance Act was amended (2012)** giving the Income Tax Department the power to **retrospectively tax** such deals.
- Vodafone then initiated arbitration in 2014 invoking the **Bilateral Investment Treaty** signed between **India and the Netherlands in 1995**.
- **Ruling:** The **International Arbitration Tribunal at Permanent Court of Arbitration** ruled that the government's demand is in breach of fair and equitable treatment.
 - The government must **cease seeking the dues from Vodafone**.
 - This was a **unanimous decision** meaning that India's appointed arbitrator also ruled in favour of Vodafone.

- **Future Course for India:** India has said it **would study the order** and all its aspects and **make a decision on the further course of action** including legal remedies before appropriate fora.
 - According to the Indian Government, as Vodafone had not paid the initial tax demand and interest and penalty on it, the question of India paying back the amount does not arise.
 - India has the option to move to **Singapore International Arbitration Centre** as well.

➤ Retrospective Taxation:

- It allows a country to pass a rule on taxing certain **products, items or services** and **deals and charge companies** from time **behind the date** on which the law is passed.
- Countries use this route to **correct any anomalies in their taxation policies** that have, in the past, allowed companies to take advantage of such **loopholes**.
- Retrospective Taxation **hurts companies** that had **knowingly or unknowingly interpreted the tax rules differently**.
- Apart from India, many countries including **the USA, the UK, the Netherlands, Canada, Belgium, Australia and Italy** have retrospectively taxed companies.

➤ Bilateral Investment Treaty:

- On **6th November 1995**, India and the Netherlands had signed a BIT for **promotion and protection of investment by companies of each country** in the other's jurisdiction.
- The two countries would ensure that companies present in each other's jurisdictions would at all times be accorded **fair and equitable treatment** and shall enjoy full **protection and security** in the territory of the other.
- The BIT between India and the Netherlands **expired on 22nd September 2016**.
- **Relation to Vodafone Case:** Vodafone invoked BIT as its Dutch unit, Vodafone International Holdings BV, had bought the Indian business operations of Hutchison Telecommunication International Ltd. This made it a transaction between a **Dutch firm and an Indian firm**.

➤ United Nations Commission on International Trade Law:

Note:



- It was **established in 1966** as a **subsidiary body** of the **United Nations General Assembly (UNGA)**.
- It is the **core legal body** of the United Nations system **in the field of international trade law**.
- **Mandate:** To further the progressive harmonisation and modernisation of rules on international business and reform commercial laws.
- It adopted the **UNCITRAL Model Law on International Commercial Arbitration** in **1985** and the **UNCITRAL Conciliation Rules** in **1980**.
- The UNGA has **recommended the use of the said Model Law and Rules** in cases where a dispute arises in the context of international commercial relations and the parties seek an amicable settlement of that dispute by recourse to conciliation.
- **India has also incorporated these uniform principles of Arbitration and Dispute Resolution (ADR)** in the **Arbitration and Conciliation Act, 1996** which has been amended several times.
 - The Act provides for ADR mechanisms like arbitration, conciliations, etc. for national and international stakeholders.

Significance

- Vodafone's win in the arbitration is significant as it may cause other **similarly placed companies to seek arbitral reliefs**.
- India is entangled in more than a dozen such cases against companies over retrospective tax claims and cancellation of contracts. The **exchequer could end up paying billions of dollars in damages if it loses**.
- To reduce future arbitration claims, India has **ended such bilateral investment agreements with over 50 countries** and is working on a new law to protect foreign investors by **offering relief from possible policy changes** even as it **upholds the right to tax them**.
- The victory of Vodafone at PCA may provide it with some relief as the telecom sector is already facing a number of **issues and challenges**. The ruling comes days after the Supreme Court allowed a period of **10 years for telecom companies to clear Adjusted Gross Revenue (AGR)** related dues, causing heavy financial **burden on the telecom sector**.

International Arbitration Tribunal

- It is an **independent non-governmental panel** of independent and impartial experts.
- It generally **comprises three members nominated by the Parties** (or appointed by the International Arbitration Institution, or by a National Court) on the basis of their legal and practical expertise and knowledge, to **render a final and binding award**.

Permanent Court of Arbitration

- **Established:** 1899.
- **Headquarter:** The Hague, Netherlands.
- **Purpose:** It is an **intergovernmental organisation** dedicated to serve the international community in the field of dispute resolution and to facilitate arbitration and other forms of dispute resolution between States.
- **Structure:** The PCA has a **three-part organisational structure** consisting of:
 - **Administrative Council:** To oversee its policies and budgets.
 - **Members of the Court:** A panel of independent potential arbitrators.
 - **International Bureau:** Its Secretariat, headed by the Secretary-General.
- **Funding:** It has a **Financial Assistance Fund** which aims at helping developing countries meet part of the costs involved in international arbitration or other means of dispute settlement offered by the PCA.

MSP Raised for Rabi Crops

Why in News

Recently, the **Cabinet Committee on Economic Affairs** has marginally increased the **Minimum Support Price (MSP)** of six **rabi crops** for 2021-22.

- **Rabi crops** are agricultural crops that are **sown in winter and harvested in the spring** in India. Eg. wheat, barley, mustard etc.

Key Points

- MSP rates were hiked for **wheat, barley, gram, masoor dal (lentil), safflower, and rapeseed and mustard**.
- However, the MSP has seen a **lower hike** compared to 2020-21. The wheat MSP has seen an increase of just 2.6% — the lowest increase in 11 years.

Note:

- The increase in MSP is in line with the principle of fixing the MSPs at a level of at least 1.5 times of the **All-India weighted average Cost of Production** as announced in Union Budget 2018-19.
- The increase in MSP comes in the midst of a vehement protest by farmers, who fear that **new agricultural marketing reforms** will result in the **phasing out of MSP and public procurement**.

MSP for rabi crops for 2021–22 marketing year

Crop	Price per quintal (₹)	change* in %
Wheat	1,975	2.60
Barley	1,600	4.91
Gram	5,100	4.61
Lentil (masur)	5,100	6.25
Rapeseed & mustard	4,650	5.08
Safflower	5,327	2.14

Note: *Compared to 2020–21 price; 2021–22 crop marketing year starts from April 2021
Source: Ministry of Agriculture

Issues with New Agricultural Reform

- The farmers are protesting against the **three Bills** which includes:
 - **Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020.**
 - **Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020.**
 - **Essential Commodities (Amendment) Bill, 2020.**
- In short, the **Bills aim to do away with government interference in agricultural trade** by creating **trading areas free of middlemen** and **government taxes outside** the structure of **Agricultural Produce Market Committees (APMCs)**.
 - They also aim to **remove restrictions on private stock holding** of agricultural produce.
- This according to farmers will give **preference for corporate interests at the cost of farmers' interests** and a **lack of regulation in these non-APMC mandis** are cause for concern for farmers.
 - In the new system, companies will benefit as **trading rates will not be under pressure of government**

procurement and they will be able to **force farmers to reduce their rates**.

- The absence of any regulation in non-APMC mandis is being **seen as a precursor to the withdrawal of the guarantee of MSP-based procurement**.
- These fears gain strength with the **experience of States such as Bihar** which abolished APMCs in 2006. After the abolition of mandis, farmers in Bihar on average received lower prices compared to the MSP for most crops.
 - The **government procurement also reduced significantly** compared to other states.
- Government is relying on the market to realise better prices. However, recent data suggest **limitations of market intervention** in raising farm gate prices.
 - For most crops where MSP-led procurement is non-existent, the decline has been sharper. Even cash crops such as cotton have seen a collapse in prices in the absence of government intervention.
 - With rising input costs, farmers do not see the market providing them remunerative prices.
- The **farmers also raise concern about the intent of the government** to leave the price discovery mechanism on the market.
 - It has time and again made ad hoc interventions, such as raising import duties on masur and a ban on onion exports.

Minimum Support Price

- The MSP is the **rate at which the government buys** grains from farmers.
- Reason behind the idea of MSP is **to counter price volatility of agricultural commodities** due to the factors like variation in their supply, lack of market integration and information asymmetry.
- **Fixation of MSP:** The MSP is fixed for 23 crops based on the recommendations of the **Commission for Agricultural Costs and Prices (CACP), Ministry of Agriculture**.
- **Factors** taken into consideration for fixing MSP include:
 - Cost of cultivation,
 - Demand and supply,
 - Price trends in the market, both domestic and international,
 - Inter-crop price parity,
 - Terms of trade between agriculture and non-agriculture,

Note:



- A minimum of 50% as the margin over cost of production, and
- Likely implications of MSP (inflation) on consumers of that product.
- The CACP also makes visits to states for **on-the-spot assessment** of the various constraints that farmers face in marketing their produce, or even raising the productivity levels of their crops.
- Based on all these inputs, the CACP then finalizes its recommendations/reports, which are then submitted to the government.
- The government, in turn, circulates the CACP reports to state governments and concerned Central Ministries for their comments.
- After receiving the feed-back from them, the **CCEA** of the Union government takes a **final decision** on the level of MSPs and other recommendations made by the CACP.
- **Procurement:** The **Food Corporation of India (FCI)**, the nodal central agency of the Government of India, along with other **State Agencies** undertakes procurement of crops.
- **MSP Calculation:** This MSP is usually estimated based on three types of calculation methods.
 - **A2:** Under this, MSP is set 50% higher than the amount farmers spend on farming including spending on seeds, fertilisers, pesticides, and labour.
 - **A2+FL:** It includes A2 plus an assigned value of unpaid family labour.
 - **C2:** Under C2, the estimated land rent and the cost of interest on the money taken for farming are added on top of A2+FL.
- The Central government had set up the **National Commission on Farmers (NCF)** in 2004 to address the issues of farmers in India including that of calculation of MSP.

National Commission on Farmers: Swaminathan Committee

- It was constituted in 2004 by the Union government with **MS Swaminathan as its chairman**.
- The main **aim of the committee** was to **come up with a sustainable farming system, make farm commodities cost-competitive and more profitable**.
- The commission, in 2006, recommended that MSPs must be at least 50% more than the cost of production and **recommended the C2 method for MSP calculation**.

- However, the **government calculates** its MSP based on the **A2+FL method**.

Commission for Agricultural Costs and Prices

- The CACP is an **attached office** of the **Ministry of Agriculture and Farmers Welfare**, formed in 1965. It is a **statutory body**.
- Currently, the Commission comprises a **Chairman, Member Secretary, one Member (Official) and two Members (Non-Official)**.
 - The non-official members are representatives of the farming community and usually have an active association with the farming community.
- It is mandated to recommend **Minimum Support Prices (MSPs)** to incentivize the cultivators to adopt modern technology, and raise productivity and overall grain production.
- CACP submits separate reports recommending prices for **Kharif and Rabi seasons**.

Infrastructure Investment Trusts as Fundraiser

Why in News

Recently, the **National Highways Authority of India (NHAI)** has decided to use **Infrastructure Investment Trust(s) (InvIT)** as a vehicle for **mobilising funds** for constructing road infrastructure.

Key Points

- **Infrastructure Investment Trusts:**
 - InvITs are instruments that work like **mutual funds**. They are **designed to pool small sums of money** from a number of investors to invest in assets that give cash flow over a period of time. Part of this cash flow would be distributed as **dividend** back to investors.
 - The minimum investment amount in an InvIT **Initial Public Offering (IPO)** is Rs 10 lakh, therefore, InvITs are **suitable for high networth individuals, institutional and non-institutional investors**.
 - InvITs are listed on exchanges just like stocks — through IPOs.
 - However, the Indian InvIT market is not yet mature and has supported the formation of 10 InvITs till date of which **only two are listed**.

Note:

- The InvITs listed on the stock exchange are **IRB InvIT Fund** and **India Grid Trust**.
- InvITs are regulated by the **Securities and Exchange Board of India (SEBI) (Infrastructure Investment Trusts) Regulations, 2014**.
- **Structure of InvIT:**
 - Like mutual funds, they have a **trustee, sponsor(s), investment manager** and **project manager**.
 - **Trustee** has the responsibility of inspecting the performance of an InvIT.
 - **Sponsor(s)** are promoters of the company that set up the InvIT.
 - **Investment manager** is entrusted with the task of supervising the assets and investments of the InvIT.
 - **Project manager** is responsible for the execution of the project.
- **Need:**
 - In October 2017, the Centre had launched **Bharatmala Pariyojana** for the development of 24,800 km of roads at a total investment of **Rs. 5,35,000 crore**.
 - In order to complete the projects, NHAI needs **adequate funds** and one of the options is to **monetise the completed and operational National Highways assets** and **offer attractive schemes to private players to invest in construction of National Highways**.
- **Benefit:**
 - At a time when private sector investment in the economy has declined, fund-raising by NHAI and spending on infrastructure will not only provide a fillip to the economy, but will also **crowd-in private sector investment**.
 - NHAI's InvIT offer, which is expected to come soon, is a way for the government to **tap alternative sources** of financing to **boost public spending** in the roads and infrastructure sector.
 - An InvIT also offers the company the leeway to fulfil its debt obligations quickly.
 - InvIT holders also benefit from favourable tax norms, including exemption on dividend income and no **capital gains tax** if InvIT units are held for more than three years.
- **Safeguards for Investors:**
 - There are certain rules that the InvIT issuers have to follow designed to safeguard the investor.

- First, the sponsor has to hold a minimum 15% of the InvIT units with a lock-in period of three years.
- Second, InvITs have to distribute 90% of their net cash flows to investors.
- Lastly, the InvIT is required to invest a minimum of 80% in revenue generating infra assets.

Report on 2020-21 Kharif Marketing Season: CACP

Why in News

The **Commission for Agricultural Costs and Prices (CACP)** has released the latest report for the 2020-21 kharif marketing season.

Key Points

- **Present Scenario:**
 - **Overflowing Stocks of Foodgrains:** The central pool had 73.85 million tonnes of food grains on 2nd April, 2020. This is not only the highest-ever stock available but also over 300% of the strategic and operation reserve norm of 21.04 million tonnes. This year's kharif crop production is also estimated to be record-high.
 - **Failure of Open Market Sale Scheme (OMSS):** The Union government had decided in April 2019 to sell wheat and rice in the open market via e-auction through OMSS. It aimed to divert extra stock. But the government could just sell one-fifth of the target of a five-million tonne sale.
 - **Increase in food business registration:** There has been a 65% year-on-year jump in registration applications for new food businesses, indicating that **private players are eager to invest in agri business** and the rural economy as a result of the reforms by **Agricultural ordinances**.
 - **Traders moving out-of Mandi:** As there would be no fees on buying outside the Mandi (unlike before the agri ordinances), many of the traders would prefer to buy outside. In June to August, there was a 20-40% drop in sale volume of non-perishables within the mandis. This will **adversely impact the farmers**.
 - **Increase in MSP for Rabi Crops:** Recently, the **Cabinet Committee on Economic Affairs** marginally

Note:



increased the **Minimum Support Price (MSP)** of six rabi crops for 2021-22. This is in line with the principle of fixing the MSPs at a level of at least 1.5 times of the **All-India weighted average Cost of Production** as announced in Union Budget 2018-19.

➤ **Challenges:**

- **Unavailability of Physical Space for Storage:** This can cause foodgrains to perish.
- **Reduction in Demand due to More Supply:** Release of high buffer stock in the market, would lead to a collapse in prices. This, in turn, will lead to farmers again losing on fair price for their bumper harvest.
- **Farmer's protest:** Recently, there have been strong **protests from farmers**, especially from the states of Punjab and Haryana, against three farm bills passed in the parliament. This has posed a challenge in front of the government to assure farmers of routine procurements and fair prices.

➤ **Recommendations of CACP Report:**

- **Excess Stocks need to be urgently liquidated:**
 - This will help **ease storage capacity constraints** and save large carrying costs of excessive stocks.
 - Excess rice stocks should be liquidated through increased allocation under the **National Food Security Act** and Other Welfare Schemes.
 - The government should divert old stocks for ethanol production and cattle feed purposes.
- **Review open-ended procurement policy (OEPP):**
 - The central government should **review OEPP for rice and wheat**.
 - Major policy changes should be introduced in pricing, procurement and use of other crops like oilseeds, pulses, maize nutri-cereals to encourage farmers to shift to these crops, which have great potential for **crop diversification**.
- **More Procurement from States like UP and Bihar:**
 - **Strengthen procurement from states like Bihar, Uttar Pradesh and Rajasthan** and **restrict procurement from states** like Punjab and Haryana where substantial groundwater depletion has occurred and other states that give bonus.
 - In all those states that impose high fees and incidental charges and pay bonus, procurement of rice and wheat should be restricted.
 - The state governments should discontinue the bonus above the minimum support price

(MSP) as it **distorts the market and discourages private sale**.

- More than 95% of paddy farmers in Punjab are covered under the government procurement system while it is 70% in case of Haryana. In case of other major paddy producing states like Uttar Pradesh and Bihar, it is 3.6% and 1.7% respectively.
- **Reserve Price for open Market Sale of Pulses and oilseeds:**
 - The government should not sell these stocks in the open market below the MSP, particularly during the procurement season as it depresses market prices and discourages the private sector to procure directly from farmers.

Plastic Parks Scheme

Why in News

The **Ministry of Chemicals & Fertilizers** has approved **setting up of 10 Plastic Parks** in the country.

- The Parks are being set up in the states of Assam, Madhya Pradesh, Odisha, Tamil Nadu, Jharkhand, Uttarakhand and Chhattisgarh.
- A **Plastic Park is an industrial zone** devoted to plastic enterprises and its allied industries.

Key Points

➤ **Background:**

- The share of India in world trade of plastics is very low. **India's share in the USD 1 trillion global plastic exports market** is about **1%**.
- The Indian Plastics industry is **large but highly fragmented** with dominance of tiny, small and medium units and thus lacks the capacity to tap this opportunity.
- The **Scheme for setting up of Plastic Parks** has been formulated with a view to **synergize and consolidate the capacities through cluster development**.

➤ **Features of the Scheme:**

- **Demand-Driven:** Supports setting up of a **need based 'Plastic Parks'** - an ecosystem with requisite state of the art infrastructure and enabling common facilities to assist the plastic sector move up the value chain and contribute to the economy more effectively.

Note:

○ Major Objectives:

- Increase the competitiveness, polymer absorption capacity and value addition in the **domestic downstream plastic processing industry** through adaptation of modern, research and development led measures.
 - In the **petrochemical supply chain**, the plastics industry can be classified into **two categories**.
 - First, the **manufacturing of polymers**, which is called **'upstream'**.
 - The second one is **conversion of processable polymers** (plastic raw materials) into useful end products, which are classified as **'downstream'**.
- Achieve **environmentally sustainable growth** through innovative methods of waste management, recycling, etc.

○ Funding Pattern:

- The **Central Government provides grant funding up to 50% of the project cost**, subject to a **ceiling of Rs. 40 crore per project**.
- The **remaining project cost** is funded by the State Government, beneficiary industries and by loan from financial institutions.

○ Implementation: A Special Purpose Vehicle (SPV) shall complete the setting up of the Plastic Park in a **period of three years** from the date of final approval.

- The SPV is a **distinct legal entity** formed by the State Government or its agency.

➤ The **Central Institute of Petrochemicals Engineering and Technology (CIPET)** has established a **Centre for Skilling and Technical Support (CSTS)** at **Vijayawada in Andhra Pradesh** which provides Diploma programmes and skill development training programmes in the field of Plastics Engineering & Technology.

- CIPET is a premier government of India institute.

➤ **Challenges for the Plastic Industry:**

- **Increased volume of plastic waste.** As per reports on the status of India, only 60% of this waste gets recycled.
 - The major challenge is segregation and re-aggregation of plastic waste streams such as packaging waste, including laminated plastic.

- **Pollution caused by plastic waste** is tormenting the environment including aquatic resources necessitating urgent action, that is why the plastic sector needs better management.

○ A **lack of upgrading quality and diversification** in the product range.

- **India has committed to phase out the use of single-use plastic by 2022.**

Non-utilisation of Cesses & Levies

Why in News

Recently, the **Comptroller and Auditor General of India** (CAG) told Parliament that the Centre has **only transferred 60% of the proceeds from cess/levies** in Fiscal Year 2018-19 to the **relevant Reserve Funds** and retained the balance in the **Consolidated Fund of India (CFI)**.

Key Points

➤ **Non-utilisation of Funds:**

- The Centre had collected Rs. 2.75 lakh crore from **35 cesses/levies in FY19**. However, it has only transferred Rs. 1.64 lakh crore and retained Rs. 1.1 lakh crore in the CFI.
 - Rs. 40,000 crore of **GST Compensation Cess** was not credited to the related Reserve Fund.
 - Rs. 10,157 crore of the **Road and Infrastructure Cess** collected was neither transferred to the related Reserve Fund nor utilised for the purpose for which the cess was collected.
 - Rs. 2,123 crore of **Universal Service Levy** and Rs. 79 crore collected as **National Mineral Trust Levy** was not transferred to the relevant Reserve Funds.
 - **Social Welfare Surcharge on Customs** amounting to Rs. 8,871 crore was levied but no dedicated fund for the same was envisaged.
 - Non-creation/non operation of Reserve Funds makes it difficult to ensure that cesses and levies have been utilised for the specific purposes intended by the Parliament.
- In addition, Rs. 1,24,399 crore, representing the **Cess on crude oil** collected between 2010-20, had not been transferred to the **Oil Industry**

Note:



Development Board (designated Reserve Fund) and was retained in CFI.

➤ **Mechanism of Utilisation:**

- Cesses and levies collected are required to be first **transferred to designated Reserve Funds** and **utilised for the specific purposes** intended by Parliament.
- Funds collected through **Central taxes** along with cesses and other levies **go to the CFI**.
 - Taxes and surcharges in CFI are parked in a divisible pool and 42% of the total is given to States as devolution.

Cess

- Cess is a **form of tax** levied over and above the base tax liability of a taxpayer.
- Cess is resorted to only when there is a need to meet the **particular expenditure for public welfare**.
- Cess is not a permanent source of revenue for the government, and it is **discontinued** when the purpose of levying it is fulfilled.
- It can be levied on **both indirect and direct taxes**.
- **Examples:**
 - **Swachh Bharat Cess:** Introduced in 2015, a 0.5% Swachh Bharat cess was imposed to fund a national campaign for clearing the roads, streets and the infrastructure of India.
 - **Infrastructure Cess:** Announced in Union Budget 2016, this cess was charged on the production of vehicles.

Surcharge

- A surcharge is an **extra fee, charge, or tax** that is added on to the cost of a good or service, beyond the initially quoted price.
- It is **added to an existing tax** and is not included in the stated price of the good or service.
- It is levied for extra services or to defray the cost of increased commodity pricing.

Domestic Systemically Important Insurers

Why in News

The **Life Insurance Corporation of India (LIC)**, **General Insurance Corporation of India** and the **New India Assurance**

Co have been identified as **Domestic Systemically Important Insurers (D-SIIs) for 2020-21** by insurance regulator, the Insurance Regulatory and Development Authority of India (**IRDAI**).

- The IRDAI would identify D-SIIs on an **annual basis** and disclose the names of such insurers for public information.

Key Points

➤ **Requirements for D-SIIs:**

- The three public sector insurers have been asked to raise the level of corporate governance.
- Identify all relevant risks and promote a sound risk management culture.
- The D-SIIs will also be subjected to enhanced regulatory supervision of the IRDAI.

➤ **Domestic Systemically Important Insurers:**

- D-SIIs are perceived as insurers that are **'too big or too important to fail'** (TBTF).
- D-SIIs refer to insurers of such size, market importance and domestic and global interconnectedness whose distress or failure would cause a significant dislocation in the domestic financial system.
- Thus, the continued functioning of D-SIIs is critical for the uninterrupted availability of insurance services to the national economy.

➤ **Reasons:**

- The insurance sector had grown exponentially in the last 15 years and a few of the insurers have a sizable market share and interconnected with other financial institutions as well.
- With perception of TBTF and the perceived expectation of government support may amplify risk taking, reduce market discipline, create competitive distortions, and increase the possibility of distress in future.

➤ **Concerns:**

- Given the nature of operations and their systemic importance, the failure of D-SIIs has the potential to cause significant disruption to the essential services they provide to the policyholders and, in turn, to the overall economic activity of the country.
- These considerations require that D-SIIs should be subjected to **additional regulatory measures**

Note:

to deal with the **systemic risks** and **moral hazard** issues.

- **Systemic risk** is the possibility that an event at the company level could trigger severe instability or collapse in an entire industry or economy.
- **Moral hazard** is a situation in which one party gets involved in a risky event knowing that it is protected against the risk and the other party will incur the cost. It arises when both the parties have incomplete information about each other.

➤ **Background:**

- In January 2019, IRDAI announced the formation of a committee on D-SIIs.
- The constitution of the committee came in the backdrop of the **International Association of Insurance Supervisors (IAIS)** asking all member countries to have a regulatory framework to deal with Domestic-SIIs.
 - The **IAIS** is a voluntary membership organization of insurance supervisors from over 200 jurisdictions, constituting 97% of the world's insurance premiums. It is the international standards-setting body for the insurance sector.

Domestic Systemically Important Bank

- D-SIB means that the bank is too big to fail. According to the **Reserve Bank of India (RBI)**, some banks become systemically important due to their size, cross-jurisdictional activities, complexity and lack of substitute and interconnection. Banks whose assets exceed 2% of GDP are considered part of this group.
- Presently, the **State Bank of India (SBI)**, ICICI Bank, and HDFC Bank have been identified as D-SIBs in India.
- **Significance:**
 - Should such a bank fail, there would be significant disruption to the essential services they provide to the banking system and the overall economy.
 - The **too-big-to-fail** tag also indicates that in case of distress, the government is expected to support these banks.
 - Due to this perception, these banks enjoy certain advantages in funding. It also means that these banks have a different set of policy measures regarding systemic risks and moral hazard issues.

ESG Funds Becoming Popular in India

Why in News

The ESG funds are increasingly becoming popular in the **mutual fund industry** in India. Recently, **ICICI Prudential Mutual Fund** has come out with its ESG fund.

- The **first ESG mutual fund was launched by the State Bank of India** - SBI Magnum Equity ESG Fund.

Key Points

➤ **ESG Fund:**

- ESG is a combination of three words i.e. **environment, social and governance**.
- It is a **kind of mutual fund**. Its investing is used **synonymously with sustainable investing or socially responsible investing**.
- Typically, a mutual fund looks for a good stock of a company that has **potential earnings, management quality, cash flows, the business it operates in, competition** etc.
- However, while selecting a stock for investment, the ESG fund **shortlists companies that score high on environment, social responsibility and corporate governance**, and then looks into financial factors.
- Therefore, the **key difference** between the ESG funds and other funds is '**conscience**' i.e. the ESG fund focuses on companies with environment-friendly practices, ethical business practices and an employee-friendly record.
- The fund is regulated by **Securities and Exchange Board of India (SEBI)**.

➤ **Reason for Popularity:**

- Modern investors are re-evaluating traditional approaches, and look at the impact their investment has on the planet. Thus, investors have started incorporating ESG factors into investment practices.
- The **United Nations Principles for Responsible Investment (UN-PRI)** (an international organization) works to promote the incorporation of environmental, social, and corporate governance factors into investment decision-making.

➤ **Impact:**

- As ESG funds gain momentum in India, **companies**

Note:



will be forced to follow better governance, ethical practices, environment-friendly measures and social responsibility.

- Companies that do not follow sustainable business models will find it **tough to raise both equity and debt.**
- Globally, investors like pension funds, sovereign

wealth funds etc. don't invest in companies that are seen as polluting, don't follow social responsibility or are tobacco companies.

- The global tobacco industry profits per year come to USD 35 billion, however, it causes nearly 6 million annual deaths and investors are growing sensitive to such realities.



Note:

International Relations

Highlights

- Israel, UAE and Bahrain Abraham Accord
- Djibouti Code of Conduct
- Initiatives Launched on G20 EMM
- BRICS National Security Advisers Meet
- Basic Exchange and Cooperation Agreement: USA
- Japan's New Prime Minister
- Gilgit-Baltistan to Become a Pakistani Province
- 60 Years of Indus Water Treaty
- Universal Eligibility for World Bank Loan
- International Day of Peace
- G4 Foreign Ministers Meeting
- SAARC and CICA Meetings
- JIMEX 20 Maritime Exercise
- Armenia-Azerbaijan Conflict
- Green Strategic Partnership between India and Denmark
- Referendum on Free Movement: Switzerland-EU

Israel, UAE and Bahrain Abraham Accord

Why in News

The **Abraham Accord** between **Israel, the United Arab Emirates and Bahrain** is mediated by the USA. It is the **first Arab-Israeli peace deal in 26 years**.

