Current Affairs

(Consolidation)

June 2020
(Part – I)

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Highlights

Reservation Not a Fundamental Right: Supreme Court

Why in News

Recently, the **Supreme Court** of India has said that **reservation** of seats provided to **certain communities is not a fundamental right.**

Key Points

- All political parties from Tamil Nadu had filed a writ petition in the Supreme Court seeking direction to the Centre to **implement 50% Other Backward Class (OBC) reservation** in the **all-India NEET seats** surrendered by the state.
- They have accused the Centre of "violating the right of the people to have a fair education" by neither implementing the 50% quota for OBC in Tamil Nadu nor providing 27% reservation for OBC candidates in other states for the All India Quota seats.
- However, the Supreme Court pointed that a **writ petition under Article 32** of the Constitution can be filed **only in case of violation of fundamental rights.**
- The Court observed that the **Right to Reservation is not a fundamental right.**
- Earlier, the Court had ruled that **reservation in promotion is not a fundamental right.**
  - The fundamental rights have been classified under the **six categories**- Right to Freedom, Right to Equality, Right against Exploitation, Right to Freedom of Religion, Cultural and Educational rights and Right to constitutional remedies.
  - They are **mentioned in Part III (Articles 12 to 35)** of the Indian Constitution.

Constitutional Provisions for Reservation in Education and Jobs

- Various provisions in Article 15 and 16 of the Constitution empower the State to make special provisions in education and jobs respectively for the socially and educationally backward section of the society and for the economically weaker section.
- Although these provisions are mentioned in Part III (fundamental rights) of the Constitution, their nature is like directives to the state i.e. they are not binding on the state.
- **SC/ST Reservation:**
  - The state (both Centre and the states) is permitted to make any special provision for the advancement of scheduled castes and scheduled tribes. For example, reservation of seats or fee concessions in public educational institutions and providing reservation in government jobs if they are not adequately represented.
  - The quota for SCs is 15% and for STs it is 7.5%
- **Other Backward Class (OBC) Reservation:**
  - The state (both Centre and the states) is empowered to make provision for the advancement of OBCs regarding their admission to educational institutions and government jobs.

○ The quota limit for OBCs is 27%. However, various state governments have different quota limits for OBCs in their state. E.g Tamil Nadu (50% reservation for OBCs).

○ In the **Indra Sawhney 1992 judgement**, the Supreme Court fixed the upper limit for the combined reservation quota i.e. should not exceed 50% of seats.

➤ **Economically Weaker Section (EWS) Reservation:**

○ The **103rd Constitution Amendment Act, 2019**, empowers both Centre and the states to provide 10% reservation to the EWS category of society in government jobs and education institutions.

Writ Jurisdiction

➤ The Supreme Court under **Article 32** and the High courts under **Article 226** of the Constitution can issue the writs of **habeas corpus, mandamus, prohibition, certiorari and quo-warranto.**

➤ The Parliament under Article 32 can also empower any other court to issue these writs. However, no such provision has been made so far.

➤ Difference in writs of Supreme Court and High court.

○ The **Supreme Court** can issue writs **only for the enforcement of fundamental rights** whereas a High court can issue writs for the enforcement of **Fundamental Rights and also for an ordinary legal right.**

○ The Supreme Court can issue writs throughout the territory of India whereas a **High court can issue writs within its territorial jurisdiction.**

○ A remedy **under Article 32** is in **itself a Fundamental Right** and hence, the Supreme Court **may not refuse to exercise its writ jurisdiction**. On the other hand, a **remedy under Article 226 is discretionary** and hence, a High court may refuse to exercise its writ jurisdiction.

● The Supreme Court is thus constituted as a defender and guarantor of the fundamental rights.

Inclusion of Reservation Laws in Ninth Schedule

Why in News

Recently, a Union Minister emphasised the need to **include all reservation-related laws in the Ninth**

Schedule of Constitution so that they are shielded from **judicial review**.

Key Points

➤ The minister argued that **reservation is not confined** just to Scheduled Castes (SCs) and Scheduled Tribes (STs) and is available to Other Backward Classes (OBCs) and poor sections of the upper castes as well and have been **attached to Fundamental Rights**.

➤ This demand comes after the **Supreme Court's** recent observation that the **Right to Reservation is not a Fundamental Right**.

➤ Earlier, SC ruled that **reservation in the matter of promotions in public posts was not a fundamental right** and that a **state cannot be compelled to offer quota** if it chooses not to.

➤ Apart from that, there have been repeated challenges to the **Scheduled Castes and Tribes (Prevention of Atrocities) Act, 1989** and **its amendments**.

Ninth Schedule

➤ The Schedule contains a list of central and state laws which cannot be challenged in courts and was added by the **Constitution (First Amendment) Act, 1951**.

○ The first Amendment added 13 laws to the Schedule. Subsequent amendments in various years have taken the number of protected laws to 284 currently.

➤ It was created by the new **Article 31B**, which along with **Article 31A** was brought in by the government to protect **laws related to agrarian reform** and for **abolishing the Zamindari system**.

○ While **Article 31A extends protection to 'classes' of laws**, Article 31B shields specific laws or enactments.

○ While most of the laws protected under the Schedule concern agriculture/land issues, the list includes other subjects.

➤ Article 31B also has a **retrospective operation** which means that if laws are inserted in the Ninth Schedule after they are declared unconstitutional, they are considered to have been in the Schedule since their commencement, and thus valid.

➤ **Although Article 31B excludes judicial review**, the apex court has said in the past that even laws under the Ninth Schedule would be **open to scrutiny if they violated Fundamental Rights or the basic structure of the Constitution**.

Note:

Way Forward

➢ Although reservation is necessary, it should also be open to judicial scrutiny in order to ensure any abrupt or irrational policy initiative by the Executive or the Legislature.

➢ Any loophole or shortcomings in reservation policy must be addressed by involving various stakeholders. The need of the hour is not to go to extremes of either scrapping or shielding reservation policy, rather a rational framework on this contentious policy must be developed.

PM-CARES Not Under RTI

Why in News

The **Prime Minister's Office (PMO)** has clarified that the **Prime Minister's Citizen Assistance and Relief in Emergency Situations Fund (PM-CARES Fund)** is **not a public authority under the ambit of the Right To Act (RTI), 2005**.

➢ PM-CARES Fund was **set to accept donations and provide relief** during the **Covid-19 pandemic**, and other similar emergencies.

➢ The PMO's response came in the backdrop of the RTI query filed to know the Fund's trust deed and all government orders, notifications and circulars relating to its creation and operation.

PM-CARES Fund

➢ **Description:**

❍ PM-CARES was set up as a **public charitable trust** with the trust deed registered on 27th March, 2020.

❍ It can avail donations from the foreign contribution and donations to fund can also avail **100% tax exemption**.

❍ PM-CARES is **different** from the Prime Minister's National Relief Fund (PMNRF).

➢ **Purpose:**

❍ It is meant for **supporting relief or assistance** of any kind relating to a public health emergency or any other kind of emergency, calamity or distress, either man-made or natural.

❍ It includes the creation or upgradation of healthcare or pharmaceutical facilities, funding relevant research or any other type of support.

➢ **Composition:**

❍ **Prime Minister as chairperson**

❍ Defence Minister, Home Minister, Finance Minister

❍ Three trustees nominated by the Prime Minister "who shall be eminent persons in the field of research, health, science, social work, law, public administration and philanthropy".

Prime Minister's National Relief Fund (PMNRF)

➢ **Description:**

❍ PMNRF was instituted in **1948** by then Prime Minister Jawaharlal Nehru, t**o assist displaced persons from Pakistan**.

❍ The fund is recognized as a **Trust under the Income Tax Act** and the same is managed by the Prime Minister or multiple delegates for national causes.

❍ The contributions towards PMNRF are notified for **100% deduction** from taxable income under section 80(G) of the **Income Tax Act, 1961**.

➢ **Purpose:**

❍ The fund is currently used primarily **to tackle natural calamities** like floods, cyclones and earthquakes.

❍ The fund is also used to help with medical treatment like kidney transplantation, cancer treatment and acid attack.

➢ **Contributions:**

❍ The fund consists **entirely of public contributions** and **does not get any budgetary support**. It accepts voluntary contributions from Individuals, Organizations, Trusts, Companies and Institutions etc.

❍ The corpus of the fund is also invested in various forms with scheduled commercial banks and other agencies. Disbursements are made **with the approval of the Prime Minister**.

Key Points

➢ **PM-CARES Not a Public Authority:**

❍ It has been stated that the PM-CARES Fund is **not a Public Authority** under the ambit of **Section 2(h) of the RTI Act, 2005**.

❍ However, relevant information in respect of PM-CARES Fund may be seen on the website pmcares.gov.in.

➢ **Ambiguous Nature of PMNRF Under RTI:**
  ❍ There is **ambiguity** regarding whether the PMNRF (Prime Minister's National Relief Fund) is subject to the RTI Act.
  ❍ The **Central Information Commission (CIC)** has **directed PMNRF to disclose** information as a **result of the Delhi High Court's split opinion** on the question of whether PMNRF is a public authority under the Act.
    • The split opinion signifies that some Justices from the Delhi High Court Bench held PMNRF as a public authority, whereas some Justices held that PMNRF is not a public authority.
➢ **Audit of PM-CARES and PMNRF:**
  ❍ Earlier, the **Comptroller and Auditor General's (CAG)** office had clarified that it **wouldn't audit the PM-CARES Fund** as it is **'a charitable organisation'** and is also based on donations from individuals and organisations.
  ❍ The PMNRF too is **not audited by CAG** but it is **audited by an independent auditor outside of the government**.

Section 2 (h) of the RTI Act
➢ Under **section 2(h) of the RTI Act "Public authority"** means any authority or body or institution of self government established or constituted—
  ❍ by or under the Constitution;
  ❍ by any other law made by Parliament/State Legislature.
  ❍ by notification issued or order made by the appropriate Government, and includes any—
    • body owned, controlled or substantially financed;
    • non-Government organisation substantially financed, directly or indirectly by funds provided by the appropriate Government.
➢ Earlier in 2019, the Supreme Court ruled that the **office of the Chief Justice of India (CJI) is a public authority** under the Right to Information (RTI) Act, 2005.

Vamsadhara River Water Dispute

Why in News
The **Chief Ministers of Andhra Pradesh and Odisha**

will hold talks to clear out all differences with regard to the **sharing of Vamsadhara river waters**.
➢ Andhra Pradesh wants to build the **Neradi bridge** across the river which will be possible only after Odisha's consent.

Key Points
➢ Andhra Pradesh also wants to complete the **inter-linking of its Nagavali river with the Vamsadhara** and expand the **Madduvalasa Reservoir project** soon.
  ❍ Madduvalasa Project is a **Medium Irrigation Project** with a reservoir across **Suvarnamukhi** river, a **tributary of Nagavali** river.
➢ **Agriculture is the only assured economic activity** for the people living in the backward region and in the **absence of rapid industrialisation**, there is a need to **concentrate on irrigation projects** to make agriculture a viable activity.
➢ **Background:**
  ❍ In **February 2006**, Odisha sent a complaint to the Central Government under **Section 3 of the Inter-State River Water Disputes (ISRWD) Act, 1956** regarding its water disputes with Andhra Pradesh pertaining to **Inter-State River Vamsadhara.** It demanded for the constitution of an **Inter-State Water Disputes** **Tribunal** for adjudication.
  ❍ **Grievances of Orissa:**
    • **Adverse effect** of undertaking the **construction of a canal** (called a flood flow canal at Katragada, Andhra Pradesh) taking off from the river Vamsadhara.
      ▪ The flood flow canal would result in **drying up the existing river bed** and consequent shifting of the river **affecting the groundwater table**.
    • **Failure of Andhra Pradesh** to implement the terms of the inter-state agreement relating to use, distribution and control of waters of vamsadhara and its valley.

Major Inter-State River Disputes	
River (s)	**States**
Ravi and Beas	Punjab, Haryana, Rajasthan
Narmada	Madhya Pradesh, Gujarat, Maharashtra, Rajasthan
Krishna	Maharashtra, Andhra Pradesh, Karnataka, Telangana
Vamsadhara	Andhra Pradesh & Odisha
Cauvery	Kerala, Karnataka, Tamil Nadu and Puducherry
Godavari	Maharashtra, Andhra Pradesh, Telangana, Karnataka, Madhya Pradesh, Odisha
Mahanadi	Chhattisgarh, Odisha
Mahadayi	Goa, Maharashtra, Karnataka
Periyar	Tamil Nadu, Kerala

- Odisha also raised the issue of **scientific assessment** of available water in Vamsadhara at Katragada and Gotta Barrage, Andhra Pradesh and the basis for sharing the available water.

> **Vamsadhara River**
>
> ➢ It is an **east-flowing** river which originates in **Kalahandi district of Odisha**, flows in Odisha, along its boundary with Andhra Pradesh and finally **joins the Bay of Bengal at Kalingapatnam, Andhra Pradesh**.
>
> ➢ It is the **main river of north-eastern Andhra** region and the **Boddepalli Rajagopala Rao Project** was constructed on it to meet the irrigation needs of the region.
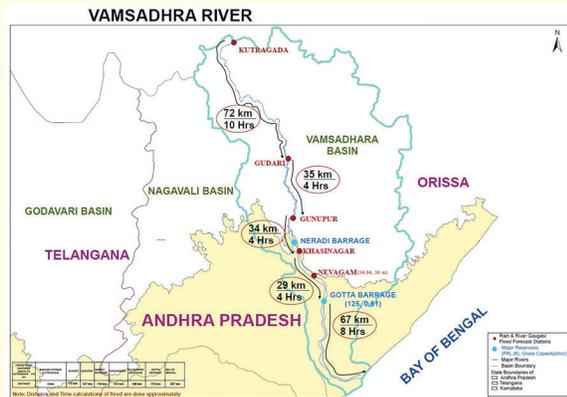
Water Dispute Between Telangana and Andhra Pradesh

Why in News

Recently, the Union government has decided **to take the stock of water utilisation** from the **Krishna and Godavari rivers** following the filing of complaints against each other by Telangana and Andhra Pradesh governments.

Key Points

➢ **Water Dispute:**
  - Telangana and Andhra Pradesh share stretches of the Krishna and the Godavari and own their tributaries.
  - Both states **have proposed several new projects without getting clearance** from the **river boards, the Central Water Commission and the Apex Council,** as mandated by the Andhra Pradesh Reorganisation Act, 2014.

- The Andhra Pradesh Reorganisation Act, 2014 **mandates for constitution of an Apex Council by Central Government** for the supervision of the functioning of the Godavari River Management Board and Krishna River Management Board.
- The Apex Council **comprises the Union Water Resources Minister and the Chief Ministers of** Telangana and Andhra Pradesh**.**

○ The Andhra Pradesh government's proposal to increase the utilisation of the Krishna water from a section of the river above the **Srisailam Reservoir** led to the Telangana government filing a complaint against Andhra Pradesh.
  - The Srisailam reservoir is constructed across the **Krishna River in Andhra Pradesh**. It is located in the **Nallamala hills.**

○ The Andhra Pradesh government retaliated with its own complaints saying that **Palamuru-Rangareddy, Dindi Lift Irrigation Schemes on the Krishna river** and **Kaleshwaram, Tupakulagudem schemes and a few barrages proposed across the Godavari** are all new projects.

➢ **Krishna Water Dispute Tribunal:**
  ○ **Two tribunals** have been constituted to resolve the **disputes of the Krishna water.**
  ○ **Andhra Pradesh has countered the second Krishna Water Dispute Tribunal (KWDT) order** issued by Justice Brijesh Kumar in 2010.
    - The Brijesh Kumar Tribunal has allocated 81 thousand million cubic feet (tmcft) of surplus water to Maharashtra, 177 tmcft to Karnataka and only 196 tmcft to Andhra Pradesh .
  ○ After the creation of Telangana as a separate state in 2014, **Andhra Pradesh is asking to include Telangana as a separate party at the KWDT** and that the allocation of Krishna waters be reworked among four states, instead of three.
    - It has challenged the order of the Brijesh Kumar Tribunal in the Supreme Court.