Key Points

- **Previous Agreements:** There were the **only two peace deals** between Israel and the Arab States in more than a quarter of a century.
 - Egypt was the first Arab state to sign a peace deal with Israel in 1979.
 - Jordan signed a peace pact in 1994.
- **Agreement:**
 - As per the agreements, the UAE and Bahrain will establish:
 - Embassies and exchange ambassadors.
 - Work together with Israel across a range of sectors, including tourism, trade, healthcare and security.
 - The Abraham Accords also open the door for Muslims around the world to visit the historic sites in Israel and to peacefully pray at **Al-Aqsa Mosque in Jerusalem**, the **third holiest site in Islam**.
 - In the Islamic tradition, **the Kaaba in Mecca** is considered the holiest site, followed by **the**

Prophet's Mosque in Medina, and the **Al-Aqsa Mosque** in Jerusalem.

- **Reason:** Bringing Israel, the UAE and Bahrain together reflect their shared concern about **Iran's rising influence** in the region and development of ballistic missiles. Iran has been critical of both deals.

➤ Significance of the Accord:

- The agreement shows how the Arab countries are gradually **decoupling themselves from the Palestine question**.
 - Palestine was among former Ottoman territories placed under UK administration by the League of Nations in 1922. All of these territories eventually became fully independent States, except Palestine.
- **Full diplomatic ties** will be established between Israel, the United Arab Emirates and Bahrain which will have a positive impact on the entire region.
- The deal buys UAE a lot of **goodwill in the US**, where its image has been tarnished by its involvement in the **Yemen war**.
- **In South Asia, it will put Pakistan in a bind**, whether to follow UAE's steps (will be seen as giving up Islamic cause of Palestine) or not to follow the UAE (since it is already in a feud with the Saudis over not taking up the Kashmir case, Pakistan cannot afford another hostile Islamic Country).
- In the upcoming presidential election in the USA, the accord could help shore up support among

Note:



pro-Israel Christian evangelical voters, an important part of the current President's political base.

➤ More Deals:

- Other Gulf states in the region like Oman could follow suit and sign similar agreements with Israel
- One of the biggest Gulf Arab powers, Saudi Arabia could follow the suit as well.

➤ Concern:

- The Palestinians have not embraced the USA's vision. 86% of Palestinians believe the normalization agreement with the UAE serves only Israel's interests and not their own.
 - There is a possibility that the Palestine quest is further ignored.
- Shia-Sunni rifts in the region may get wide and violent.
 - Saudi Arabia (Sunni) and Iran (representing Shia) have a long history of enmity. For decades, one of the main sources of instability in West Asia has been the cold war between Saudi Arabia and Iran.
 - The Sunni-Shiite schism may also provoke violence between Muslims in such places as Pakistan, Nigeria and Indonesia.



➤ Indian Interest in West Asia:

- **Geopolitical:** West Asia occupies an important position in international relations due to its geographical location and proximity to continents and countries South Asia, China, Central Asia, Europe, and Africa.
- **Energy:** The region is strategically significant due to its enormous energy resources, trade route links to different parts of the world.

- It is the world's largest oil-producing region accounting for 34% of world production, 45% of crude oil exports and 48% of oil proven reserves.

- **Diaspora:** Indian expatriates have constituted a substantial share of the regional labour market.

- **Remittances from the region** constitute a major chunk of total remittances to India.

➤ Opportunity for India:

- **Defence and Security:** India should use this unexpected opportunity to give itself a **bigger role** in a region which is its strategic backyard. The first step should be to **ramp up defence and security relations with the UAE**.
 - Israel is already a very close defence partner.
- While some work has already happened, India should **leverage its economy for a bigger opening in this region**. Importantly, India can use its good offices to ensure that any future deal on a regional security framework gives adequate space to Iran, which may be weak but not so weak that it cannot be a hugely disruptive power if it so chooses.

Djibouti Code of Conduct

Why in News

Recently, **India** has joined the **Djibouti Code of Conduct (DCOC)** as an **observer** as part of efforts aimed at enhancing maritime security in the **Indian Ocean region**.

Key Points

➤ Djibouti Code of Conduct:

- **About:** It is also known as the **Code of Conduct concerning the Repression of Piracy and Armed Robbery against Ships in the Western Indian Ocean and the Gulf of Aden**.
 - It was adopted on **29th January 2009**.
 - It was established under the **International Maritime Organisation (IMO)**.
- **Objective:** To co-operate to the fullest possible extent in the repression of piracy and armed robbery against ships.



Note:

- **Jeddah Amendment:** An amendment to DCOG was made in **2017** to cover other illicit maritime activities, including **human trafficking and illegal, unreported and unregulated fishing** and to build national and regional capacity to **address wider maritime security issues**, as a basis for **sustainable development of the maritime sector**.
- **Signatories:** It has been signed by **20 countries** including Djibouti, Ethiopia, Kenya, Madagascar, Maldives, Seychelles, Somalia, the United Republic of Tanzania, Yemen, Comoros, Egypt, Eritrea, Jordan, Mauritius, Mozambique, Oman, Saudi Arabia, South Africa, Sudan and the UAE.
 - The member states are **located in areas adjoining the Red Sea, Gulf of Aden and the east coast of Africa** and include island nations in the Indian Ocean.
- **Observers:** India, Japan, Norway, the UK and the USA.



➤ Significance of India Becoming an Observer

- **Boosting its Indian Ocean Outreach:** As India is strengthening its position in the Indian Ocean and nearby waters as part of its overall **Indo-Pacific policy**, this move will help it in **increasing its strategic footprints in Western and Eastern Indian Ocean besides Eastern African coastal states**.
- **Blue Economy:** The **blue economy** is one of the key areas of the Jeddah Amendment.
 - It refers to the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health.
 - India has also focussed on the growth of the blue economy through its framework of **Indian Ocean Rim Association** and DCOG may be another step in that direction.

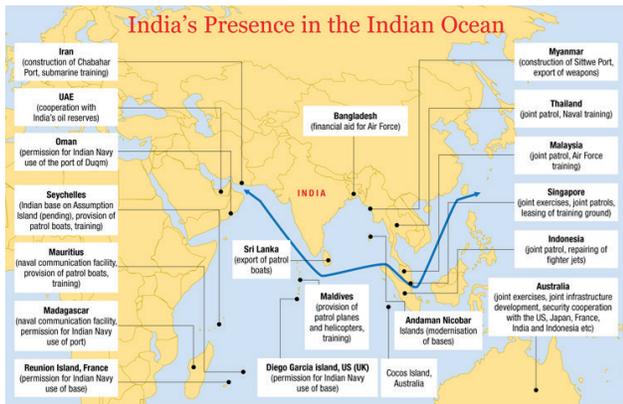
- **India-China:** China's territorial claims in the **South China Sea**, its claim in the **East China Sea** and its rapid advance into the Indian Ocean through ambitious strategic and economic initiatives like the **String of Pearls** and **Belt-and-Road Initiative (BRI)** may pose a threat to India.
 - Further, China is modernising its military base at Djibouti.
 - Given India's stakes in the Indian ocean and rising **Indo-China conflicts**, it is very significant for India to develop blue-water naval capabilities.

India in Indo-Pacific

- **Shangri-la Dialogue:** India has internationally emphasised on including the western Pacific and the Indian Ocean in the concept of **Indo-Pacific**, like at Shangri-la Dialogue in **2018**.
 - In accordance, it also set up an **Indo-Pacific division** in the Ministry of External Affairs.
- **Quad: Quadrilateral Security Dialogue (Quad)** refers to an ad hoc group including Australia, India, Japan, and the USA with a shared objective to ensure and support a **"free, open and prosperous" Indo-Pacific region**.
 - India has signed reciprocal **military logistics support agreements with Australia, USA and Japan** to increase interoperability with the navies of those countries.
- **ASEAN:** India has emphasised the centrality of ASEAN in its Indo-Pacific framework and India's **Act East policy** provides strategic direction to increase its cooperation with ASEAN members.
- **SAGAR:** The Indian government introduced the concept of **Security And Growth for All in the Region (SAGAR)** in 2015 as its strategic vision for the Indian Ocean Region.
 - Through SAGAR, India seeks to **deepen economic and security cooperation** with its maritime neighbours and assist in building its **maritime security capabilities**.
- India's other policies impacting the maritime domain include **Project Sagarmala, Project Mausam, Information Fusion Centre (IFC) for the Indian Ocean Region (IOR)**, etc.
- India has also begun to focus on its strategic partners in the **Western Indian ocean**. It has been accepted as an **observer at the Indian Ocean Commission**.

Note:





Initiatives Launched on G20 EMM

Why in News

Recently, the **G20 Environment Ministers Meeting (EMM)** has taken place under the **Presidency of the Kingdom of Saudi Arabia**.

- Global initiatives to reduce **Land Degradation and Coral Reef Programme** and two documents on **climate change**, related to managing emissions and climate change adaptations under the G20 in 2020, have been launched.
- **G20 EMM, 2019** saw an agreement on adopting a new implementation framework for actions to tackle the issue of **marine plastic waste** on a global scale.

Key Points

- **Global Initiative on Reducing Land Degradation:**
 - It aims to strengthen the implementation of existing frameworks to **prevent, halt, and reverse land degradation** within G20 member states.
 - The **Scientific Conceptual Framework for Land Degradation Neutrality (LDN)**, developed by the **United Nations Convention to Combat Desertification (UNCCD)**, provides a scientific foundation for understanding, implementing and monitoring land degradation.
 - Globally, it aims to take into account possible implications on the achievement of **Sustainable Development Goals (SDG-13: Climate Action, SDG-14: Life below Water, SDG-15: Life on Land)** and adhere to the principle of doing no harm.
- **Global Coral Reef Research and Development Accelerator Platform:**

- It is an innovative action-oriented initiative aimed at **creating a global research and development programme to advance research, innovation and capacity building** in all facets of coral reef conservation, restoration and adaptation.
- It will **strengthen ongoing efforts and commitments** made to enhance coral reefs conservation and stop their further degradation.
 - Limiting global average temperature and pursuing efforts to limit the temperature increase, in line with the **Paris Agreement**, provides the **only chance for the survival of coral reefs globally**.

India's Stand:

- India intends to take measures to enhance **coral reef conservation** under the **National Coastal Mission Programme**.
 - The proposed mission under the **National Action Plan on Climate Change (NAPCC)** will address the impact of climate change on coastal and marine ecosystems.
 - It will include all phases of the **Integrated Coastal Zone Management (ICZM)** Project.
- India has also put **efforts towards achieving land degradation neutrality** and towards the attainment of global goals of climate change mitigation and adaptation.
 - The Indian government sees schemes such as the **Pradhan Mantri Fasal Bima Yojana, Soil Health Card Scheme** and **Pradhan Mantri Krishi Sinchayee Yojana** as tools to tackle the problem of land degradation.
- India is committed to working with G20 nations for a better world and is taking adequate action to meet the **Paris Agreement** and its climate commitments.
- It was emphasised that **equity, common but differentiated responsibilities, finance** and **technology partnerships** are the key pillars to tackle the problem of climate change.

BRICS National Security Advisers Meet

Why in News

Recently, Russia hosted virtual National Security Advisers (NSAs) meet of the **Brazil-Russia-India-China-South Africa (BRICS)** grouping.

Note:

- **India-China standoff at Ladakh** was not discussed at the meet.

Key Points

- **Draft Anti-terrorism Plan:**
 - The group discussed a **draft anti-terrorism strategy** that is expected to be approved at an upcoming summit.
 - **The anti-terrorism plan** reflects fundamental aspects of the BRICS states, such as respect for sovereignty and non-interference in internal affairs, adherence to international law and recognition of the **United Nation** (UN)'s central role in security matters.
- **Other Discussed Issues:**
 - **Challenges and threats** to global, regional and national security.
 - Called for **biological security cooperation and information and communications technology security**.
 - There was also a proposal to continue work on a system for **countering security threats in the sphere of information**.

BRICS

- BRICS is an **acronym** for the grouping of the world's leading emerging economies, namely **Brazil, Russia, India, China, and South Africa**.
 - In 2001, the British Economist **Jim O'Neill** coined the term **BRIC** to describe the four emerging economies of Brazil, Russia, India, and China.
 - The grouping was **formalised** during the first meeting of BRIC Foreign Ministers' in **2006**.
 - **South Africa** was invited to join BRIC in December **2010**, after which the group adopted the acronym BRICS.
- The **chairmanship of the forum is rotated annually among the members**, in accordance with the acronym B-R-I-C-S.
- During the **Sixth BRICS Summit in Fortaleza** (Brazil) in **2014**, the leaders signed the Agreement establishing the **New Development Bank** (NDB - Shanghai, China). They also signed the **BRICS Contingent Reserve Arrangement** to provide short-term liquidity support to the members.

- The Russian side criticised the **deployment of weapons in space by the USA** and the use of outer space for military operations.
 - It also expressed **concern** over the escalation of tensions with the USA in Iran, Venezuela and Syria.
 - It also proposed the creation of new mechanisms in the field of countering epidemiological threats and to conduct expert consultations on biosafety in the BRICS format.
- Cooperating within the framework of building a **multi-polar system** based on justice and equality.
- Agreed to work on **deepening coordination** at key international organisations and forums, especially the United Nations (UN).

Basic Exchange and Cooperation Agreement: USA

Why in News

The USA is looking forward to India signing the **Basic Exchange and Cooperation Agreement for Geo-Spatial cooperation (BECA)**, at the next **India-USA 2+2 ministerial dialogue** likely to be held in October, 2020.

Key Points

- **2+2 talks:**
 - They are a **dialogue between two appointed ministers from each country**. This meeting aims to discuss issues of strategic and security interests between the two countries.
 - Defense and foreign ministers or secretaries meet with their counterparts from another country.
 - India **holds such talks with Japan and Australia**, at the foreign secretary and defense secretary level.
 - India **holds ministerial-level talks only with the USA**. Apart from India, the United States holds such ministerial dialogues with Australia and Japan also.
 - The talks were announced in June 2017. The 2+2 dialogue has replaced the Strategic and Commercial Dialogue between the foreign and commerce ministers of the two countries that were held previously.
- **BECA:**

Note:



- BECA will allow India to use the **geospatial maps of the USA** to get pinpoint military accuracy of automated hardware systems and weapons such as cruise and ballistic missiles.
- BECA is an important precursor to India **acquiring armed unmanned aerial vehicles such as the Predator-B** from the USA. Predator-B uses spatial data for accurate strikes on enemy targets.
- BECA is **one of the four foundational military communication agreements** between the two countries. The other three being GSOMIA, LEMOA, CISMOA.
- Initially, India had reservations to **geospatial mapping on the grounds of national security**, but they were later addressed by mutual dialogue and discussion between the two countries.

General Security Of Military Information Agreement

- GSOMIA allows **militaries to share the intelligence** gathered by them.
- Signed by India in 2002.
- An extension to the GSOMIA, the **Industrial Security Annex (ISA)**, was signed at the 2+2 dialogue in 2019.
- ISA provides a framework for exchange and protection of **classified military information between the USA and Indian defence industries**.

Logistics Exchange Memorandum of Agreement

- LEMOA allows both countries to **have access to each other's designated military facilities** for refueling and replenishment.
- Signed by India in 2016.

Communications and Information Security Memorandum of Agreement

- COMCASA (Communications Compatibility and Security Agreement) is the India specific version of CISMOA.
- Valid for 10 years, COMCASA aims to provide a legal framework for the **transfer of highly sensitive communication security equipment from the USA to India** that will streamline and facilitate interoperability between their armed forces.
- Signed by India in 2018.

Other Maritime Developments Between India and the USA

- A **maritime information agreement** is also under active deliberation between India and the USA. Once

concluded, India will have such arrangements with all Quad countries.

- **Quadrilateral Security Dialogue (Quad)** is the informal strategic dialogue between India, USA, Japan and Australia with a shared objective to ensure and support a **free, open and prosperous Indo-Pacific region**.
- In increasing military to military interactions, the USA has also posted a liaison officer at the Navy's **Information Fusion Centre for Indian Ocean Region (IFC-IOR)** meant to promote **Maritime Domain Awareness (MDA)**.
- The Information Fusion Centre serves countries that have **White Shipping Information Exchange** (White-shipping refers to commercial shipping information about the movement of cargo ships) agreements with India.
- **MDA** is defined by the **International Maritime Organization** as the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment of a country.
- Recently, India posted a liaison officer at the USA Navy Central Command in Bahrain.

Japan's New Prime Minister

Why in News

Japan recently elected **Yoshihide Suga** as its new Prime Minister. He belongs to the ruling **Liberal Democratic Party (LDP)** of Japan.

Key Points

- **Political System of Japan:**
 - Japan has a **multi-party, bicameral, parliamentary, representative democratic constitutional monarchy**.
 - **Constitution:** It has a **unitary model with supremacy of constitution**.
 - The Constitution of Japan is the fundamental law of Japan, enacted on 3rd May 1947.
 - It is one of the very few democratic constitutions in the world having fundamental duties, apart from India.



Note:

- **Government:** The Government of Japan consists of a legislature, executive and judiciary.
 - The **Emperor is the Head of State** and the **Prime Minister is the Head of Government and the Head of the Cabinet (executive).**
 - The Emperor holds **nominal ceremonial authority.** For e.g. The legislature is known as the **National Diet.** Its members are directly elected by the people.
 - The Diet has two houses- upper **House of Representatives** and lower **House of Councillors.**
 - The Prime minister is **designated by the National Diet** but only the Emperor has the authority to appoint the Prime Minister.
- **Feature Borrowed in Indian Constitution:** The Indian Constitution derives its “**Procedure established by Law**” component from the Japanese constitution.
 - The expression occurs in **Article 21 (Right to Life and Personal Liberty).**
 - It means that law duly enacted by the legislature or the concerned body is valid **only if** the correct procedure has been followed to the letter.
 - Hence, the validity of a law that has prescribed a procedure cannot be questioned on the ground that the law is unreasonable, unfair or unjust.
 - It is different from the expression ‘**due process of law**’ contained in the **American Constitution**, which not only checks if there is a law to deprive the life and personal liberty of a person but also ensures that the law is made fair and just.
 - With the Supreme Court pronouncement of “due process of Law “in the **Maneka Gandhi case** (1978), the court asserted the **principle of reasonableness while deciding a case.** It now means that the procedure must satisfy certain requisites in the sense of being fair and reasonable. The procedure **cannot be arbitrary, unfair or unreasonable.**

Gilgit-Baltistan to Become a Pakistani Province

Why in News

Recently, **Pakistan has decided to elevate Gilgit-Baltistan’s status** to that of a full-fledged province.

- Gilgit-Baltistan is one of the **disputed territories** of India.

Key Points

➤ Current Status of Gilgit-Baltistan:

- It is an **autonomous region** now and with this elevation, it will be considered as the **5th province** of Pakistan.
 - Currently, **Pakistan has four provinces** namely **Balochistan, Khyber Pakhtunkhwa, Punjab, and Sindh.**
- **Chronology:**
 - **1999:** Pakistan’s Supreme Court ruled that the people of Gilgit-Baltistan are Pakistani citizens and directed the federal government to start appropriate administrative and legislative measures.
 - **2009:** The **Gilgit-Baltistan Empowerment and Self-Governance Order** was introduced, whereby the **Northern Areas were renamed as Gilgit-Baltistan** and the region was given **province-like status but without representation in Parliament.**
 - **2015:** A committee constituted by the federal government **proposed** giving Gilgit-Baltistan the status of a province.
 - **2018:** A new order was introduced which **transferred all powers of the Gilgit-Baltistan council to its assembly.**
- This elevation will **lead to adequate representation from the province on all constitutional bodies**, including the National Assembly and the Senate.
- The Government will also start working on the **Moqpondass Special Economic Zone (SEZ)** under the **China Pakistan Economic Corridor (CPEC).**
 - SEZs work as an engine for economic growth supported by quality infrastructure complemented by an attractive fiscal package, both at the Centre and the State level, with the minimum possible regulations.
- **Other Developments by China in Pakistan-occupied Kashmir under CPEC:**
 - **Diamer-Bhasha Dam.**



Note:

- Kohala hydropower Project.
- Azad Pattan Hydel Power Project.

➤ India's Stand:

- India has held that the **Government of Pakistan or its judiciary has no locus standi on territories illegally and forcibly occupied by it.**
- India completely **rejects such actions** and continued attempts to bring material changes in Pakistan occupied areas of the Indian territory of Jammu and Kashmir.
- While protesting Islamabad's efforts to bring material change in Pakistan occupied territories, India held that **Pakistan should immediately vacate all areas under its illegal occupation.**

60 Years of Indus Water Treaty

Why in News

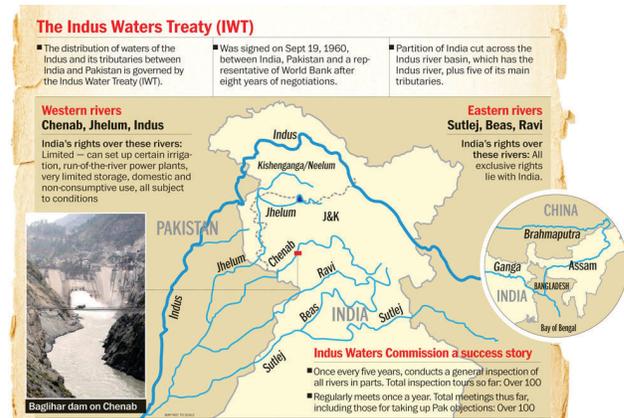
The **Indus Water Treaty (IWT)** between India and Pakistan marks its **60th anniversary on 19th Sept 2020.**

Key Points

➤ About:

- The Indus system comprises the main **Indus, Jhelum, Chenab, Ravi, Beas and Sutlej**. The basin is mainly **shared by India and Pakistan** with a small share for China and Afghanistan.
- With the **partition of India in 1947**, waters of Indus rivers system were also divided.
- The sharing formula, devised after prolonged negotiations, sliced the Indus system into two halves. The three '**western rivers**' (**Indus, Jhelum and Chenab**) went to **Pakistan** and the three '**eastern rivers**' (**Sutlej, Ravi and Beas**) were portioned to India.
 - Since Indus flows from India, the country is **allowed to use 20% of its water** for irrigation, power generation and transport purposes.
 - IWT **granted 3.6 million acre-feet (MAF) of "permissible storage capacity"** to India on the western rivers but due to poor water development projects, 2-3 MAF of water easily flows into Pakistan.
- It seemed equitable but **India conceded 80.52% of the aggregate water flows** in the Indus system

to Pakistan and also **gave Rs. 83 crore in pounds sterling to Pakistan to help build replacement canals** from the western rivers.



- India conceded its upper riparian position on the western rivers **for the complete rights on the eastern rivers.**
- It was important to get the waters of the 'eastern rivers' for the **Indira Gandhi Canal in Rajasthan** (starts from the **Harike Barrage**, a few kilometers below the confluence of the **Satluj and Beas rivers**) and the **Bhakra Dam** (on the Sutlej River in Bilaspur, Himachal Pradesh) without which both Punjab and Rajasthan would be left dry, severely hampering India's food production.
 - The **World Bank**, as the third party, played a pivotal role in crafting the IWT.
- **Pakistan's Responses:**
 - The Pakistan leadership **considers** the sharing of the waters with India an **unfinished business.**
 - Pakistan is not comfortable with the fact that **India got away with the total flow of 33 million acre-feet on the eastern rivers**, while it had to share the waters of western rivers.
 - Being a lower riparian state, **Pakistan's scepticism of India allows it to increasingly politicise the issue.** It maintains **high troop levels and alertness around the canals on the eastern front**, fearing that India will try to take control of the western rivers.
- **Changing Perspectives in India:**
 - Every now and then, there is an **uproar in India for abrogating the IWT** as a response to Pakistan's **cross-border terrorism and tenacity.**
 - Abrogating IWT would **require a number of politico-diplomatic and hydrological factors to be determined** and also a **political consensus.**

Note:

- **Terror attacks** in Indian Parliament in 2001, Mumbai in 2008, and the incidents in Uri in 2016 and Pulwama in 2019 could have prompted India, within the **Vienna Convention on the Law of Treaties**, to withdraw from the IWT. However, on each occasion, India chose not to do so.
 - **Vienna Convention on the Law of Treaties**, an international agreement governing treaties between states that was drafted by the International Law Commission of the **United Nations**.
 - It was adopted in 1969 and entered into force in January 1980.
- It is because India **respects its signature and values trans-boundary rivers as an important connector** in the region in terms of both diplomacy and economic prosperity.
- However, in light of India being hesitant to abrogate the treaty, there have been **suggestions to modify** it.
 - Currently, with a new set of hydrological realities, advanced engineering methods in dam construction and de-siltation, there is an urgent need to modify the treaty.
- **Article XII of the IWT** says that it “**may from time to time be modified**” but carefully notes “**by a duly ratified treaty concluded for that purpose between the two governments**”.
 - Pakistan will see no merit in any modification, having already got a good deal in 1960.
 - India’s best option, therefore, would be to optimise the provisions of the treaty.
- On the developments on western rivers, the **permissible storage capacity on the western rivers needs to be urgently utilised**. Out of the total estimated **capacity of 11406 MW electricity** that can be harnessed from the three western rivers in Kashmir, only 3034 MW has been tapped so far, which also **needs to be looked into**.
 - **Tulbul Navigation project on Jhelum, Ratle and Bagliha** hydro projects on Chenab, **Bursar hydroelectric project** on one of the tributaries of the Chenab in Jammu and Kashmir are few of the projects to utilise the waters of western rivers.
 - Bursar, once completed, will be India’s first project on the western rivers to have storage infrastructure.

- India has fast-tracked the work on **Shahpur Kandi dam project**, a **second Sutlej-Beas link in Punjab** and the **Ujh Dam project** in Jammu and Kashmir to **fully utilise the waters of eastern rivers**.

Universal Eligibility for World Bank Loan

Why in News

Recently, the **World Bank** has clarified that the **USD 1 billion loan that it has provided to India in May 2020** to deal with **Covid-19** comes with a condition of **universal eligibility** in procurements.

Key Points

➤ Clarification:

- The World Bank would have the **right to review the procurement documents, inspect all accounts, records** and other files relating to the project. Compliance to these conditions has been made mandatory for the funding.
- Following the clarification the Indian Government has also asked all its production units and other major establishments **to remove preferential references in tenders** and ensure that contractors explicitly agree to comply with the relevant provisions of the World Bank’s guidelines.

➤ Impact:

- This would mean that all **preferential market access policies**, shall not be applicable on purchases made while implementing the national project.
 - The **preferential market access policies** includes **Public Procurement (Preference to Make in India) Order, Micro Small & Medium Enterprises (MSME) Policy**, certain **benefits to start-ups**.
- It will be a setback to the **Make in India** and **Atmanirbhar initiative**.

➤ Background:

- The World Bank has announced a loan in May 2020 **to prevent, detect and respond to the threat of coronavirus** and **strengthen national health systems**.
- It is pivoted towards **migrants, unorganised workers, informal sector**, and creating an integration of the existing infrastructure of safety nets like the

Note:



Public distribution system, Jan Dhan, Aadhar & Mobile (JAM trinity).

- This loan will be funded and operated in **two phases**:
 - **First Phase**: An immediate allocation of **USD 750 million** for fiscal year 2020.
 - It will be implemented countrywide through the **Pradhan Mantri Garib Kalyan Yojana (PMGKY)** to benefit vulnerable groups, particularly migrants and informal workers.
 - **Second phase**: A **USD 250 million** second tranche that will be made available for fiscal year 2021.
 - It would deepen the social protection package, whereby additional cash and in-kind benefits based on local needs will be extended through state governments and portable social protection delivery systems.

World Bank Group

- With 189 member countries, the World Bank Group is a unique global partnership which consists of five development institutions.
- **International Bank for Reconstruction and Development (IBRD)** provides loans, credits, and grants.
- **International Development Association (IDA)** provides low- or no-interest loans to low-income countries.
- **The International Finance Corporation (IFC)** provides investment, advice, and asset management to companies and governments.
- **The Multilateral Guarantee Agency (MIGA)** insures lenders and investors against political risk such as war.
- **The International Centre for the Settlement of Investment Disputes (ICSID)** settles investment-disputes between investors and countries.
 - **India is not a member of ICSID.**

International Day of Peace

Why in News

Each year the International Day of Peace is observed around the world on **21st September**.

- Theme for 2020 : Shaping Peace Together.

Key Points

- The **United Nations (UN) General Assembly** has declared this as a day devoted to strengthening the

ideals of peace, through observing **24 hours of non-violence and cease-fire**.