➢ **Godavari Water Dispute Tribunal:**
  ○ The **Godavari Water Dispute Tribunal headed by Justice Bachawat** was constituted by the Government in April, 1969.
    - The **tribunal was tasked to look after the dispute over Godavari river** between Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Odisha, and Karnataka over the sharing of the Godavari river water.

- The Bachawat Tribunal gave its final award in 1980.
- Accordingly, each State was free to utilise the flow in Godavari and its tributaries up to a certain level.
- Thus, Andhra Pradesh decided to divert 80 tmcft of Godavari water from Polavaram to Krishna river, upstream of Vijayawada, so that it could be shared with Karnataka and Maharashtra.
  - Once Telangana came into existence in 2014, **the Godavari water and, more specifically, the Polavaram project became the bone of contention** between Telangana and Andhra Pradesh.
    - While the project will take care of the irrigation needs of the Godavari districts of Andhra Pradesh, Telangana fears it would submerge many villages in its Khammam district.
    - Odisha too has expressed its reservations over the Polavaram dam's design.
- ➤ **Union Government's Move:**
  - It has asked the Krishna and Godavari River Management Boards **to procure the details of the irrigation projects on these rivers**, including from Maharashtra and Karnataka and submit them to the Centre in a month.
  - The **main objective** of the exercise appears to be to assess whether surplus water will be available for the new projects in Telangana and Andhra Pradesh, in the light of the disputes.

Inter-State Water Disputes

- ➤ **Article 262** of the Constitution provides for the adjudication of inter-state water disputes.
  - Under this, **Parliament may by law provide for the adjudication of any dispute** or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
  - Parliament may also provide that neither the Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint.
- ➤ The Parliament has enacted the two laws, the **River Boards Act (1956)** and the **Inter-State Water Disputes Act (1956).**
  - The River Boards Act provides for the establishment of river boards by the Central government for the regulation and development of inter-state river and river valleys.

- A River Board is established on the request of state governments concerned to advise them.
- ➤ The Inter-State Water Disputes Act empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.

Krishna River

- ➤ **Source:** It originates near Mahabaleshwar (Satara) in Maharashtra. It is the second biggest river in peninsular India after the Godavari River.
- ➤ **Drainage:** It runs from four states Maharashtra (303 km), North Karnataka (480 km) and the rest of its 1300 km journey in Telangana and Andhra Pradesh before it empties into the Bay of Bengal.
- ➤ **Tributaries:** Tungabhadra, Mallaprabha, Koyna, Bhima, Ghataprabha, Yerla, Warna, Dindi, Musi and Dudhganga.

Godavari River

- ➤ **Source**: Godavari river rises from Trimbakeshwar near Nasik in Maharashtra and flows for a length of about 1465 km before outfalling into the Bay of Bengal.
- ➤ **Drainage Basin**: The Godavari basin extends over states of Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh and Odisha in addition to smaller parts in Madhya Pradesh, Karnataka and Union territory of Puducherry.
- ➤ **Tributaries**: Pravara, Purna, Manjra, Penganga, Wardha, Wainganga, Pranhita (combined flow of Wainganga, Penganga, Wardha), Indravati, Maner and the Sabri.

PM SVANidhi: Micro Credit Scheme for Street Vendors

Why in News

The **Ministry of Housing and Urban Affairs (MoHUA)** has launched **Pradhan Mantri Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi)**, for providing **affordable loans to street vendors**.

- ➤ Earlier, the Scheme was announced as a part of the **Economic Stimulus-II** under the **Atmanirbhar Bharat Abhiyan**.

Note:

- ➢ The scheme would benefit **vendors, hawkers, thelewale and people involved in goods and services related to textiles, apparel, artisan products, barbers shops, laundry services** etc. in different areas.

Key Points

- ➢ **Loan facility:**
  - ○ The vendors can avail a working **capital loan of up to Rs. 10,000**, which is repayable in monthly instalments within a year. The loans would be **without collateral.**
    - ● It is for the first time that **Microfinance Institutions**, **Non-Banking Financial Company, Self Help Groups** have been allowed in a scheme for the urban poor due to their ground level presence and proximity to the urban poor including the street vendors.
  - ○ There will be **no penalty** on **early repayment** of loan.
    - ● Early repayment (or resettlement) is a clearance of debt or loan before the scheduled time. Many banks and lenders charge penalties for repaying loans early.
  - ○ Those **who were vending till 24th March, 2020 can avail the benefits of the scheme.**
    - ● This is for the **first time** that **street vendors from peri- urban/rural** areas have become beneficiaries of an urban livelihood programme.
  - ○ The **scheme is valid until March 2022.**
- ➢ **Interest subsidy:**
  - ○ On timely/early repayment of the loan, an interest subsidy of **7% per annum** will be credited to the bank accounts of beneficiaries through direct benefit transfer on a six monthly basis.
- ➢ **Escalation of credit limits:**
  - ○ The scheme provides for the rise of the credit limit on timely/ early repayment of loans i.e. if a street vendor repays the installments on time or earlier, he or she can develop his or her credit score that makes him/her **eligible for a higher amount of term loan such as Rs. 20,000**.
- ➢ **Encourage digital transactions:**
  - ○ The scheme incentivises digital transactions by the street vendors through monthly cash back.
- ➢ **Focus on capacity building:**
  - ○ MoHUA in collaboration with State Governments will launch a capacity building and financial literacy programme of all the stakeholders and **Information,**

Education and Communication (IEC) activities throughout the country during the month of **June** and **loaning will commence in the month of July**.

- ➢ **Role of Urban Local Bodies (ULBs):**
  - ○ ULBs will play a pivotal role in the **implementation of the scheme** by ensuring to target the beneficiary and reaching to them in an efficient manner.
- ➢ **E-governance:**
  - ○ In line with the vision of leveraging technology to **ensure effective delivery and transparency**, a digital platform with web portal/ mobile app is being developed to administer the scheme with end-to-end solution.
  - ○ This platform will integrate the web portal/ mobile app with **UdyamiMitra portal of SIDBI** for credit management and **PAiSA portal of MoHUA** to administer interest subsidy automatically.
  - ○ It will help in **integrating the vendors into the formal financial system.**

Way Forward

- ➢ The loans through the scheme would help to **kick-start activity for vendors** who have been left without any income due to the impact of Covid-19 and lockdown.
- ➢ Despite multiple schemes running for the street vendors, there are various gaps in **implementation, identification, awareness and accessibility of various schemes** which should be plugged in a timely manner.
- ➢ Benefits like **maternity allowances, accident relief, natural death compensation, education support for children for higher studies, pension** during any crisis should be provided to them.

Science Technology and Innovation Policy

Why in News

Recently, the **Office of the Principal Scientific Adviser** to the Government of India (Office of PSA) and the **Department of Science and Technology** (DST) have jointly initiated the formulation of a new national **Science Technology and Innovation Policy (STIP 2020)**.

Key Points

- ➢ It will be the **5th STIP of India** and is being formulated at a crucial juncture when India and the world are tackling the **Covid-19**.

Note:

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○ It will integrate the lessons of the **pandemic** including the building of an **Atmanirbhar Bharat** by leveraging India's strengths in research and development, design, science and technology workforce and institutions, huge markets, demographic dividend, diversity and data.

➢ The **STIP 2020 formulation process** will be six-months long and has been organised into **4 highly interlinked tracks:**

○ **Track I:** It involves an extensive public and expert consultation process through Science Policy Forum, a dedicated platform for soliciting inputs from larger public and expert pools during and after the policy drafting process.

○ **Track II:** It comprises experts-driven thematic consultations to feed evidence-informed recommendations into the policy drafting process. 21 focused thematic groups have been constituted for this purpose.

○ **Track III:** It involves extensive intra-state and intra-department consultation with Ministries and States.

○ **Track IV:** It constitutes an apex level multi-stakeholder consultation.

➢ **Previous Four STIPs:**

○ Scientific Policy Resolution 1958:

- India's first major science policy can be traced back to the year 1958.

- SPR 1958 laid the foundation of the scientific enterprise and scientific temper in India.

○ **Technology Policy Statement 1983:**

- The primary feature of TPS 1983 was technological self-reliance through promotion and development of indigenous technologies.

- Adoption of indigenous technology would reduce vulnerabilities in critical areas and would help maximise the utilisation of local (human and material) resources.

○ **Science and Technology Policy 2003:**

- Its aim was to keep up the pace with science and technology, to stay competitive in an increasingly globalised world and to meet the primary goal of equitable and sustainable development.

- It called to invest heavily in the research and development sector with the aim of increasing investment to 2% of the **Gross Domestic Product** (GDP).

○ **Science, Technology and Innovation Policy 2013:**

- The decade of 2010 to 2020 was declared as a decade of innovation.

- It was acknowledged that in order to stay globally competitive, it was necessary to make a transition into a knowledge-based economy.

- This policy document was a step in the direction towards building a robust national innovation ecosystem.

Office of the Principal Scientific Adviser

➢ It was set-up in **November 1999 by the Cabinet Secretariat.**

➢ **Objectives:**

○ To evolve policies, strategies and missions for the generation of innovations and support systems for multiple applications.

○ To generate science and technology tasks in critical infrastructure, economic and social sectors in partnership with Government departments, institutions and industry.

○ To function as the Secretariat to the Scientific Advisory Committee to the Cabinet, with the Principal Scientific Adviser to the Government of India as its Chairman.

➢ The **Prime Minister's Science, Technology and Innovation Advisory Council** (PM-STIAC) is an overarching council that facilitates the PSA's office.

Department of Science and Technology

➢ The foundation of DST was laid on **3rd May 1971** along with the model of National Science Foundation (NSF), USA.

➢ It provides funding and also makes policies and co-ordinates scientific work with other countries.

➢ It empowers scientists and scientific institutions and also works with a highly distributed system permeating stakeholders ranging from school college, PhD, Postdoc students, young scientists, startups and NGOs working in Science and Technology.

Inner Line Permit and Citizenship Amendment Act

Why in News

Recently, the Supreme Court refused to stay the

Note:

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Adaptation of Laws (Amendment) Order, 2019, issued by the **President** to amend the **Bengal Eastern Frontier Regulation (BEFR), 1873.**

➢ The court said it will have to hear what the government has to say on the matter.

Key Points

➢ The Presidential order was challenged in the Supreme Court by Asom Jatiyatabadi Yuba Chatra Parishad (AJYCP) and All Tai Ahom Students' Union (ATASU).

➢ The petitioners claimed that the Presidential Order moved some of the districts of Assam away from the purview of BEFR just before the grant of assent to **Citizenship (Amendment) Act (CAA), 2019.**
  ○ The districts included Kamrup, Darrang, Nowgong, Sibsagar, Lakhimpur and Cachar.
  ○ BEFR empowers some of the states to bring districts under the inner line area.

➢ Once the districts had come under 'the inner line' area, **the CAA could not be implemented to the extent of granting citizenship to illegal immigrants** in Assam in view of Section 6B (4) of the CAA.
  ○ Section 6B (4) of the CAA restricts the implementation of CAA to the tribal areas as included in the **Sixth Schedule** of the Constitution and the area covered under the **"Inner Line"** notified under the Bengal Eastern Frontier Regulation, l873".

➢ The **CAA relaxes eligibility criteria for certain categories of migrants** from three countries (Pakistan, Bangladesh and Afghanistan) seeking Indian citizenship and **exempts certain categories of areas,** including those protected by the **Inner Line system.**

➢ The **State government claims that ILP cannot be implemented in Assam since Assam is the gateway to northeast India.**
  ○ Implementation of ILP will **increase the unemployment** level. It will affect the tea sector and oil sector.

➢ According to the petitioner, **BEFR could have been the answer** to tackle **the problems of illegal immigrants** which Assam and its citizens are facing today.

Inner Line Permit

➢ It is a concept based on the **policy of exclusion** drawn by colonial rulers in the form of **Bengal Eastern Frontier Regulation Act (BEFR), 1873.**

➢ The BEFR prohibits an outsider's — **"British subject or foreign citizen"** — entry into the area beyond the Inner Line without a pass and his purchase of land there.
  ○ It protected the commercial interests of the British from the tribal communities.

➢ BEFR **came as a response to the reckless expansion** of British entrepreneurs into new lands which **threatened British political relations with the hill tribes.**

➢ After Independence, the Indian government replaced "British subjects" with "Citizen of India".

➢ The Inner Line separates the tribal-populated hill areas in the Northeast from the plains. To enter and stay for any period in these areas, Indian citizens from other areas need an Inner Line Permit (ILP).

➢ The main aim of the ILP system is to prevent settlement of other Indian nationals in the States where the ILP regime is prevalent, in order **to protect the indigenous/ tribal population.**

➢ The Adaptation of Laws (Amendment) Order, 2019 **extended the ILP regime to Manipur** after **Arunachal Pradesh, Nagaland and Mizoram** where the ILP regime is applicable.

Draft Unmanned Aircraft System (UAS) Rules 2020

Why in News

Recently, the Ministry of Civil Aviation has notified the **draft Unmanned Aircraft System (UAS) Rules, 2020**.

➢ The draft rules have been issued at a time when the use of **drones has increased due to a coronavirus lockdown**, for purposes like surveillance, disinfection and videography.

➢ Earlier, the government had issued **drone regulations 1.0 and the drone regulations 2.0.** The government has also finalized **National Counter Rogue Drone Guidelines for handling the threats from Unmanned Aircraft Systems**.

Key Points

➢ **Aims:**
  ○ A set of rules notified by the government aims to **regulate** the production, import, trade, ownership, establishment of the drone ports (airports for drones) and operation of unmanned aircraft systems.

Note:

drishti

Drone

➢ Drone is a layman terminology for **Unmanned Aircraft (UA)**. There are three subsets of Unmanned Aircraft- **Remotely Piloted Aircraft, Autonomous Aircraft and Model Aircraft**.

  ○ Remotely Piloted Aircraft consists of remote pilot station(s), the required command and control links and any other components, as specified in the type design.

➢ Remotely piloted aircraft have been divided into **five** categories based on their weight-

  ○ **Nano :** Less than or equal to 250 grams.
  ○ **Micro :** From 250 grams to 2kg.
  ○ **Small :** From 2 kg to 25kg.
  ○ **Medium :** From 25kg to 150kg.
  ○ **Large :** Greater than 150kg.

  ○ It also seeks to create a **framework for drones use by businesses**.

➢ **Draft Rules:**

  ○ **Approval by DGCA:**

    ● An authorised manufacturer or importer of drones can sell its devices **only to an individual or entity approved by** the aviation regulator Directorate General of Civil Aviation **(DGCA)**.

    ● **Only Nano class drones** will be allowed to operate in India **in general** and **only a qualified remote pilot will** be permitted **to operate heavier drones**.

    ● The DGCA will have the powers to **inspect a UAS manufacturing or maintenance** facility before granting any authorisation under these rules.

  ○ **Third Party Insurance:**

    ● No UAS shall operate in India unless there is in existence a **valid third party insurance policy** to cover the liability that may arise on account of a mishap involving such UAS.

  ○ **Carrying Payload:**

    ● **No UAS** should carry any **payload except** as permitted by the DGCA.

    ● No person **shall drop or project or permit to be dropped from a UAS in motion any object** except when specified.

  ○ **Ownership:**

    ● For owning and using a drone, one has to be at **least 18 years old**.

● In the **case of companies**, the requirement is that their **main place of business has to be in India** and the chairman and at least two thirds of directors have to be Indian citizens.

● Also, businesses operating drones have to be substantially **owned and effectively controlled by Indian nationals.**

➢ **Future Prospects:**

  ○ Currently, the DGCA has **permitted food startups to conduct trials** for drones Beyond the Visual Line of Sight (BVLOS).

    ● Unlike Visual Line of Sight (VLOS) flights, which are operated within the pilot's line of sight, BVLOS flights are flown beyond the visual range. These are mainly performed for **monitoring large areas.**

    ● It enables service providers to conduct **complex drone operations** and facilitate drones to fly **without any human interference**.