- **Background**: The International Day of Peace was established in 1981 by the United Nations General Assembly.
 - In 2001, the General Assembly unanimously voted to designate the Day as a **period of non-violence and cease-fire**.
- **Other**: The United Nations (UN) will celebrate its **75th anniversary on 24th October 2020**.
- **Challenges to Global Peace**:
 - **Global Unrests**: Over 25 countries are facing deadly wars today. According to the **World Population Review**, 8 countries including Afghanistan, Yemen, Syria, Turkey, Somalia, Iraq, Mexico and Libya suffered at least 1,000 deaths each (mainly civilians) through militarised attacks and battles in 2019.
 - **Refugee Crisis**: According to the **UN Refugee Agency**, 79.5 million were displaced at the end of 2019, due to armed conflicts, persecution and other reasons.
 - **Role of Global Powers**: The USA, Russia and China are required to uphold peace and international harmony being the permanent members of the UN Security Council. However, on the contrary, they have been found to fuel instability in order to achieve geopolitical hegemony. **Examples**:
 - The **tragedy in Yemen**, which the UN has declared as the world's worst humanitarian disaster, is the outcome of indiscriminate attacks by the U.S.-backed coalition of Saudi Arabia and the UAE, whose geopolitical goal is to counterbalance Iran.
 - **Libya's descent into chaos** is the product of the active involvement of mercenaries and weapons pumped in by Russia and the USA-allied Gulf Arab monarchies to push back Turkey's influence.
 - **China's hegemonic expansionism** against its neighbours and its 'new Cold War' with the U.S. have significantly raised risks of military clashes in Asia.
 - **Domestic Suppressions**: Domestic surveillance and repression with the use of technology is being used by countries to suppress dissenting voices.
 - **New Power Tussle**: The conflict and competition between the powerful countries, like the **USA-China New Cold War** is also going on, risking global peace.

Note:

- **Pandemic Challenge: Covid-19** has posed a new concern that may directly and indirectly affect the global peace through lack of access to resources, health and education, displacement etc.

G4 Foreign Ministers Meeting

Why in News

Recently, Foreign Ministers from the **Group of 4 (G4)**, consisting of **India, Brazil, Japan and Germany**, participated in a virtual meeting.

- G4 is a group of countries that are seeking permanent membership of the **United Nations Security Council (UNSC)**.

Key Points

- G4 will seek concrete and time-bound outcomes during the 75th session of the UN General Assembly.
 - The UN will celebrate its **75th anniversary** on 24th October 2020.
- The Ministers reaffirmed their common resolve to finally take decisive steps towards the **early and comprehensive reform of the Security Council** that was envisaged by Heads of State and Government in the **2005 World Summit**.
 - The 2005 World Summit was held at United Nations Headquarters in New York.
 - All governments expressed strong and unambiguous commitment to achieve the **Millennium Development Goals** by 2015.
 - It set up **two new bodies**, a **Peacebuilding Commission** to help countries in transition from war to peace, and a strengthened **Human Rights Council**.
- **G4 on UNSC Reforms:**
 - **Ensuring greater representation for Africa:** Africa needs to be represented in **both the permanent and non-permanent categories** of UNSC to **correct the historical injustice** against this continent with regard to its under-representation in the Security Council.
 - **Enhanced role of developing countries and of major contributors to the UN:** To make UNSC more **legitimate, effective and representative**, it is needed to increase the number of permanent (from 5 to 11) and non-permanent (from 10 to 14) seats.

- The permanent seats shall be elected in the following manner: Two from African States; Two from Asian States; One from Latin American and Caribbean States; One from Western European and Other States.

- Non-permanent members shall be elected according to the following pattern: One from African States; One from Asian States; One from Eastern European States; One from Latin American and Caribbean States.

- The UNSC reforms proposed earlier had been opposed by the five permanent members (P5) of UNSC as they demanded veto power for new members as well (**Rizali Plan**). However, later the new countries decided to forego the veto power for new countries which was accepted by P5 countries (**Rizali Reform Plan**).

- **Text-Based Negotiations:** The G4 will work with other reform-minded countries and groups to start **text-based negotiations (TBN)**

- India is a proponent of TBN at the UN. Countries opposed to UNSC reform, including China, are hesitant to have TBN for intergovernmental negotiations on the grounds that the matter is **too sensitive** for text.

- **Concerns over IGN:** Two sessions in February and March 2020 of Inter-Governmental Negotiations (IGN) on UNSC reform were adjourned due to **Covid-19**, which could have taken place virtually.

- The countries expressed concern that IGN **lacks the necessary openness and transparency** and is constrained by **flawed working methods**.

- IGN should also have included a reflection of the **Common African Position** as enshrined in the **Ezulwini Consensus** and the **Sirte Declaration**.

- The **Ezulwini Consensus (2005)** is a position on international relations and reform of the United Nations, agreed by the African Union. It calls for a more representative and democratic Security Council, in which Africa, like all other world regions, is represented.

- The **Sirte Declaration (1999)** was the resolution adopted to establish the African Union.

- **Groups Opposed to UNSC Reforms:** An informal **"coffee club"** or **Uniting for Consensus Group** has opposed UNSC reforms.

Note:



- Most members of the club are middle-sized states who oppose bigger regional powers grabbing permanent seats in the UN Security Council.
- While **Italy and Spain are opposed to Germany's** bid for UNSC's permanent membership, **Pakistan is opposed to India's bid**. Similarly, **Argentina is against Brazil's bid** and **Australia opposes Japan's**.
- **India's Position:** India, will commence a two-year non-permanent term on the UNSC in January, 2021
 - It has long sought a **permanent seat** at the Council.
 - Four of the five permanent members of the Security Council – USA, UK, France and Russia support giving India a permanent seat at the Council. Only China is opposed to this.
 - India is also seeking reforms to democratize the UN, such as UNSC reforms and **UN peacekeeping reforms**.

Intergovernmental Negotiations

- IGN is a group of nation-states working within the United Nations to further reform of the United Nations Security Council (UNSC)
- The IGN is composed of several different international organizations, namely:
 - **African Union**
 - G4 nations
 - **Uniting for Consensus Group (UfC)**
 - **L.69 Group of Developing Countries**
 - Arab League
 - **Caribbean Community (CARICOM)**.

SAARC and CICA Meetings

Why in News

Recently, the Foreign Ministers' meetings of the **South Asian Association for Regional Cooperation (SAARC)** and the **Conference on Interaction and Confidence-Building Measures in Asia (CICA)** has taken place in a virtual manner.

Key Points

- **India-Pakistan Tussle:**
 - India called the SAARC countries to collectively resolve to defeat the scourge of **terrorism**, including the forces that nurture, support and encourage an environment of terror and conflict.

- This was a **clear criticism of Pakistan** who has been involved in **crossborder terrorism**.
- Pakistan also made a detailed statement on the resolution of "long-standing disputes", a veiled reference to Jammu and Kashmir and India's move to **withdraw Article 370**.
- **Background:**
 - Recently, **India said** that the degree of seriousness of each SAARC member-nation in collectively fighting the **Covid-19 pandemic** can be gauged by their behaviour.
 - The statement was in clear reference to **Pakistan's opposition to India's leadership** in dealing with the crisis in the region.
 - The **National Security Advisor of India** had walked off from a virtual meeting of the **Shanghai Cooperation Organisation (SCO)** in September 2020 after his Pakistani counterpart appeared with a **Pakistani version of its map that included Indian territories**.
 - In 2019, at the SAARC Foreign Ministers' meeting, Foreign Ministers of India and Pakistan had **boycotted** each other's speeches.
 - The Prime Minister of India had also **refused to attend the 19th edition of the SAARC summit**, due to be held in Islamabad in 2016, over the issue of Pakistan's continued support to terror groups in light of **Uri attacks**.
- **Covid-19:** All SAARC nations built a common stand on the need to cooperate in battling the **Covid-19 pandemic**.
 - **SAARC initiatives to combat Covid-19: SAARC Covid-19 Information Exchange Platform (COINEX)**, SAARC Food Bank mechanism, **SAARC Covid-19 Emergency Fund**.
 - **India's Contribution:** India has **contributed USD 10 million** to SAARC Covid-19 Emergency Fund and manufactured essential drugs, Covid-19 protection and testing kits for countries in the SAARC region (For example, **Operation Sanjeevani for the Maldives**).
- **Relevance of SAARC:** SAARC has **not been very effective since 2016** as its biennial summits have not taken place since the last one in Kathmandu (Nepal) in 2014.
 - **Bangladesh, Bhutan and Afghanistan also declined to participate** in the Islamabad meet planned in 2016.

Note:

- **Reasons for a dysfunctional SAARC:**
 - Bilateral issues cannot be discussed in SAARC but since the organisation relies on the principle of unanimity for all major decisions, **Pakistan has often vetoed** the major initiatives proposed at SAARC.
 - For example, **SAARC Motor Vehicle Agreement** proposed at Kathmandu summit, 2014.
 - **India-Pakistan conflict has undermined SAARC.** For India, Pakistan's use of terror as an instrument of foreign policy has made normal business impossible.
 - The **dispute between Pakistan and Afghanistan over the Durand Line** is also a reason.
 - **India's economic position** vis-a-vis other SAARC countries creates an **impression of India being a big brother** rather than a strategic partner.
 - SAARC has become almost marginal to the regions' collective consciousness and other organisations such as the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** came into the forefront.

➤ **CICA Meeting:**

- India underlined its commitment to a pluralistic cooperative security order in Asia through CICA. It also reaffirmed its support for the **Afghan peace process**.

➤ **About CICA:**

- It is a **multi-national forum** for enhancing cooperation towards **promoting peace, security and stability in Asia**.
- The idea of convening the CICA was **first proposed by the First President of the Republic of Kazakhstan on 5th October 1992**, at the 47th Session of the **United Nations General Assembly**.
- The **First Ministerial Meeting** of CICA took place in **September 1999**.
- It consists of **27 member nations** from Asia including Afghanistan, Bangladesh, Cambodia, China, Egypt, India, etc.
 - Japan, Indonesia, USA, etc. are some of the **Observer Nations**.
- The **Republic of Tajikistan is the CICA Chairman** for the period **2018-2020**.

Conference on Interaction and Confidence Building Measures in Asia (CICA)

- A multinational forum for enhancing cooperation towards promoting peace, security and stability in Asia
- Proposed by Nursultan Nazarbayev, Kazakhstan's first president, at the 47th Session of the United Nations General Assembly on **October 5, 1992**

Member states (27):

- | | | | |
|------------------------|--------------|--------------|----------------------|
| ● Afghanistan | ● Egypt | ● Kazakhstan | ● Republic of Korea |
| ● Azerbaijan | ● India | ● Kyrgyzstan | ● Russian Federation |
| ● Bahrain | ● Iran | ● Mongolia | ● Sri Lanka |
| ● Bangladesh | ● Iraq | ● Pakistan | ● Tajikistan |
| ● Cambodia | ● Israel | ● Palestine | ● Thailand |
| ● China | ● Jordan | ● Qatar | ● Turkey |
| ● United Arab Emirates | ● Uzbekistan | ● Vietnam | |

Summits:



CGTN

JIMEX 20 Maritime Exercise

Why in News

The **4th edition of India - Japan Maritime bilateral exercise JIMEX** will be held in the North Arabian Sea from **26th - 28th September 2020**.

Key Points

➤ **About JIMEX Exercise:**

- JIMEX series of exercises **commenced in January 2012** with special focus on maritime security cooperation.
- It is **conducted biennially** between the Indian Navy and Japanese Maritime Self-Defense Force (JMSDF).
- The **last edition of JIMEX** was conducted in October 2018 off Visakhapatnam, India.



Note:



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➤ JIMEX 20:

- Multi-faceted tactical exercises involving weapon firings, cross deck helicopter operations and complex surface, anti-submarine and air warfare drills will consolidate coordination developed by the two navies.
- Indigenously built stealth destroyer **Chennai**, Teg Class stealth frigate **Tarkash** and Fleet Tanker **Deepak** will represent the Indian Navy.
- **P8I Long Range Maritime Patrol Aircraft** will also participate in the exercise.

➤ Significance:

- The exercise is taking place in the **backdrop of growing concerns over China's military muscle flexing in the Indian Ocean Region** as well as in the Indo-Pacific.
- It will be the **first military exercise after the two countries signed a landmark agreement (Acquisition and Cross-Servicing Agreement - ACSA)**, that will allow their militaries to access each other's bases for logistics support.
- **India has significantly expanded its deployment in the Indian Ocean Region** with a plethora of warships and submarines following the **border row with China**. The maritime space around the **Malacca Strait** is critical for China's supply chain through sea routes.
 - Recently, **Indian and Australian navies** conducted a **passage exercise** in the eastern Indian Ocean Region (IOR). A passage exercise is normally undertaken whenever an opportunity arises, in contrast to pre-planned maritime drills.
 - In July 2020, the **Indian Navy carried out a military exercise with a USA Navy carrier strike group** led by the nuclear-powered aircraft carrier **USS Nimitz** off the coast of Andaman and Nicobar Islands.
 - The USS Nimitz is the world's largest warship.
 - **Nimitz Carrier Strike Group** is currently deployed to the Indian Ocean in support of a free and open Indo-Pacific.
- **Other Military Exercises between India and Japan:**
 - Annual joint land military exercise named '**Dharma Guardian**'.
 - Joint Air Force exercise '**Shinyuu Maitri**'.
 - Trilateral Maritime **Exercise Malabar** with the USA.

Armenia-Azerbaijan Conflict

Why in News

Recently, **territorial dispute between Armenia and Azerbaijan** over the **Nagorno-Karabakh region** has re-erupted with heavy clashes.

- Armenia and Azerbaijan are part of **Transcaucasia or South Caucasia** (geographical region in the vicinity of the southern Caucasus Mountains on the border of Eastern Europe and Western Asia consisting of Georgia, Armenia, and Azerbaijan).



Key Points

➤ Reasons for Dispute:

- **Territorial:** Nagorno-Karabakh region has 95% of the population as **ethnically Armenian** and is controlled by them but it is **internationally recognised as part of Azerbaijan**.
- **Religious:** Armenia is **Christian majority**, while Azerbaijan is **Muslim majority** country.
- **Domestic Politics:** The leaders of both the nations have fueled the issue time and again for their vested political interests.

➤ History of Dispute:

- **1920:** Nagorno-Karabakh Autonomous Region was **established within Azerbaijan by the then Soviet Union**.
- **1988:** Nagorno-Karabakh legislature passed a **resolution to join Armenia** despite the region's legal location within Azerbaijan's borders.
- **1991:** The autonomous region officially **declared that it would not join either of the countries** after a referendum which was boycotted by Azerbaijan. **War erupted between Armenia and Azerbaijan** over the region, leaving roughly tens of thousands of casualties and hundreds of thousands of refugees.

Note:

- **1994:** Russia mediated a **cease-fire** which has remained in place since.
- **2016:** In April 2016, the region was particularly tense because of violent fighting between the two countries, which was known as the **Four Day War**.
- Apart from this, intermittent ceasefire violations between Azerbaijani and Armenian troops have caused hundreds of deaths in the past decade.
- **Impact:**
 - **Destabilize the Region:** Renewed tensions threaten to reignite a military conflict between the countries and **destabilize the South Caucasus region**. This may cause social unrest in the region which is already suffering from the **Covid-19 pandemic**.
 - **Civilian Casualties:** In this disputed region, there are hundreds of civilian settlements, residents of which would be **directly impacted and potentially displaced** if any large-scale war were to break out between the two countries
 - **Economic Impact:** This could also disrupt oil and gas exports from the region, since Azerbaijan, is a **significant oil and gas exporter to Europe and Central Asia**. This may even lead to **higher oil prices globally**.
 - **International Involvement:** Russia has closer ties with Armenia while Turkey and USA support Azerbaijan, and Iran has a large **Azeri minority**, which could escalate a crisis and entangle actors involved. Any military escalation would draw regional powers like **Turkey and Russia** more deeply into the conflict.
 - Russia, Israel and many other countries have been supplying Arms to both the countries despite the **arms embargo by the United Nations**.

Effect on India

- **India-Armenia:** In recent years, **Indian-Armenian bilateral cooperation** has seen rapid growth.
 - The then Vice-President of India visited Yerevan (Armenia) in 2017.
 - Armenia bought the India **SWATHI military radar system** in March 2020.
 - Many Indian students study in Armenian medical Universities and in recent years Armenia has witnessed an increasing flow of Indian labour migrants.

- For Armenia, close relations with India are vitally important as India provides a counter balance to the **rival strategic axis between Azerbaijan, Pakistan and Turkey**.
- **India-Azerbaijan:** India is part of the **International North-South Transport Corridor (INSTC)**, a multimodal network of ship, rail, and road route for moving freight between India, Iran, Afghanistan, Azerbaijan, Russia, Central Asia and Europe.
 - Azerbaijan is a dialogue partner of **Shanghai Cooperation Organisation (SCO)**, which India is a member of.
 - In 2018, the then Indian External affairs minister had visited Baku (Azerbaijan), the first-ever bilateral visit of an Indian External Affairs Minister to Azerbaijan.
 - India's ONGC-Videsh is an investor in Azeri-Chirag-Gunashli (ACG) oil fields and Baku-Tbilisi-Ceyhan pipeline.
 - However, Azerbaijan supports Pakistan's position on the **Kashmir issue**.

North South Transport Corridor (NSTC)



- **Pakistan Angle:**
 - India has supported Armenia while Azerbaijan has been supported by Pakistan.
 - Pakistan was the second country to recognize Azerbaijan's independence after Turkey. Also, Pakistan is the only country that **does not recognize Armenia as an independent state** and fully supports Azerbaijan's position.
- **China Angle:**
 - China has grown **increasingly active in the caucasian region**, conducting a number of programs and signing economic, political and military agreements with Armenia. Armenia has also agreed to participate in the Chinese **Belt and Road project**.

Note:

- However, **China is an ally of its rival Azerbaijan** and Armenia is also aware of **its support to Pakistan**.

Green Strategic Partnership between India and Denmark

Why in news

India and the Kingdom of Denmark have launched the **Green Strategic Partnership** for delivering sustainable solutions to India.

- The Ministry of Commerce and Industry has also signed a Memorandum of Understanding (MoU) for **Intellectual Property (IP) Cooperation** with Denmark.

Key Points

- **Green Strategic Partnership:**
 - The Partnership will focus on **expanding economic ties, green growth, and cooperation on global challenges such as climate change**.
 - **Green growth** is a term to describe a path of economic growth that uses natural resources in a sustainable manner.
 - Danish companies with niche technologies and expertise have offered to help India in meeting its **air pollution** control targets, including in the key area of tackling the problem of **burning crop stubble**.
 - Other key points under the partnership include dealing with the **Covid-19** pandemic and **cooperation in water efficiency and water loss**.
 - The creation of **India-Denmark energy parks** in areas with large numbers of Danish firms and an **India-Denmark skill institute** to train Indian manpower has been proposed.
 - The Green Strategic Partnership will build on an existing **Joint Commission for Cooperation** and existing **joint working groups**.
- **Intellectual Property Cooperation:**
 - The MoU aims at increasing IP co-operation between the two countries by way of, exchange of information and best practices on processes for disposal of applications for patents, trademarks, industrial designs, and **Geographical Indications**, and cooperation in the field of protection of Traditional Knowledge.

- It will be a landmark step forward in India's journey towards becoming a major player in global innovation and further the objectives of the **National Intellectual Property Rights Policy, 2016**.

➤ India Denmark Relationship:

- India and Denmark had signed a **Joint Commission for Cooperation** in **February 2009** for cooperation in politics, economics and commerce, science and technology, energy, environment, and education.
- They have **joint working groups** on Shipping; Food, Agriculture and Fisheries; Environment, Biotechnology; New and Renewable Energy; and Labour Mobility.
- Currently, over 140 Danish companies are participating in the **Make in India** initiative.
- However, the relations got affected due to the **non-extradition of the main accused of the Purulia arms drop case** (Kim Davy) to India by Danish Officials.
 - **Purulia arms drop case, 1995:** Unauthorised arms were dropped from an aircraft in Purulia district in the state of West Bengal in India.
 - In the recent meeting for Green Strategic Partnership, both sides agreed that concerned officials will work for an early resolution of the matter.
- India has also invited Denmark to join the **supply chain resilience initiative**, which is proposed between Japan, Australia to diversify supply chains and reduce dependence on any one nation.

Denmark

- **Location:** It is an archipelago of more than 400 islands to the east of the **Jutland peninsula** in Europe.
- **Flag:** 
- **Capital:** Copenhagen
- **Currency:** Danish krone
- **People:** Mostly inhabited by ethnic Danes.
- **Languages:** Danish is official.
- **Religions:** Catholic Christians, Jews.
- **Government:** The Kingdom of Denmark is a **unitary state**.
 - In addition to Denmark proper, two autonomous territories in the North Atlantic Ocean: Greenland and the Faroe Islands.



Note:

- It establishes a **sovereign state** in the form of a **constitutional monarchy**, with a **representative parliamentary system**.
- The Danish parliament is **unicameral** and called the **Folketing**.
- **Others:** Denmark ranked 1st in **Digital Quality of Life 2020**, **Corruption Perceptions Index 2019**, **Environmental Performance Index 2020**, **Global Social Mobility Index 2020**. It also ranked in the **top 10 in the most powerful passports** in 2020 and was one of the **most peaceful countries** according to the **Global Peace Index 2019**.

Referendum on Free Movement: Switzerland-EU

Why in News

In a recent referendum, the Swiss people have **rejected a bid to reduce immigration from the European Union (EU)**. Over five million Swiss voters cast ballots to decide whether to abandon an **agreement with the EU which allows for the free movement of people** across the country.

- **Referendum** is a general vote by the electorate on a single political question which has been referred to them for a **direct decision**.

Key Points

- **Agreement:**
 - **Switzerland is not a member of the EU** but has a **series of inter-dependent treaties with Brussels (EU Headquarter)** which allow it access to Europe's free trade area.
 - **1992-2002:** Switzerland negotiated and signed **first bilateral agreements with the EU**, making them **interdependent and included the free movement** of people which was again backed by a vote in 2000.
 - It is a member of the **EU's Single Market**, which **allows people to move and work freely in all 27 EU countries as well as in Switzerland**.
 - Around 1.4 million out of the 8.2 million people residing in Switzerland are EU citizens and an average of 5,00,000 Swiss citizens are believed to be living in other EU countries at the moment.



- If people choose to end the agreement, the Swiss government will have to **unilaterally void its free movement agreement** with the EU by invoking a so-called **guillotine clause**.

- This clause would have **impacted other bilateral deals on transport, research and trade** with the EU, disrupting economic activity.

Current Referendum:

- The **right-wing Swiss People's Party (SVP)** initiated it, believing that the agreement has resulted in a significant **strain on the welfare system** and has led to **overpopulation** in the country.
 - The vote was initially slated to take place in May but was postponed due to the **Covid-19 pandemic**.
 - A **similar referendum took place in 2014**, where a **majority voted in favour of limiting access of EU citizens** to live and work in Switzerland but **lawmakers refused to enforce** the referendum.
- The move, sometimes called **Swexit**, has **not been very popular** among Swiss voters.
 - A recent survey showed that **more than 60% of respondents were against** it, while a mere 35% backed it and the remaining 5% were undecided.
- **Supporters:**
 - The anti-free movement plan would **allow Switzerland to control its borders and select only the immigrants it wants**.
 - Swiss citizens will also get **preference for jobs and benefits** in the country.

Note:

○ **Opponents:**

- Scrapping the agreement would **severely strain Swiss-EU relations**.
- It would **plunge a healthy economy into recession** at an uncertain time and **deprive** hundreds of thousands of Swiss **citizens of their freedom to live and work across Europe**.

➤ **Other Referendums:**

- The freedom of movement measures were being

considered **alongside four other major nationwide referendums** on paternity leave, tax breaks for child care, the right to hunt wolves and acquisition of around USD 6.5 billion worth of new fighter planes by 2030.

- Swiss people are **given a direct say in their own affairs under the country's system of direct democracy**. They are **regularly invited to vote** on various issues in **national or regional referendums**.



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Note:



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Science and Technology

Highlights

- Stamp on India's First Anti Satellite Missile (A-SAT)
- Phosphine on Venus: A Sign of Life
- Serial Interval and Covid-19
- Pact for Sputnik V Availability in India
- Indian National Space Promotion and Authorization Center
- Biotech-KISAN Programme
- Jasmonate Hormone and Rice Productivity
- India based Neutrino Observatory
- Abhyas High-speed Expendable Aerial Target
- New Brucellosis Vaccine by ICAR
- Modern Grand Solar Minimum
- NASA's Artemis Program
- Science & Technology Indicators, 2019-20
- Data Sonification: NASA
- Scrub Typhus
- UAE's Moon Mission
- Mega Virtual Summit on Artificial Intelligence

Stamp on India's First Anti Satellite Missile (A-SAT)

Why in News

A customized My Stamp on India's First Anti Satellite Missile (A-SAT) launch was released by the Department of Posts on the occasion of the **Engineers Day**.

Engineers Day

- 15th September is observed as Engineer's Day in India to mark the birth anniversary of **Sir Mokshagundam Visvesvaraya** (1861-1962), a civil engineer and statesman.
- He was a pioneer in his field, credited for inventing the **Block System for dams** – the automated doors shut during an overflow.
- He was appointed **Chief Engineer of Mysore State** in 1909, given the status of **Diwan of Mysore** in 1912, awarded the **Bharat Ratna** in 1955.
- His books, "**Reconstructing India**" and "**Planned Economy of India**" were published in 1920 and 1934, respectively.

Key Points

- **My Stamp:** It is the brand name for personalized sheets of Postage Stamps of India Post.
 - 'My Stamp' was first introduced in India during the **World Philatelic Exhibition, 'INDIPEX-2011'**.

➤ A-SAT Missile:

- It is an interceptor missile that destroys or jams satellites in space.

○ Two types of A-SATs:

Kinetic and Non-Kinetic A-SATs.

- **Kinetic A-SATs**, like ballistic missiles, physically strike an object in order to destroy it.
- **Non-Kinetic A-SATs:** A variety of nonphysical means can be used to disable or destroy a space object. These include frequency jamming, blinding lasers or cyberattacks.

Mission Shakti

- Defence Research and Development Organisation (DRDO) successfully conducted India's first Anti-Satellite (A-SAT) missile test '**Mission Shakti**'.
- It was launched from **Dr APJ Abdul Kalam Island** in Odisha on 27th March 2019.
- The interceptor missile was a **three-stage missile with two solid rocket boosters**.
- **Significance:**
 - The **entire effort was indigenous** which demonstrated the Nation's capability to develop such complex and critical missions.
 - With this success, India became the **fourth nation** in the world to possess such a capability.



Note:



- In the case of Pakistan, a terrestrial power, the use of nuclear arsenal can now come at a heavy cost.
- In the case of China, which is a significant space power, counter-space capabilities of India will provide a critical balancing deterrent.

Phosphine on Venus: A Sign of Life

Why in News

Recently, scientists have detected the presence of phosphine in the atmosphere of Venus, which indicates the possibility of the presence of life forms on Venus.

Key Points

- The international scientific team first spotted the phosphine using the **James Clerk Maxwell Telescope (JCMT)** in **Hawaii** and confirmed it **using the Atacama Large Millimeter/submillimeter Array (ALMA)** radio telescope in Chile.
 - JCMT is the **largest astronomical telescope in the world** designed specifically to operate in the submillimetre-wavelength region of the spectrum.
 - ALMA is currently the **largest radio telescope** in the world.
- The researchers **did not discover actual life forms** but noted that, on Earth, phosphine is produced by bacteria thriving in oxygen-starved environments.
- **Biosignatures:** Scientists have used probes and telescopes to seek "**biosignatures**" (indirect signs of life) on other planets and moons in the solar system and beyond.
 - **Phosphine was seen at 20 parts-per-billion in the Venus atmosphere** which is a trace concentration. However, **Venus is considered to be hostile to phosphine** as its surface and atmosphere are rich in oxygen compounds that would rapidly react with and destroy phosphine.
 - **Phosphine acts as a biosignature** because it is known to be **produced mainly through biological processes**, and not through any naturally occurring chemical process.
- **Acid Test:**
 - Scientists have suspected that the Venusian high

clouds, with mild temperatures around, 86 degrees Fahrenheit, could harbour aerial microbes that could endure extreme acidity.

- These clouds are around 90% sulphuric acid and Earth microbes could not survive that acidity.