  ○ DGCA is also expected to issue a **separate set of rules** to enable use of drones for **e-commerce or delivering medical supplies**.

QS World University Rankings 2021

Why in News

Recently, **QS World University Rankings 2021** has shown a decline in the rankings of the **Indian Institutes of Technology** (IITs) and the **Indian Institute of Science** (IISc).

➢ Only the newer **IITs in Guwahati and Hyderabad** have shown some **improvement**.

Key Points

➢ Only three educational institutes from India, the **IIT Bombay (172)**, **IISc Bengaluru (185)** and **IIT Delhi (193)** feature in the **top 200 list**.

➢ Despite the Centre's flagship **Institutes of Eminence (IoE) scheme** to boost the Indian presence in these global rankings, the **total number of Indian institutions** in the top 1,000 global list has **fallen from 24 to 21**.

➢ In **private universities**, **BITS Pilani and the Vellore Institute of Technology (VIT) have dropped** out of the top 1,000 list, but **OP Jindal Global University has climbed** to the 650-700 band in the rankings.

➢ Out of the six parameters, Indian institutions get **zero scores on the ratio of international faculty and**

QS World University Rankings

➢ **Quacquarelli Symonds** (QS) is a leading **global career and education network** for ambitious professionals looking to further their personal and professional development.

➢ QS develops and successfully **implements methods of comparative data collection and analysis** used to highlight institutions' strengths.

➢ The '**QS World University Rankings**' is an **annual publication of university rankings** which comprises the global overall and subject rankings.

➢ **Six parameters and their weightage for the evaluation:**
   ○ Academic Reputation (40%)
   ○ Employer Reputation (10%)
   ○ Faculty/Student Ratio (20%)
   ○ Citations per faculty (20%)
   ○ International Faculty Ratio (5%)
   ○ International Student Ratio (5%)

students while **scoring well on research impact**, measured through citations per faculty.

➢ India also **scores poorly on faculty-student ratio** because of counting only full-time faculty whereas American universities include PhD students who are teaching or are research assistants.

➢ Indian academics have focused on that **if a parameter comparing the cost of education to students is introduced**, Indian institutions would be among the world's top 50.

➢ Earlier in 2020, **IITs jointly decided to boycott** the **World University Rankings** released by the **Times Higher Education** (THE) questioning its methodology and transparency.

➢ One of the reasons for a drop in Indian universities' rank is **lack of sufficient efforts**.
   ○ Other universities across the world are making **increasingly-intense efforts to enhance their educational offerings**.

➢ A **committee** of IIT directors has been formed to see **how Indian institutes can improve the perception about them abroad** and also make efforts to enhance the quality of standards within the country.

➢ **Suggestions:**
   ○ The government should launch a campaign for improving educational institutes, similar to **Incredible India** which promotes **tourism in India** and engages with the travellers.

   ○ **Success should be based on five pillars:**
      • Not-for-profit status.
      • Strong commitment to faculty hiring and research.
      • Focus on internationalisation.
      • Devotion to humanities and social sciences.
      • Drive to build a reputation through students and employers.

Institutions of Eminence Scheme

➢ It is a government's scheme to provide the **regulatory architecture for setting up or upgrading** of 20 Institutions (10 from public sector and 10 from the private sector) as world-class teaching and research institutions called 'Institutions of Eminence'.

➢ **Objectives:**
   ○ **Excellence and Innovation:** To provide for higher education leading to excellence and innovations in such branches of knowledge as may be deemed fit at post-graduate, graduate and research degree levels.
   ○ **Specialization:** To engage in areas of specialization to make distinctive contributions to the objectives of the university education system.
   ○ **Global Rating:** To aim to be rated internationally for its teaching and research as a top hundred Institution in the world over time.
   ○ **Quality teaching and Research:** To provide for high quality teaching and research and for the advancement of knowledge and its dissemination.

➢ **Benefits:**
   ○ **Autonomy:** Institutes with IoE tag will be given **greater autonomy and freedom** to decide fees, course durations and governance structures.
   ○ **Grant:** The **public institutions** under IOE tag will receive a **government grant of Rs 1,000 crore**, while the **private institutions will not get any funding** under the scheme.

India Rankings 2020: NIRF

Why in News

Recently, '**India Rankings 2020**' of Institutions of Higher Education was released.

➢ While, the **QS World University Rankings** showed that India's best institutions like **Indian Institutes of Technology (IITs)** and **Indian Institute of Science (IISc)** have slipped in the global list.

Key Points

➢ The **Ministry of Human Resource Development (MHRD)** has taken this important initiative of creating a **National Institutional Ranking Framework** (NIRF), which has been used for the past five years for ranking institutions of higher education in different categories and domains of knowledge.

   ○ NIRF was launched on **29th September 2015**.

➢ **Objective:** To encourage institutes to compete against each other and simultaneously work towards their growth. In addition, these rankings also attract foreign students, providing a solid base for the 'Study in India' programme for the growth of **higher education in India.**

➢ NIRF is one of the criterias for private institutions assessment for the **Institutions of Eminence** (IoE) Scheme.

   ○ IoE Scheme is a government's scheme to provide the regulatory architecture for setting up or upgrading of 20 Institutions (10 from public sector and 10 from the private sector) as world-class teaching and research institutions.

➢ **NIRF outlines a methodology to rank institutions** across the country. The methodology draws from the overall recommendations and broad understanding arrived at by a Core Committee set up by MHRD.

➢ **Broad Parameters:**

   ○ Teaching, Learning and Resources.

   ○ Research and Professional Practices.

   ○ Graduation Outcomes.

   ○ Outreach and Inclusivity.

   ○ Peer Perception.

➢ **90% of the parameters in NIRF are completely objective** and fact-based, while only 10% is based on the subjective parameter of perception by academic peers and employers.

   ○ In international rankings, Indian institutions' low ranking is due to the high weightage given to the perception which is a subjective parameter.

➢ It is acknowledged that Indian institutions struggle on the "internationalisation" parameter in global rankings and the NIRF rankings are believed to reach a point where international institutions will want to be included in the Indian ranking system rather than vice versa.

➢ **Overall, 3,771 institutions registered** in the ranking framework this year which is a 20% increase in comparison to 2019.

➢ This is the fifth consecutive edition of these rankings. This year 'Dental' category has been introduced for the first time bringing the total tally to 10 categories/subject domains.

➢ **Rankings (top three)**

NIRF India Ranking 2020

Overall Category
■ IIT Madras,
■ IISc Banglore,
■ IIT Delhi

University Category
■ IISc Bangalore,
■ JNU New Delhi,
■ BHU Varanasi

Engineering Category
■ IIT Madras,
■ IIT Delhi,
■ IIT Bombay

Management Category
■ IIM Ahmedabad,
■ IIM Bangalore,
■ IIM Calcutta

Pharmacy Discipline
■ Jamia Hamdard University,
■ Punjab University,
■ National Institute of Pharmaceutical Education and Research Mohali

Colleges Category
■ Miranda House DU,
■ LSR for Women DU,
■ Hindu College DU

Medical Discipline
■ AIIMS, New Delhi,
■ PGIMER Chandigarh,
■ Christian Medical College, Bangalore

Law Discipline
■ National Law School of India University, Bengaluru,
■ NLU New Delhi,
■ Nalsar University of Law, Hyderabad

Architecture Discipline
■ IIT Kharagpur,
■ IIT Roorkee,
■ NIT Calicut

Dental College
■ Maulana Azad Institute of Dental Science,
■ Manipal College of Dental Science,
■ Dr DY Patil Vidyapith Pune

Re-establishment of PCIM&H

Why in News

Recently, the Union Cabinet has given its approval to re-establish **Pharmacopoeia Commission for Indian Medicine and Homoeopathy** (PCIM&H) as a **subordinate office** under the **Ministry of AYUSH**.

Note:

➢ **Pharmacopoeia Laboratory for Indian Medicine** (PLIM) and **Homoeopathic Pharmacopoeia Laboratory** (HPL), central laboratories established at **Ghaziabad** (Uttar Pradesh) since **1975,** will be merged into the PCIM&H.

Key Points

➢ Presently, PCIM&H is an **autonomous body** under the aegis of Ministry of AYUSH, established since **2010.**

➢ **Pharmacopoeia** is an **officially recognized book of standards** as per the **Drugs and Cosmetics Act, 1940** and **Rules 1945** thereunder.

❍ As per the **Second Schedule of the Drugs and Cosmetics Act**, it is designated as the official book of standards for drugs imported and/or manufactured for sale, stock or exhibition for sale or distribution in India.

❍ It specifies the **standards of drugs manufactured and marketed in India** in terms of their **identity, purity and strength.**

➢ The merger intends to accord legal status to the merged structure of PCIM&H and its laboratory by making the necessary amendments and enabling provisions in the **Drugs and Cosmetics Rules, 1945.**

❍ Consultations have been done with the Director General Health Services, Drugs Controller General and the **Ayurveda, Siddha and Unani Drugs Technical Advisory Board** (ASUDTAB).

➢ **Benefits of the Merger:**

❍ Optimum use of infrastructural facilities, technical manpower and financial resources of the three organizations for enhancing their standardised outcomes.

❍ Focused and cohesive development of standards of AYUSH drugs and publication of pharmacopoeias and formularies.

Ayurveda, Siddha and Unani Drugs Technical Advisory Board

➢ ASUDTAB is a **statutory body** under the provisions of **Drugs and Cosmetics Act, 1940.**

➢ It **advises the central and state governments** in regulatory matters of **Accelerated Shelf Life Testing (ASLT) drugs.**

Accelerated Shelf Life Testing

➢ It is an indirect method of measuring and estimating the stability of a product by storing the product under controlled conditions that increase the rate of degradation occurring in the product under normal storage conditions.

➢ ASLT is useful for a number of purposes like:

❍ To predict product stability including colour.

❍ To determine product safety under abuse conditions.

❍ To troubleshoot in the initial stages of product development.

❍ To assess the packaging performance of a product.

■■■

Note:

Economic Scenario

Highlights

- Universal Basic Income
- Social Stock Exchange
- MSP Raised for Kharif Crops
- Global Economic Prospects: World Bank
- TULIP: The Urban Learning Internship Program
- Sahakar Mitra: Scheme on Internship Programme
- Import Cut to Become Self-Reliant
- Agricultural Sector Reforms
- Pan-India Real Time Market for Electricity
- Gross Value Added
- Border Adjustment Tax

- Rights Issue
- USTR's Probe into Digital Services Taxes
- SWADES: Skill Mapping Exercise for Returning Citizens
- Central Employment Guarantee Council
- Indian Digital Payment System Outside India
- Shapes of Economic Recovery
- Fall in Direct Tax Collection
- Fall in Money Remitted Abroad
- GST Council Meeting
- Small Farmers' Agribusiness Consortium

Universal Basic Income

Why in News

To deal with the **economic inequality, unemployment and poverty** created by the Covid-19 pandemic, many advocate **Universal Basic Income (UBI**) programme to be a solution.

Key Points

- In order to deal with the **Covid-19 pandemic**, the governments across the world have imposed measures like lockdown and social distancing.
- However, these measures have caused collateral damage to almost every sector of the economy, so much so that the **International Monetary Fund** held the current economic crisis could be the worst ever since the **Great depression 1929**.
- With almost **90% of India's workforce in the informal sector without minimum wages or social security**, micro-level circumstances in India are worse than anywhere else.
    - Even before pandemic, India was struggling to provide job opportunities for millions of job aspirants who were entering the job market.

- Regular payments through **Universal Basic Income (UBI)** can ensure the sustenance of the workers engaged in the informal sector, at least till the economy normalises.
- Countries across the world, which include **Kenya, Brazil, Finland, and Switzerland**, have bought into this concept.
- Supporters of the UBI programme include **Economics Nobel Laureates Peter Diamond and Christopher Pissarides**, and tech leaders Mark Zuckerberg and Elon Musk.

Idea of Universal Basic Income

- The **Economic Survey of India 2016-17** has advocated the concept of **Universal Basic Income (UBI)** as an alternative to the various social welfare schemes **in an effort to reduce poverty.**
- Idea behind the Universal Basic Income is that every person should have a **right to a basic income to cover his needs, just by virtue of being a citizen.**
- The purpose of the UBI is to **prevent or reduce poverty** and increase equality among citizens.
- UBI has five components:
    - **Universality -** It is universal in nature.
    - **Periodic -** Payments at periodic regular intervals (not one-off grants).

- ❍ **Payments to individuals.**
- ❍ **Payments in cash** (not food vouchers or service coupons).
- ❍ **Unconditionality -** There are no preconditions attached with the cash transferred to the beneficiary.

Benefits of Universal Basic Income

- ➢ UBI will provide secured income to individuals.
- ➢ The scheme **will reduce poverty and income inequality** in society.
- ➢ It will **increase the purchasing power** of every poor which will further increase aggregate demand.
- ➢ Easy to implement because no identification of the beneficiary is involved.
- ➢ It will reduce the wastage of government money because its implementation is very simple.

Issues In implementing UBI

- ➢ **Lack of the political will** because of the **costs involved**.
  - ❍ The fiscal cost of the UBI pegged at Rs. 7,620, at 75% universality, was 4.9% of the GDP.
    - ● The Economic Survey of India's (2016-17) model of UBI suggested providing Rs. 7,620 per annum to 75% of India's population.
    - ● The income was based on **Suresh Tendulkar's poverty line** of 2011-12 inflation-indexed to 2016-17.
  - ❍ A UBI on par with the numbers suggested by the Economic Survey could lead to targeted household incomes increasing by almost Rs. 40,000 per annum, since the average Indian household size is approximately five.
- ➢ **Difficulty in reducing some of the existing subsidies** to balance the resultant deficit.
- ➢ There is no guarantee that the given cash will be spent on productive activities, health & education, etc. It may be spent on tobacco, alcohol, drugs, and other luxury goods etc.
- ➢ Free cash to the people will **increase the rate of inflation** in the economy.
- ➢ Workers **can refuse to work as a labourer or demand higher wages** which can increase the cost of production of agricultural goods.

Way Forward

- ➢ The 2017 Economic Survey had flagged the UBI scheme as "a conceptually appealing idea" and a possible alternative to social welfare programmes targeted at reducing poverty.
- ➢ UBI envisages an uncompromised social safety net that seeks to assure a dignified life for everyone, a concept that is expected to gain traction in a global economy buffeted by uncertainties on account of globalization, technological change, and automation.
- ➢ If universal basic income ever had a time, it is now. It can be implemented to deal with the unemployment, income inequality and poverty posed by Covid-19 pandemic.

Social Stock Exchange

Why in News

Recently, an expert panel constituted by the **Securities and Exchange Board of India (SEBI)** has recommended allowing **non-profit organisations** to directly list on **Social Stock Exchanges (SSE)**.

Major Recommendations

- ➢ **Issuance of Bonds:**
  - ❍ Allowing non-profit organisations to directly list through issuance of bonds in the form of **zero coupon or zero principal bonds.**
    - ● **Zero-coupon bond** is a debt security that **does not pay interest** but instead trades at a deep discount, drawing a profit at maturity, when the bond is **redeemed for its full face value**.
    - ● This would help to access funds from donors, philanthropic foundations and Corporate Social Responsibility (CSR) spenders as they will be encouraged to buy zero coupon bonds.
- ➢ **Social Venture Funds (SVFs):**
  - ❍ It recommends a range of funding avenues, such as **Social Venture Funds (SVFs) under Alternative Investment Funds (AIFs)**.
    - ● **Social Venture Funds (SVFs)** are funds investing in early-stage social enterprises to expand opportunity for people living in poverty.
    - ● AIF means any fund established in India which is a privately pooled investment vehicle which collects funds from sophisticated investors, whether Indian or foreign, for investing it in accordance with a defined investment policy for the benefit of its investors.