Phosphine

- Phosphine is a **phosphorus atom with three hydrogen atoms attached** (PH_3) and is **highly toxic** to people.
- On rocky planets such as Venus and Earth, phosphine **can only be made by life** whether humans or microbes.
- Phosphine is **made naturally by some species of anaerobic bacteria/organisms** that live in the oxygen-starved environments of landfills, marshlands, and even animal guts.
 - To produce phosphine, **Earth bacteria take up phosphate from minerals** or biological material and add hydrogen.
- **Phosphine also arises non-biologically in certain industrial settings.**
 - Used as a **chemical weapon during World War I.**
 - Phosphine is still manufactured as an **agricultural fumigant**, is used in the semiconductor industry, and is a by-product of **meth labs**.

Venus

- Venus is Earth's **closest** planetary neighbour and is also known as **earth's twin**.
- Similar in structure but **slightly smaller than Earth**, it is the **second planet from the sun**.
- Early science observations of Venus revealed that it is a menace of a world that could kill life in multiple ways.
- Venus is wrapped in a **thick and toxic** atmosphere that **traps in heat**.
- **High Temperature:** Surface temperatures reach a scorching 880 degrees Fahrenheit, hot enough to melt lead.
- **High Pressure:** Highly dense, **65 miles of cloud and haze**, puts atmospheric pressure **more than 90 times what's felt on Earth's surface**.
- Also, the planet's atmosphere is **primarily suffocating carbon dioxide** and sulfuric acid clouds.

Note:

Serial Interval and Covid-19

Why in News

According to a recent research paper “**Serial Interval of SARS-CoV-2 was Shortened Over Time by Non-pharmaceutical Interventions**”, China was able to contain **Covid-19** due to its ability to manage the serial interval.

Key Points

➤ Serial Interval:

- In simple terms, the serial interval is the gap between the onset of Covid-19 symptoms in Person A and Person B, who is infected by Person A.
- The serial interval **depends on other epidemiological parameters** such as the incubation period and the reproduction rate or **R nought**.
 - The **incubation period** is the time between a person’s exposure to the virus and symptom onset.
 - The **reproduction rate** is the number of people who will be infected by one infected person.

➤ Contribution in Controlling Covid-19:

- The serial interval helps to **gauge the effectiveness of infection control interventions** besides **indicating rising population immunity** and **forecast future incidence**.
- Thus, the **more quickly people** who contracted Covid-19 are **identified and isolated**, the **shorter the serial interval becomes** and cuts down opportunities for transmission of the virus.

Pact for Sputnik V Availability in India

Why in News

The **Russia Direct Investment Fund (RDIF)**, which is piloting **Russia’s Sputnik V vaccine**, has partnered with the **Hyderabad-based Dr. Reddy’s Laboratories** to supply 100 million doses of the vaccine.

Key Points

➤ Sputnik V:

- The Russian vaccine has been named after the **first artificial Earth satellite, Sputnik-I** launched by the Soviet Union.

- It is the **first Covid-19 vaccine** to be approved by any government for common people.
- The Russian vaccine **has outrun other Covid-19 vaccines** like **Oxford-AstraZeneca, Moderna and Pfizer** which are still in trials.
 - India’s **Covaxin** has been approved for **human clinical trials**.
 - Another Indian vaccine **ZyCoV-D** has entered phase I/II of clinical trials.
- It is based on the **DNA** of a **SARS-CoV-2 type adenovirus**, a common cold virus.
 - It uses the **weakened virus** to deliver small parts of a pathogen and stimulate an immune response.
- The **Phase 1 and 2 results have shown promise**.
 - The results of Phase I and Phase II clinical trials of the vaccine were published in *The Lancet*, demonstrating no serious adverse effects and a stable immune response in 100% of the participants.
- **Phase 3 trials will be conducted in India** to meet the requirements of the Indian regulators.
 - Sputnik V vaccine could provide a credible option in India’s fight against Covid-19.
 - India has also **partnered with the USA** for development of Covid-19 vaccine.
- **Regulatory Requirements in India:**
 - The **approval** for a vaccine is given by the **Central Drugs Standard Control Organisation (CDSCO)**.
 - A vaccine, developed outside India, needs to be **tested with late-phase human trials**, usually both phase-2 and phase-3, on an **Indian population** as a part of general requirement.
 - CDSCO can also give **emergency authorisation** without late-phase trials, considering the extraordinary situation.
- **Concerns Regarding the Vaccine:**
 - Experts expressed concerns over the safety and efficacy of the vaccine due to its **extremely fast production and lack of published data** on the vaccine.
 - The late-phase human trials are important because the vaccine’s efficacy can differ on different population groups. After trials, vaccines are given to a large number of people, and the risks involved are much higher if trials are not comprehensive.

Note:



- There are also issues in manufacturing the vaccine in India as there is **no agreement for its production in India**.
 - Pune-based Serum Institute of India, **the world's largest manufacturer of vaccines by volume**, has already entered into tie-ups with developers to mass-produce their vaccines. Other Indian companies have also done similar agreements but there is none with Russia.

Adenovirus Vector Vaccine

- In this vaccine, adenovirus is used as a tool to deliver genes or vaccine antigens to the target host tissue.
- Adenoviruses (ADVs) are **DNA viruses** ranging from 70-90 nanometre in size, which induce many illnesses in humans like cold, respiratory infection etc.
- Adenoviruses are preferred for vaccines because their DNA is **double stranded** which makes them **genetically more stable** and the chances of them changing after injection are lower.
- However, there are drawbacks of adenovirus vector vaccines like **pre-existing immunity in humans and inflammatory responses** which may make vaccines less effective.

Indian National Space Promotion and Authorization Center

Why in News

Recently, the Government of India has created the **Indian National Space Promotion and Authorization Center (IN-SPACe)**, an independent nodal agency under the Department of Space.

- This move is a **part of the reforms announced under the economic stimulus packages**.

Key Points

- IN-SPACe is to be established as a **single-window nodal agency**, with its own cadre, which will **permit and oversee the activities of private companies**.
 - This is part of **reforms aimed at giving a boost to the private sector** participating in space-related activities or using India's space resources.
- **Functions:**

- **Encourage, promote and handhold the private sector** for their participation in the Space Sector.
 - Currently, there are **more than 500 private companies** which partner with the **Indian Space Research Organisation (ISRO)** in carrying out various space activities.
- **Draw up an integrated launch manifest** considering the requirements for ISRO, **New Space India Limited (NSIL)** and private companies based on priorities and readiness level.
- **Work out a suitable mechanism to offer sharing of technology, expertise and facilities on free of cost** wherever feasible or **at reasonable cost** basis to promote private companies.
 - The government will **allow utilising those infrastructures of ISRO which are otherwise not available elsewhere** in India.
- **Permit establishment of facilities**, within ISRO premises, based on safety norms and feasibility assessment.
 - The decision of IN-SPACe shall be **final and binding on all stakeholders including ISRO** and private players will not be required to seek separate permission from ISRO.

Biotech-KISAN Programme

Why in News

As per the recent information shared by the Union Minister of Science and Technology in Lok Sabha, **Biotech-Krishi Innovation Science Application Network (Biotech-KISAN) programme** plays an important role in taking innovative **biotechnologies** to the farmers.

Key Points

- Biotech-KISAN programme is a **farmer-centric scheme** for farmers, developed by and with farmers under the **Department of Biotechnology, Ministry of Science and Technology**.
- It is a **pan-India program**, following a **hub-and-spoke model** and stimulates **entrepreneurship and innovation in farmers** and **empowers women farmers**.
 - It has a **unique feature** to identify and promote local farm **leadership in both genders**. Such leadership helps to develop science-based farming besides facilitating the transfer of knowledge.

Note:

- **Aim:** To understand the problems of water, soil, seed and market faced by the farmers and **provide simple solutions** to them.
- The **Biotech-KISAN hubs** are expected to fulfil the technology required to generate agriculture and bio-resource related jobs and better livelihood ensuring biotechnological benefits to small and marginal farmers.
 - Currently, there are a total of eight Biotech-KISAN Hubs in different Agro-climatic Zones.

Biotechnology in Agriculture

- **Government supports** research institutes, central and state agriculture universities for competitive research and development and demonstration **activities in agriculture biotechnology** including **organic farming**.
 - It has been supported across the country including **Aspirational Districts**.
 - During the last three years, approximately Rs. 310 crores have been invested in supporting the use of biotechnology in agriculture.
 - The **Integrated Human Resource Development Programme** under the Department of Biotechnology has been implemented to **provide biotechnology trained personnel in various fields** including agriculture.
- **Alternative of Conventional Farming:**
 - The **understanding of genetics and biotechnology** could enable farmers to obtain maximum yield from their fields and to minimise the use of fertilisers and chemicals so as to avoid their harmful effects on the environment.
 - **Genetically Modified Organisms'** (GMO) use is a possible solution and an alternative path to conventional farming.
 - GMOs have made crops more tolerant to abiotic stresses, reduced reliance on chemical pesticides, reduced post-harvest losses, increased efficiency of mineral usage by plants and enhanced nutritional value of food.
 - For example, **Bt cotton, Bt Brinjal**, etc.
 - **Genetically Modified Biopesticides** are biologically based agents used for the control of plant pests.
 - They can be **living organisms** (nematodes or micro-organisms) or **naturally occurring substances**, such as plant extracts or insect pheromones which can **provide resistance to insects without the need for chemical insecticides**.

Jasmonate Hormone and Rice Productivity

Why in News

A new study by a team of scientists at **National Institute of Plant Genome Research (NIPGR), New Delhi** suggested that targeting a specific **plant hormone Jasmonate (JA)** would help rice plants have **greater tolerance to potassium (K) deficiency** and improve productivity.

Key Points

- **Findings:**
 - The **overexpression** of a **gene** called **OsJAZ9** helped make rice plants more tolerant of potassium deficiency.
 - There was an enhanced accumulation of **JA-Ile**, a **bioactive** form of the hormone **Jasmonate (JA)**, in OsJAZ9 overexpressing rice, on potassium deficiency.
 - The **JA-Ile** helps in modulating various K transporters and root system architecture.
 - **JA-Ile** contributes to several aspects of plant growth and development and levels increase under stress conditions.
 - The study suggests that targeting research towards **JA** could help achieve both, **nutrient-efficient** crops and **protection against pests**.
 - **JA** is often associated with the plant's **defence against biotic factors** like insects, pests and other pathogens.
- **Potassium:** It is considered a **macronutrient** for plants and is the most abundant cation within plant cells.
 - **Potassium Deficiency:** It affects plants by inhibiting the growth of the roots and the shoots.
 - Studies have shown that plants that are deficient in potassium are more susceptible to salt, drought, chilling and other abiotic and biotic stresses.
 - **Potassium Availability to Plant Roots:** Despite being among the most abundant minerals in the soil, its availability to plants is limited.
 - This is because **most of the soil potassium (about 98%) is inbound forms** and its **release into the soil solution is far slower** than the rate of its acquisition by the roots.

Note:

Macro and Micro-nutrients

- **Macronutrients are divided into two groups:** primary and secondary.
 - **Primary** macronutrients are those which are needed in the highest concentration. For example, **nitrogen (N), phosphorus (P), and potassium (K)**.
 - In fact, these three primary nutrients are needed in higher concentrations than the rest of the macronutrients combined.
 - **Secondary** macronutrients are also required for sustained plant health, but in lower quantities than the primary macronutrients. For example, **Calcium (Ca), Magnesium (Mg), and Sulfur (S)** comprise the secondary macronutrients.
- **Micronutrients** are also essential for **plant development and growth but are needed only in trace amounts**, compared to their macro-counterparts. The **seven critical micronutrients** are:
 - Boron (B).
 - Zinc (Zn).
 - Iron (Fe).
 - Manganese (Mn).
 - Copper (Cu).
 - Molybdenum (Mo).
 - Chlorine (Cl).

India based Neutrino Observatory

Why in News

An **India based Neutrino Observatory** (INO) will be set up in Bodi West Hills, in Theni district, **Tamil Nadu**.

Key Points

- **About** : INO Project is a multi-institutional effort aimed at building a world-class underground laboratory with a rock cover of approx. 1200 m for non-accelerator based high energy and nuclear physics research in India.
- **National Neutrino Collaboration Group (NNCG)**: It includes more than 50 scientists from about 15 Institutes and Universities in India and is tasked with detailing various aspects related to INO activity and come up with a proposal for an underground neutrino laboratory.

- **Funded by**: Dept. of Atomic Energy (DAE) and the Dept. of Science and Technology (DST).
- **Objectives**: INO will observe neutrinos and antineutrinos produced in the atmosphere of the Earth.
- **Features**: The project includes:
 - **Underground laboratory** and associated surface facilities at Bodi West Hills.
 - Construction of a **magnetized Iron Calorimeter (ICAL)** detector for studying neutrinos.
 - When completed, ICAL will have the **world's largest magnet**.
 - Setting up an **Inter Institutional Centre for High Energy Physics (IICHEP)** at Madurai.
- **Advantages**:
 - Will tell us more about the properties of neutrino particles, whose main source is the **Sun and the Earth's atmosphere**.
 - Will help in **developing a model of physics** beyond the so-called Standard Model of Particle Physics.
 - The Standard Model of particle physics is the theory describing three of the four known fundamental forces (the electromagnetic, weak, and strong interactions, and not including the gravitational force) in the universe, as well as classifying all known elementary particles i.e. electrons, protons and neutrons.
 - Will have a great impact on diverse fields such as **nuclear and particle physics, astrophysics and cosmology, medical imaging etc.**
- **Issues Involved**:
 - The project was challenged before the **National Green Tribunal (NGT)** for adversely affecting the ecosystem of Western Ghats. However, it was granted **environmental clearance by NGT**.
 - The **villagers in the Pottipuram Panchayat (at Bodi West Hills)** have been agitating against the proposed observatory under the banner of **Poovulagin Nanbargal** (Friends of the earth).

Neutrinos

- Detected for the first time in 1959, neutrinos are the **second most abundant particles** in the world (about a billion of them pass through a cubic centimeter of space every second), after photons, or the light particle.

Note:

- Neutrinos are **subatomic fundamental particles**, with **no charge and little or zero mass** that interacts only via the weak subatomic force and gravity.
- Neutrinos are created by various radioactive decays; during a supernova, by cosmic rays striking atoms etc.
- They are considered mass less according to the Standard Model of Particle Physics.
- However recent experiments indicate that these charge-neutral fundamental particles have **finite but small mass** which is unknown. Also, different species (or flavours) of neutrinos seem to mix and oscillate into one another as they traverse through the cosmos.
- **Determination of neutrino masses** is one of the most important open problems in physics today. Neutrino Detectors are used to study the details of the interactions of these particles.
- They pass seamlessly through most objects that come in their way, including human beings, machines or the Earth's surface, without being noticed. That is the reason why scientists have to go deep underground to set up special detectors in a bid to catch the faint signals of neutrinos in an environment that is relatively free from 'noise' and disturbance.

Abhyas High-speed Expendable Aerial Target

Why in News

Recently, the **Defence Research and Development Organisation** (DRDO) conducted successful flight-tests of the indigenously-designed **Abhyas High-speed Expendable Aerial Target (HEAT)** in Balasore (Odisha).

- Two demonstrator vehicles of Abhyas cleared all the evaluation parameters like 5 km flying altitude, vehicle speed of **0.5 mach (half the speed of sound)**, endurance of 30 minutes etc.



Key Points

- **Designed and developed by:** Aeronautical Development Establishment (ADE) of DRDO.
 - Aeronautical Development Establishment (ADE)

is a key Aeronautical Systems Design Laboratory under DRDO.

- It is involved in the design and development of the state-of-the-art Unmanned Aerial Vehicles (UAV) and Aeronautical Systems and technologies to meet the requirements of the **Indian Armed forces**.
- **Features:**
 - It is a **drone (UAV)** that will be used as a **target for various missile systems**.
 - It is powered by a small gas turbine engine.
 - Navigation by **Micro-electromechanical (MEMS)** systems based **Inertial Navigation System (INS)** for navigation.
 - MEMS is a process technology used to create tiny integrated devices or systems that combine mechanical and electrical components.
 - It is lightweight and reliable, consumes less power and is cost-effective.
 - Programmed for **fully autonomous flight**.
- **Uses:** As a **target for evaluation of various Missile systems**.
- **Background:** This is the second time that the target vehicle was flight-tested successfully. The **first successful test was in May 2019**.
- **Others:** Recently, the DRDO successfully flight tested the **Hypersonic Technology Demonstrator Vehicle (HSTDV)**.

New Brucellosis Vaccine by ICAR

Why in News

Recently, "**Brucella abortus S19Δ per vaccine**" has been developed by the **Indian Council of Agricultural Research-Indian Veterinary Research Institute (ICAR-IVRI)** for **brucellosis** prevention in the **dairy sector**.

Key Points

- **Brucellosis:** It is a **bacterial disease** caused by various **Brucella species**, which mainly infect **cattle, swine, goats, sheep and dogs**.
 - It is also known as **Malta fever** or **Mediterranean fever**.
 - Brucellosis is a **zoonotic disease** and **endemic in India** causing **huge economic losses to the dairy industry due to:**

Note:



- Infertility.
 - Abortion.
 - Birth of weak offsprings.
 - Reduced productivity.
- **Old Vaccine:**
- **B. abortus S19 Strain:** In India, **calf-hood vaccination** is practised using **live attenuated Brucella abortus S19 strain** for control of the disease.
 - B. abortus S19 strain is a **very strong immunogen** and **provides lifelong immunity**.
 - **Drawbacks:**
 - Residual virulence to humans and animals.
 - Not suitable for vaccination in adult animals.
 - Causes abortion when used in pregnant animals.
 - Interferes with serodiagnosis of clinical infection.
- **New Vaccine:** To overcome some of these drawbacks, a **modified strain of B. abortus S19 has been developed** at ICAR-IVRI. The newly developed strain is named as **B. abortus S19Δ per**.
- It is developed under the **Department of Biotechnology (DBT)** funded “**Brucellosis Network Programme**”.
 - The programme **aims at studying the epidemiological status of Brucella** infections in India and to develop novel diagnostics and vaccines.
 - In the process of modifying the S19 strain, **lipopolysaccharide (LPS) structure of the organism was altered through deletion mutation**.
 - Lipopolysaccharide is the **major component of the outer membrane of Gram-negative bacteria**.
 - A **deletion mutation** occurs when **part of a DNA molecule is not copied** during DNA replication.
 - Vaccine potential of S19Δ per has been evaluated in experimental small animal models and also in buffalo calves.
 - The vaccine has **great demand** in India and will be of **immense help in the national control programme** on brucellosis.
 - The vaccine has **DIVA capability**.
 - DIVA means “**Differentiating Infected from Vaccinated Animals**”. These vaccines, also termed as **marker vaccines**, can **differentiate between naturally infected and vaccinated animals**.

Infection to Humans

- Brucellosis has **infected over 3000 people in China**.
- Humans generally acquire the disease through:
 - Direct contact with infected animals.
 - Eating, drinking **contaminated** animal products, unpasteurized milk.
 - **Inhaling airborne agents**.
- The **US Centers for Disease Control and Prevention** states that person-to-person transmission of brucellosis is “**extremely rare**” but some symptoms may reoccur or never go away.
- **Symptoms** include **fever, sweats, malaise, anorexia** (a psychological disorder in which one eats less due to fear of weight gain), **headache** and **muscle pain**.
- Treatment and Prevention:
 - It is usually treated with **antibiotics**, including **rifampin and doxycycline**.
 - **Avoiding unpasteurised dairy products** and **taking safety precautions** such as wearing rubber gloves, gowns or aprons, **when handling animals or working in a laboratory** can help prevent or reduce the risk of getting brucellosis.
 - Other preventive measures include **cooking meat properly, vaccinating domestic animals**, etc.

Modern Grand Solar Minimum

Why in News

The magnitude of the Sun’s solar activity is decreasing. This **period of decreased solar activity** is known as the **Modern Grand Solar Minimum** that will last from **2020 to 2053**.

Key Points

- **Measurement of Solar Activity:** This is done by observing the number of **sunspots** at any given time. The **number of sunspots is directly proportional to solar activity**. More sunspots mean more solar activity.
 - Sunspots (some as large as 50,000 km in diameter) are areas that **appear dark on the surface of the Sun** (photosphere). They appear dark because they are **cooler than other parts of the Sun’s surface**.
 - Sunspots are relatively cool because they form at areas where **magnetic fields are particularly strong**. These magnetic fields are so strong that

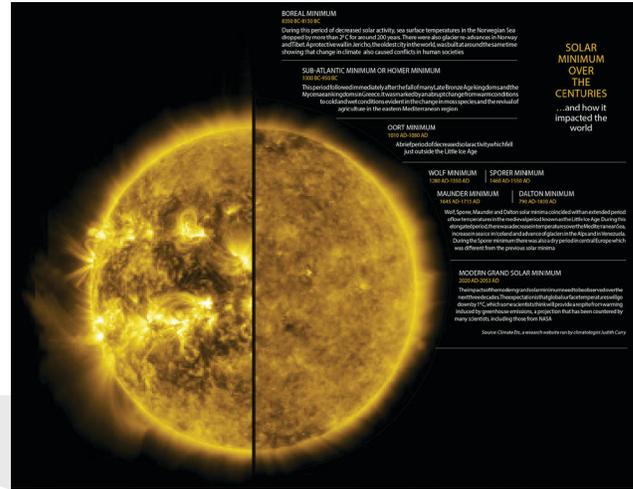
Note:

they keep some of the heat within the Sun from reaching the surface.

- **Decrease in Sunspots:** According to the USA's **National Oceanic and Atmospheric Administration (NOAA)**, 71% of the Sun had no sunspots in 2020 on 21st September 2020 as compared to 77% on the same day in 2019.
- **Possible Reason:**
 - 2020 marks the beginning of the **11th solar cycle**. The beginning of a solar cycle is a **solar minimum**, or when the Sun has the sunspots and thus, least activity.
 - Solar Cycle is the **periodic flipping of the magnetic field of the Sun that occurs every 11 years or so**, in which the north and south poles of the Sun change positions.
 - The **middle of the solar cycle is the solar maximum**, or when the Sun has the most sunspots.
- **Maunder Minimum:** The last time such an event occurred was during the **Maunder Minimum**, from **1645 CE to 1710 CE**. That period is a part of the **Little Ice Age** (from 1300 CE to around 1850 CE) when Earth went through a series of elongated cold periods.
- **Impact:**
 - The **surface temperatures on Earth may go down** during the Modern Grand Solar Minimum due to a **70% reduction in solar magnetic activity**.
 - Variations in solar irradiance lead to heating of the upper layer of the Earth's atmosphere and influence the **transport of solar energy towards the planet's surface**.
 - Decreased solar activity has complex impacts on the **abundance of ozone in the Earth's atmosphere**.
 - It also **affects the climatic cycles of Earth** such as the **North Atlantic Oscillation (NAO)**.
 - NAO is an **irregular fluctuation of atmospheric pressure** over the North Atlantic Ocean that has a strong effect on winter weather in Europe, Greenland, northeastern North America, North Africa, and northern Asia.
- **Impact on Global Warming:**
 - It is possible that the cooling due to the solar minimum **may offset the rising temperatures due to global warming**.
 - However, the **National Aeronautics and Space Administration (NASA)** has dismissed this and

said the decrease in climate crisis **would only be worth as much as three years of carbon dioxide growth in the atmosphere**.

- According to NASA, the impact of global warming would be **six times greater** than the cooling caused by the Grand Solar Minimum.



NASA's Artemis Program

Why in News

Recently, the **National Aeronautics and Space Administration (NASA)** has published the outline for its **Artemis program**, which plans to send the next man and the first woman to the lunar surface by the year 2024.

- The **last time NASA sent humans** to the Moon in **1972**, during the **Apollo lunar mission**.

Key Points

- **Artemis program:**
 - With the **Artemis program**, NASA wishes to demonstrate new technologies, capabilities and **business approaches** that will ultimately be needed for the future exploration of Mars.
 - It stands for **Acceleration, Reconnection, Turbulence, and Electrodynamics of the Moon's Interaction with the Sun**.
 - The program is divided into **three parts**:
 - **Artemis I** is most likely to be launched in 2021 and involves an uncrewed flight to test the **Space Launch System (SLS)** and **Orion** spacecraft.
 - **Artemis II** will be the first crewed flight test and is targeted for 2023.

Note:



- **Artemis III** will land astronauts on the Moon's South Pole in 2024.
- **Systems Developed:**
 - For NASA, going to the moon involves **various elements such as:**
 - The **exploration ground systems** (the structures on the ground that are required to support the launch).
 - The **SLS and Orion spacecraft.**
 - NASA's new rocket called SLS will send astronauts aboard the Orion spacecraft.
 - **Gateway** (the lunar outpost around the Moon).
 - **Lunar landers** (modern human landing systems).
- **NASA and the Moon:**
 - The US began trying to put people in space as early as **1961**. Eight years later, on **20th July 1969**, **Neil Armstrong** and **Edwin "Buzz" Aldrin** became the first humans to step on the Moon as part of the **Apollo 11 mission**.
 - Apart from the purpose of **space exploration**, NASA's endeavour to send Americans to the Moon again is to demonstrate American **leadership in space** and to establish a strategic presence on the Moon, while expanding its global economic impact.
 - Apart from the USA, the **European Space Agency, Japan, China, and India** have sent missions to explore the Moon
- **ISRO's Moon Exploration:**
 - **Chandrayaan 1:**
 - It **began in 2007** with an agreement between India's space agency **Indian Space Research Organisation (ISRO)** and **Russia's ROSCOSMOS** for mutual cooperation.
 - However, the mission was postponed in January 2013 and rescheduled to 2016 as Russia was unable to develop the lander on time.
 - **Findings:**
 - Confirmed **presence of lunar water**.
 - **Evidence of lunar caves** formed by an ancient lunar lava flow.
 - **Past tectonic activity** was found on the lunar surface.
 - The **faults and fractures discovered** could be features of past interior tectonic activity coupled with meteorite impacts.

- **Chandrayaan 2:** It is India's second mission to the moon and comprises a fully indigenous Orbiter, **Lander (Vikram) and Rover (Pragyan)**.
 - The Rover (Pragyan) is housed inside the lander.
- **Chandrayaan-3:** It has been recently announced by the ISRO and will comprise a lander and a rover.

Science & Technology Indicators, 2019-20

Why in News

According to the latest **Science & Technology Indicators (STI) report** for 2019-20, India performs very dismally in the field science & technology innovation.

- The STI report is released by the **Department of Science and Technology (DST)**.

Key Points

➤ Patent Data:

- Between 2005-06 and 2017-18, a total of 5,10,000 patent applications were filed in India. However, nearly **three-quarters** were filed **by foreign entities or individuals**.
- In other words, in these 13 years, **just 24% of patent claims came from Indians**.
- Patent filing in India is governed by **Patents Act, 1970**. Recently, the **Office of the Principal Scientific Adviser** to the Government of India and the **DST** have jointly initiated the formulation of a new national **Science Technology and Innovation Policy (STIP 2020)**.
 - A **patent** is the granting of a **property right** by a sovereign authority to an inventor.
 - This grant provides the inventor **exclusive rights** to the patented **process, design, or invention** for a **designated period** in exchange for a comprehensive disclosure of the invention.
- According to the **World Intellectual Property Organisation (WIPO)**, **India** stands at the **7th position on number of patents filed**.
 - **China tops the list**, followed by the USA and Japan.
- **Reasons for Dismal Performance:**
 - **Poor investment in research and development (R&D)** by the government, and the private sector.

Note:

- The **pathetic state of higher education**.
- **Lack of employable personnel**, who have neither the skills nor the aptitude in a variety of fields.
- **Lack of funds** and a **lack of conducive environment** for start-ups.
- **Suggestions:**
 - To spark the innovation in India, **research content** at major institutions, especially at universities, **needs to be increased**.
 - The **national labs can be linked to universities** to create new knowledge ecosystems.
 - Greater **public engagement of the science and research establishment** and **attracting more scientists** from across the world in India.
 - Increasing **scientific temper** among students.
 - Strengthening **higher education** in India.
 - There is a need to **increase funding in R&D** and to create a conducive environment for innovation.
 - Participation of the private sector in R&D needs to be increased.

Data Sonification: NASA

Why in News

The **National Aeronautics and Space Administration's (NASA) Chandra X-Ray Center (CXC)** has unveiled a new 'sonification' project that **transforms data from astronomical images into audio**.

Key Points

- **Data Sonification:**
 - It refers to the use of **sound values to represent real data**.
 - It is the auditory version of data visualisation.
 - In NASA's **Chandra (sonification) project**, for instance, data is represented using a number of **musical notes**.
 - The birth of a star, a cloud of dust or even a black hole can be 'heard' as a high- or low-pitched sound.
- **Process of images into sound translation:**
 - Telescopes in space collect digital data, in the form of **ones and zeroes (binary)**, before converting them into images.
 - The images are **visual representations of light and radiation of different wavelengths** in space, that can't be seen by the human eye.

- The Chandra project has created a celestial concert by translating the same data into sound. **Pitch and volume** are used to denote the **brightness and position** of a celestial object or phenomenon.
 - **Pitch** is related to frequency of sound waves. Changing the number of vibrations per second changes the pitch.
 - **Volume**, or loudness, is related to the strength, intensity, pressure, or power of the sound. Bigger/ amplified vibrations result in bigger/ louder sounds.
- The data has been collected by NASA's Chandra X-Ray Observatory, Hubble Space Telescope and **Spitzer Space Telescope**.
- Thus far, Project Chandra has released three examples - the Galactic Centre, Cassiopeia A, and Pillars of Creation Nebula.
 - **The Galactic Centre**
 - It is the rotational centre of the **Milky Way galaxy**.
 - It comprises a collection of celestial objects —
 - Neutron and **white dwarf stars**,
 - Clouds of dust and gas,
 - A supermassive black hole called **Sagittarius A*** (weighs four million times the mass of the sun).
 - **Cassiopeia A**
 - Located around **11,000 light years away from Earth** in the **northern Cassiopeia constellation**.
 - Cassiopeia A is a well-known **remnant** of a once-massive star that was destroyed by a supernova explosion around 325 years ago.
 - **The Pillars of Creation**
 - The iconic Pillars of Creation is located in the **centre of the Eagle Nebula** (it is a constellation of stars), which is also known as **Messier 16**.
- **Significance of Data Sonification:**
 - The sonification project was led by the Chandra X-ray Center in collaboration with NASA's **Universe of Learning Program (UoL)**, which aims to "incorporate NASA science content into the **learning environment effectively and efficiently** for learners of all ages".
 - Over the years, NASA has been working towards making data about space accessible for a larger audience.
 - Sonification projects like this allow audiences - including **visually-impaired communities** - to experience space through data.

Note:



Chandra X-ray Project

- The Chandra X-ray Observatory was launched by Space Shuttle Columbia in 1999.
- The Chandra X-ray Observatory is **part of NASA's fleet of "Great Observatories"** along with the Hubble Space Telescope, the Spitzer Space Telescope.
- The "X-ray universe" refers to the universe as observed with telescopes designed to detect X-rays. X-rays are produced in the cosmos when matter is heated to millions of degrees. Such temperatures occur where high magnetic fields, or extreme gravity, or explosive forces exist in space.
- The telescope is **named after the Nobel Prize-winning Indian astrophysicist Subrahmanyan Chandrasekhar**.
 - Subrahmanyan Chandrasekhar's work implied that stars more massive than the so-called Chandrasekhar limit would eventually collapse to become objects so dense that not even light could escape it.
 - **Chandrasekhar limit** is the theoretical maximum mass a white dwarf star can have and still remain a white dwarf.
 - Although this finding was received with some skepticism at the time, it went on to form the foundation of the theory of black holes, eventually earning him a Nobel Prize in physics for **1983**.

The Hubble Space Telescope

- It is one of the largest and most versatile telescopes in service.
- It is a space telescope that was launched into **low Earth orbit** (540km above Earth) in 1990.
- Hubble's four main instruments observe in the near ultraviolet, visible, and near infrared spectra.

Black Holes

- The term '**black hole**' was coined in the mid-1960s by American Physicist John Archibald Wheeler.
- It refers to a point in space where the matter is so compressed as to create a gravity field from which even light cannot escape.
- Black-holes were **theorized by Albert Einstein in 1915**.

Supernova

- A supernova is the **explosion of a star**. It is the largest explosion that takes place in space.

- A supernova happens where there is a change in the core, or centre, of a star.

Neutron stars

- Neutron stars comprise one of the possible evolutionary end-points of high mass stars.
- Once the core of the star has completely burned to iron, energy production stops and the core rapidly collapses, squeezing electrons and protons together to form neutrons and neutrinos.
- A star supported by neutron degeneracy pressure is known as a 'neutron star', which may be seen as a pulsar if its magnetic field is favourably aligned with its spin axis.

Scrub Typhus

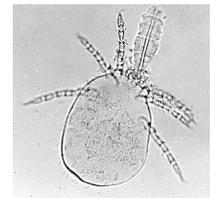
Why in News

An outbreak of **Scrub Typhus** (also known as **Bush Typhus**), a bacterial disease, has caused 5 deaths and 600 infections in Nagaland's Noklak district bordering Myanmar.

- The **North East Region** is also suffering from an outbreak of diseases like **malaria**, **Japanese encephalitis** and **Covid-19** pandemic.
- The cattles have also been affected by **African swine fever**.

Key Points

- **Caused By:** *Orientia tsutsugamushi* (Bacteria)
- **Spread:** Through bites of Larval Mites of family **trombiculid**, also called **Chiggers**.
- **Symptoms:** Fever, headache, body aches, and sometimes rash.
- **Occurrence:** Rural areas of Southeast Asia, Indonesia, China, Japan, India, and northern Australia.
- **Treatment:** Antibiotics. No vaccine available.



Typhus

- Typhus is a group of bacterial infectious diseases that include epidemic typhus, scrub typhus, and murine typhus.
 - **Epidemic typhus** is due to *Rickettsia prowazekii* spread by body lice.

Note:

- **Scrub typhus** is due to *Orientia tsutsugamushi* spread by chiggers.
- **Murine typhus** is due to *Rickettsia typhi* spread by fleas.
- **Napoleon's** army was infected with Epidemic Typhus during his invasion of Russia in 1812 causing it to retreat.

UAE's Moon Mission

Why in News

Recently, the **United Arab Emirates (UAE)** has decided to send an **unmanned spacecraft to the moon in 2024**.

Key Points

- **Name:** The rover would be named **Rashid** after **Sheikh Rashid bin Saeed Al Maktoum**, one of the original founding rulers of the UAE.
 - **Rover** is a vehicle for exploring the surface of a planet or moon.
- **Aim:** The rover will **explore the surface of the moon in areas that have not been explored** previously by human missions such as **NASA's Apollo**.
- **Fourth Nation:** If successful in 2024, the **UAE could become the fourth nation to land a spacecraft on the moon** after the **USA, the former Soviet Union and China**.
 - **India, Israel and Japan have tried but failed** in landing a spacecraft on the moon.
 - India has planned a new moon mission named **Chandrayaan-3**. It is likely to be **launched in early 2021**. It will be a mission **repeat of Chandrayaan-2** and will include a **Lander and Rover** similar to that of Chandrayaan-2, but will **not have an orbiter**.
 - **Artemis** is a crewed spaceflight program of **NASA** that has the goal of landing "the first woman and the next man" on the Moon, specifically at the lunar south pole region by 2024.



UAE's Space Mission

- In July 2020, the UAE launched a **Mars probe named Amal (Hope)** from Japan, marking the **Arab world's first interplanetary mission**.
 - Amal is set to reach Mars in February 2021, the year UAE will celebrate 50 years of its formation.
 - UAE has also set a **goal to build a human colony on Mars by 2117**.
 - UAE is a **federation of seven sheikhdoms** on the Arabian Peninsula.
- In 2019, the **UAE sent its first astronaut to the International Space Station**.

Mega Virtual Summit on Artificial Intelligence

Why in News

The Ministry of Electronics and Information Technology (MeitY) and **NITI Aayog** will organize a Mega Virtual Summit on **Artificial Intelligence (AI)**, **RAISE 2020- 'Responsible AI for Social Empowerment 2020'**, from October 5-9, 2020.

Key Points

- RAISE 2020 is a first of its kind, global meeting of minds on Artificial Intelligence to drive India's vision and roadmap for **social transformation, inclusion and empowerment through responsible AI**.

Artificial Intelligence

- It describes the action of machines accomplishing tasks that have historically required human intelligence.
- It includes technologies like machine learning, pattern recognition, big data, neural networks, self algorithms etc.
- **Example:** Facebook's list of suggested friends for its users, self-driving cars, etc.
- **Concerns:**
 - AI automates processes and reduces human error but the principal limitation of AI is that it learns from the data. This means any **inaccuracies** in the data will be reflected in the results.
 - It is important to make AI responsible as it can be misused for various purposes like **Deep Fakes, Cybercrimes, Social Manipulation** etc.

Note:



- This includes using AI in areas like **Health, Agriculture, Education, Skilling, Mobility, Fintech, Research, Inclusive AI, Future of Work**, among others.
 - The event will witness participation from **global industry leaders, key opinion makers, Government representatives and academia**.
 - It will also feature some **startups** working in AI-related fields.
 - **India in AI:**
 - Industry analysts predict that AI could add up to 957 billion USD to India's economy by 2035.
- India can leverage AI for inclusive development, representing the country's '**AI for All**' strategy.
 - India has launched **National AI Strategy** and National AI Portal and has also started leveraging AI across various sectors such as education, agriculture, healthcare, e-commerce, finance, telecommunications, etc.
 - Recently, India joined the '**Global Partnership on Artificial Intelligence (GPAI)**' as a founding member to support the responsible and human-centric development and use of Artificial Intelligence (AI).



Note:

Environment and Ecology

Highlights

- *Living Planet Report: WWF*
- *Morphological Phenotypic Plasticity in Kalinga Frog*
- *Phytoplankton Biomass in Bay of Bengal*
- *Reversing Global Wildlife Decline*
- *Wetlands Conservation*
- *Eight Indian Beaches Recommended for Blue Flag*
- *Nandankanan Zoological Park: Odisha*
- *African Elephant Deaths Due to Cyanobacteria*
- *Komodo Dragon*
- *EPCA on Early Burning of Crop Residue*
- *World Risk Index 2020*
- *Pusa Decomposer to Curb Stubble Burning*
- *Fridays For Future Movement*
- *Whale Mass Strandings*
- *China's Renewed Support for Paris Agreement*
- *Leuser Ecosystem*
- *Climate Change and Forest Fire Link*
- *Sandalwood Spike Disease*
- *Six Mega Projects in Uttarakhand: Namami Gange Mission*
- *Campaign to Remove Lantana: Rajasthan*

Living Planet Report: WWF

Why in News

According to the *Living Planet Report, 2020* released by the **World Wide Fund for Nature**, the population of vertebrate species has largely declined in the past half-century.

- **Vertebrates** are animals that have **backbones or vertebral columns**. They are also characterized by a muscular system consisting primarily of bilaterally paired masses and a central nervous system partly enclosed within the backbone.

World Wildlife Fund for Nature

- It is the **world's leading conservation organisation** and works in more than 100 countries.
- It was **established in 1961** and is headquartered at **Gland, Switzerland**.
- Its **mission is to conserve nature** and reduce the most pressing threats to the diversity of life on Earth.
- It collaborates at every level with people around the world to develop and deliver innovative solutions which protect communities, wildlife, and the places in which they live.

Key Points

- **Methodology:** The Report used the **Living Planet Index (LPI)** to calculate the decline in vertebrate species.
 - **Living Planet Index:** It is a measure of the state of the world's biological diversity based on population trends of vertebrate species in terrestrial, freshwater and marine habitats.
 - It is released by **Institute of Zoology (Zoological Society of London)**
- **Findings:**
 - It shows an average **68% decline in global vertebrate species populations**, between 1970 and 2016. In the Asia Pacific, the decline stands at 45%.
 - A 94% decline in the LPI for the **tropical subregions of the Americas** is the largest fall observed in any part of the world.
 - **Freshwater species populations** have reduced by 84% on average since 1970.
 - Freshwater species populations are being lost faster than terrestrial or marine species. According to the **International Union for Conservation of Nature (IUCN)**, almost 1/3rd of freshwater species are now threatened with extinction.
 - Wildlife populations in freshwater habitats suffered a decline of 84%, equivalent to 4% per year, particularly in Latin America and the Caribbean.

Note:



- **Megafauna**, or **bigger species in terms of size**, are more vulnerable because they were subjected to intense anthropogenic threats and overexploitation.
 - For example, large fish are also heavily impacted by dam construction which blocks their migratory routes to spawning and feeding grounds.
- Since 1970, **Ecological Footprint** has exceeded the Earth's rate of regeneration.
 - The human enterprise currently demands **1.56 times more than the amount that Earth can regenerate**. It is like living off 1.56 Earths.
- **Threats to Biodiversity:**
 - **Changes in Land and Sea Use, including Habitat Loss and Degradation:** This refers to the modification of the environment where a species lives, by complete removal, fragmentation or reduction in quality of key habitat.
 - **Species Overexploitation:** Direct overexploitation refers to unsustainable hunting and poaching or harvesting. Indirect overexploitation occurs when non-target species are killed unintentionally.
 - **Pollution:** Pollution can directly affect a species by making the environment unsuitable for its survival. It can also affect a species indirectly, by affecting food availability or reproductive performance.
 - **Invasive Species and Disease:** Invasive species can compete with native species for space, food and other resources, can turn out to be a predator for native species, or spread diseases that were not previously present in the environment. Humans also transport new diseases from one area of the globe to another.
 - **Climate Change:** As temperatures changes, some species will need to adapt by shifting their range to track a suitable climate. The effects of climate change on species are often indirect. For example, change in **migratory patterns of birds**.

Morphological Phenotypic Plasticity in Kalinga Frog

Why in News

Recently, Indian scientists from the **Zoological Survey of India, Pune** have reported a first-of-its-kind discovery of **morphological phenotypic plasticity (MPP)** in the **Kalinga cricket frog**.

Key Points

- **Kalinga Cricket Frog:**

 - **Scientific Name:** *Fejervarya kalinga*.
 - It is a recently identified species which was documented in 2018.
 - It was **thought to be endemic only to the higher-elevation hill ranges of the Eastern Ghats** in Odisha and Andhra Pradesh.
 - Cricket frogs are **indicators of a healthy ecosystem** and live in **wide habitat ranges** in agricultural fields, streams, swamps and wetlands.
- **Latest Findings:**
 - It has been **reported from the central Western Ghats**, with the evidence of considerable MPP.
 - Its physical characteristics are **entirely different from the other known *Fejervarya/Minervarya* species from the Western Ghats**.
 - *Fejervarya* is a genera of frogs in the family Dicroglossidae found in Asia.
 - *Minervarya* is a genus of frogs in the family Dicroglossidae.
 - It was the **only genetic analysis that helped prove that physically different-looking frogs from eastern and western ghats were the same**.
- **Morphological Phenotypic Plasticity:**
 - **Phenotypic plasticity** is the ability of an organism to change in response to stimuli or inputs from the environment.
 - The response may or may not be adaptive, and it may involve a change in morphology (MPP), physiological state, or behavior, or some combination of these, at any level of organisation, the phenotype being all of the characteristics of an organism other than its genes.
 - **MPP** is the ability of an organism to show **drastic morphological (physical features) variations in response to natural environmental variations or stimuli**.
- **Significance of the Discovery:**
 - The behavioural studies of many *anuran* (frog or toad) species will **help in generating information on the selection of breeding sites, courtship patterns and ecological adaptations**.

Note:

- The information will not only help to **trace the distribution of these species along the peninsular region** of India but could also be used to **evaluate the possible links with other species** that were found in the Northeast region.
- In this era of 'mass extinction of smaller vertebrates' and 'rapid climate change' scenarios, the report is a **first-of-its-kind in Indian amphibian research history**.
- More Research Needed:
 - The study also emphasises that there is an **urgent need to address or solve problems related to taxonomic uncertainties**.
 - Researchers are **trying to understand the possibilities of this split between two populations due to the Deccan Trap formation** (volcanic/igneous region).
 - **Usually, such kind of habitat expansion** requires more nuclear gene divergence.
 - The currently found differences are not due to just a habitat expansion because there is very less genetic divergence.
 - Another important question is **how this little genetic divergence is leading to such contrasting morphological adaptations** in these two **biogeographic zones**, the Western and Eastern Ghats.
 - Biogeographic zones are the large distinctive units of similar ecology, biome representation, community and species.
 - Also, there is a need for more research on the **isolation of these two populations due to climate change**.

Western and Eastern Ghats

- The Western Ghats and the Eastern Ghats are the two different biogeographic zones, with unique histories.
- While the **Western Ghats are considered as a biodiversity hotspot**, that is **not the case with the Eastern Ghats**.
- Geologically, the **Western Ghats are ancient**, having Gondwanaland relict forests in the south, while the formation of the **Eastern Ghats is recent**.
- Both landscapes have unique ecosystems, with special microclimates and microhabitats that support a great number of diversities including amphibians.

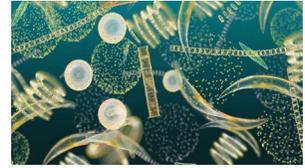
Phytoplankton Biomass in Bay of Bengal

Why in News

A team of scientists from the **Indian National Centre for Ocean Information Services (INCOIS)** have discovered a way to measure the quantity of **chlorophyll-a** that indicates abundance of **phytoplanktons** in the Bay of Bengal in real-time.

Key Points

- **Phytoplanktons:** They are tiny microscopic floating plants found in water bodies.
 - Study of phytoplankton biomass is done by analyzing **chlorophyll-a**, a dominant pigment found in phytoplankton cells.
 - **Significance of Phytoplanktons:**
 - They contribute more than half of the **oxygen** in the environment.
 - They **reduce global warming** by absorbing human-induced carbon dioxide.
 - They also serve as the base of the **ocean food chain**.
 - They are important **bioindicators** regulating life in oceans. Their abundance determines the overall health of the ocean ecosystem.
- **Study:** The scientists closely tracked the **long-term trends of chlorophyll-a in the northwestern Bay of Bengal**.
 - It was based on **in-situ and satellite data** spanning over the last 16 years, from Jan 2003 to Dec 2018.
 - **National Aeronautics and Space Administration (NASA)'s MODIS (Moderate Resolution Imaging Spectroradiometer)**, NASA's VIIRS (Visible Infrared Imaging Radiometer Suite) sensor and **Indian Space Research Organisation (ISRO)'s OCM-2 (Ocean Colour Monitor-2)** were used for satellite data.
- **Findings:** There were **two peaks of chlorophyll-a** — the primary peak occurred during the **pre-southwest monsoon** due to the recurrent phytoplankton bloom in the coastal water and the secondary peak occurred during the **end of the southwest monsoon**, spreading to far offshore areas.

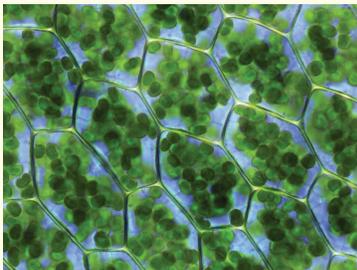


Note:

- **Reasons:** Along with **increase in phytoplanktons**, other reasons for peak in chlorophyll-a may be **physical forces** such as upwelling, wind-induced vertical mixing, convective overturn and **chemicals** from various sources including river runoff.
- **Conclusions:**
 - **Increased Nutrients and More Phytoplanktons:** It reveals that the study area experienced **maximum spatial variability during pre-southwest monsoon with salinity, and nutrients**, the major controlling factors for the abundance and distribution of phytoplankton.
 - **Chances of Eutrophication:** Increase in nutrients could tell an overall improved health status of the ecosystems as a whole; at the same time excessive phytoplanktons could be detrimental to ocean health because of eutrophication.
 - **Eutrophication:** When a water body becomes overly enriched with minerals and nutrients which induce excessive growth of algae or **algal bloom**.
 - This process also results in oxygen depletion of the water body affecting other aquatic animals.

Chlorophyll

- Chlorophyll is the major pigment used by plants for **photosynthesis**, the process by which **light energy is converted to chemical energy** through the synthesis of organic compounds.
- The word chlorophyll comes from two Greek words; Chloros which means green and phyllon which means leaf.
- There are **four types** of chlorophyll:
 - **Chlorophyll a**, found in all **higher plants, algae and cyanobacteria**.
 - **Chlorophyll b**, found in **higher plants and green algae**.
 - **Chlorophyll c**, found in **diatoms, dinoflagellates and brown algae**; and
 - **Chlorophyll d**, found only in **red algae**.



Reversing Global Wildlife Decline

Why in News

Wildlife populations have fallen by **more than two-thirds** over the **last 50 years**, according to a **Living Planet Report 2020** of the **World Wildlife Fund**.

Key Points

- **Findings:**
 - **Related to Biodiversity:**
 - There has been a **reduction of 68% in the global wildlife population between 1970 and 2016**.
 - **The highest biodiversity loss due to land use change:** (1) Europe and Central Asia at 57.9 %; (2) North America at 52.5 %; (3) Latin America and Caribbean at 51.2 %; (4) Africa at 45.9 %; (5) Asia at 43%.
 - The **sharpest declines** have occurred throughout the world's **rivers and lakes**, where **freshwater wildlife has plummeted by 84%** since 1970 — about **4% per year**.
 - **Related to Land and Oceans:**
 - **75% of the Earth's ice-free land surface** has already been significantly **altered**.
 - Most of the **oceans are polluted**.
 - More than **85% of the area of wetlands has been lost** during 1970-2016.
- **India's scenario:**
 - India has 2.4% global land share, about 8% global biodiversity and around 16% global population
 - However, it has lost 12% of its wild mammals, 19% amphibians and 3% birds over the last five decades.
 - India's **ecological footprint per person is less than 1.6 global hectares (gha) / person** (smaller than that of many large countries). But, its high population size has made the gross footprint significantly high.
 - **Ecological Footprint:** It is the amount of the environment necessary to produce the goods and services necessary to support a particular lifestyle.
- **Factors responsible for this decline:**
 - Changes in how land is used — from pristine forest to cropland or pasture — rank among the greatest threats to biodiversity on land worldwide.

Note:

- Use and trade of wildlife.
- Natural habitat loss.
- Degradation and deforestation driven by food production processes.
- **Need for Conservation Efforts:**
 - Because the **health of nature is intimately linked to the health of humans.**
 - The **emergence of new infectious diseases like Covid-19** tend to be related to the destruction of forests and wilderness.
 - Healthy ecosystems are the foundation of today's global economies and societies, and the ones we aspire to build.
 - As more and more species are drawn towards extinction, the very life support systems on which civilisation depends are eroded.
 - As per the World Economic Forum, biodiversity loss is a disturbing threat with few parallels like extreme weather events, climate change, severe income inequality etc.

Biodiversity

- It refers to **all the varieties of life that can be found on Earth** (plants, animals, fungi and microorganisms) as well as to the **communities that they form and the habitats in which they live.**
- **As per the Convention on Biological Diversity (Article 2):** Biological Diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.
- It can be understood at three levels:
 - **Species diversity** refers to the variety of different species (plants, animals, fungi and microorganisms) such as palm trees, elephants or bacteria.
 - **Genetic diversity** corresponds to the variety of genes contained in plants, animals, fungi and microorganisms. It occurs within a species as well as between species.
 - **Ecosystem diversity** refers to all the different habitats - or places - that exist, like tropical or temperate forests, hot and cold deserts, wetlands, rivers, mountains, coral reefs, etc.

Convention on Biological Diversity

- The **Convention on Biological Diversity (CBD)**, a **legally binding treaty** to conserve biodiversity has been in force **since 1993**. It has **3 main objectives**:
 - The **conservation** of biological diversity.
 - The **sustainable use** of the components of biological diversity.
 - The **fair and equitable sharing** of the benefits arising out of the utilization of genetic resources.
 - The targets of the Convention calls for global trends of terrestrial wildlife to stop declining and start recovering by 2050 or earlier.
 - **India** became a **party to the Convention** in **1994**.
- ### Major Indian Government Initiatives
- **Wildlife protection Act 1972.**
 - **Water (prevention and control of pollution) Act 1974.**
 - **Air (prevention and control of pollution) Act 1981.**
 - **Environment Protection Act 1986.**
 - **Biological Diversity Act 2002.**
 - **Scheduled Tribes and other traditional forest dwellers (recognition of rights) Act 2006.**

Wetlands Conservation

Why in News

Rajasthan Government is acting proactively to **protect the wetland ecosystem** of the state with 52 wetlands earmarked for time-bound development.

- In Rajasthan, **Sambhar Lake and Keoladeo Ghana National Park** have the prestigious tag of '**Wetland of International Importance**', by the Ramsar Convention on Wetlands.

Key Points

- **Wetlands:** Lands transitional between terrestrial and aquatic eco-systems where the water table is usually at or near the surface or the land is covered by shallow water".
- **Importance:**
 - **Ecosystem and Biodiversity Support:**
 - Wetlands are **highly productive ecosystems** that provide the world with nearly two-thirds of its fish harvest.

Note:



- Wetlands play an **integral role in the ecology of the watershed**. The combination of shallow water, high levels of nutrients is ideal for the development of organisms that form the base of the food web and feed many species of fish, amphibians, shellfish and insects.
- Wetlands' microbes, plants and wildlife are part of global cycles for water, nitrogen and sulphur. Wetlands **store carbon within their plant communities and soil (carbon sequestration)** instead of releasing it to the atmosphere as carbon dioxide.
- They provide **habitat for animals and plants and many contain a wide diversity of life**, supporting plants and animals that are found nowhere else.
- They are also an important **source of groundwater recharge**.
- **Human Dependence:** More than one billion people depend on them for a living.
 - Wetlands are a **vital source for food, raw materials, genetic resources for medicines, and hydropower**.
 - Many wetlands are **areas of natural beauty and promote tourism** and many are **important to aboriginal** people.
 - Also, they **help in controlling the floods**.
- **Threats to Wetlands:**
 - **Urbanisation:** Wetlands near urban centres are under increasing developmental pressure for residential, industrial and commercial facilities. Urban wetlands are essential for preserving public water supplies.
 - **Agriculture:** Vast stretches of wetlands have been converted to paddy fields. Construction of a large number of reservoirs, canals and dams to provide for irrigation significantly altered the hydrology of the associated wetlands.
 - **Pollution:** Wetlands act as natural water filters. However, they can only clean up the fertilizers and pesticides from agricultural runoff but not mercury from industrial sources and other types of pollution.
 - There is growing concern about the effect of industrial pollution on drinking water supplies and the biological diversity of wetlands.
- **Climate Change:** Increased air temperature; shifts in precipitation; increased frequency of storms, droughts, and floods; increased atmospheric carbon dioxide concentration; and sea-level rise could also affect wetlands.
- **Dredging and Sand Mining:** That is the removal of material from a wetland or river bed. Dredging of streams lowers the surrounding water table and dries up adjacent wetlands.
- **Introduced Species:** Indian wetlands are threatened by exotic introduced plant species such as water hyacinth and Salvinia. They clog waterways and compete with native vegetation.
- **Global Conservation Efforts:**
 - **Ramsar Convention:**
 - It came into force in **1975 and is one of the oldest inter-governmental accords for preserving the ecological character of wetlands**.
 - Its mission is "the conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world".
 - **India has 37 Ramsar Sites** which are the Wetlands of International importance.
 - **Montreux Record:**
 - Montreux Record is a **register of wetland sites on the List of Wetlands of International Importance** where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference.
 - Wetlands of India that are in Montreux Record: **Keoladeo National Park** (Rajasthan) and **Loktak Lake** (Manipur).
 - **Chilka Lake** (Odisha) was **placed in the record but was later removed from it**.
- **Conservation Efforts by India:**
 - National Plan for Conservation of Aquatic Ecosystems (NPCA):
 - NPCA is a **single conservation programme for both wetlands and lakes**.
 - It is a **centrally sponsored scheme**, currently being implemented by the Union Ministry of Environment and Forests and Climate Change.

Note:



- It was formulated in 2015 by merging of the **National Lake Conservation Plan** and the **National Wetlands Conservation Programme**.
- NPCA seeks to promote better synergy and avoid overlap of administrative functions.
- **Wetlands (Conservation and Management) Rules, 2017:**
 - **Nodal authority:** As per the Wetlands Rules, the Wetlands Authority within a state is the nodal authority for all wetland-specific authorities in a state/UT for the enforcement of the rules.
 - **Prohibited Activities:**
 - **Setting up any industry and expansion** of existing industries,
 - **Dumping solid waste or discharge of untreated wastes** and effluents from industries and any human settlements, and
 - **Encroachment or conversion for non-wetlands uses.**
 - **Integrated Management Plan:** The guidelines recommend that the state/UT administration prepare a plan for the management of each notified wetland by the respective governments.
 - **Penalties: Undertaking any prohibited or regulated activities** beyond the thresholds (defined by the state/UT administration) in the wetlands or its zone of influence, will be **deemed violations under the Wetlands Rules**. Violation of the Rules will attract **penalties as per the Environment (Protection) Act, 1986**.

Areas of Action

- **Conservation Reserves:** There must be **renewed ambition** from the world's governments to establish large-scale conservation areas, placed in the most valuable hotspots for biodiversity worldwide, such as small islands with species found nowhere else.
- **Habitat restoration** and conservation efforts need to be targeted where they are needed most – for species and habitats on the verge of extinction.
- **Food Production:** Need is to transform **our food systems** to produce more on less land.
 - If every farmer on Earth used the best available farming practices, only half of the total area of cropland would be needed to feed the world.