➢ **Enhanced Reporting Standards:**
   ○ Profit social enterprises be allowed to list on the platform with **enhanced reporting requirements**.
➢ The social stock exchange can be housed within the existing national bourses like the **Bombay Stock Exchange (BSE)** and the **National Stock Exchange (NSE).**
➢ **Significance:**
   ○ This will help the SSE to leverage **existing infrastructure and client relationships** with onboard investors, donors, and social enterprises.
   ○ Certain tax incentives allowed under the recommendation would encourage **participation in the culture of 'giving'** among various stakeholders.
   ○ It would encourage banks and other investors to participate with non profit organisations and thereby making social and economic growth more inclusive.

Social Stock Exchange (SSE)
➢ The idea of the **Social Stock Exchange (SSE)** as a platform for listing social enterprise, voluntary and welfare organisations so that they can raise capital was mooted in the Union Budget 2019-20.
   ○ **Social enterprise** can be defined as a non-loss; non-dividend paying company created and designed to address a social problem.
➢ It will work under the market regulator **SEBI.**
➢ The aim of the initiative is to help **social and voluntary organisations** which work for social causes to r**aise capital as equity or debt or a unit of mutual fund**.
➢ It provides new and cheaper sources of **financing for social welfare projects**, while showcasing India's independence from foreign aid .
➢ SSE already exists in countries such as Singapore, UK, Canada among others. These countries allow firms operating in sectors such as health, environment and transportation to raise risk capital.

MSP Raised for Kharif Crops

Why in News

Recently, the **Cabinet Committee on Economic Affairs** has marginally increased the **Minimum Support Price (MSP)** of more than a dozen crops for Kharif Marketing Season (KMS) 2020-21.

Key Points

➢ The MSP has been raised in the range of 2%-7.5% for the kharif crops based on the recommendation of the **Commission for Agricultural Costs and Prices (CACP).**
➢ The increase in MSP is in line with the **Union Budget 2018-19 announcement of fixing the MSPs at a level of at least 1.5 times** of the all-India weighted average cost of production, **aiming at reasonably fair remuneration for the farmers**.
➢ **Issue:** This rise will not make much of a difference to farmers, unless there is large scale government procurement in most crops at MSP.
➢ **Kharif crops:** They are the crops which are grown during the monsoon or rainy season from June to October. **Examples:** Paddy, Cotton, etc.

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 **on the recommendations of the Commission for Agricultural Costs and Prices (CACP).**
➢ **Factors taken into consideration** for fixing MSP include:
   ○ Demand and supply,
   ○ Cost of production **(A2 + FL method),**
   ○ Price trends in the market, both domestic and international,
   ○ Inter-crop price parity,
   ○ Terms of trade between agriculture and non-agriculture,
   ○ A minimum of 50% as the margin over cost of production, and
   ○ Likely implications of MSP on consumers of that product.
➢ The **Commission 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 Commission then finalizes its recommendations/reports, which are then submitted to the government.

Note:

➢ 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 **Cabinet Committee on Economic Affairs (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

➢ On 18th November, 2004, the Union government constituted this committee **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.**

Global Economic Prospects: World Bank

Why in News

Recently, the **World Bank** has released a part of the **Global Economic Prospects (GEP)** June 2020 report.

➢ The report highlighted that the **Covid-19 pandemic** will be having a "severe" short and long term effects on economic growth.

Key Findings

➢ **Impact on Global Poverty:**

  ○ The **Covid-19 pandemic and economic shutdowns** have devastated the poor around the world which is unprecedented in modern times.

  ○ It has been **estimated that 60 million people** could be pushed into extreme poverty in 2020. These estimates are likely to rise further, with the reopening of advanced economies.

  ○ These economic lockdowns have also damaged the multiple channels, including lower investment and innovation, erosion of the human capital and a retreat from global trade and supply linkages.

    • It has also lowered the potential growth and labor productivity.

➢ **Emerging Market and Developing Economies (EMDEs):**

  ○ EMDEs are most vulnerable and may face health crises, restrictions and external shocks like falling trade, tourism and commodity prices, as well as capital outflows.

  ○ These countries are expected to have a 3-8% output loss in the short term. But in the long term these countries will experience a drop in the level of output with a lowering of potential output growth.

Note:

○ Growth is likely to slow more in commodity-exporting EMDEs than in commodity-importing ones.

➢ **Spillover Effect over EMDEs:**

○ EMDEs are also **expected to witness the spillover effects of the U.S.**, the Euro Area and China, which represent almost half of global output.

○ As these countries are unlikely to return to pre-pandemic levels of output before the end of 2021.

➢ **Issue of Loan Repayments:**

○ Earlier, **G20** countries and commercial creditors had agreed to freeze loan repayments for low income countries (starting 1st May, 2020) till year-end. But these creditors had not yet implemented the same.

○ The delay by commercial creditors to freeze loan repayment is deepening poverty in the debtor country.

• Most creditors are in advanced economies like the U.S., Europe, Japan, China and the Gulf.

➢ **Energy-Exporting Emerging Market and Developing Economies (EMDEs):**

○ The **Energy-Exporting Emerging Market and Developing Economies (EMDEs)** are facing a dual problem of the public health crisis with strained fiscal positions due to the recent collapse in oil revenues.

○ The collapse in oil demand due to the worldwide economic lockdowns and a surge in oil inventories have made steepest **one-month decline in oil prices** on record.

○ Additionally, the low oil prices are unlikely to buffer the effects of the pandemic, though it may provide some initial support for the global recovery.

Steps Taken

➢ Some of the policy choices being implemented worldwide include greater debt transparency to invite new investment.

○ **Greater transparency is expected to assist borrowers**, creditors and the official sector in the ongoing assessment of debt dynamics and debt sustainability.

➢ The **economies have also fastened their digital connectivity**, and have also implemented an expansion of cash safety nets for the poor which intends to limit the damage and build a stronger recovery.

Suggestions

➢ **Short Term Steps:**

○ **Address Health Emergencies:**

• The countries should try to moderate the short-term impact of the pandemic on economic activity and employment.

• Initially, countries need to address health emergencies and secure core public services to revive the economy.

○ **Allocation of New Capital:**

• The worldwide economies should allow an orderly allocation of new capital toward sectors that would be productive in the new post-pandemic structures that emerge.

• It has also suggested to fasten the adjustment of the capital and labour.

➢ **Long Term Steps:**

○ **Business and Governance:**

• The economies worldwide need to implement policies such as improving the environment for business, improving governance, and enhancing the outcomes of education.

• It also includes public health investments, encouraging the new types of businesses, jobs and governance systems in the post-pandemic world.

○ **Financing and Productive Infrastructure**

• Countries need to speed litigation and the resolution of bankruptcies and reform the costly subsidies, monopolies.

• They also need to relook into the protected state-owned enterprises that have slowed development.

TULIP: The Urban Learning Internship Program

Why in News

Recently, the Ministry of Human Resource Development (MHRD), the Ministry of Housing and Urban Affairs and **All India Council for Technical Education (AICTE)** have jointly launched an online portal called **The Urban Learning Internship Program (TULIP).**

Key Points

➢ **Aim: To provide internship opportunities to 25,000 fresh graduates** in **all Urban Local Bodies (ULBs)** and **Smart Cities** across the country.

Note:

➢ **Concept:** TULIP has been conceived pursuant to the Budget 2020-21 announcement under the theme **'Aspirational India'** which laid emphasis on changing the **approach of education from 'doing by learning' to 'learning by doing'.**

➢ **Area of Work:** The internship opportunities will be provided for 'Smart City' projects which range from positions in **urban planning, water supply, waste management, slum improvement** and **digital governance** among others.

➢ **Eligibility:** Applicants must be **Indian citizens** who have **completed their final year of college within the last 18 months** and **have a degree of** B. Tech, B. Planning, B. Arch, B.A., B.Sc., B. Com, LLB.

➢ **Duration:** Internship durations can range from eight weeks to one year.

➢ **Benefit:** It would help enhance the **value-to-market of India's graduates** and help create a **potential talent pool** in diverse fields**.**

    ○ TULIP would also **benefit ULBs and smart cities**. It will lead to **infusion of fresh ideas and energy** with engagement of youth in co-creation of solutions for solving India's urban challenges.

➢ The TULIP's launch is also an important stepping stone for fulfillment of MHRD and AICTE's goal of **one crore successful internships by the year 2025**.

Smart City Mission

➢ It is an **innovative** initiative under the **Ministry of Housing and Urban Affairs,** Government of India to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.

➢ **Objective:** To promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of Smart Solutions.

➢ **Coverage and Duration:** The Mission covers **100 cities** for the duration of **five years** starting from the Financial Year (FY) 2015-16 to 2019-20.

➢ **Financing:** It is a **Centrally Sponsored Scheme.**

Way Forward

➢ Despite having a large number of skill development initiatives, the skill gap remains a big challenge in India. Therefore, there is a need to enhance the breadth and depth of these initiatives.

➢ The disconnect between education and industry broadly because of the traditional approach in education is another important aspect. Initiatives like TULIP is a welcome intervention specifically focusing on these aspects.

Sahakar Mitra: Scheme on Internship Programme

Why in News

Recently, the Ministry of Agriculture & Farmers' Welfare has launched a **Scheme on Internship Programme (SIP) i.e. Sahakar Mitra**.

➢ It is an initiative by the **National Cooperative Development Corporation (NCDC)** for young professionals**.**

➢ It is expected to be beneficial for both i.e. **cooperatives** as well as for the **young professionals**.

Key Points

➢ **Objectives:**

    ○ The Sahakar Mitra scheme will help **cooperative institutions** access **new and innovative ideas of young professionals** while the interns will gain experience of working in the field to be self-reliant.

    ○ It **will provide the young professionals an opportunity of practical exposure and learning** from the working of NCDC and **cooperatives** as a paid intern.

    ○ It would also provide an opportunity to professionals from academic institutions to develop leadership and entrepreneurial roles through cooperatives as **Farmers Producers Organizations (FPO).**

    ○ In line with the **AtmaNirbhar Bharat (Self Reliant India)**, it focuses on the importance of **Vocal for Local.**

➢ **Eligibility:**

    ○ Professional **graduates** in disciplines such as Agriculture and allied areas, IT, etc.

    ○ Professionals who are **pursuing or have completed their MBA degrees** in Agribusiness, Cooperation, Finance, International Trade, Forestry, Rural Development, Project Management, etc.

➢ **Financial Support:**

    ○ NCDC has designated funds for the **paid internship program** under which each intern will get **financial suppor**t over a **4 months internship period**.

Note:

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National Cooperative Development Corporation

➢ **Formation:** The National Cooperative Development Corporation (NCDC) was established by an Act of Parliament in 1963 **as a statutory Corporation** under the **Ministry of Agriculture & Farmers' Welfare.**

➢ **Headquarters:** NCDC functions through its **Head Office at New Delhi** and multiple Regional Offices.

➢ **Objectives:**

  ○ The objectives of NCDC are **planning and promoting programmes for production, processing, marketing, storage, export and import of agricultural produce, foodstuffs, industrial goods, livestock** and certain other notified commodities and services on cooperative principles.

  ○ The NCDC has the **unique distinction of being the sole statutory organisation** functioning as an **apex financial and developmental institution** exclusively devoted to the **cooperative sector**.

  ○ It is a major financial institution for cooperatives, and has **recently started Mission Sahakar 22**, which aims to **double farmers' income by 2022**.

About Cooperatives

➢ According to the **International Labour Organisation (ILO)**, a **cooperative** is an **autonomous association of persons united voluntarily** to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. E.g. FPOs as cooperatives.

➢ **An FPO**, formed **by a group of farm producers**, is a **registered body with producers** as shareholders in the organisation.

  ○ It deals with **business activities related to the farm produce** and it works for the benefit of the member producers.

Provisions of Indian Constitution related to Cooperatives

➢ The Constitution (97ᵗʰAmendment) Act, 2011 added a new Part IXB right after Part IXA (Municipals) regarding the cooperatives working in India.

➢ The word "cooperatives" was added after "unions and associations" in **Art. 19(1)(c) under Part III of the Constitution**. This enables all the **citizens to form cooperatives** by giving it the **status of fundamental right of citizens**.

➢ A new **Article 43B** was added in the **Directive Principles of State Policy (Part IV)** regarding the **"promotion of cooperative societies"**.

Import Cut to Become Self-Reliant

Why in News

Recently, the Union Government has identified 10 promising sectors to cut "unnecessary" import.

Key Points

➢ **Identified Sectors:** The sectors include capital goods and machinery, mobile and electronics, gems and jewellery, pharmaceuticals, textiles and garments.

  ○ Earlier, the government had asked the Indian industry to set new targets towards building self-reliance in furniture, footwear and air conditioners.

➢ **Government's Plan:**

  ○ The government is looking for increasing domestic manufacturing and exploring the export potential in these areas.

  ○ For this, the government is bringing more investment and making India a major manufacturing destination for these sectors.

  ○ The government is also focussing on raising quality controls to make India globally competitive.

  ○ If necessary, the government can also raise the import duties on these sectors without violating the **World Trade Organisation (WTO)** bound rates.

➢ **PM's Focus on AtmaNirbhar Bharat:** Earlier, the Prime Minister had stressed on the need for **self-reliance** and a stronger focus on manufacturing locally by enterprises to strengthen the economy against the impact of coronavirus and get the country back on the growth track.

  ○ He had emphasised on the need to build robust local supply chains and focus on **Make In India**.

  ○ He called for creating strong enterprises in India that can become global forces and help in generating employment.

  ○ He highlighted that India did not use to manufacture PPE kits earlier but the pandemic has shown that India can fulfill its own needs.

➢ **Schemes:**

  ○ The government has brought various schemes towards making India a major player in sectors like medical devices, **Active Pharmaceutical Ingredients (APIs)**. For example: **Production Linked Incentive (PLI) Scheme**.

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- ❍ However, in some cases, the schemes are repackaged versions of older attempts of the previous government to promote domestic production in these areas.
- ❍ For instance, recently, the government invited applications from companies to invest in India under the second phase of the **electronics manufacturing scheme.**
- ❍ An earlier version of a similar electronics manufacturing scheme, called the Modified Special Incentive Package Scheme was notified by the previous government in July 2012.

Issues

- ➢ Concerns related to India's dependence on imports e.g. over 30% Imports in the air conditioners sector.
  - ❍ As per the Ministry of Commerce, India imported $467.2 billion worth of commodities between April, 2019 and March, 2020.
- ➢ With **AtmaNirbhar Bharat**, there is a danger of India going back to an import substitution framework.
  - ❍ Taking this path would also be quite daunting, as the financial and technological resources required would be very high.

Agricultural Sector Reforms

Why in News

 Recently, the Cabinet has approved a proposal to promulgate three separate ordinances **to push agriculture marketing and commodities trade reforms** in the country.

- ➢ These reforms are part of the **third tranche of the economic package** announced under **Atmanirbhar Bharat Abhiyan** to counter **Covid-19 pandemic**.
- ➢ These ordinances are expected to give effect to the **amendments proposed to the Essential Commodities Act** and bring in two new Central laws on inter-state trading and engagement of the farmers with processors, exports, etc.

Amendments to Essential Commodities Act (1955)

- ➢ **Background:**
  - ❍ India has become surplus in most agri-commodities but farmers have been **unable to get better prices due to lack of investment** in cold storage, processing and export.

- ❍ The **imposition of the curbs on stocking** of farm produce and **regulation of the prices of commodities,** etc. under **Essential Commodities Act (ECA)** are some of factors responsible for **less entrepreneurial spirit** and thus **less investment** in the farm sector.
- ➢ **Benefits of Amendments:**
  - ❍ The amendment would **deregulate the commodities** such as cereals, edible oils, oilseeds, pulses, onions and potatoes. It will help to **lessen the fears of private investors** of **excessive regulatory interference** in their business operations.
    - Any **limits under ECA** over these commodities will be **imposed only in exceptional circumstances** such as war, famine, extraordinary price rise and natural calamity.
  - ❍ 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.
    - It will help drive up investment in cold storages and modernization of the food supply chain.
- ➢ **Significance:**
- ➢ The announced amendment is expected to help both farmers and consumers while bringing in **price stability.**
- ➢ It will also create a **competitive market environment** and also prevent wastage of agri-produce that happens due to lack of storage facilities.
- ➢ It is considered as a **step towards transformation of agriculture and raising farmers' income.**

Farming Produce Trade and Commerce (Promotion and Facilitation) Ordinance, 2020

- ➢ **Background:**
  - ❍ Currently, there are **restrictions for farmers in selling agri-produce** outside the notified **Agricultural Produce Market Committee (APMC).**
  - ❍ The farmers are also restricted to sell the produce **only to registered licensees of the State Governments.**
  - ❍ Further, **barriers exist in free flow of agriculture** produce between various States owing to the prevalence of **various APMC legislations** enacted by the **State Governments.**
- ➢ **Benefits of Ordinance:**
  - ❍ It will create an ecosystem where the farmers and

traders would **enjoy freedom of choice of sale and purchase of agri-produce.**

○ It will also promote **barrier-free inter-state and intra-state trade and commerce** outside the physical premises of markets notified under State agricultural produce marketing legislations.

○ The ordinance also proposes an **electronic trading in transaction platform** for ensuring a seamless trade electronically.

○ It also proposes to set up a **separate dispute resolution mechanism** for the farmers.

➢ **Significance:**

○ It will open **more choices for the farmer, reduce marketing** costs for the farmers and help them in getting **better prices.**

○ It will supplement the existing **Minimum Support Price (MSP)** procurement system and both will help to provide **stable income to farmers.**

○ It will also help farmers of regions with surplus produce to get better prices and consumers of regions with shortages, lower prices.

○ It is expected to pave the way for creating **One India, One Agriculture Market** in the country.

Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Ordinance, 2020

➢ **Background:**

○ Indian Agriculture is characterized by **fragmentation due to small holding sizes** and has certain weaknesses such as weather dependence, production uncertainties and market unpredictability.

○ It makes agriculture **risky and inefficient** in respect of both **input & output management.**

➢ **Benefits of Ordinance:**

○ It empowers **farmers for engaging** with processors, wholesalers, aggregators,wholesalers, large retailers, exporters etc.and thus **eliminating intermediaries** resulting in full realization of price.

● Farmers have been provided adequate protection. Sale, lease or mortgage of farmers' land is totally prohibited and farmers' land is also protected against any recovery.

● It also provides an **effective dispute resolution mechanism** for with clear timelines for redressal

○ It contains mechanisms which would **transfer the risk of market unpredictability** from the farmer to the sponsor.

➢ **Significance:**

○ It also enables the farmer to **access modern technology and better inputs.** It will **reduce the cost of marketing** and improve income of farmers

○ It will help to **attract private sector investment** for building supply chains for supply of Indian farm produce to global markets.

Pan-India Real Time Market for Electricity

Why in News

Recently, the government has launched a **pan-India real-time market of electricity** to enable the buyers and sellers pan-India to **meet their energy requirement closer to real time** of operation.

➢ It is expected that **shorter bidding time, faster scheduling, and defined processes** will enable the participants to access resources throughout the all India grid, promoting competition.

Key Points

➢ **Description:**

○ The real time market of electricity is an **organized market platform** which will bring required flexibility to provide real time balance while ensuring optimal utilization of the available surplus capacity in the system.

○ The real-time market would **open for 30 minutes in a day,** and buyers and sellers would have the option of placing **buy or sell bids for each 15-minute** time block.

○ It will also help **manage diversity in the demand pattern in the country** with a market at national level.

➢ **Benefits:**

○ **Penetration of Renewable Energy:**

● The Government of **India's target of 175 GW RE Capacity by 2022** is driving accelerated renewable penetration pan-India.

● The real time market would help to mitigate challenges of grid management and help to integrate higher amounts of renewable energy resources into the grid.

- ○ **Discoms:**
  - It would provide an alternate mechanism for Discoms **to access larger markets at competitive prices.**
  - These are also expected to manage their power purchase portfolio more optimally with this market and likely to result in **cost optimisation of power purchase.**
- ○ **Consumers:**
  - It would lead to **cost optimization of power purchase** and serving the consumers with **reliable supply** as any last minute requirement of power can easily be bought from the Real Time market.
  - Earlier regime of managing the grid by load shedding due last minute changes will be avoided.

Gross Value Added

Why in News

According to the provisional data released by the **National Statistical Office (NSO)**, the **Gross Value Added** (GVA) estimates for the first three quarters of financial year 2019-20, revealed significant revisions from what the NSO had shared back in February 2020.

Key Points

- ➢ In February, the NSO had pegged year-on-year GVA growth rates in the first three quarters at 5.4%, 4.8% and 4.5%, respectively.
- ➢ However, the latest estimates saw significant downward revisions in the GVA data pertaining to the first three quarters to 4.8%, 4.3% and 3.5% respectively.
- ➢ The revisions combined with dull performance in the fourth quarter ultimately **lowered the overall annual GVA growth estimate** for 2019-20 by as much as 1% point to 3.9%, from the 4.9% forecast in February.
- ➢ The significant revisions in GVA data point to a **deeper weakness in the service sectors.**
  - ○ The growth estimates for the **largest services sector, Financial, Real Estate and Professional Services**, have been reduced sharply.
    - Q1, Q2 and Q3 growth has been cut from 6.9%, 7.1% and 7.3%, respectively to 6%, 6% and 3.3%, respectively.

- Financial, Real Estate and Professional Services **contributes almost one-fourth of the overall GVA.**
- ○ Trade, Hotels, Transport, Communications and services related to Broadcasting also saw a significant reduction in estimates.
  - Q1, Q2 and Q3 growth has been cut from 5.7%, 5.8% and 5.9%, respectively to 3.5%, 4.1% and 4.3%, respectively.
  - These services contribute almost 20% to GVA and are the **second largest component of GVA**.
- ➢ However, the revisions show two other key sectors, **Agriculture and Public Administration in a positive light.**
  - ○ The Public Administration sector's Q1, Q2 and Q3 growth have been revised from 8.7%, 10.1% and 9.7%, respectively, to 7.7%, 10.9% and 10.9%.

Gross Value Added

- ➢ In 2015, India opted to make major changes to its compilation of national accounts and decided to bring the whole process into conformity with the **United Nations System of National Accounts (SNA) of 2008.**
  - ○ The SNA is the internationally agreed standard set of recommendations on how to compile measures of economic activity.
  - ○ It describes a coherent, consistent and integrated set of macroeconomic accounts in the context of a set of internationally agreed concepts, definitions, classifications and accounting rules.
- ➢ As per the SNA, **GVA is defined as the value of output minus the value of intermediate consumption** and is a **measure of the contribution to growth made by an individual producer, industry or sector.**
  - ○ It provides the **rupee value** for the number of goods and services produced in an economy after **deducting the cost of inputs and raw materials** that have gone into the production of those goods and services.
- ➢ It can be described as the **main entry on the income side of the nation's accounting balance sheet**, and from an economics perspective **represents the supply side.**
- ➢ At the macro level, from a **national accounting perspective,** GVA is the sum of a country's GDP and net of subsidies and taxes in the economy.

Note:

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- ○ Gross Value Added = GDP + subsidies on products - taxes on products
- ➤ Earlier, India had been measuring GVA at **'factor cost'** till the new methodology was adopted in which GVA at **'basic prices'** became the primary measure of economic output.
  - ○ GVA at basic prices will **include production taxes** and **exclude production subsidies.**
  - ○ GVA at factor cost included no taxes and excluded no subsidies.
- ➤ The **base year** has also been shifted to **2011-12** from the earlier 2004-05.
- ➤ The NSO provides **both quarterly and annual estimates of output** of GVA. It provides sectoral classification data on **eight broad categories** that includes **both goods produced and services provided** in the economy. These are:
  - ○ Agriculture, Forestry and Fishing.
  - ○ Mining and Quarrying.
  - ○ Manufacturing.
  - ○ Electricity, Gas, Water Supply and other Utility Services.
  - ○ Construction.
  - ○ Trade, Hotels, Transport, Communication and Services related to Broadcasting.
  - ○ Financial, Real Estate and Professional Services.
  - ○ Public Administration, Defence and other Services.

Importance of GVA

- ➤ While GVA gives a picture of the state of economic activity from the **producers' side or supply side**, the GDP gives the picture from the **consumers' side or demand perspective.**
  - ○ Both measures need not match because of the difference in treatment of net taxes.
  - ○ **GDP** is the sum of private consumption, gross investment in the economy, government investment, government spending and net foreign trade (the difference between exports and imports).
  - ○ GDP = Private consumption + Gross investment + Government investment + Government spending + (Exports-Imports)
- ➤ GVA is considered a **better gauge of the economy**. GDP fails to gauge the real economic scenario because a sharp increase in the output can be due

to higher tax collections which could be on account of better compliance or coverage, rather than the real output situation.

- ➤ A **sector-wise breakdown provided by the GVA measure helps policymakers** decide which sectors need incentives or stimulus and accordingly formulate sector-specific policies.
  - ○ But GDP is a key measure when it comes to making cross-country analysis and comparing the incomes of different economies.
- ➤ From a **global data standards and uniformity perspective**, GVA is an integral and necessary parameter in measuring a nation's economic performance.
  - ○ Any country which seeks to **attract capital and investment from overseas does need to conform to the global best practices** in national income accounting.

Issues with GVA

- ➤ The accuracy of GVA is heavily dependent on the sourcing of data and the accuracy of the various data sources.
- ➤ GVA is as susceptible to vulnerabilities from the use of inappropriate or flawed methodologies as any other measure.

Border Adjustment Tax

Why in News

Recently, a **NITI Aayog** member has favoured imposing a **Border Adjustment Tax** (BAT) on imports to provide a level-playing field to domestic industries.

- ➤ This suggestion comes in the backdrop of the **USA-China trade tensions** (**trade war**) which are expected to rise even further **post-Covid-19**.

Key Points

- ➤ **BAT** is a duty that is proposed to be **imposed on imported goods in addition to the customs levy that gets charged at the port of entry**.
- ➤ BAT is a **fiscal measure** that imposes a charge on goods or services in accordance with the **destination principle of taxation**.
  - ○ Under this principle, a government taxes products based on the location of their sale to the final

consumer rather than on the location of their production or origin.

➢ Thus, to adjust a tax "**at the border**," a country:

1. taxes imported products and domestically produced products sold on its market on the same basis and at the same rate; and

2. exempts from this tax products exported for sale to foreign consumers.

➢ Generally, BAT seeks to **promote** "**equal conditions of competition**" for foreign and domestic companies supplying products or services within a taxing jurisdiction.

➢ The **World Trade Organisation** (WTO) rules allow for the adjustment of certain types of internal taxes at the border under certain conditions. The main conditions are:

○ The tax must be applied equally to imports and "like" domestic products.

○ The tax must be "borne" by a product and not be "direct".

○ A permitted border tax adjustment must not subsidize exports.

➢ **Impact of BAT on trading partners**:

○ At the macro level, with imports reduced and exports increased, a country can cut its trade deficit.

○ If a country is a major export market for many developing countries, the tax plan will have serious adverse effects on them after implementation.

○ BAT may render some firms less profitable and if the prices are forced upwards they may lose competitiveness with substitute products or locally-made similar products.

➢ Various taxes such as electricity duty, mandi tax, clean energy cess and royalty are **imposed on domestic goods leading to the escalation of price**. This **gives imported goods a price advantage** in India.

➢ It was highlighted that advocating self-reliance under **AtmaNirbhar Bharat** vision, **should not imply that India would embrace isolationist policies**. India has to go global but with a supply chain which is more local.

Rights Issue

Why in News

Recent reports suggest that several companies, including Mahindra finance, Tata Power, Shriram Transport Finance among others are planning to raise funds through "**rights issue**" amidst the **Covid-19 pandemic**.

Key Points

➢ **Reason:**

○ Recently, Reliance Industries Limited (RIL) has concluded its rights issue and raised a total of Rs. 53,124 crore and witnessed an oversubscription of 1.59 times.

● RIL's Rights Issue is India's largest rights issue.

○ The successful rights issue of RIL and the big demand (oversubscription) shows that there is a huge demand in the market for the shares of companies with strong credentials at a good price.

➢ **Definition:**

○ A rights issue is a mechanism by which companies can raise additional capital from existing shareholders.

○ It is different from **public issue (Initial Public Offer) and private placement.**

➢ **Advantages:**

○ A company would offer a rights issue in order to raise capital which can be used to clear its debt obligations, acquire assets, or facilitate expansion without having to take out a loan from a bank.

○ It is a **more efficient mechanism of raising capital**. Under it, there is no requirement of shareholders' meeting and an approval from the board of directors is sufficient and adequate.

○ Therefore, the turnaround time for raising this capital is short and is much suited for the current situation (Covid-19 pandemic).

➢ **Disadvantages:**

○ Raising funds through the right issue might create pressure on the company.

○ Value of each share may get diluted.

○ If the share price decreases post rights issue then investors may lose the holding value.

● Holding value is an indicator of an asset that someone has in his/her portfolio. It is a value which sums the impacts of all the dividends that would be given to the holder in the future, to help them estimate a price to sell or buy assets.

○ **Stock exchanges put a restriction** on the amount on which a company can raise via the right issue.

➢ **Reforms Under Rights Issue:**

Note:

- ○ The **Securities and Exchange Board of India (SEBI)** has provided some permanent reforms in the rights issue, it has also provided some temporary relaxations in the wake of Covid-19 pandemic.
- ○ **Permanent Reforms:** In November 2019, SEBI streamlined the rights issue process and the timelines for completion was significantly reduced from T+55 days to T+31 days — a 40% cut in the time.
  - ● The 'T' stands for transaction date, which is the day the transaction takes place.
  - ● It has also reduced the notice period of rights issue to at least 3 working days from 7 days earlier.
- ○ **Temporary relaxations:** SEBI relaxed certain guidelines for right issues that open on or before 31st March, 2021.
  - ● It reduced the eligibility requirement of average market capitalisation of public shareholding from Rs. 250 crore to Rs. 100 crore for a fast track rights issuance.
    - ■ **Market capitalisation** is the value of a company that is traded on the stock market. It is calculated by multiplying the total number of shares by the present share price.
  - ● It reduced the minimum subscription requirement from 90% to 75% of the issue size.
  - ● **Listed entities raising funds** upto Rs. 25 crores (erstwhile limit was Rs. 10 crores) through a rights issue are now not required to file draft offer documents with SEBI.
    - ■ Listed Entity means an entity which is listed on a recognised stock exchange(s).

USTR's Probe into Digital Services Taxes

Why in News

Recently, the office of the **United States Trade Representative (USTR)** has initiated investigations into **taxes adopted or under consideration by 10 nations, including India,** on revenues of **American digital service companies** like **Netflix, Airbnb etc.**

➢ Such taxes are known as **Digital Service Taxes.**

Key Points

➢ **The Office of the United States Trade Representative (USTR):**
  - ○ It is responsible for developing and coordinating US international trade.
  - ○ **Section 301** gives the USTR **broad authority** to **investigate and respond to a foreign country's** action which may be unfair or discriminatory as well as negatively affect US commerce.
    - ● Adopted through the 1974 Trade act, the Section allows the US President to impose tariffs or other curbs on foreign nations.
  - ○ However, the law mandates consultations with trading partners.

➢ **Digital Services Taxes (DSTs):**
  - ○ These are the adopted taxes on revenues that certain companies generate from providing certain digital services. E.g. digital multinationals like Google, Amazon and Apple etc.
  - ○ The **Organisation for Economic Cooperation and Development (OECD)** is currently hosting negotiations with over 130 countries that aim to adapt the international tax system. One goal is to address the tax challenges of the digitalization of the economy.
    - ● Some experts argue that a tax policy designed to target a single sector or activity is likely to be unfair and have complex consequences. The digital economy cannot be easily separated out from the rest of the global economy.