- **Restoring Land:** Efforts to restore degraded land are also required. Such as farmland that's becoming unproductive as a result of **soil erosion**.
 - This could return 8% of the world's land to nature by 2050.
- **Afforestation:** This can help not only in arresting soil erosion but also expansion of desertification along with avenues for biodiversity replenishment.

Eight Indian Beaches Recommended for Blue Flag

Why in News

On the occasion of **International Coastal Clean-Up Day**, for the first time eight beaches of India are recommended for the coveted International eco-label, the **Blue flag certification**.

Key Points

- The **eight beaches** are:
 - Shivrajpur in Gujarat,
 - Ghoghla in Daman & Diu,
 - Kasarkod and Padubidri beach in Karnataka,
 - Kappad in Kerala,
 - Rushikonda in Andhra Pradesh,
 - Golden beach of Odisha and
 - Radhanagar beach in Andaman and Nicobar.
- **Blue Flag Certification:**
 - Blue Flag beaches are considered the **cleanest** beaches of the world.
 - The Blue Flag is one of the world's most recognised **voluntary eco-labels** awarded to beaches, marinas, and sustainable boating tourism operators.
 - In order to qualify for the Blue Flag, a series of stringent environmental, educational, safety, and accessibility criteria must be met and maintained.
 - The Blue Flag Programme for beaches and marinas is run by the international, non-governmental, non-profit organisation FEE (the **Foundation for Environmental Education**).
 - FEE was established in France in 1985.
 - On the lines of Blue Flag certification, India has also launched **its own eco-label BEAMS**.
- **BEAMS**

Note:

- **BEAMS (Beach Environment & Aesthetics Management Services)** has been launched under **ICZM (Integrated Coastal Zone Management)** project.
- This is launched by the **Society of Integrated Coastal Management (SICOM)** and the Union Ministry of Environment, Forest and Climate Change (MoEFCC).
- The **objectives** of BEAMS program is to:
 - Abate pollution in coastal waters,
 - Promote sustainable development of beach facilities,
 - Protect & conserve coastal ecosystems & natural resources,
 - Strive and maintain high standards of cleanliness,
 - Hygiene & safety for beachgoers in accordance with coastal environment & regulations.

Integrated Coastal Zone Management Plan

- **ICZM Plan** is a process for the management of the coast using an integrated approach, regarding all aspects of the coastal zone, including geographical and political boundaries, in an attempt to achieve sustainability.
 - The concept of ICZM was born in **1992** during the Earth Summit of Rio de Janeiro.
 - The specifics regarding ICZM is set out in the proceedings of the summit within Agenda 21.

Society of Integrated Coastal Management

- SICOM has been established under the aegis of the Ministry of Environment, Forests and Climate Change.
- It has a vision for a vibrant, healthy and resilient coastal and marine environment for the continuous and enhanced outflow of benefits to the country and the coastal community.
- SICOM is the national project management unit of India in strategic planning, management, execution, monitoring and successful implementation of the ICZMP-Phase-I.

International Coastal Clean-Up Day

- It has been celebrated across 100 countries since 1986.
- The day is marked each year on the **third Saturday of September** as an initiative of the Washington-based Ocean Conservancy, a volunteer effort for ocean health.

Implementation:

- It is a **World Bank** assisted project and is being implemented by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).
- The **National Centre for Sustainable Coastal Management (NCSCM)**, Chennai, is providing scientific and technical inputs.

Nandankanan Zoological Park: Odisha

Why in News

Recently, death of two **sloth bears** has been reported from the **Nandankanan Zoological Park**, Bhubaneswar (Odisha).

Key Points

- **Nandankanan Zoological Park:**
 - It is 15 kms from **Odisha's capital, Bhubaneswar**. It was inaugurated in **1960**.
 - First zoo in the country to become a **member of the World Association of Zoos & Aquariums (WAZA)**.
 - WAZA is the **global alliance** of regional associations, national federations, zoos and aquariums, dedicated to the care and conservation of animals and their habitats around the world..
 - It is recognized as a leading zoo for the **breeding of the Indian pangolin** and **white tiger**.
- **Sloth Bears:**
 - **Scientific Name:** *Melursus ursinus*
 - **Habitat:** Also called **honey bear**, **Hindi bhalu**, it is a forest-dwelling member of the **family Ursidae** (comprises 8 species of bears) that inhabits tropical or subtropical regions of India and Sri Lanka.
 - **Protection Status:**
 - 'Vulnerable' in the **IUCN Red List**.
 - **Appendix I** in **CITES** listing.
 - **Schedule I** of the **Indian Wildlife Protection Act, 1972**.



Note:

- **Threats:** Habitat loss, poaching for body parts and are sometimes captured for use in performances or hunted because of their aggressive behavior and destruction of crops.

➤ **Himalayan Black Bear:**

- **Scientific Name:** *Ursus thibetanus*
- **Habitat:** Also called **Asiatic black bear**, it inhabits mountainous and heavily forested areas across southern and eastern Asia.



- **Protection Status:**
 - 'Vulnerable' in the IUCN Red List.
 - **Appendix I** in CITES listing.
 - **Schedule I** of the **Indian Wildlife Protection Act, 1972.**
- **Threats:** Illegal hunting for body parts, specifically the gallbladder, paws and skiing poses the main threat, together with habitat loss caused by logging, expansion of human settlements and roads.

African Elephant Deaths Due to Cyanobacteria

Why in News

Neuro-toxins in water produced by cyanobacteria killed more than 300 **African elephants** in the **Okavango Delta region, Botswana** (a country in Southern Africa).

- **Neuro-toxins** are substances that damage, destroy, or impair the functioning of neural tissue.

Key Points

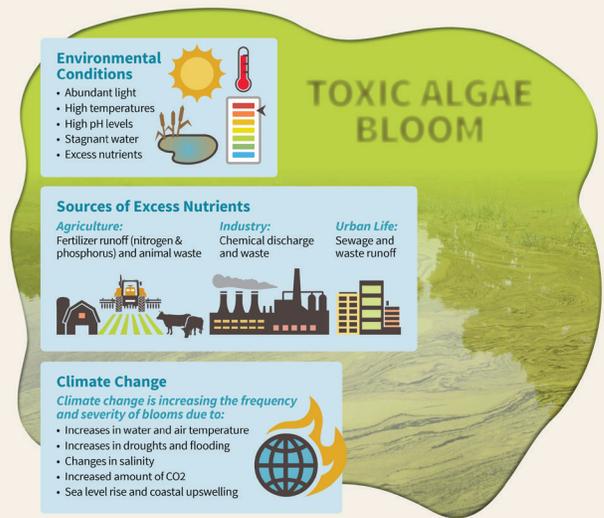
- **Cyanobacteria:**
 - **Cyanobacteria**, also called **blue-green algae**, are microscopic organisms found naturally in soils and all types of water.
 - These **single-celled** organisms (bacteria) live in fresh, brackish (combined salt and freshwater), and marine water.
 - These organisms use sunlight to **make their own food.**
 - In **warm, nutrient-rich (high in phosphorus and nitrogen) environments**, cyanobacteria can **multiply quickly.**

- Not all of them produce toxins but scientists say **toxic ones are occurring more frequently** as **climate change** drives up global temperatures.

- **Climate Change and Algal Bloom:** An **algal bloom** is a **rapid increase in the population of algae** or cyanobacteria in an aquatic system.

Causes of Algae Blooms

CLEAN WATER ACTION
CLEAN WATER FUND



- **Rising Water Temperature:**
 - Toxic blue-green algae thrive in warm, slow-moving water.
 - Warmer water due to climate change might favour harmful algae.
 - Warmer temperatures prevent water from mixing, allowing algae to grow thicker and faster.
- **Changes in Salinity:**
 - Climate change might lead to more droughts, which make freshwater saltier. This can cause marine algae to invade freshwater ecosystems.
- **Higher Carbon-dioxide Levels:**
 - Algae need carbon dioxide to survive. Higher levels of carbon dioxide in the air and water can lead to the rapid growth of algae, especially toxic blue-green algae that can float to the surface of the water.
- **Changes in Rainfall:**
 - Climate change might affect rainfall patterns, leading to alternating periods of drought and intense storms. This can cause more nutrient runoff into water bodies, feeding more algal blooms.

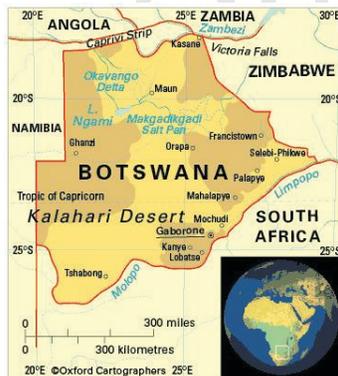
Note:

African Elephant

- It is the **largest animal walking the Earth**.
- Their herds wander through 37 countries in Africa.
- **Conservation Status:**
 - **IUCN Red List: Vulnerable.**
 - **CITES:** Appendix II (in Botswana, Namibia, South Africa and Zimbabwe)
 - Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.
 - The **World Elephant Day** is celebrated on **12th August every year** to spread awareness for the conservation and protection of the largest mammal on land.
 - The day was **launched in 2012** to bring attention to the urgent plight of Asian and African elephants.
- **Subspecies:** The Savanna (or bush) elephant and the Forest elephant.
 - Savanna elephants are larger than forest elephants and their tusks curve outwards.
 - Forest elephants are uniquely adapted to the forest habitat of the **Congo Basin**, but are in **sharp decline due to poaching for the international ivory trade**.

Botswana

- It is a **landlocked** country of southern Africa.
- Botswana is **mostly flat with a few hills**, most of its highest points located along the south-east section of the country (the **eastern edge of the Kalahari Basin**).
- The **semi-arid Kalahari Desert** covers about **70%** of Botswana's surface.
 - While Kalahari does receive about **500 millimetres** in the wettest parts per annum, the Kalahari is considered a desert because it has a vast surface area covered with sand.
- **Biodiversity:** It is home to plants and animals, mostly different types of acacia trees, animals like lion, cheetah,



leopard, hyena, antelopes, meerkats, as well as many birds species and reptiles.

- **Indigenous People:** It is also home to the **tribes** like San people (Bushmen), Tswana, Kgalakgadi, and Herero people.
- **Okavango Delta:** It is one of the world's largest **inland** deltas, which spans about 15,000 square kilometres and has a relatively flat topography.

Komodo Dragon

Why in News

A recent study conducted by Australian universities has found out that the **Komodo dragon could become extinct** in the next few decades due to **climate change**.

- In **February 2019**, the government of Australia officially **declared the first known extinction of a mammal (Bramble Cay melomys)** as a result of human-induced climate change.

Key Points

- **Scientific Name:** *Varanus komodoensis*.
- Komodo dragons are the **largest and heaviest lizards** on Earth. They have long, flat heads with rounded snouts, scaly skin, bowed legs, and huge, muscular tails.
- Komodo dragons **can eat almost anything**, including invertebrates, birds, and mammals like deer, pigs, and even large water buffalo.
- They have **venom glands loaded with toxins** which have been shown to secrete **anticoagulants**.
 - An anticoagulant is a compound which **prevents the victim's blood from clotting**, causing it to bleed to death.
 - The venom lowers blood pressure, causes massive bleeding, and induces shock.
- **Habitat:**
 - Komodo dragons have thrived in the harsh climate of **Indonesia's Lesser Sunda Islands** for millions of years. They **prefer the islands' tropical forests** but can be **found across the islands**.
 - **Komodo National Park**, a **UNESCO World Heritage site**, is situated in the **Island of Komodo** (eastern Indonesia) and is the only habitat for this lizard species.



Note:

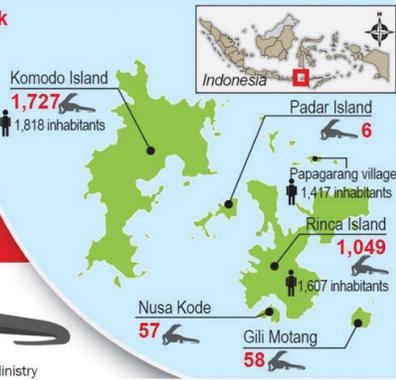
Komodo National Park

Area size:
173,300 ha
 Land:
40,728 ha (23.5%),
70% savanna
 Sea:
132,572 ha (76.5%)

Komodo dragon population
2,897



Source: Environment and Forestry Ministry



JP/Hengky Wijaya

➤ **Threats:**

- Anthropogenic factors.
- Small size of population, less prey and higher inbreeding factors.
- Climate change is likely to cause a sharp decline in the availability of habitat, reducing their populations even further.

➤ **Conservation:**

- **IUCN Status: Vulnerable.**
- **CITES: Appendix I.** (The commercial trading of live specimens or any parts, dead or alive of Komodo is prohibited.)
- In August 2019, the **Indonesian government ordered the relocation of the residents** of the Island of Komodo in a bid to conserve Komodo dragons and the Komodo National Park.

EPCA on Early Burning of Crop Residue

Why in News

The **Supreme Court**-appointed **Environment Pollution (Prevention and Control) Authority (EPCA)** raised concerns about early **burning of crop residue** in Punjab and Haryana.

Key Findings

- According to a **SAFAR (System of Air Quality and Weather Forecasting and Research)** under the Central government estimate which uses the **INSAT-3, 3D** and **the National Aeronautics and Space Administration (NASA)** satellite, the fire counts have increased from zero to 42 in a few days.
- In 2019, about 9.8 million tonnes of the total estimated crop residue of 20 million tonnes were burnt in Punjab.

- Similarly, in Haryana, of the total 7 million tonnes, 1.24 million tonnes of stubble were burnt.

Environment Pollution

(Prevention and Control) Authority

- EPCA was constituted under **section 3 of the Environment (Protection) Act, 1986** for the **National Capital Region** in compliance with the **Supreme Court order dated January 1998.**
- It has the power to take action **suo-moto**, or on the **basis of complaints** made by any individual, representative body or organization functioning in the field of environment.
- It takes all necessary steps for controlling vehicular pollution, ensuring compliance of fuel quality standards, monitoring and coordinating action for traffic planning and management.

INSAT

- The **Indian National Satellite (INSAT)** system is a constellation of operational communication satellites placed in **Geo-stationary orbit.**
- Established in **1983** with commissioning of INSAT-1B.
- The constellation of INSAT System consists of operational satellites, namely – INSAT-3A, 3C, 3D, 4A, 4B, 4CR, 3DR.

SAFAR

- The **System of Air Quality and Weather Forecasting and Research (SAFAR)** is a national initiative introduced by the **Ministry of Earth Sciences (MoES)** to measure the air quality of a metropolitan city, by measuring the **overall pollution level** and the **location-specific air quality** of the city.
- The system is **indigenously** developed by the **Indian Institute of Tropical Meteorology (IITM)**, Pune and is operationalized by the **India Meteorological Department (IMD).**

Stubble Burning

- It is a **traditional practice** in **Punjab and Haryana** to clean off the rice chaff to prepare the fields for winter sowing.
- It begins **around October** and **peaks in November**, coinciding with the withdrawal of **southwest monsoon.**
- The **pollutants and the Particulate Matter (PM)** from the chaff, along with other sources of pollution in Delhi, makes winter air quality worse in Delhi and proximity.

Note:



- **Reasons:**
 - **Increase in Rice Acreage:** Subsidies and assured procurement of rice have led to a rise in the rice acreage.
 - **Delayed sowing** of paddy to late June to discourage groundwater extraction as per the **Punjab Preservation of Subsoil Water Act 2009**.
 - This led to a delayed harvesting, stubble burning coincides perfectly with the withdrawal of southwest monsoon.
 - **Technology:** Increased and modernised farm mechanisation extract the rice grains only and leave large quantities of rice stubble behind. Earlier, this excess crop was used by farmers for cooking, as hay to keep their animals warm or even as extra insulation for homes.
 - **High Silica Content:** Rice straw is considered useless as fodder in the case of non-basmati rice, because of its **high silica content**.
- **Effects:**
 - The stubble burning emits large amounts of toxic pollutants in the atmosphere which contain harmful gases like **methane (CH₄)**, **Carbon Monoxide (CO)**, **Volatile organic compound (VOC)** and **carcinogenic polycyclic aromatic hydrocarbons**.
 - The burning of wheat straw **reduces the soil fertility**, besides polluting the environment.
 - Additionally, the heat generated by stubble burning penetrates into the soil, leading to the loss of moisture and useful microbes.

World Risk Index 2020

Why in News

According to the **World Risk Index (WRI) 2020**, India is 'poorly prepared' to deal with '**climate reality**', due to which it is vulnerable to extreme natural disasters.

Key Points

- **World Risk Index:**
 - It is calculated on a **country-by-country basis**, through the multiplication of exposure and vulnerability and **describes the disaster risk** for various countries and regions.

- **Released annually since 2011**, it indicates which countries are in the greatest need to strengthen measures for coping with and adapting to extreme natural events.
- **Among continents, Oceania is at the highest risk**, followed by Africa and the Americas.

➤ Oceania:

- Small island states, **especially in the South Pacific and the Caribbean**, are disproportionately represented among high-risk countries.



- They are at a **high exposure to extreme natural events** which include the **rise in sea level** as a result of **global warming**.
- The small island states have **limited financial resources and have made small contributions to climate change**, but are **affected the most** by its consequence

➤ Africa:

- It has been identified as a hotspot of vulnerability. **More than two-thirds of the most vulnerable countries in the world are located on the continent.**
 - The size of semiarid regions in Africa is expected to increase, with over half of Africa's land area vulnerable to **desertification**.

➤ South Asia and India:

- **India has ranked 89th among 181 countries** on the WRI 2020 and is **fourth-most-at-risk in South Asia**, after Bangladesh, Afghanistan and Pakistan.
- **Sri Lanka, Bhutan and the Maldives have fared better than India** in their abilities to cope with extreme disasters. **India also lags behind** these three neighbours in terms of **lack of adaptive capacities or the preparedness to deal with extreme events**.

Note:



Pusa Decomposer to Curb Stubble Burning

Why in News

Recently, the scientists have developed a **bio-decomposer technique** called '**PUSA Decomposers**' for converting crop **stubble into compost**.

- Delhi and many other North Indian States are covered with smoke during winters due to **stubble burning** in the neighbouring States by the farmers.

Key Points

- **PUSA Decomposers:**
 - The decomposers are in the **form of capsules** made by extracting **fungi strains** that help the paddy straw to **decompose at a much faster rate** than usual.
 - The fungi helps to produce the **essential enzymes** for the degradation process.
- **Time to Decompose:**
 - It takes around 20 days for the degradation process to be completed.
 - Under usual circumstances, shredded and watered paddy straw, which is mixed with soil, takes at least 45 days to decompose.
 - It does **not give enough time for farmers** to prepare fields for the wheat crop on time.
- **Benefits:**
 - The decomposer **improves the fertility and productivity of the soil** as the stubble works as manure and compost for the crops and **lesser fertiliser consumption** is required in the future.
 - The soil loses its richness due to stubble burning and it also destroys the useful bacteria and fungi in the soil, apart from causing harm to the environment.
 - It is an **efficient and effective, cheaper, doable and practical technique** to stop stubble burning.
 - It is an **eco-friendly and environmentally** useful technology and will contribute to achieve **Swachh Bharat Mission**.

Fridays For Future Movement

Why in News

Recently, students and youth under the banner of **Fridays For Future** (FFF) have protested outside the **Ministry of Environment, Forest and Climate Change (MoEFCC)** demanding **scrapping** of **Draft Environment Impact Assessment, 2020** and the government to act against the climate crisis.

Key Points

- **Fridays For Future:**
 - It is a **dynamic global student movement** pushing for **immediate action on climate change** through active campaigning and advocacy.
 - It was **inspired by Swedish environmentalist Greta Thunberg**, who sat in protest in front of the Swedish parliament for three weeks in 2018 to draw attention to the climate emergency.
 - She was recently awarded the **Right Livelihood Award-2019**, also known as **Sweden's alternative Nobel Prize**.
 - It was chosen as **Champion of the Earth award** for inspiration and action because of its role in highlighting the devastating effects of climate change.
- **Goals:**
 - To put moral pressure on policy-makers.
 - To make them listen to scientists.
 - To take action to limit **global warming**.
- **Demand:**
 - **Keep the global temperature rise below 1.5 °C** compared to pre-industrial levels (also the aim of the **Paris climate deal**).
 - Ensure **climate justice and equity**.
 - **Listen to the best science** currently available to deal with the climate crisis.
- **Demand for Delhi:** The demand for Delhi includes **saving the Aravallis**, improved sewage management plants to **prevent pollution of the Yamuna**, **public participation in policy-making** and **better environmental education in schools**.

Note:

Champions of the Earth Award

- It is the **United Nations** flagship global environmental award. It was established by the **UN Environment Programme** in 2005 to celebrate outstanding figures whose actions have had a transformative positive impact on the environment.
- The awards **recognise persons** who are **working to protect the earth** for the next generation.

Whale Mass Strandings

Why in News

Over **450 long-finned pilot whales** have died in **Australia's largest recorded mass-stranding event**. The whales were **beached at a remote beach in Tasmania's west coast**.



Key Points

- **Beaching/Stranding Events:**
 - Beaching refers to the **phenomenon of dolphins and whales stranding themselves on beaches**.
 - There are **around 2,000 strandings** each year worldwide, with most **resulting in the death of the animal**.
 - Whales strand themselves on beaches either **singularly or in groups**. While **individual strandings** are mostly attributed to **injury or sickness**, it is **not clear why exactly whales beach themselves in groups**.
- **Possible Reasons behind Whale Mass Strandings:**
 - Some whales **follow schooling fish or other prey** into shallow waters, which causes the whales to become disoriented, as a result of which they get stranded.

- Another reason could be **panic from being trapped by a predator** such as killer whales or sharks.
- Another possibility is that **whales might be drawn to land by prey-rich currents**.
- Some scientists believe that **sonar signals and other man-made loud underwater noises** may contribute to beaching events.

- **Protection:** Scientists and workers try to drag the whales away from the shore and guide them back into the water.

➤ Long-finned pilot whales:

- **Scientific Name:** *Globicephala melas*
- These are **one of two species of pilot whale**, along with short-finned pilot whales.



- These prefer **deep temperate to subpolar oceanic waters**, but they have been known to occur in coastal waters in some areas.

- They have been documented near the **Antarctic sea ice** and associated with the colder **Benguela and Humboldt Currents**, which may extend their normal range.

○ Protection Status:

- **CITES:** Appendix II
- **IUCN:** Least Concern

China's Renewed Support for Paris Agreement

Why in News

Recently, China has renewed its support for the **Paris Agreement** at the **United Nations (UN) General Assembly**, while calling for a **'green focus'** as the world recovers from the **Covid-19** crisis.

Key Points

- China is the **world's biggest polluter** and **accounts for a quarter of the planet's greenhouse gas (GHG) emissions**.
- It now aims to reach **carbon-dioxide emissions peak before 2030** and **achieve carbon neutrality before 2060**.

Note:

- In addition to its embrace of global emissions-busting deals, China already feeds **nearly 15% of its energy demands with non-fossil fuels** and its **installation of renewable energy stands at 30% of the world total**.
- However, global experts have highlighted that there are **massive investments continuing within China and overseas in coal and other fossil fuels**.
 - China currently has **135 gigawatts of coal-power capacity either permitted or under construction**, according to **Global Energy Monitor**, a San Francisco-based environmental group.
- **Against the USA:**
 - China **highlighted USA's demand for plastics and export of waste** and **criticised it for "obstructing" the global fight** against emissions.
 - Earlier, the **USA had pulled out of the Paris agreement**, calling it unfair and **blamed China for the stalled momentum** on tackling global emissions.
 - This move has opened a **new divergence in US-China relations** which are already troubled over issues like **trade**, technology, defence and human rights.

Paris Agreement

- Paris Agreement (also known as the **Conference of Parties 21** or **COP 21**) is a landmark environmental accord that was **adopted in 2015 to address climate change and its negative impacts**.
 - It replaced the **Kyoto Protocol** which was an earlier agreement to deal with climate change.
- **Aims:** To reduce global GHG emissions in an effort to **limit the global temperature increase in this century to well below 2°C above pre-industrial levels**, while pursuing means to **limit the increase to 1.5°C by 2100**.
- **It includes:**
 - **Addressing the financial losses vulnerable countries face** from climate impacts such as extreme weather.
 - **Raising money to help developing countries** adapt to climate change and transition to clean energy.
 - This part of the deal has been made **non-legally binding on developed countries**.
- Before the conference started, **more than 180 countries had submitted pledges to cut their carbon emissions (Intended Nationally Determined Contributions or INDCs)**.

- The INDCs were **recognised under the agreement, but are not legally binding**.
- **India also reaffirmed its INDCs commitments** to meeting the goals under the Agreement in order to **combat climate change**.

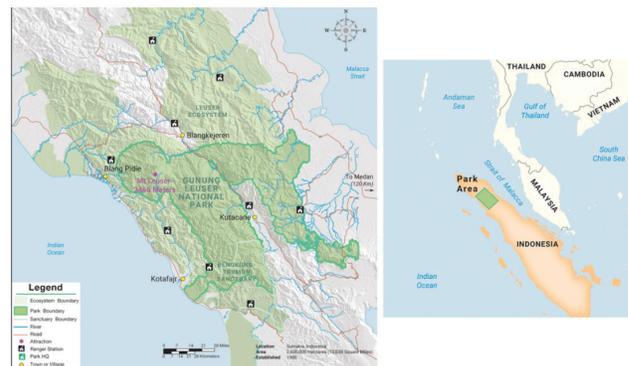
Leuser Ecosystem

Why in News

Recently, an investigation by the global watchdog **Rainforest Action Network (RAN)** has shown that various food, cosmetics and finance companies have links with companies implicated in the destruction of the **Leuser Ecosystem**, a forest area on the island of Sumatra, Indonesia.

Key Points

- **Leuser Ecosystem** is among the **most ancient and life-rich ecosystems ever documented by science** and is a **world-class hotspot of biodiversity** and is widely acknowledged to be among the most important areas of intact rainforest left in all of Southeast Asia.
- The ecosystem has been designated a **UNESCO World Heritage Site**.
- **Location and Topography:**
 - The ecosystem stretches across the **province of Aceh and North Sumatra, Indonesia**.
 - It **spans 2.6 million hectares**, almost **three times the size of Yellowstone National Park, USA**.
 - Its **diverse landscape includes** lowland and montane rainforests and over 185,000 hectares of carbon-rich peatlands.



- **Montane rainforests**, also called **cloud forests**, are **vegetation of tropical mountainous regions** in which the **rainfall is often heavy and persistent**

Note:

condensation occurs because of cooling of moisture-laden air currents deflected upward by the mountains.

➤ **Significance:**

○ **Wildlife and Biodiversity:**

- It is among the **most important forests left in Southeast Asia**, particularly because it is the **last place of sufficient size and quality to support viable populations of rare species** like Sumatran tigers, orangutans, rhinos, elephants, clouded leopards and sun bears.

- **75% of the world's remaining population of the Sumatran orangutan** is found in the ecosystem.

○ **For Humans:**

- The **majority of Aceh's people, between 70-75%, live on the coastal plains** of Sumatra, where many communities have established wet rice cultivation.
- The **livelihoods and food supply** for millions of people rely heavily on the natural services, particularly the **water supplies, that the Leuser Ecosystem provides.**

○ **Climate Change:**

- It plays an **outsize role regulating the global climate** by storing **massive amounts of carbon in its peatlands and standing forests.**
 - **Peatlands are wet, carbon-rich areas** that have formed through thousands of years of undecomposed leaf litter and organic material accumulation.

➤ **Threats:**

- **Industrial development for palm oil, pulp and paper plantations and mining** continues to threaten the entire ecosystem.
- The **fires from this widespread destruction** have caused major **haze pollution** from Singapore to Jakarta, resulting in **huge economic losses and public health issues.**
- Sumatra's **unique species are dying out** with their **negligible populations left** and few on the **verge of extinction.**

➤ **Solutions:**

- There has been enormous progress made in **raising international understanding of the importance of protecting the forests** and in **pressuring the major**

corporate players involved to accept responsibility and begin to take action.

- **Strong local partners and international support are needed** to reverse accelerating threats facing Leuser's core forests and wildlife habitats.
- **Rigorous monitoring, enforcement, and delivering incentives** that improve practices in the palm oil sector is key to stopping more efforts to cut down the region's remaining rainforests.

Sumatran Orangutan

➤ **Scientific Name:** *Pongo abelii*.