➢ **India's Tax on Digital Companies:**
  - ○ The US is probing the **2% Digital Services Tax (DST)** that India adopted in March and which went into effect on April 1, 2020.
  - ○ The tax applies only to **non-resident companies** with annual revenues over $267,000, and covers online sales of goods & services to persons in India.
  - ○ Further, equalisation levy at 6% has been in force since 2016 on payment exceeding Rs. 1 lakh a year to a non-resident service provider for online advertisements.
    - ● This is **applicable for e-commerce companies** that are sourcing revenue from Indian customers without having tangible presence in the particular country.

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➢ **The US Stand:**

 ❍ The US is concerned that many of its trading partners are adopting tax schemes designed to unfairly target US companies.

  ● Several countries in the world are adopting unilateral measures in the absence of a multilateral consensus spearheaded by OECD. US tech companies which have been phenomenally successful globally are facing the brunt of these unilateral measures and therefore this investigation.

 ❍ It argued that **India's equalisation levy** is **complex and ambiguous** which includes the **possibility of double taxation of income** in absence of access to foreign tax credit as per tax treaties.

➢ **India's Chance to Respond:**

 ❍ India will be given an opportunity to negotiate with the US and prevent the imposition of tariffs by reaching a comprehensive outcome, on the line of similar negotiations that are currently underway with France.

 ❍ India is expected to argue that the levy is in compliance with India's commitments under the 1995 General Agreement on Trade in Services (Treaty under the World Trade Organization) and is applicable on all global companies, not just American ones.

 ❍ In case when the goods and services are supplied to the resident, typically the **non-residents have been able to pass on the burden to the Indian consumers** and therefore indirectly the tax has been borne by the **Indian consumers.**

➢ **Concerns:**

 ❍ In the backdrop of an improper functioning of the **World Trade Organization (WTO)**, the move could signal the start of more **unilateral action** by the US especially on the digital services front.

 ❍ In India's case, the probe could potentially affect the **outcome of a bilateral trade deal** that India has been looking to forge with the US.

 ❍ Further, **India continues to be on the 'Priority Watch List' of the United States Trade Representative (USTR)** for lack of adequate Intellectual Property (IP) rights protection and enforcement.

SWADES: Skill Mapping Exercise for Returning Citizens

Why in News

Recently, the Government has launched an initiative **'SWADES - Skilled Workers Arrival Database for Employment Support'.**

Key Points

➢ The initiative, undertaken as part of the Vande Bharat Mission, aims at empowering the returning citizens with relevant employment opportunities.

 ❍ Vande Bharat Mission is an evacuation exercise to bring back Indian citizens stranded abroad amidst the coronavirus-induced travel restrictions.

➢ It is a **joint initiative** of the Ministry of Skill Development & Entrepreneurship, the Ministry of Civil Aviation and the Ministry of External Affairs.

 ❍ The **National Skill Development Corporation (NSDC)** is supporting the implementation of the project.

➢ It aims to create a database of qualified citizens based on their skill sets and experience to tap into and fulfil demand of Indian and foreign companies.

 ❍ The collected information will be shared with the companies for suitable placement opportunities in the country.

➢ The returning citizens are required to fill up an online **SWADES Skills Card**.

 ❍ It will facilitate a strategic framework to provide the returning citizens with suitable employment

National Skill Development Corporation

➢ NSDC is a not-for-profit public limited company incorporated under section 25 of the Companies Act, 1956 (corresponding to section 8 of the Companies Act, 2013).

➢ It was set up by the Ministry of Finance as a Public Private Partnership (PPP) model.

➢ The Government of India through the Ministry of Skill Development & Entrepreneurship (MSDE) holds 49% of the share capital of NSDC, while the private sector has the balance 51% of the share capital.

➢ It aims to promote skill development by catalyzing creation of large, quality and for-profit vocational institutions.

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opportunities through discussions with key stakeholders including State Governments, Industry Associations and Employers.

Central Employment Guarantee Council

Why in News

Recently, the 21st meeting of the **Central Employment Guarantee** Council was held through video-conferencing.

Key Points

- The government highlighted the work done under **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005**, by providing employment to rural people.
  - The government has allocated Rs. 61,500 crore for MGNREGA for the Financial Year 2020-21, which is an all-time high.
  - Additional provision of Rs. 40,000 crore has been made for this programme under **Atmanirbhar Bharat Abhiyan** to provide employment to the needy workers during the difficult period due to Covid-19.
- The government has also stressed on the irrigation and water conservation activities under the MGNREGA.
- **Central Employment Guarantee Council:**
  - The Central Council has been **constituted under Section 10 of the MGNREGA.**
  - It is chaired by the **Minister of Rural development.**
  - It is **responsible for advising the Central Government on MGNREGA related matters,** and for monitoring and evaluating the implementation of the Act.
  - It prepares Annual Reports on the **implementation of MGNREGA for submission** to Parliament.

Indian Digital Payment System Outside India

Why in News

The **Reserve Bank of India (RBI)** is exploring the possibility of expanding its payment system abroad, following the requests from several countries.

Key Points

- **Requests for Payment System:**
  - The RBI has received requests from abroad for implementing its payment systems like Cheque Truncation System (CTS), National Electronic Fund Transfer (NEFT), Unified Payments Interface (UPI) and messaging solutions.
- **Reason:**
  - The availability of low cost innovative digital payment products in India has led to many countries expressing their interest in Indian payment system.
- **Availability of Payment System Outside India:**
  - Currently, there are no RBI authorised payment system operators providing payment services outside India.
  - However, there is cross-country cooperation with Bhutan with respect to CTS, National Automated Clearing House (NACH) and NEFT. NEFT is also available for one-way transfers from India to Nepal.
- **Scope of Payment System Outside India:**
  - According to RBI there is scope for enhancing global outreach of its payment systems, including remittances, through active participation and co-operation in international and regional fora by collaborating and contributing to standard setting.
  - Efforts have been made to increase and widen the scope, coverage and usage of **RuPay card scheme** and **UPI to enhance their brand value internationally.**
- **Issues Involved:**
  - Overdependence on the foreign funds (through digital payments) may lead to possible liquidity risk issues in India.
  - Different time zones may pose a risk in digital payments.
- **Digital Payments and India:**
  - India's growing use of retail digital payments, indicates a shift in the relationship with cash.
  - According to the RBI, the digital payments in the country have witnessed a growth of 61% and 19% in terms of volume and value, respectively.
  - The value of digital payments to **Gross Domestic Product** (GDP) has also increased from 660% in 2014-15 to 862% in 2018-19.
  - The Point of sale (PoS) terminals grew at a high pace of 35%, contrastingly the deployment of ATMs has grown at a low pace (4%).

Note:

Unified Payments Interface

➢ It is an advanced version of **Immediate Payment Service (IMPS),** round-the-clock funds transfer service to make cashless payments **faster, easier and smoother.**

➢ UPI is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing and merchant payments into one hood.

➢ **National Payments Corporation of India (NPCI)** launched UPI with 21 member banks in 2016.

National Electronic Funds Transfer

➢ It is a nation-wide payment system facilitating one-to-one funds transfer. Under this scheme, individuals, firms and corporates can electronically transfer funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the scheme.

➢ There is no limit, either minimum or maximum, on the amount of funds that could be transferred using NEFT.

➢ However, the maximum amount per transaction is limited to Rs 50,000/- for cash-based remittances within India and also for remittances to Nepal under the Indo-Nepal Remittance Facility Scheme.

RuPay Card Scheme

➢ RuPay is the first-of-its-kind domestic Debit and Credit Card payment network of India.

➢ The name, derived from the words 'Rupee and Payment', emphasises that it is India's very own initiative for Debit and Credit Card payments.

➢ The card can also be used for transactions in Singapore, Bhutan, UAE, Bahrain and Saudi Arabia.

Cheque Truncation System

➢ It is an online image-based cheque clearing system undertaken by the RBI for faster clearing of cheques. It eliminates the associated cost of movement of physical cheques.

National Automated Clearing House

➢ It is a service offered by NPCI to banks which aims at facilitating interbank high volume, low value debit/credit transactions, which are repetitive and electronic in nature.

Shapes of Economic Recovery

Why in News

As India is going to come out of the **Covid-19 lockdown**, experts are debating over the shape of recovery of Indian economy.

Key Points

➢ The economists are unanimous that in the current financial year 2020-21, I**ndia's economy will contract.**

   ○ According to the **World Bank's** South Asia Economic Focus report, India's growth is likely to remain at 1.5-2.8% in 2020-21 which is the slowest since 1991 economic reforms.

➢ Many economists are also of the opinion that after hitting the bottom this year, the Indian economy will start its recovery in the next financial year (2021-22).

➢ However, according to an **analysis by Pronab Sen, former Chief Statistician of India, India's economy will contract not just in the financial year 2020-21 but also in 2021-22.**

   ○ This means that India **could experience a full-blown depression –** the first in India's history as an independent nation.

   ○ The Table shows India's absolute Gross Domestic Product (GDP) is likely to struggle to even come back to the 2019-20 level by 2023-24.

   ○ India is likely to end up with an **"elongated U-shape" recovery** due to the **weakness of the economy going into the Covid crisis** as well as the **inadequate fiscal stimulus measure taken by the government.**

   ○ The Table also provides a snapshot of the likely trend level of GDP had India grown at 6% and 8% respectively over the same period.

➢ Other economists are of the view that **it is difficult to predict the shape of economic recovery in India** at this juncture as there are too many unknowns.

YEAR	Likely growth rate of GDP (in %)	Likely absolute GDP in Rs Trillion*	Absolute GDP at 6% growth (Rs Trillion)	Absolute GDP at 8% growth (Rs Trillion)
2019-20 (pre-Covid)	5	207		
2019-20 (post-Covid)	3	203		
2020-21	—12	178	219	224
2021-22	— 9	163	233	242
2022-23	6	172	247	261
2023-24	6	183	261	282

Note:

○ If there is no second wave of Covid-19, India can expect swift normalization from negative growth levels to the pre-covid levels of 5% and a gradual recovery to 7% by the second half of the next fiscal (2021-22).

Types of Shape of Economic Recovery

➢ Economic recovery can take many forms, which is depicted using alphabetic notations. For example, a **Z-shaped recovery, V-shaped recovery, U-shaped recovery, elongated U-shaped recovery, W-shaped recovery** and **L-shaped recovery.**

➢ The **alphabets generally denote the graph of growth rate,** which resembles the shape of the letter.

➢ The fundamental difference between the different kinds of recovery is the **time taken for economic activity to normalize.**

   ○ The **time taken is often a factor of multiple things** such as the depth of the economic crisis. e.g deeper the recession, longer is the time to get back to normal.

➢ The other aspect of economic recovery includes **the effect of pandemic on jobs and household incomes,** and the **kind of policy response taken by the government** that determines how quickly economic growth will recover.

➢ **Z-shaped recovery:** It is the most-optimistic scenario in which **the economy quickly rises after an economic crash.**

   ○ It makes up more than for lost ground before settling back to the normal trend-line, thus forming a Z-shaped chart.
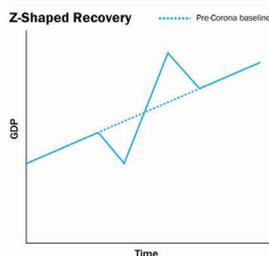
   ○ In this economic disruption lasts for a small period wherein more than people's incomes, it is their ability to spend is restricted.

➢ **V-shaped recovery:** It is the next-best scenario after Z-shaped recovery in which the economy quickly recoups lost ground and gets back to the normal growth trend-line.
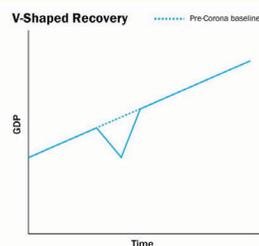
   ○ In this, incomes and jobs are not permanently

○ lost, and the economic growth recovers sharply and returns to the path it was following before the disruption.

➢ **U-shaped recovery:** It is a scenario in which the economy, after falling, struggles around a low growth rate for some time, before rising gradually to usual levels.
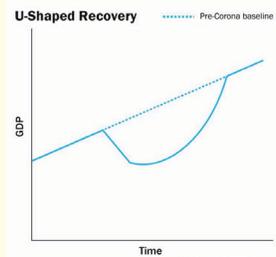
   ○ In this case several jobs are lost and people fall upon their savings.

   ○ If this process is more-long drawn than it throws up the **"elongated U" shape.**

➢ **W-shaped recovery:** A W-shaped recovery is a dangerous creature. In this, growth falls and rises, but falls again before recovering, thus forming a W-like chart.
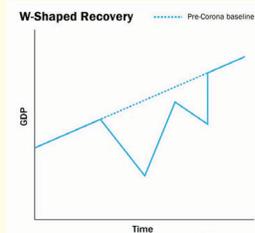
   ○ The double-dip depicted by a W-shaped recovery can be due to the second wave of the pandemic.

➢ **L-shaped recovery:** In this, the economy fails to regain the level of GDP even after years go by.
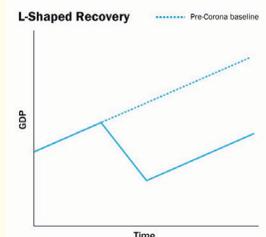
   ○ The shape shows that there is a permanent loss to the economy's ability to produce.

Fall in Direct Tax Collection

Why in News

According to the **Central Board of Direct Taxes (CBDT),** the gross direct tax collections for the financial year (FY) 2019-20 fell by almost 5% compared to FY 2018-19.

➢ The total direct tax collections for 2019-20 was at Rs. 12.33 lakh crore against Rs. 12.97 lakh crore of 2018-19.

➢ Direct tax is a type of tax where the incidence and impact of taxation fall on the same entity. In the

case of direct tax, the burden can't be shifted by the taxpayer to someone else.

- These are largely taxes on income or wealth. e.g Income tax, corporation tax, property tax etc.

Key Points

➤ The fall in the collection of direct taxes is due to a combination of factors, **which include the historic tax reforms undertaken in 2019 and much higher refunds** issued during the FY 2019-20.

- **Tax Reforms:**
  - **Reduction in corporate tax rate to 22%** from FY 2019-20 **for all existing domestic companies.**
  - **Incentive for new manufacturing domestic companies** by reducing the tax rate to 15%.
    - Such companies have also been exempted from payment of **Minimum Alternate Tax (MAT).**
    - This was done in order to promote growth and investment.
  - **Reduction in MAT rate from 18.5% to 15%** to provide relief to the companies which continue to avail exemption and pay tax under MAT.
  - **Exemption from income-tax** to individuals earning income up to Rs. 5 lakh and increase in standard deduction from Rs. 40,000 to Rs. 50,000.
  - The revenue impact of these reforms have been estimated at Rs. 1.45 lakh crore for Corporate Tax and at Rs. 23,200 crore for the Personal Income Tax (PIT).
- **High Refunds:** In FY 2019-20, the **total refunds** given was Rs. 1.84 lakh crore as compared to Rs. 1.61 lakh crore in FY 2018-19 which is a 14% increase year-on-year.

➤ **Tax Buoyancy:** Excluding the effect of tax reform measures and higher issuance of refunds during the FY20, **the tax buoyancy for gross direct collection, corporate tax and personal income tax was positive.**

- The tax buoyancy for gross direct tax collection was 1.12, for corporate tax it was around 1 and for personal income tax it was 1.32.
- The higher growth rate in direct taxes as compared to GDP even in these challenging times proves that recent efforts for the widening of the tax base undertaken by the government are yielding results.

- **Tax buoyancy is used to assess the efficiency of the tax system.**

➤ **Investment:** The setting up of new manufacturing facilities requires various preliminary steps like acquisition of land, construction of factory sheds, setting up of offices and other infrastructures, etc.

- The tax reforms were brought in September 2019 and these activities cannot be completed in just a few months. Further, the outbreak of **Covid-19**, may delay this process.

Steps Taken by the Government to Increase Direct Tax and Investment

➤ **Personal Income Tax -** The Finance Act, 2020 has provided an option to individuals and co-operatives for paying income-tax at concessional rates if they do not avail specified exemption and incentive.