- These are **almost exclusively arboreal** which means they live among the trees of tropical rainforests.

➤ **Habitat:** Tropical and Sub-tropical Moist Broadleaf Forests.



- Historically, the Sumatran orangutan was distributed over the entire island of Sumatra and further south into Java. The species' range is now restricted to the north of the island with a majority in the provinces of North Sumatra and Aceh.

➤ **Threats:**

- Habitat loss due to forest fire and conversion of forests to oil palm plantations and other agricultural developments.

➤ **Conservation:**

- **IUCN Red List:** Critically Endangered.
- The **World Wildlife Fund for Nature (WWF)** works with **TRAFFIC**, the **global wildlife trade monitoring network**, to help governments enforce restrictions on the trade in live animals and orangutan products.

Climate Change and Forest Fire Link

Why in News

Scientists note that **human-induced climate change promotes the conditions on which wildfires depend.**

Key Points

- **Wildfire:** Also called forest, bush or vegetation fire, can

Note:

be described as any uncontrolled and non-prescribed combustion or burning of plants in a natural setting such as a forest, grassland, brush land or tundra, which consumes the natural fuels and spreads based on environmental conditions (e.g., wind, topography).

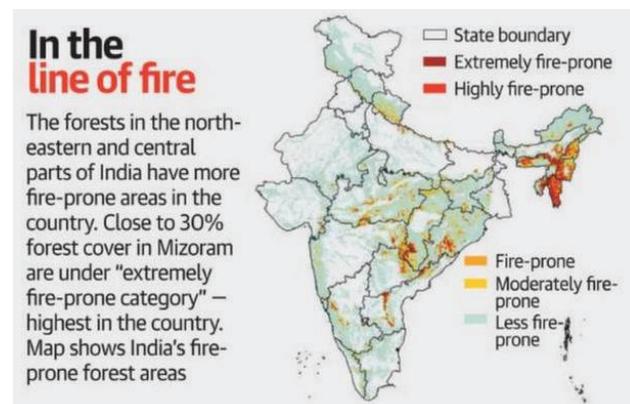
- **Human-induced Climate Change:** Increases in **greenhouse gases** resulting from human activities have led to a net effect of warming of the climate system leading to direct impacts including increased air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.
- **Concerns:**
 - Forest fires have become an **issue of global concern**. In many countries, wildfires are burning larger areas, and fire seasons are growing longer due to global warming.
 - **Australia** recently battled its **largest bushfire on record**, while **parts of the Arctic**, the **Amazon** and **central Asia** have also experienced **unusually severe** fires.
 - **Wildfires in Western USA** (California) are another example.
 - Globally, forest fires release **billions of tons of CO₂** into the atmosphere, while hundreds of thousands of people are believed to die due to illnesses caused by exposure to smoke from forest fires and other landscape fires.
- **Factors:**
 - **Fire Weather:**
 - Climate change increases the frequency and severity of fire weather around the world.
 - **Increased fire weather** from **climate change** amplifies fire risk where fuels remain available.
 - **Poor land and forest management** also contributes to the wildfires, however, it does not alone account for the recent increases in the extent and severity of the wildfires globally.
 - **Factors Identified by the IPCC:** The **Fifth Assessment Report** of the **Intergovernmental Panel on Climate Change (IPCC)**, published in **2013**, identified a few factors that could influence the way wildfires play out. These include:
 - **Global increase in average temperatures.**
 - Global increases in the frequency, intensity and extent of **heatwaves** (breaching of historically extreme temperature thresholds).



- **Regional increases** in the frequency, duration and intensity of droughts.

Indian Scenario

- **Forest Fire & Monitoring:**
 - A joint study report of the **Ministry of Environment and Forests (MoEF&CC)** and **World Bank** titled “**Strengthening Forest Fire Management in India**” released in June 2018 revealed that in the year 2000, 20 districts, representing 3% of India’s land area and 16% of forest cover accounted for 44% of all fire detections.
 - The upgraded version of the **Forest Fire Alert System (FAST 3.0)** was released in January, 2019 with a separate activity of monitoring large forest fires.
 - It is seen that most of the fire prone forest areas are found in the **north-eastern region and the central part** of the country.
- **India’s Initiative to Tackle Forest Fire:**
 - **National Action Plan on Forest Fires, 2018**



Note:

- MoEF&CC, has come up with the National Action Plan on Forest Fires, 2018 to revamp forest fire management in the country.
- **Objectives:** Informing, Enabling and Empowering forest fringe communities and Incentivizing them to work in tandem with the State Forest Departments (SFDs).
- The plan proposes nine strategies to address the issue, including establishment of a “Centre of Excellence on Forest Fire Management” at **Forest Survey of India (FSI)**.
- **Forest Fire Prevention and Management Scheme:**
 - The Forest Fire Prevention and Management Scheme (FPM) is the only centrally funded program specifically dedicated to assist the states in dealing with forest fires.
 - The FPM replaced the Intensification of Forest Management Scheme (IFMS) in 2017.
 - Funds allocated under the FPM are according to a center-state cost-sharing formula, with a 90:10 ratio of central to state funding in the Northeast and Western Himalayan regions and a 60:40 ratio for all other states.
 - It also provides the states the flexibility to direct a portion of the **National Afforestation Programme (NAP)** and **Mission for Green India (GIM)** funding toward forest fire work.
- There is **no cure** as of now for the infection.
 - Presently, there is **no option but to cut down** and remove the infected tree to prevent the spread of the disease.
- The disease was **first reported in Kodagu, Karnataka in 1899**.
 - More than a million sandalwood trees were removed in the Kodagu and Mysore region between 1903 and 1916.
- **Concerns:** About **1% to 5%** of sandalwood trees lost every year due to the disease, scientists warn that it could **wipe out the entire natural population** if measures are not taken to prevent its spread.
 - Another concern is, any delay in arresting the trend may result in the disease spreading to cultivated sandalwood trees.
- **Reason:** The present rapid spread of the infection is largely due to **restrictions on green felling** in forests, which has allowed vectors to spread the disease to healthy trees.
 - **Green felling (silviculture felling)** is the felling of green trees of one or more types.
 - **Silviculture** is the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society such as wildlife habitat, timber, water resources, restoration, and recreation on a sustainable basis.

Sandalwood Spike Disease

Why in News

India’s sandalwood trees are facing a serious threat due to **Sandalwood Spike Disease (SSD)**.

Key Points

- The natural population of sandalwood in **Marymoor Sandal Forest** of Kerala and various reserve forests in Karnataka, including **MM Hills (Malai Mahadeshwara Wildlife Sanctuary)**, are heavily infected with SSD.
- **Sandalwood Spike Disease:**
 - It is an infectious disease which is **caused by phytoplasma**.
 - Phytoplasmas are **bacterial parasites** of plant tissues — which are **transmitted by insect vectors** and involved in plant-to-plant transmission.

- **Recent Steps:** In an effort to combat the killer disease, the **Institute of Wood Science and Technology (IWST)**, Bangalore will join hands with the **Pune-based National Centre for Cell Sciences** for a three-year study, initiated by the **Union Ministry of AYUSH** with a financial allocation of Rs. 50 lakh.
 - IWST is a **Centre of Excellence** for Sandalwood Research and Wood Science.

Red Sandalwood

- Red sanders (*Pterocarpus santalinus*) is endemic to South India.
- They are found in the **Tropical Dry Deciduous forest** of the **Palakonda** and **Seshachalam hill** ranges of Andhra Pradesh and also found in Kerala, Tamil Nadu and Karnataka.
- Red Sanders usually grow in the rocky, degraded and fallow lands with Red Soil and hot and dry climate.

Note:

- The **International Union for Conservation of Nature (IUCN)** has put it under the category of **near threatened** from earlier **endangered species** in the Red List.
- It is listed in **Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**.
 - **Appendix II** – Species which are not necessarily threatened with extinction, but in which trade must be controlled to avoid utilisation incompatible with their survival.
- It is known for its **rich hue and therapeutic properties**, is high in demand across Asia, particularly in China and Japan, for cosmetics and medicinal products, wood-works and musical instruments.
- Its popularity can be gauged from the fact that a tonne of red sanders costs anything between Rs. 50 lakh to Rs. 1 crore in the international market.

Six Mega Projects in Uttarakhand: Namami Gange Mission

Why in News

The Prime Minister has inaugurated **six mega projects** in **Uttarakhand** under the **Namami Gange Mission**.

Key Points

- **Highlights:** These six mega projects of **Sewage Treatment Plants (STP)** are constructed at **Haridwar, Rishikesh, Muni ki Reti, Chorpani, and Badrinath**.
 - Jagjeetpur, Haridwar project also marks the completion of the **first** sewage project taken up on **hybrid annuity** mode on **public private partnership**.
 - **Hybrid Annuity Model:** The Government would provide upfront around **40%** of the project cost to the developer to start the work and the remaining 60% would be borne by the private party.
 - In **Muni ki Reti town, Chandreshwar Nagar** STP is the first **4 storied** Sewage Treatment Plant in the country where the limitation of land availability was converted into an opportunity.
- **Significance:**

- All 30 STP projects (100%) are now complete in Uttarakhand for taking care of pollution from 17 Ganga towns near river Ganga, which is a landmark achievement.
- The **Haridwar-Rishikesh zone** contributes about **80% wastewater load** into the River Ganga.
- **Namami Gange Programme:**
 - **Namami Gange Programme** is an **Integrated Conservation Mission**, approved as a 'Flagship Programme' by the Union Government in **June 2014** to accomplish the **twin objectives** of effective abatement of **pollution** and **conservation and rejuvenation** of National River Ganga.
 - It is being operated under the Department of Water Resources, River Development and Ganga Rejuvenation, **Ministry of Jal Shakti**.
 - The program is being implemented by the **National Mission for Clean Ganga (NMCG)**, and its state counterpart organizations i.e., State Program Management Groups (SPMGs).
 - NMCG is the implementation wing of **National Ganga Council** (set in 2016; which replaced the National Ganga River Basin Authority - NGRBA).
 - It has a **Rs. 20,000-crore, centrally-funded**, non-lapsable corpus and consists of nearly 288 projects.
 - **The main pillars of the programme are:**
 - Sewage Treatment Infrastructure & Industrial Effluent Monitoring
 - River-Front Development & River-Surface Cleaning
 - Bio-Diversity & Afforestation
 - Public Awareness

Other Activities at the Event

- **Ganga Avalokan:** It is the **first museum** inaugurated for **Ganga**.
 - The museum is dedicated to showcase the culture, biodiversity and rejuvenation activities done in Ganga river.
 - The museum is located at **Chandi Ghat, Haridwar**.
- **Rowing down the Ganges:** A book co-published by National Mission for Clean Ganga & **Wildlife Institute of India** is also launched.
- **The logo of Jal Jeevan Mission** and 'Margdarshika for Gram Panchayats and Paani Samitis under Jal Jeevan Mission' is also unveiled during the event.

Note:



Campaign to Remove Lantana: Rajasthan

Why in News

A special drive to **uproot the invasive Lantana bushes** in the **Sajjangerh Wildlife Sanctuary** in Rajasthan's **Udaipur** district has been carried out along with the **plantation of native species** on the cleared patches of land.

- This has helped in **ecological restoration of grasslands and saved biodiversity**.

Key Points

➤ Lantana:

- *Lantana camara* is a small **perennial** shrub, which forms **extensive, dense and impenetrable thickets**.
- It is **native to Central and South America**.
- It is an **invasive species** which was introduced in tropical regions as an **ornamental plant** (introduced in **India** in **1807**).
- It is generally **deleterious to biodiversity** and is an **agricultural weed**.
- **Impact:**
 - The thickets covered vast tracts of land, **stopping the natural light and nutrition** for other flora and fauna.
 - The **toxic substance in its foliage and ripe berries** affected the animals.



- With the herbivores not getting sufficient forage, the **prey base for carnivorous animals was declining**, leading to **ecological disturbances in the food chain**.
- It has also invaded other wildlife reserves, river banks and the **Project Tiger** areas.
- In some regions, the plant has **invaded pastures** and shrunk the cattle grazing areas, affecting the livelihood of villagers.

➤ Sajjangerh Wildlife Sanctuary:

- **Location:** Udaipur (Rajasthan)
- **History:** It is a part of **Sajjangerh Palace** (also known as Monsoon Palace) built in 1884.
 - The Palace derived its name from Maharana Sajjan Singh, one of the rulers of the **Mewar dynasty**.
- **Area:** 5.19 sq. Km
- **Flora and Fauna:** Animals like chitals, panthers, hares, blue bulls (Nilgais), jackals, wild boars, hyenas, and sambhar.
 - More than 279 Plant Species.
- Famous for **Long-billed vulture**, commonly known as the **Indian vulture**.
 - Scientific Name: *Gyps indicus*
 - **IUCN Red List Status:** Critically Endangered
 - **CITES** Status: Appendix II
 - **Wild Life (Protection) Act, 1972** Status: Schedule I



Note:

History

Highlights

- Bhagat Singh's Birth Anniversary
- Centenary of Discovery of Harappan Civilization

Bhagat Singh's Birth Anniversary

Why in News

28th September is the birth anniversary of revolutionary freedom fighter Bhagat Singh.

Key Points

- **1907: Born in 1907** in Lyallpur district (now in Pakistan), Bhagat Singh grew up in a Sikh family deeply involved in political activities.
 - He belonged to a generation that was to intervene between two decisive phases of the Indian national movement, the phase of the '**Extremism**' of Lal-Bal-Pal and the **Gandhian phase of nonviolent mass action**.
- **1923:** He joined the **National College**, Lahore which was **founded and managed by Lala Lajpat Rai and Bhai Parmanand**.
- **1924:** In Kanpur, he **became a member of the Hindustan Republican Association (HRA)**, started by **Sachindranath Sanyal** a year earlier. The main organiser of HRA was **Chandra Shekhar Azad** to whom he became very close with time.
 - In 1928, HRA was renamed **to the Hindustan Socialist Republic Association (HSRA)**.
- **1925:** He returned to Lahore and within the next year, he and his colleagues started a militant youth organisation called the **Naujawan Bharat Sabha**.
- **1926:** In April, he established contact with **Sohan Singh Josh** and through him, with the '**Kirti Kisan Party**' which brought out the monthly magazine **Kirti** in Punjabi.



- For the next year, Bhagat Singh worked with Josh and **joined the editorial board of Kirti**.
- **1927:** He was first **arrested on charges of association with the Kakori Case** accused of an article written under the **pseudonym Vidrohi** (Rebel).
- **1928:** To take revenge for the death of Lala Lajpat Rai, **Bhagat Singh and his associates plotted the assassination of James A. Scott**, the Superintendent of Police.
 - However, they **mistakenly killed J.P. Saunders** and the incident is famously known as the **Lahore Conspiracy case, 1930**.
 - In 1928, Lala Lajpat Rai had led a procession to protest against the arrival of the **Simon Commission**. The police resorted to a brutal lathi-charge, in which Lala Lajpat Rai was severely injured and later succumbed to his injuries.
- **1929: Bhagat Singh and B.K. Dutt threw a bomb** on 8th April 1929 in the Central Legislative Assembly, in response to the formulation of Defence of India Act.
 - The **aim**, as their leaflet explained, **was not to kill but to make the deaf hear**, and to **remind the foreign government of its callous exploitation**.
 - Both Bhagat Singh and B.K. Dutt **surrendered** thereafter and faced trial so they could further promote their cause. They were awarded life imprisonment for this incident.
- **1931:** However, Bhagat Singh was **re-arrested for the murder of J.P. Saunders and bomb manufacturing in the Lahore Conspiracy case**. He was found guilty in this case and was **hanged on 23rd March 1931** in Lahore along with Sukhdev and Rajguru.
 - Every year, **the day** is observed as **Martyrs' Day** as a **tribute to freedom fighters Bhagat Singh, Sukhdev, and Rajguru**.

Note:



drishti

Centenary of Discovery of Harappan Civilization

Why in News

To mark the centenary of the discovery of the Harappan civilization at Mohenjo-Daro, the **India Study Centre Trust** in collaboration with the **Directorate of Archaeology and Museums**, Maharashtra, will organise a **10-day online lecture series** from 5th October 2020.

- The India Study Centre Trust has its core focus in the fields of archaeology, geology and biodiversity.

Key Points

- Harappan civilization is also known as **Indus Valley Civilization (IVC)** for being situated on and around the banks of the Indus river.
- It **flourished around 2,500 BCE** in the **western part of South Asia**, in contemporary Pakistan, western India and parts of Afghanistan.
- It was home to the **largest of the four ancient urban civilizations** of Egypt, Mesopotamia, India, and China.
- In the **1920s**, the **Archaeological Survey of India (ASI)** carried out excavations in the Indus valley wherein the ruins of the two old cities, viz. **Mohenjo-Daro and Harappa were unearthed**.
 - Both are **major sites of IVC and are among the earliest and finest examples of urban civic planning**.
 - The planned network of roads, houses and drainage systems indicate the planning and engineering skills that developed during those times.
- It was a **trade based civilization** which had overseas trade links with **Mesopotamia** (region of Western Asia situated within the Tigris–Euphrates river system) attested by the discovery of Harappan seals there and Mesopotamian carnelian beads here.
- The civilization **declined around 1800 BCE but the actual reasons behind its demise are still debated**.
 - **Invasion by Aryans, decline due to natural causes, flooding** because of a shift in river courses are among the major theories on its decline.

Important Sites of IVC

Site	Excavated by	Location	Important Findings
Harappa	Daya Ram Sahni in 1921	Bank of river Ravi in Montgomery district of Punjab (Pakistan)	<ul style="list-style-type: none"> ➤ Sandstone statues of Human anatomy ➤ Granaries ➤ Bullock carts
Mohenjo-Daro (Mound of Dead)	R.D. Banerjee in 1922	Bank of river Indus in Larkana district of Punjab (Pakistan)	<ul style="list-style-type: none"> ➤ Great bath ➤ Granary ➤ Bronze dancing girl ➤ Seal of Pasupathi ➤ Steatite statue of beard man ➤ A piece of woven cotton
Sutkagendor	Stein in 1929	In south-western Balochistan province, Pakistan on Dast river	<ul style="list-style-type: none"> ➤ A trade point between Harappa and Babylon
Chanh-udaro	N.G. Majumdar in 1931	Sindh on the Indus river	<ul style="list-style-type: none"> ➤ Bead makers shop ➤ Footprint of a dog chasing a cat
Amri	N.G. Majumdar in 1935	On the bank of Indus river	<ul style="list-style-type: none"> ➤ Antelope evidence
Kalibangan	Ghose in 1953	Rajasthan on the bank of Ghaggar river	<ul style="list-style-type: none"> ➤ Fire altar ➤ Camel's bones ➤ Wooden plough
Lothal	R. Rao in 1953	Gujarat on Bhogva river near Gulf of Cambay	<ul style="list-style-type: none"> ➤ First manmade port ➤ Dockyard ➤ Rice husk ➤ Fire altars ➤ Chess-playing
Surkotada	J.P. Joshi in 1964	Gujarat	<ul style="list-style-type: none"> ➤ Bones of horses ➤ Beads
Banawali	R.S. Bisht in 1974	Hisar district of Haryana	<ul style="list-style-type: none"> ➤ Beads ➤ Barley ➤ Evidence of both pre-Harappan and Harappan culture
Dholavira	R.S Bisht in 1985	Gujarat in Rann of Kachchh	<ul style="list-style-type: none"> ➤ Water harnessing system ➤ Water reservoir

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Note:

Geography

Highlights

- Re-measuring Mount Everest
- Mokedatu Project
- Increase in Frequency of Medicanes
- Autumnal Equinox in Northern Hemisphere

Re-measuring Mount Everest

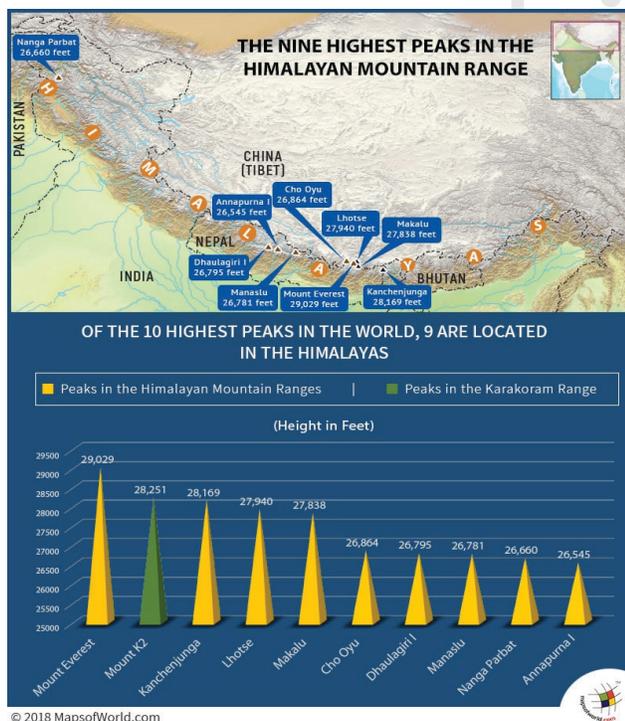
Why in News

China and Nepal are soon expected to announce **Mount Everest's latest official height**.

- In 2019, both countries agreed to re-measure the elevation of the world's highest mountain and announce the findings together.

Key Points

- **About:**
 - Mount Everest (also called **Sagarmatha in Nepal**) is **Earth's highest mountain** above sea level, located in the **Himalayas between China and Nepal** with their borders running across its summit point.



- Its **current official elevation is 8,848 m** which places it more than 200m above the **world's second-highest mountain, K2**, which is **8,611 m** tall and located in **Pakistan-occupied Kashmir**.
- Mount Everest gets its English name from **Sir George Everest**, a colonial-era geographer who served as the **Surveyor General of India** in the mid-19th century.
- It **was first scaled in 1953** by the **Indian-Nepalese Tenzing Norgay** and **New Zealander Edmund Hillary**.
- **Need for Re-measurement:**
 - Everest's current official height has been **widely accepted since 1956** when the figure was measured by the **Survey of India**.
 - However, the **height of a summit changes due to tectonic activities** like the 2015 Nepal earthquake.
 - Its measurement over the decades has also **depended on who was surveying**.
 - Previous measurements of the mountain were by **Indian, American or European surveyors**.
 - The **joint effort represents national pride for Nepal** which will come up with its own findings on the height.

Survey of India

- It is the **National Survey and Mapping Organisation** of the country under the **Department of Science and Technology**.
- It was **established in 1767** and is the oldest scientific department of the Government of India.
- Headquarters: **Dehradun, Uttarakhand**.
- It acts as an **adviser to the Government of India on all survey matters**, viz Geodesy, Photogrammetry, Mapping and Map Reproduction.

Note:

- **Geodesy** is the science of accurately measuring and understanding the Earth's geometric shape, orientation in space and gravity field.
- **Photogrammetry** is the science of making measurements from photographs.

Himalayas

- **Origin:** The **northward drift of the Indo-Australian plate** resulted in its collision with the much larger **Eurasian Plate**. Due to which, the sedimentary rocks which were accumulated in the geosyncline known as the **Tethys** were **folded to form the mountain system** of western Asia and Himalaya.
- **Features:**
 - The Himalayas are **geologically young and structurally folded mountains** and represent the **loftiest and one of the most rugged** mountain barriers of the world.
 - They **form an arc**, which covers a distance of about **2,400 km**. Their **width** varies from **400 km** in Kashmir to **150 km** in Arunachal Pradesh.
- The Himalayan mountains consist of **three parallel ranges in longitudinal extent:**
 - **Great Himalaya or Himadri:** It is the **northernmost and the most continuous** range consisting of the loftiest peaks with an average height of 6,000 m. World's highest peaks are located in it.
 - **Lesser Himalaya or Himachal:** To the south of Himadri, it is the **most rugged** mountain system and is known as Himachal or lesser Himalaya. The altitude varies between 3,700 and 4,500 m. It is well known for its hill stations like Kashmir, Kangra and Kullu Valleys.
 - **Shivalik:** It is the southernmost range with an altitude varying between 900 and 1100 m. These ranges are **composed of unconsolidated sediments** brought down by rivers from the main Himalayan ranges located farther north.

Mekedatu Project

Why in News

The Karnataka government is likely to pressurise the Centre for approval of the construction of the **Mekedatu Project** on the **Cauvery river**.

- Mekedatu, meaning **goat's leap**, is a **deep gorge** situated at the **confluence of the rivers Cauvery and its tributary Arkavathi**.
- **Ontigondlu** is the proposed reservoir site, situated at **Ramanagara district in Karnataka** about 100 km away from Bengaluru. It is the **midst of the Cauvery Wildlife Sanctuary**.
- The **Rs. 9,000 crore** project aims to **store and supply water for drinking purposes** for the Bengaluru city. Around **400 megawatts (MW)** of power is also proposed to be generated through the project.

Key Points

- The project was **first approved by the Karnataka state government in 2017**.
- It received **approval from the erstwhile Ministry of Water Resources** for the detailed project report and is **awaiting approval from the Ministry of Environment, Forest and Climate Change (MoEFCC)**.
 - The approval from MoEFCC is crucial because **63% of the forest area of the Cauvery Wildlife Sanctuary will be submerged**.
- **4.75 thousand million cubic feet of water could be drawn** from the reservoir to partially meet the drinking needs of Bengaluru.
- **Tamil Nadu has approached the Supreme Court (SC)** against the project even if Karnataka has held that it would not affect the flow of water to Tamil Nadu.
- **Reasons for Opposition by Tamil Nadu:**
 - Tamil Nadu is opposed to **any project being proposed in the upper riparian** unless it was approved by the Supreme Court.
 - **Karnataka has no right to construct** any reservoir on an inter-state river **without the consent of the lower riparian state** i.e. Tamil Nadu in this case.
 - The project is **against the final order of the Cauvery Water Disputes Tribunal (CWDT)** in which the SC held that **no state can claim exclusive ownership or assert rights to deprive other states of the waters of inter-state rivers**.
 - The CWDT and the SC have found that the **existing storage facilities available in the Cauvery basin were adequate** for storing and distributing water



Note:

so Karnataka's proposal is **ex-facie** (on the face of it) **untenable and should be rejected** outright.

- It has also held that the reservoir is not just for drinking water alone, but to increase the extent of irrigation, which is in **clear violation of the Cauvery Water Disputes Award**.

Increase in Frequency of Medicanes

Why in News

Scientists have warned that **extra-tropical storms** in the **Mediterranean Sea**, known as 'Medicanes' or 'Mediterranean Hurricanes', could become more frequent due to **human-induced climate change**.



Key Points

- **Medicanes:**
 - Medicanes are **tropical-like cyclones** formed over the Mediterranean Sea.
 - They typically **form in the fall or winter months and occur once or twice a year**.
 - On 18th September, 2020, a medicane named **Lanos** made landfall along the coast of **Greece** and caused heavy rainfall and flooding in Greece and surrounding islands.
- **Comparison with Tropical Cyclones:**
 - These **occur more in relatively colder waters** than tropical cyclones, **hurricanes** and **typhoons**. Hence, the cores of these storms are also cold, as compared to the warm cores of tropical cyclones (but warmer as compared to extra-tropical cyclones).
 - These are typically **smaller in diameter and have lower wind speeds than true tropical cyclones**.

- Sometimes, **warm-cored tropical cyclones transform into cold-cored extratropical cyclones** and in rare cases, the opposite can also happen.
- **Increase in Occurrence:**
 - Medicanes have **increased in number in the past half-century**.
 - Two of these storms, one in 2005 and another in 2012, even formed over the **Black Sea**, which is a much smaller water body than the Mediterranean Sea.
 - Due to global warming, warmer sea surface temperatures in the Mediterranean can allow the storms to **take on more tropical appearances and characteristics**, increasing the wind speeds and making the storms more intense and cause heavier rainfall.
 - This year is a **mild La Niña**, according to the **World Meteorological Organization**. La Niña tends to reduce the land falling hurricanes but even if the **La Niña this year is mild, the hurricane season is very active**. This implies that the impacts of **El Niño Southern Oscillation (ENSO)** are being modulated by global warming in all oceans, including the Mediterranean.
 - **The Special Report on the Ocean and Cryosphere in a Changing Climate** released by the Intergovernmental Panel on Climate Change (IPCC) in 2019 warns of increased temperatures and **more frequent extreme El Niño and La Niña events**.
- **Threats:**
 - Increase in frequency of medicanes will be a threat for already vulnerable populations living in North Africa, possibly triggering **human migration**.
 - They could also be a menace for European countries like Italy and Greece.

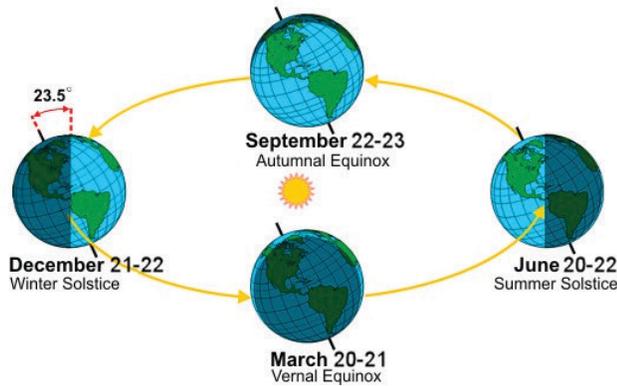
Autumnal Equinox in Northern Hemisphere

Why in News

On **22nd Sept 2020**, the day and night was almost equal in most locations marking the **start of autumn in the Northern Hemisphere** which lasts until the **winter solstice (December 21 or 22)**.

Note:





- Similarly, the **Vernal equinox** falls around **March 21**, marking the start of spring in the **Northern Hemisphere**.
- In the **Southern Hemisphere** the seasons are **reversed** (**Christmas** is celebrated in **Australia and New Zealand** in the summer season).

Key Points

- **About:**
 - The word equinox is derived from two **Latin words - aequus (equal) and nox (night)**.
 - There are only two times of the year when the Earth's axis is tilted neither toward nor away from the sun, resulting in a **nearly equal amount of daylight and darkness** at all latitudes. These events are referred to as Equinoxes.
 - The equinoxes happen in **March (about March 21)** and **September (about September 23)**.
- The equinoxes are prime time for Northern Lights – geomagnetic activities are twice more likely to take place in the spring and fall time, than in the summer or winter.
- **Varying Dates:** While the September equinox usually occurs on September 22 or 23, it can very rarely fall on September 21 or September 24.
 - This is because of the difference between how the Gregorian calendar defines a year (365 days) and the time it actually takes for **Earth to complete its orbit around the Sun (about 365 and 1/4 days)**.
- **Signals Changing of Seasons:** The equinoxes along with solstices signals the changing of the seasons.
 - The seasons on Earth change because the planet is slightly tilted on its axis as it travels around the Sun. Earth's rotational axis makes an angle of **23.5° with the normal** and angle of **66.5° with the orbital plane**.
 - If Earth were not tilted, the Sun would always appear to be directly above the Equator, the amount of light a given location receives would be fixed, and there would be no seasons. There also would be no need to mark equinoxes or solstices.
- **Solstices:** The **two solstices happen in June (20 or 21) and December (21 or 22)**. These are the days when the Sun's path in the sky is the **farthest north or south from the Equator**.



Note:

Art & Culture

Highlights

- Chendamangalam Saree: Kerala
- Kakatiya Dynasty
- Guru Nanak Dev's 481st Death Anniversary
- Jnanpith Award

Chendamangalam Saree: Kerala

Why in News

The Care 4 Chendamangalam (C4C) initiative is supporting the 2018 Kerala flood-affected weavers.

Key Points

- **Kerala Kasavu Sarees:** The term *kasavu* refers to the **zari (gold thread)** used in the border of the Kerala saree. The identity of the saree comes from the geographical cluster they are associated with.
- **Geographical Clusters:** The Indian government has identified three clusters in Kerala viz. **Balaramapuram, Chendamangalam** and **Kuthampully** which have been given **Geographical Indication (GI)** tags.
- **Chendamangalam Saree:**
 - **Features:**
 - It is **recognisable by its puliyilakara border**, a thin black line that runs side by side with the sari's border.
 - It has **extra-weft chuttikara** and **stripes and checks of varying width**.
 - **History:**
 - It is widely believed that **weaving in Chendamangalam was introduced by the Paliyam family**.
 - Called the **Paliath Achans**, the family was hereditary to the Prime Minister post to the Maharaja of Cochin, having been associated with Chendamangalam from the **16th century onwards**.



- **Other GI Tagged Products from Kerala:** Kasaragod Sarees, **Pokkali Rice**, Nilambur Teak, Wayanad Robusta Coffee, Tirur Betel Leaf, etc.

Kakatiya Dynasty

Why in News

A temple constructed by emperor Ganapati Deva, a mighty ruler of **Kakatiya dynasty**, in **Dharanikota** (Andhra Pradesh) has been **converted into an abode of local goddess Balusulamma** (Goddess Durga).

- The **presiding deity at this 13th-century temple was Kakati Devi**, the tutelary (guardian) deity of Kakatiya rulers.
- Due to **ravages of time and no upkeep**, the presiding deity got damaged. The villagers of Dharanikota, who had no knowledge about the past of the temple, installed Balusulamma idol and started worshipping.

Key Points

- Kakatiyas is an **Andhra dynasty** that **flourished in the 12th century CE**. The Kakatiya dynasty ruled from **Warangal** (Telangana) from **CE 1083-1323**.
- They were known for the **construction of a network of tanks for irrigation and drinking water** and thereby gave a big boost to the overall development of the region.
 - Telangana has launched a massive rejuvenation movement in the form of "**Mission Kakatiya**" which involves the **restoration of irrigation tanks and lakes/minor irrigation sources** built by the Kakatiyas.
- There are **hundreds of Hindu temples** built under the patronage of Kakatiya kings like **Ganapati Deva, Rudrama Devi** and **Prataparudra** of Kakatiya dynasty.

Note:



For example,

- **Thousand Pillar Temple or Rudreshwara Swamy Temple**, Telangana. It is a star-shaped, triple shrine (*Trikutalayam*) for Vishnu, Shiva and Surya.
- **Ramappa Temple**, Warangal, Telangana.
- **Golconda Fort** in Hyderabad (Telangana) was also constructed by the Kakatiya rulers.
- Later, it became the **capital of the Qutb Shahi kings**, who ruled from CE 1518-1687.

Guru Nanak Dev's 481st Death Anniversary

Why in News

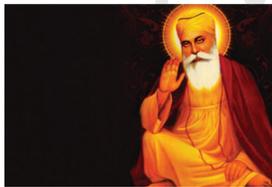
Recently, the **Jyoti Jot** (death anniversary) of **Guru Nanak Dev** (Founder of **Sikhism**) was observed at his final resting place **Gurdwara Darbar Sahib, Kartarpur** in Pakistan.

- On the occasion of the **550th birth anniversary** of Guru Nanak, the **Kartarpur Corridor** which connects India and Pakistan was opened to the public.

Key Points

➤ Guru Nanak:

- Guru Nanak, **first of the ten Sikh Gurus** in Sikhism, is believed to have died at **Kartarpur** on 22nd September 1539.
- Guru Nanak was born in **Talwandi Rai Bhoi**, near Lahore, Pakistan which was renamed later as **Nankana Sahib**.
- He was a great **thinker, philosopher, poet, traveller, political rebel, social leveller, mass communicator and spiritual master**.
- His political, social and spiritual beliefs were **based on love, equality, fraternity and virtue**. He is also viewed as a **symbol of peace and servicing**.
- His followers came to be known as **Sikhs**, which means a **learner** or a **disciple**.
- He used the **medium of music, poetry, song and speech** to **preach the love of God** and to **attack the socially oppressive practices of casteism** of the orthodox Brahmanical Hindu religion.



- He also spoke in favour of an **equitable social status for women**.

- Guru Nanak was also a **great traveller**. He went on long journeys (called Uddasian) to far off places along with his **two companions Bhai Bala**, a Hindu, and **Bhai Mardana**, a Muslim, to hold dialogues with many saints and Sufis.
- **Teaching of Guru Nanak:**
 - Guru Nanak declared that **God is one — formless** (Nirgun) and **without birth and death**. The **whole world is God's creation** i.e. **Ik Onkar Satnam**.
 - According to him **all are born equal**. He also stood for **karma** as the basis of **dharma**.
 - **Valued a simpler notion of truth** that was the basis of honest living.
 - He declared that truth has the highest value in life, but truthful living is higher still in value.
 - Created awareness related to the **conservation of water**, and the **importance of a clean environment**.
 - Emphasised on three things:
 - **Kirat Karni**: It means to work hard, and earn good karma and an honest livelihood.
 - **Vand Chakna**: It means to not be selfish, and share with others.
 - **Naam Japa**: It means to meditate and remember the name of god.
 - Provided a practical demonstration of **building a community** based on **strong egalitarian values** of:
 - **Cooperative agricultural work**
 - **Langar** (collective cooking and sharing of food)
 - **Pangat** (partaking food without distinctions of high and low)
 - **Sangat** (collective decision making)
 - His teachings are mentioned in the **Adi Granth** compiled by **Guru Arjan Dev** (1563-1606), the fifth sikh guru.

Jnanpith Award

Why in News

Renowned **Malayalam poet Akkitham Achuthan Namboothiri** was conferred the **55th edition of the Jnanpith Award**.

Note:

Key Points

➤ About the Award:

- It has achieved the recognition of the **highest literary award of the country**.
- **English along with other Indian languages** is considered for the Award.
- The Award is **open for only Indian citizens** and is **given annually**.
- The prize carries a cash award of Rs. 11 lakhs, a citation, and a bronze replica of Vagdevi (Saraswati), the goddess of learning.
- It is **sponsored by** the cultural organization **Bharatiya Jnanpith**.
- In 2019, author **Amitav Ghosh was felicitated with 54th Jnanpith Award**. He became the **first English language writer** to become a Jnanpith laureate.

➤ About Poet Akkitham:

- Akkitham is the **sixth writer** to bag the Jnanpith Award for **Malayalam literature**. In 1965, famous **Malayalam writer G Sankara Kurup** became the **first winner** of the Jnanpith Award.
- He is instrumental in heralding **modernism in Malayalam poetry**.
- He is the only living poet being called **Mahakavi (great poet)** in Malayalam.
- He has contributed seminal works such as *Pathalathinte Muzhakkam*, *Irupatham Noottandinte Ithihasam*, and *Balidarshanam*.
- His work *Balidarshanam* won the **State and Central Sahitya Akademi Awards** in 1972-73.
- He was awarded **Padma Shri** in **2017**.
- He has also been bestowed with **Ezhuthachan Award** (the highest literary honour of the Kerala government), **Odakkuzhal Award** (given to literary works in Malayalam), and several other honours.



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Social Issues

Highlights

- CAG Survey Report on School Toilets
- Sale of Loose Cigarettes and Beedis
- Congo Fever Alert in Maharashtra

CAG Survey Report on School Toilets

Why in News

- **The Comptroller and Auditor General of India (CAG)** has flagged irregularities in the construction of toilets in schools by Central Public Sector Enterprises (CPSEs) in an audit report tabled before Parliament.

Key Points

- **Physical survey:**
 - There are **10.8 lakh** government schools in the country. Overall, more than **1.4 lakh toilets** have been built by **53 CPSEs**, with significant support coming from **power, coal and oil companies** as part of the **Swachh Vidyalaya Abhiyan**.
 - The CAG audit conducted a physical survey of a sample of **2,695 toilets** built by these companies in 15 States.
- **Issues Found:**
 - **No functional toilets:** Out of the **1,967 coeducational schools** surveyed, 99 schools had no functional toilets while 436 had only one functional toilet, meaning that the **objective of providing separate toilets for boys and girls was not fulfilled in 27% of the schools**.
 - **Maintenance and Sanitation:**
 - **75%** of toilets did not follow the norm for daily cleaning at least once a day.
 - 72% of constructed toilets had no running water facilities inside, and 55% had no hand washing facilities at all, an even greater necessity in **Covid-19** affected times.
 - **Construction Issues:** Out of the sample of 2,695 toilets, CPSEs identified but did not construct 83.

Another 200 toilets were reported to be constructed, but were non-existent, while 86 toilets were only partially constructed.

- Thus, almost 40% of toilets were **non-existent, partially completed or unused**.
- The audit also noticed cases of **defective construction** of toilets, non-provision of foundation, ramp/staircase and damaged or overflowed leach pit, which led to ineffective use of toilets.
- **Prefabricated structures** were used for constructing many toilets leading to **extra expenditure, dilution in durability and non-compliance with direction**.

➤ Swachh Vidyalaya Abhiyan:

- It was launched by the **Ministry of Human Resource Development** (now Ministry of Education) in September **2014**.
- The **aim is** to meet the **Right to Education Act's mandate that all schools must have separate toilets for boys and girls**.
- In order to **effectively change the behaviour of students**, the programme norms required the **CPSEs** to build toilets with running water and hand washing facilities, and to maintain the toilets for three to five years while charging the **annual expenses to their Corporate Social Responsibility (CSR) budgets**.
- **Importance of School Toilets:**
 - **Constitutional Promises:** As mandated by the **Right to Education Act**, all children are required to spend **six hours** in school every day. During this period, they would want to use the toilets.
 - The Act mandates that all schools must have **separate toilets for boys and girls**.
 - **Health & Nutrition:** The provision of water, sanitation and hygiene facilities in school secures a

Note:

healthy school environment and protects children from **illness and exclusion**.

- Hygiene in school also **supports school nutrition**.
 - The simple act of washing hands with soap before eating the school mid-day meal assists to break disease transmission routes.
- **Enrolments & Dropouts:** Lack of toilets for girls, is a reason for dropouts. A school latrine generally increased female enrolment more than male enrolment.
 - **Child as a Change Agent:** Having a clean school fosters a child's pride in his or her school and community.
 - It enables every child to become an agent of change for improving water, sanitation and hygiene practices in their families and within their community.

Sale of Loose Cigarettes and Beedis

Why in News

The **Maharashtra government** has **banned the sale of loose cigarettes and beedis**, to reduce the consumption of tobacco and to comply with the **Cigarettes and Other Tobacco Products Act (COTPA) 2003**.

Key Points

- **Other States: Chhattisgarh** had banned the sale of loose cigarettes in 2020.
 - **Karnataka** banned the sale of loose cigarettes, beedis and chewing tobacco **in 2017**.
- **Reasons for Ban:**
 - The government's aim is to make sure that users are **able to see the mandated warnings on cigarette packaging**.
 - Under **COTPA**, tobacco products **need to be sold with graphic health warnings** on their packaging and loose cigarettes do not comply with this rule.
 - **Section 7** of the Act mentions, no person shall, directly or indirectly, produce, supply or distribute 6 cigarettes or any other tobacco products unless every package of cigarettes or any other tobacco products produced, supplied or distributed by him bears thereon, or on its label.

- The Act also mentions that the warning should be **specified on not less than one of the largest panels of the packet** in which the cigarettes or any other tobacco products have been packed for distribution, sale and supply.

➤ Pattern of Tobacco Use in India:

- According to the **Global Adult Tobacco Survey (GATS) 2016-2017**, which was a household survey conducted on over 74,000 people aged 15 years or more.
 - **Maharashtra has the lowest prevalence of tobacco smoking** in the country.
 - Over 91% of current smokers in the country believe that smoking **causes serious illness**.
 - **Smoke Tobacco- 10.7%** of all adults (99.5 million) in India **smoke tobacco**.
 - **In either Form- 28.6%** of all adults use tobacco either in smoke or smokeless form.
- **Average Monthly Expenditure:** In India, for a daily cigarette smoker around **Rs. 1,100** and that for a daily beedi smoker is estimated to be around **Rs. 284**.
- **Loose Tobacco Buyers: 68%** of smokers, **17%** beedi smokers, and **50%** of smokeless tobacco users in India purchase.
- As per the **Tobacco Free Union**, **over 1 million people die** from tobacco-related diseases in India every year.

➤ Effectiveness of Bans:

- The effectiveness of bans is not well known and depends on **how widespread and stringent the implementation is**.
- According to a **2017** study published in the **Journal of the Scientific Society**, **raising tax on tobacco products** is one of the key ways of controlling tobacco consumption.
- **Caveat:** While on one hand making tobacco products dearer may lead to an **overall decrease in consumption** of tobacco globally, on the other hand, it can lead to an **increase in the sale of loose cigarettes**.

➤ Tobacco Control in India:

- **International Convention:**
 - Governments adopt and implement the tobacco control provisions of the **WHO Framework Convention on Tobacco Control (WHO FCTC)**.

Note:



- It is the **first international treaty** negotiated under the auspices of the WHO.
 - It was adopted by the World Health Assembly on 21st May 2003 and entered into force on 27th February 2005.
 - India **ratified** the WHO FCTC in **2004**.
 - It was developed in response to the **globalization of the tobacco epidemic** and is an **evidence-based treaty** that reaffirms the right of all people to the highest standard of health. The FCTC's measures to combat tobacco use include:
 - Price and tax measures.
 - Large, graphic warnings on tobacco packages.
 - Keeping plain packaging to minimise the promotion of the products.
 - 100% smoke-free public spaces.
 - A ban on tobacco marketing.
 - Support for smokers who want to quit.
 - Prevention of tobacco industry interference.
- **Cigarettes and Other Tobacco Products Act (COTPA), 2003:** Replaced the Cigarettes Act of 1975 (largely limited to statutory warnings- 'Cigarette Smoking is Injurious to Health' to be displayed on cigarette packs and advertisements. It did not include non-cigarettes). The 2003 Act also included cigars, beedis, cheroots, pipe tobacco, hookah, chewing tobacco, pan masala, and gutka.
- **National Tobacco Control Programme (NTCP), 2008:**
- **Objective:** To control tobacco consumption and minimize tobacco consumption related deaths.
 - **Activities:** Training and capacity building; information, education, and communication (IEC) activities; tobacco control laws; reporting survey and surveillance and tobacco cessation.
- Cigarettes and other Tobacco Products (Packaging and Labelling) Amendment Rules, 2020:
- It was mandated that the specified health warning shall cover at least 85% of the principal display area of the package.
 - Of this, 60% shall cover pictorial health warning and 25% shall cover textual health warning.
 - This shall be positioned on the top edge of the package and in the same direction as the information on the principal display area.
- **mCessation Programme:**

- It is an initiative **using mobile technology** for tobacco cessation.
- India launched mCessation using text messages in 2016 as part of the government's **Digital India initiative**.
 - It uses two-way messaging between the individual seeking to quit tobacco use and programme specialists providing them dynamic support.
- **Prevention and Control of Pollution Act of 1981-** Recognized smoking as an air pollutant.
- **Cable Television Networks Amendment Act of 2000-** Prohibited the transmission of advertisements on tobacco and liquor in India.
- The Government of India has issued regulations under the **Food Safety and Standards Act 2006** which lay down that tobacco or nicotine cannot be used as ingredients in food products.

Congo Fever Alert in Maharashtra

Why in News

The Palghar administration has asked authorities to remain alert against a possible spread of the Congo fever in the Maharashtra district.

Key Points

- **Background:** Congo fever was first discovered in **Crimea** in **1944** and was named Crimean hemorrhagic fever.
 - Later in **1969**, scientists discovered that the pathogen responsible for causing Crimean hemorrhagic fever and the one that caused illness in **Congo** in 1956 was the same.
 - Hence, the name changed to Crimean-Congo haemorrhagic fever.
- **Crimean-Congo Haemorrhagic Fever (CCHF):**
 - **Cause:** The CCHF is a widespread disease caused by a **tick-borne virus (Nairovirus)** of the **Bunyaviridae** family.
 - **Transmission:**
 - The virus is transmitted through bite of **Hyalomma tick**, an external parasite, living by feeding on the blood of mammals, birds etc.
 - It can also be contracted through contact with **viraemic animal tissues** (animal tissues where

Note:

THE DEADLY VIRUS

Crimean-Congo Haemorrhagic Fever (CCHF) virus is considered as biosafety level 4 pathogen with up to **50%** fatality rate. In case of nosocomial infection, mortality rate may go up to **80%**

It produces little or no disease in its natural hosts (animals) but causes severe infection in humans

FROM THE PAST
It was first described in the Crimea in 1944 and was found to be responsible for an illness in a human in Congo in 1956

The disease is also known as Khungribta (blood taking), KhumYmuny (nose bleeding) and Karakhalak (Black Death) in different parts of the world

WAY FORWARD
Need for awareness programmes for people living in close proximity to livestock, people working in slaughterhouses, those handling animal carcasses for livelihood and health workers
Training for those working in primary healthcare centres, rural and district hospitals on biosafety issues, including isolation
Better surveillance

SYMPTOMS
Headache, high fever, back, joint & stomach pain, and vomiting
Rarer signs include jaundice, severe bruising and uncontrolled bleeding

INFECTIONS IN HUMANS
The regular mode of infection in humans are tick bites, nosocomial (originating in hospital) infection, crushing of infected ticks, direct contact with CCHF virus infected blood or tissue as during slaughtering infected animals

TREATMENT
There are limited treatment options for CCHF. Ribavirin is the only known drug that is effective against it

RISK GROUP
Shepherds, campers, agricultural workers, veterinarians, abattoir workers, and other persons in close contact with livestock and ticks are at risk of infection

Human-to-human transmission can be encountered in case of close contact with infected blood, secretions, organs or other body fluids of infected persons





the virus has entered the bloodstream) during and immediately **post-slaughter of animals**.

- **Human-to-human transmission:** It can occur resulting from close contact with the blood, secretions, organs or other bodily fluids of infected persons.

- **Hospital-acquired infections** can also occur due to improper sterilisation of medical equipment, reuse of needles and contamination of medical supplies.
- **Fatality:** CCHF outbreaks constitute a threat to public health services as the virus can lead to **epidemics**, with a high case **fatality ratio (10-40%)**.
- **Case fatality rate (CFR)** is a measure of the severity of a disease and is defined as the proportion of cases of a specified disease or condition which are fatal within a specified time.
- CCHF is **endemic** in all of Africa, the Balkans, the Middle East and in Asia.
- **Symptoms:**
 - Fever, muscle ache, dizziness, neck pain, backache, headache, sore eyes and photophobia (sensitivity to light).
 - There may be nausea, vomiting, diarrhoea, abdominal pain and sore throat early on, followed by sharp mood swings, confusion, depression and liver enlargement.

➤ **Treatment:**

- General supportive care with treatment of symptoms is the main approach to managing CCHF in people.
- The antiviral drug **ribavirin** has been used to treat CCHF infection with apparent benefit.
- There are **no vaccines** widely available for human or animal use.



Note:



Security

Highlights

- Defence Acquisition Procedure 2020

Defence Acquisition Procedure 2020

Why in News

Recently, a new **Defence Acquisition Procedure (DAP)** (erstwhile Defence Procurement Procedure or DPP), 2020 has been released by the Ministry of Defence (MoD).

Key Points

- **About:** The DAP contains policies and procedures for procurement and acquisition from the capital budget of the MoD in order to modernise the Armed Forces including the **Coast Guard**.
- **Background:** The first DPP was promulgated in 2002.
 - A **committee under the chairmanship of Director General (Acquisition)** was constituted to review the **Defence Procurement Procedure (DPP) 2016**.
 - **DPP 2016** was released replacing the DPP 2013 based on the recommendations of **Dhirendra Singh Committee**.
 - It focused on indigenously designed, developed and manufactured weapon systems.
 - It was facing several issues like lack of transparency (leading to Rafale Scam), inconvenient offset regulations, etc.
- **Objective:** Turning India into a global manufacturing hub.
 - Aligned with the vision of **Atmanirbhar Bharat** and empowering Indian domestic industry through the **Make in India** initiative.
- **Salient Features:**
 - **For Ease of Doing Business:**
 - **Time-Bound Defence Procurement Process and Faster Decision Making:** By setting up a **Project Management Unit** to support contract

management and to streamline the acquisition process.

- **Revised Offset Guidelines:**
 - Preference will be given to the manufacturing of complete defence products over components and various **multipliers** have been added to give incentivisation in the discharge of offsets.
 1. **Multipliers** are credit values earned on offset transactions. A multiplier of 3 means a foreign company can claim credits up to three times of its actual offset investment.
 - Further, there will be **no offset clause** in government-to-government, single vendor and Intergovernmental Agreements (IGA).
 1. **Offsets** are a portion of a contracted price with a foreign supplier that must be **re-invested in the Indian defence sector**, or against which the government can purchase technology.
 2. Offset clause was hindering the transfer of technology, according to a recent CAG report.
 - **Rationalisation of Procedures for Trials and Testing:** Scope of trials will be **restricted to the physical evaluation of core operational parameters**.
 - **To Develop India into Global Manufacturing Hub:**
 - **FDI in Defence Manufacturing:** Provisions have been incorporated like a new category '**Buy (Global-Manufacture in India)**', to encourage foreign companies to set up manufacturing through its subsidiary in India.
 - **To Promote Make in India and Atmanirbhar Bharat initiatives:**
 - **Reservation in Categories for Indian Vendors:**

Note:

Some categories like Buy (Indian Indigenously Designed Developed and Manufactured or IDDM), Production Agency in Design and Development, etc. will be exclusively reserved for Indian Vendors and FDI of more than 49% is not allowed.

Category	IC in DPP 2016	IC in DAP 2020
Buy (Indian-IDDM)	Min 40%	Min 50%
Buy (Indian)	Min 40%	Indigenous design – Min 50% Otherwise – Min 60%
Buy & Make (Indian)	Min 50% of Make	Min 50% of Make
Buy (Global – Manufacture in India)	Category did not exist	Min 50% of Buy plus Make
Buy (Global)	Category did not exist	Min 30% for Indian vendors

- **Ban on Import of Certain Items:** With a view to promote the domestic and indigenous industry, the MoD will notify a list of weapons/platforms banned for import.
- **Indigenisation of Imported Spares:** Steps to promote manufacturing of parts in India have been taken. This includes the establishment of co-production facilities through IGAs achieving 'Import Substitution' and reducing Life Cycle Cost.
- **Overall Enhancement in Indigenous Content (IC):** This has been done in all the categories, for products like software, etc. as follows:

➤ **Other Related Initiatives:**

- Recently, the Ministry of Defence has formulated a **Draft Defence Production and Export Promotion Policy (DPEPP) 2020**.

- **Innovations for Defence Excellence (iDEX)** have been operationalised to provide necessary incubation and infrastructure support to the startups in the defence area.
 - iDEX would be further scaled up to engage with 300 more startups and develop 60 new technologies/products during the next five years.
- **Mission Raksha Gyan Shakti** was launched to promote a greater culture of innovation and technology development and file a higher number of patents in Defence Public Sector Undertakings (DPSUs) and Ordnance Factory Board (OFB).
 - It would be scaled up for promoting the creation of **Intellectual Property** in the sector and its commercial utilisation.

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Miscellaneous

Highlights

- *Bharati Script*

Bharati Script

Why in News

Bharati script is designed to be a **common script** that can express all the major Indian languages.

- The script refers to a set of letters used for writing a particular language. For example, Devanagari, Roman, etc.

Key Points

- **Developed By:** Srinivasa Chakravathy's team at IIT Madras.
- **Features:**
 - Bharati is a **simple and unified script** which can be used to write most major Indian languages.
 - It is designed using the simplest shapes, often borrowing simple characters from various Indian languages/scripts and English.
 - **Scripts supported are:** Hindi/Marathi (Devanagari), Tamil, Telugu, Gujarati, Punjabi (Gurmukhi), Bengali, Oriya, Kannada and Malayalam.
- **Use of Technology:**
 - **Optical Character Recognition:** The team has developed a **method for reading documents in Bharati script** using a multi-lingual **Optical Character Recognition (OCR)** scheme.
 - OCR is a system that provides full alphanumeric recognition of printed or handwritten characters at electronic speed by simply scanning the form.
 - **Finger-spelling Method:** It can be used to generate a sign language for hearing-impaired persons.
 - **Related Applications/Tools:** Bharati Handwriting Keyboard and Bharati Transliterator.

- It is **different from the translation** which allows words in one language to be understood by those who speak another language. Essentially, the translation of a foreign word involves interpreting its meaning.

- **Transliteration**, on the other hand, makes a language a little more accessible to people who are unfamiliar with that language's alphabet. It **focuses more on pronunciation than meaning**, which is especially useful when discussing foreign people, places, and cultures.

Significance:

- It is in line with '**One Nation, One Script**'.
- The **Roman script** is used as a **common script for many European languages** (English, French, German, Italian, etc.), which **facilitates communication across nations** that speak and write those languages.
- Likewise, a common (Bharati) script for the entire country is hoped to bring down many communication barriers in India.
 - It can **help the next generation** of Indians to easily read in Indian languages.
 - It is an **ideal script for languages like Konkani or Tulu** which do not have their own script.
 - It can serve as a **writing system for the innumerable tribal languages** of India, and languages of the Northeast.
 - It can **act as a link script for migrant Indians** who move out of their native state for work.
 - It can **connect the millions of Non-Resident Indian (NRI) children** back to Indian literature.
 - It can **lead to a new system of Braille** (for visually-impaired persons) for Indian languages and even a fingerspelling system for the hearing-impaired.



Note:

Key Points

Details

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Summary

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