➤ **Abolition of Dividend Distribution Tax (DDT) -** The Finance Act, 2020 removed the Dividend Distribution Tax in order to increase the attractiveness of the Indian Equity Market.

➤ **Vivad se Vishwas -** Under **Vivad se Vishwas**, declarations for settling pending tax disputes are currently being filed.

- This will benefit the Government by generating timely revenue and also to the taxpayers by bringing down mounting litigation costs.

➤ **Encouraging digital transactions -** In order to facilitate the digitalisation of the economy and reduce unaccounted transactions, various measures have been taken which include:

- Reduction in rate of presumptive profit on digital turnover,
- Removal of **Merchant Discount Rate (MDR)** charges on prescribed modes of transactions,
- Reducing the threshold for cash transactions,
- Prohibition of certain cash transactions, etc.

➤ **Raising of monetary limit for filing of appeal -** To effectively reduce taxpayer grievances and help the Income Tax Department focus on litigation involving complex legal issues and high tax effect, the monetary thresholds for filing of departmental appeals have been raised.

- The monetary threshold has been raised from Rs. 20 lakh to Rs. 50 lakh for appeal before Income Tax Appellate Tribunal (ITAT), from Rs. 50 lakh to

Note:

Rs. 1 crore for appeal before the High Court and from Rs. 1 crore to Rs. 2 crore for appeal before the Supreme Court.

➤ **Expansion of scope of TDS/TCS -** For widening the tax base, several new transactions were brought into the ambit of Tax Deduction at Source (TDS) and Tax Collection at Source (TCS).

  ❍ These transactions include huge cash withdrawal, foreign remittance, purchase of luxury cars, e-commerce participants, sale of goods, acquisition of immovable property, etc.

Key Terms

➤ **Corporate Tax:** It is levied on a firm's profit by the government.

  ❍ It is taxed on operating earnings after expenses have been deducted.

  ❍ The rate of corporate tax in India varies from one type of company to another i.e. domestic corporations and foreign corporations pay tax at different rates.

➤ **Dividend Distribution Tax (DDT):** Dividend refers to the distribution of profits to shareholders of a company.

  ❍ Thus, the dividend distribution tax is a type of tax that is payable on the dividends offered to its shareholders by the corporate.

  ❍ Higher dividends mean a greater tax burden for the corporate entity.

➤ **Minimum Alternate Tax**

  ❍ At times it may happen that a taxpayer, being a company, may have generated income during the year, but by taking the advantage of various provisions of Income-tax Law (like exemptions, deductions, depreciation, etc.), it may have reduced its tax liability or may not have paid any tax at all.

  ❍ Due to an increase in the number of zero tax paying companies, Minimum Alternate Tax (MAT) was introduced by the Finance Act, 1987 with effect from assessment year 1988-89. Later on, it was withdrawn by the Finance Act, 1990 and then reintroduced by Finance Act, 1996.

  ❍ MAT is an important tool with which tax avoidance can be prevented.

Fall in Money Remitted Abroad

Why in News

According to data released by the **Reserve Bank of India**, the amount of money Indians send abroad has witnessed **a 61% decline** under the **Liberalised Remittance Scheme (LRS)** as Covid-19 and the lockdown cripple the global economy and ground international travel.

Key Points

➤ In April 2020, Indians remitted **$499.14 million** under the Liberalised Remittance Scheme (LRS) — **a 61% decline from $1,287.91 million** in the same month last year.

  ❍ The monthly outward flow in April 2020 i**s lowest since February 2016** when it was **$449.28 million**.

  ❍ Substantial decline has been recorded in money sent for purchase of immovable property abroad; investment in equity/debt; deposit; gift; medical treatment; and other categories during April 202**0**.

➤ **A Triple Whammy Effect:**

  ❍ This dip **reflects economic distress, lockdown at home and curbs on overseas travel**.

  ❍ Earlier, Resident Indians have remitted **a record $18,750 million** under LRS in the financial year ended March 31, 2020.

    ● Despite the outflows reaching a record level during last financial year, March, 2020 saw a dip — $1,358.82 million — against $1,476.82 million in the corresponding month of 2019.

➤ **Money sent for Travel Purposes:** The sharpest decline — 71.81% — has been recorded in money sent for travel purposes which came down to $121.13 million in April this year from $429.75 million a year ago.

  ❍ This is significant **as an estimated 2 million Indian nationals** travel overseas every month.

➤ **Money Sent for Studies Abroad:** This has also seen a sharp decline of 68.85% — $78.76 million in April this year from $252.84 million in the corresponding month last year.

  ❍ Over **7 lakh Indian students pursued studies** in foreign institutions in 2018.

➤ **Maintenance of Close Relatives:** The category, which contributes the highest amount to total outward remittances under LRS has recorded a decline of

Note:

50%— $148.25 million in April this year from $296.14 million last year.

➢ **Deposit and Investment in Equity/Debt:** These categories have recorded lesser decline i.e. **of 29.91%**.

➢ **Donations:** The only **exception** (stands neutral in terms of decline or increase**) to other sources of remittances is "donations" e.g. for charity or social service,** which contribute a **negligible amount** to the total outflows.

➢ **Gift and Medical Treatment:** While the category "Gift" has recorded a 66% decline in outward remittances, "medical treatment" has seen a decline of 45.85% in April 2020.

➢ **Overall Impact:**
   ❍ Significantly, the cut in expenses on education, medical treatment and maintenance of relatives may endure beyond the travel ban and Covid due to financial strain.
   ❍ Investment in shares and debt instruments used to buy immovable properties in overseas markets may decline.
   ❍ Opening of foreign currency accounts with banks outside India may also get reduced.
   ❍ In nutshell it would affect the **currency reserve** of the country as an Indian resident needs to buy dollars using the Indian rupees (INR) from an authorised dealer (the bank) in India.

Liberalised Remittance Scheme

➢ This is the s**cheme of the Reserve Bank of India,** introduced in the year **2004**.

➢ Under the scheme, all resident individuals, including minors, are allowed to freely remit up to USD 2,50,000 per financial year (April – March) for any permissible current or capital account transaction or a combination of both.

➢ **Not Eligible:** The Scheme is not available to **corporations, partnership firms, Hindu Undivided Family (HUF), Trusts** etc.

➢ **Remitted Money can be used for:**
   ❍ Expenses **related to travelling (private or for business), medical treatment, study, gifts and donations, maintenance of close relatives** and so on.
   ❍ Investment in shares, debt instruments, and buy immovable properties in the overseas market.

   ❍ Individuals can also open, maintain and hold foreign currency accounts with banks outside India for carrying out transactions permitted under the scheme.

➢ **Prohibited Transactions:**
   ❍ Any purpose specifically prohibited under Schedule-I (like the purchase of lottery tickets, proscribed magazines, etc.) or any item restricted under Schedule II of **Foreign Exchange Management (Current Account Transactions) Rules, 2000**.
   ❍ Trading in foreign exchange abroad.
   ❍ Capital account remittances, directly or indirectly, to countries identified by the **Financial Action Task Force (FATF)** as "non- cooperative countries and territories", from time to time.
   ❍ Remittances directly or indirectly to those individuals and entities identified as posing a significant risk of committing acts of terrorism as advised separately by the Reserve Bank to the banks.

➢ **Requirements:** It is mandatory for the resident individual to provide his/her **Permanent Account Number (PAN)** for all transactions under LRS made through Authorized Persons.

GST Council Meeting

Why in News

Recently, the 40th **Goods and Services Tax (GST) Council** meeting was held.

Key Points

➢ **GST Collections:**
   ❍ In the first two months of the current financial year, 2020-21, the cumulative GST revenues of states and the Centre **has been only 45% of the monthly target**.
   ❍ In 2020-21, the combined monthly GST revenue target is estimated at Rs. 1.21 lakh crore taking into account the budget estimate and states' protected revenue.

➢ **Market Borrowing:**
   ❍ As revenue has fallen for both the Centre and states, the GST Council has decided to hold a single-point

agenda meeting in July, 2020 which will discuss **market borrowing by the Council itself** as one of the ways to raise money and **compensate states for GST revenue losses**.

○ The **GST Act, 2017** extends a **guarantee to states** that any **loss in revenues in the first five years (2017-2022) of GST implementation** will be compensated through a cess that accrues to the **Compensation Fund.**

- The shortfall is calculated assuming a 14% annual growth in GST collections by states over the base year of 2015-16.

➢ In the 8th GST Council meeting it was discussed that in case the amount in the GST Compensation Fund fell short of the compensation payable, the Council shall decide the mode of raising additional resources including borrowing from the market.

○ The borrowing could be repaid by collection of cess in the sixth year or further subsequent years.

➢ **Issues Involved:**

○ There is a question about the l**egality of the GST Council to borrow;** for instance, can it be accorded **sovereign status** like Centre and states.

○ The burden and the impact of market borrowing on the **Fiscal Responsibility and Budget Management Act (FRBM Act), 2003** is not clear.

➢ **Tax Rationalisation:**

○ The Council discussed correction of **inverted duty structure** for footwear, fertilisers and textiles.

- Inverted duty structure is a situation where the rate of tax on inputs used is higher than the rate of tax on the finished good.

- Take an imaginary situation of the tyre industry, the tax rate on natural rubber (input) purchased is 10% whereas the tax rate on rubber tyre is 5%. Here since the tax rate on input is higher than that on the finished good, there is an inverted tax structure.

○ However, the decision was deferred because it would have resulted in increase in the prices of fertiliser, footwear and ready-made garments, which would have affected the process of economic revival.

➢ **Compliance-related Relief:**

○ The GST Council also provided compliance-related relief to small taxpayers with turnover up to Rs. 5 crore.

- It **reduced the interest by half on delayed filing of GST returns** for February, March and April, 2020 to 9%, provided the returns are filed by September 2020.

- For May-July, 2020 the deadline for filing GST returns has been extended till 30 September, 2020 without any penalty.

GST Council

➢ It is a **constitutional body** under **Article 279A.** It makes recommendations to the Union and State Government on issues related to **Goods and Service Tax** and was introduced by the **Constitution (One Hundred and First Amendment) Act, 2016**.

➢ The GST Council is **chaired by the Union Finance Minister** and other members are the Union State Minister of Revenue or Finance and Ministers in-charge of Finance or Taxation of all the States.

➢ It is **considered as a federal body** where both the centre and the states get due representation.

○ The **Economic Survey 2017-18** also hailed the GST Council for its **cooperative federalism technology** which brings together the Center and States and can be applied to many other policy reforms.

➢ Every decision of the Goods and Services Tax Council shall be taken at a meeting by a **majority of not less than three-fourths of the weighted votes of the members present and voting,** in accordance with the following principles, namely:

○ The vote of the Central Government shall have a weightage of one third of the total votes cast, and

○ The votes of all the State Governments taken together shall have a weightage of two-thirds of the total votes cast in that meeting.

Small Farmers' Agribusiness Consortium

Why in News

Recently the Union Minister of Agriculture & Farmers' Welfare highlighted the role of **Small Farmers' Agribusiness Consortium (SFAC)** in increasing **incomes of small and marginal farmers** through aggregation and development of agribusiness.

Key Points

➤ **Established:** SFAC was established in **1994 under Societies Registration Act, 1860** as an autonomous body promoted by the Ministry of Agriculture & Farmers' Welfare.

➤ **Objectives:** Promoting agribusiness by encouraging institutional and private sector investments and linkages to ensure the empowerment of all farmers in the country.

 ❍ Organising small and marginal farmers as Farmer Interest Groups, Farmer Producer Organisations and Farmer Producer Company for endowing them with bargaining power and economies of scale.

➤ **Few Important Schemes Implemented by SFAC:** Equity Grant & Credit Guarantee Fund (EGCGF) Scheme , Venture Capital Assistance (VCA) Scheme, **Farmer Producer Organization (FPO)** Scheme, **National Agriculture Market (NAM) Scheme**, etc.

➤ **Recent Initiatives/Developments:** SFAC launched the **Kisan Rath app** with the help of officials of the Ministry of Agriculture which lessened the problem of transport of farm produce during lockdown.

 ❍ It signed a **Memorandum of Understanding (MoU)** with the Agricultural and Processed Food Products Export Development Authority (APEDA) to bring in better synergy in the agricultural activities.

Equity Grant & Credit Guarantee Fund (EGCGF) Scheme

➤ The Equity Grant Fund has been set up with the primary objectives of :

 ❍ Enhancing **viability and sustainability, credit worthiness** of Farmer Producer Companies (FPCs),

 ❍ Enhancing the shareholding of members to increase their ownership and participation in their FPCs.

➤ **The Credit Guarantee Fund Scheme** provides a Credit Guarantee Cover to the Eligible Lending Institution (ELI) to enable them to provide collateral free credit to FPCs.

Venture Capital Assistance

➤ Venture Capital Assistance is financial support in the form of an **interest free loan** provided by SFAC to meet the shortfall in the capital requirement for implementation of the project.

■■■

International Relations

Highlights

- *Proposed Expansion of G7*
- *China's Opposition to THAAD*
- *Boosting Infrastructure Along China Border*
- *Darbuk-Shyok-Daulat Beg Oldie Road*
- *e-Diplomacy*
- *Violation of Armistice Agreement: UNC*
- *India-Australia Virtual Summit*
- *Australia to be Included in Malabar Exercise*

- *India's Campaign Brochure for UNSC Seat*
- *MoU between India and Bhutan*
- *International Religious Freedom Report 2019*
- *Indian Naval LOs at Madagascar and Abu Dhabi*
- *Persian Gulf Region*
- *India- Laos Relations*
- *India-Tanzania Relations*

Proposed Expansion of G7

Why in News

Recently, the USA has suggested the **postponement of the 46ᵗʰ G7 (Group of 7) Summit** which was scheduled to be held in June (2020) at Camp David (USA).

➢ Additionally, the USA President has also proposed the **expansion of the G7 to be called 'G10 or G11'**.

G7

➢ **Description:**
  ❍ The G7 or 'Group of Seven' consists of **Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States**.
  ❍ It is an **intergovernmental organisation** that was formed in **1975** as an informal forum to discuss pressing world issues.
    - Initially it focussed on economic issues but later it focussed on the several challenges such as the oil crashes of the 1970s, terrorism, arms control, and drug trafficking,etc.
  ❍ The group does **not** have a **formal constitution or a fixed headquarters**. The decisions taken by leaders during **annual summits are non-binding**.

❍ The G7 nations meet at annual summits that are **presided over by leaders** of member countries on a **rotational basis**.

➢ **Host Country of the Summit:**
  ❍ The host country **not only holds the G7 presidency** but also **sets the agenda for the year.**
  ❍ It also gets a chance to **invite dignitaries from outside the G7** to attend the Summit.

➢ **Presence of Sherpas:**
  ❍ The groundwork for the Summit, including matters to be discussed and follow-up meetings, is done by the **sherpas**.
  ❍ The sherpas are generally personal representatives or members of diplomatic staff such as ambassadors.

Key Points

➢ **Expansion of G7:**
  ❍ The proposed expansion has suggested **inclusion of India, Australia, South Korea and Russia** in the grouping of the largest advanced economies.
  ❍ The existing **G7 group** has been called an **outdated group of countries** as it does not include emerging economies of the world and thus it is believed that the group **does not follow** the current world order.
  ❍ It is **unclear** that the proposed expansion will be **permanent or temporary**.

➢ **Re-inclusion of Russia:**

Note:

- ○ The proposal to re-admit Russia is expected to receive **strong reactions from other G7 member countries**.
  - Russia is seen as an ally of China.
- ○ The G7 was known as the **'G8' for several years** after the original seven were **joined by Russia in 1997**.
  - The Group returned to being called G7 after Russia was expelled as a member in 2014 following the latter's annexation of the Crimea region of Ukraine.

➢ **India at the G7 Summit:**
- ○ India had attended the **G7 summit of 2019 at Biarritz in France** as a **special guest of French President**.
- ○ India has attended the **G8 five times** as special guests by various hosts of the G8 Summit in the past.

➢ **Attempt to Unite Allies Against China:**
- ○ **China is not a member of G7** despite being th**e** world's biggest population and second-biggest economy. But, China has relatively low levels of wealth per head of population. Thus it is not considered as an advanced economy like other G7 members.
- ○ The expansion of G7 has been believed to be a plan to **unite all traditional allies to deal** with **assertive diplomacy of China**.
- ○ The proposal comes amid ongoing issues between the US and China which includes **Hong Kong's autonomy to Taiwan**, **the origins of Covid-19**, **South China Sea tensions** and **trade issues**.

G7 Vs G20
➢ **Members:** The **G20** is a **larger group** of countries, which also **includes G7 members**.
  - ○ Apart from the G7 countries, the G20 comprises Argentina, Australia, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea, and Turkey.
➢ **Share in Global Economy:** The G20 countries make up around **80% of the world's economy**. G7's share in global GDP has **fallen** to **around 40%**.
➢ **Range of Issues:** As opposed to the G7, the G20 discusses a broad range of issues including those concerning the global economy and financial markets.

Way Forward

➢ The rise of India, China, and Brazil over the past few decades has reduced the G7's relevance. Thus, inclusion

of emerging economies like India, South Korea, etc. may extend the support to establish equal levels for each country at global level.

➢ The proposed expansion may also help G7 to be a more representative institution than current G7 and subsequently to establish an equal platform at global level.

China's Opposition to THAAD

Why in News

Recently, China has issued a statement reiterating its long-standing objections to the presence of the **USA's THAAD missile defence system in South Korea**. This comes after the reports of an overnight operation to bring in new, replacement interceptor missiles to the USA base in South Korea.

Key Points

➢ **THAAD:**
- ○ It is an acronym for **Terminal High Altitude Area Defense**, a **transportable**, **ground-based anti-ballistic missile** defence system.
- ○ First proposed in **1987** and then finally deployed in **2008**, the THAAD cannot be used as a form of attack against an enemy.
- ○ It is designed to **intercept and destroy** short and medium-range ballistic missiles in their final flight phase.
- ○ THAAD is coupled with **space-based and ground-based surveillance stations**, which transfer data about the incoming missile and inform the THAAD interceptor missile of the threat type classification.
- ○ This system has been designed and manufactured by the **USA company Lockheed Martin**.
- ○ It has been previously deployed in the United Arab Emirates (UAE), Guam, Israel, Romania as well.

➢ **Background:**
- ○ THAAD was deployed in South Korea as a **countermeasure against potential attacks by North Korea**, particularly after the country had engaged in testing ballistic missiles.
  - In **2017,** when North Korea test-fired a few missiles in the direction of USA bases in Japan,

the USA moved the missile systems to its army base in **Osan**, **South Korea**.

○ Ever since China has objected these moves causing deterioration of their relationship.

○ For South Korea, North Korea poses a nuclear threat and the THAAD missile defence system is a necessity to counter that.

○ The USA and South Korea have consistently maintained that these missiles are only to counter potential threats by North Korea.

➢ **China's Concerns:**

○ China is less concerned about the missiles itself and more about the **system's inbuilt advanced radar systems** that can track China's actions.

○ The **USA's presence and influence in East Asia**, through its military bases in Japan and South Korea, **hamper the geopolitics and complex conflicts** of the region.

○ It also **interferes with Beijing's** long-term military, diplomatic and economic **interests** in the region.

➢ **Repercussions on South Korea:**

○ **Economic**: Operations of South Korean businesses, including large conglomerates like LG, Lotte and Samsung, were hampered. These included shutting down of institutions and enterprises that had little to do with the defence and military, like golf courses and shopping malls.

○ **Tourism**: Tourism from China to South Korea fell drastically. The tourism industry contributes significantly to South Korea's economy.

○ **Entertainment**: South Korea's entertainment industry witnessed concerts, shows and other commercial ventures in China being forced to cancel.

○ **Cosmetics and Personal Care**: The sales of South Korean cosmetics and beauty products were being impacted. They are extremely popular in China but due to calls on social media to boycott South Korean products, their sales went down.

○ **Demographic**: Protests sparked off in South Korea against the deployment which has caused major worries regarding peace and security in the region.

TAKING THE HIGH GROUND

The THAAD system provides the critical capability to defend against short and medium ranged ballistic missiles.

ABILITY TO INTERCEPT MISSILES INSIDE AND OUTSIDE THE ATMOSPHERE

DEFENDS POPULATION CENTERS AND HIGH VALUE INFRASTRUCTURES

INTEROPERABLE WITH OTHER BALLISTIC MISSILE DEFENSE SYSTEMS

HIGHLY MOBILE AND DEPLOYABLE WORLDWIDE

INTERCEPTING A MISSILE

The system has a track record of 100% mission success in flight testing since 2005.

Incoming threat

Radar — TFCC THAAD Fire Control and Communications support equipment. — Launcher

1 Radar detects incoming threat.
2 The target is identified and engaged.
3 Interceptor is fired from truck-mounted launcher.
4 Interceptor uses kinetic energy to destroy incoming missile.

Boosting Infrastructure Along China Border

Why in News

Recently, the Ministry of Home Affairs (MHA) has announced to spend 10% funds of **the Border Area Development Programme (BADP)** only **to improve the infrastructure** along the **China border**.

Key Points

➢ **Enhancing Infrastructure:**

○ **The Border Area Development Programme (BADP)** has been allocated Rs 784 crore for projects in areas of States/UTs inhabited along the **Indo-China border** viz. **Arunachal Pradesh, Himachal Pradesh, Ladakh, Sikkim and Uttarakhand**.

○ The fund is distributed to the border States and UTs depending on **various criteria** such as the **length of the international border and population**.

○ Under this, the projects for developing **strategically important villages and towns** in border areas will be given priority.

○ Construction of roads, bridges, primary schools, health infrastructure, playfields, irrigation works, etc. will be undertaken within 10 km of the border.

Note:

- ➢ **Role of Various Security Forces:**
  - ❍ Security Forces such as the **Border Security Force (BSF),** deployed along the Bangladesh and Pakistan borders, the **Indo-Tibetan Border Police (ITBP)** on the China border, the **Sashastra Seema Bal along the Nepal border,** and the **Assam Rifles** stationed along the Myanmar border would provide independent feedback on the projects in the blocks concerned and may be tasked to conduct social audit of the works, it stated.
  - ❍ These forces will play a crucial role in **identification of the villages** and **implementation** of the related work.
- ➢ **Significance:**
  - ❍ **Bridging Socio-economic gaps**:
    - ● It is an important intervention of the Government to bring about development of border areas by supplementing the State Plan Funds to **bridge the gaps in socio- economic infrastructure** on one hand and **improving the security environment in border areas on the other**.
  - ❍ **Safe and Secure Borders:** It would create a **positive perception of care** and **encourage people to stay** on in the border areas **leading to safe and secure borders**.
    - ● This would help **integrate these areas with the hinterland.**
  - ❍ **Better Management of the Border:** In the light of the recent incident of face-off between India and China the creation of infrastructure is a strategic move for the better management of the border areas.

Border Area Development Programme

- ➢ The BADP was launched by the Ministry of Home Affairs in **1986-87** as part of a **comprehensive approach to Border Management**.
- ➢ BADP was initiated in the border areas of the western region during **the Seventh Five Year Plan (1985-90),** for ensuring balanced development of border areas through development of infrastructure and promotion of a sense of security among the border population.
- ➢ The States covered are Arunachal Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Rajasthan, Sikkim, Tripura, Uttar Pradesh, Uttarakhand and West Bengal.

- ● It will provide **faster mobility to troops and equipment** to the border with China.
- ● India is continuing the infrastructure for better connectivity to the **Line of Actual Control** with China. E.g. the construction of a strategic tunnel in Uttarakhand as a part of the **Char Dham Pariyojana.**

Darbuk-Shyok-Daulat Beg Oldie Road

Why in News

The **Darbuk-Shyok-Daulat Beg Oldie (DSDBO) road** has been in the making for around two decades and is expected to be completed by 2020.

Key Points

- ➢ The **255-km road** from **Darbuk** traverses at an **altitude of 14,000 feet** and reaches **Shyok,** the **last Indian village in the region.**
- ➢ This road **joins Leh to the Karakoram Pass,** which divides Ladakh from China's Xinjiang province.
- ➢ Between Shyok and Karakoram Pass lies **Daulat Beg Oldie** (DBO), a **plateau at an altitude of over 16,000 feet** and the **location of an Advanced Landing Ground** (ALG) used by the air force to drop supplies.
  - ❍ DBO is India's **northernmost corner,** which in army parlance is called **Sub-Sector North.**
- ➢ **Background:**
  - ❍ The road's **construction** was started in **2000** and was to be completed by 2012 at a cost of Rs. 320 crore under the **monitoring of the Prime Minister's Office** (PMO).
  - ❍ However, the construction **could not be finished** as the road was **aligned with the Shyok riverbed** that led to it being **damaged every summer during flooding.**
  - ❍ Later, major portions of the road were realigned, keeping them away from the river.
  - ❍ In October **2019,** the **430 m Colonel Chewang Rinchen Setu** over Shyok river was inaugurated that joins Durbuk to DBO in Eastern Ladakh
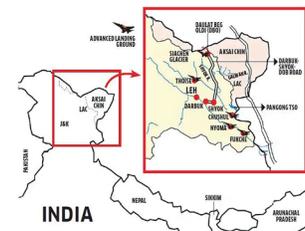
- Along with it, the **Siachen Glacier** area of Ladakh was declared open for tourists by the Government of India.

➢ India has **decided to not stop road construction** on its side of the **Line of Actual Control** (LAC) despite the **border confrontations** and **objections by China** as it does not want India to utilise the DSDBO road to its full potential.

➢ **Significance of the Road:**
  ○ DBO is located only 9 km away from the LAC with China and the road will **help manage the border and the areas adjoining Aksai Chin**, Chip Chap River and Jiwan Nalla.
  ○ It will also **ensure faster deployment of troops** in the area.
    ● Before the laying of the road, the only way to reach the area was via the ALG, where heavy-lift aircraft can land.
  ○ From the DSDBO road, a **road branches off towards Galwan Valley** which had prompted the **stand-off in Galwan Valley.**
    ● Indian troops have been patrolling up to this area but they will have road access and can be present there.

Way Forward

➢ In the **Wuhan** (2018) and **Mahabalipuram** (2019) summits, both India and China had reaffirmed that they would make efforts to ensure peace and tranquillity in the border areas.

➢ On 1st April 2020, India and China completed their **70 years of diplomatic relations.** Both countries have **resolved border issues peacefully in the past** four decades which gives them hope that the tensions will subside soon.

➢ India and China are amongst the largest economies, demography, markets and militaries of the world. Therefore, it is in the interests of both the countries to **align their energies** for the **growth and development of their people, region and global peace.**

e-Diplomacy

Why in News

Recently, the **first India-Australia Virtual Leaders' Summit** was held where important strategic decisions, ranging from military interoperability to jointly tackling the **pandemic**, were made.

➢ The summit was noteworthy for its novel modus operandi after the dangers posed by **Covid-19** have compelled the traditional summit diplomacy to adapt to new digital ways.

Key Points

➢ **e-Diplomacy (electronic diplomacy)** is the use of technology by nations to define and establish diplomatic goals and objectives and to efficiently carry out the functions of diplomats.
  ○ These functions include representation and promotion of the home nation, establishing both bilateral and multilateral relations, consular services and social engagement.

➢ The pandemic has forced mankind to maintain physical and social distancing, leading to a shift towards work from home mode and using online platforms for education (**online classes**), business (**e-Commerce**) and other daily things.
  ○ Just as corporations and educational institutions have migrated to online mediums, nation-states are left with no choice but to do the same by conducting virtual or e-summits.

➢ **Advantages:**
  ○ These are physically safer for leaders because there is no need for any physical contact with anyone.
  ○ The process is time-saving as the leaders can attend the summits and conferences from their offices without having the need to physically reach the venue or other country.
  ○ These economise events by avoiding costly physical journeys and event management.

➢ **Challenges:**
  ○ It is doubtful that major breakthroughs or deals requiring the direct intervention of leaders can happen without all the protocols and structured dialogues in person.
  ○ There is a possibility of e-diplomacy becoming less productive as online summits will simply not satisfy the broader political goals and bigger objectives that heads of state carry with them.
  ○ Threats related to **cybersecurity** also come in the picture:
    ● E-diplomacy is riskier and could be subject to hacking of classified content.

- This could reduce the spontaneity and openness of the conversations.
- In pre-Covid-19 times, summit venues were debugged to prevent sensitive foreign policy content from being spied upon or leaked.

➢ Apart from the virtual summit with Australia, India has had a few multilateral e-diplomacy rounds since the Covid-19 outbreak. For example,
  ❍ **SAARC Leaders' video conference**.
  ❍ **Extraordinary G20 Leaders' Summit.**
  ❍ **Non-Aligned Movement Virtual Summit.**

Way Forward

➢ The British scholar Ernest Satow dubbed **"summits a permanent feature of diplomatic topography"**. It has been a maxim in diplomacy that face-to-face interactions at the highest level mark the zenith of foreign relations.
  ❍ In-person summits will restart one-day but the online interlude has to go on because diplomacy has to go on.
  ❍ However artificial and unsatisfying the video conferencing medium is, having some summit is better than no summit at all. Key partners have to get on with it and hold high-level meetings as part of their strategic signalling.

Violation of Armistice Agreement: UNC

Why in News

Recently, the **United Nations Command** (UNC) has found both North and South Korea guilty of violating the **Korean Armistice Agreement 1953** due to gunfire along the **Korean Demilitarised Zone** (DMZ) between the two countries.

United Nations Command

➢ The **USA led** UNC is a **unified command** for the multinational military forces.

➢ It **oversees affairs in the heavily fortified DMZ** and ensures the terms of the armistice are being agreed upon by both North Korea and South Korea.

➢ It was established on **24th July 1950 in Tokyo**, **Japan.**

Korean War

Key Points

➢ The UNC led a **multinational special investigation** regarding the recent shootings at DMZ whose findings have **not been accepted by South Korea** owing to **non-cooperation by North Korea** in the investigations.
  ❍ Investigations had been **unable to determine** whether the shootings that originated from North Korea had been intentional.

➢ The shooting also violates the **Pyongyang Joint Declaration of September 2018**, an **inter-Korean military agreement,** which calls for reduced military tensions between the two countries.

Korean Armistice Agreement 1953

➢ The armistice agreement **halted the Korean War of 1950-53** and established the **Korean Demilitarized Zone** (DMZ), the **current border** between the two nations.
  ❍ India has played a major role in the cease-fire agreement, strengthening **India-South Korea relations**.
  ❍ The DMZ runs close to the **38th parallel line**.

➢ The armistice was signed on **27th July 1953** and was designed to ensure a complete cessation of hostilities

Note:

and of all acts of armed force in Korea until a final peaceful settlement is achieved.

➤ It was signed by representatives of the UNC, Korean People's Army (KPA) and the Chinese People's Volunteer Army (PVA).

○ **South Korea did not sign** the armistice as it refused to accept it.

➤ It was only a ceasefire and there was no official declaration of the end of the war so in the absence of an official peace treaty, as is the norm, **the two countries officially remain at war.**

○ However, in **December 1991**, North and South Korea **signed a pact** agreeing to refrain from aggression.

India-Australia Virtual Summit

Why in News

Recently, Prime Ministers of **India and Australia** held their **first virtual bilateral summit** and both **concluded nine agreements** including the **Comprehensive Strategic Partnership** (CSP) and the **Mutual Logistics Support Agreement** (MLSA).

➤ The two leaders are expected to meet in person at the extended **G-7 summit** which will be held in the USA later in 2020.

Key Points

➤ **Agreements:**

○ **Comprehensive Strategic Partnership:** Upgradation of the existing **2+2 dialogue** to the Ministerial level, elevating the **2009 bilateral Strategic Partnership** to a **CSP.**

● India already has a **2+2 ministerial-level dialogues** mechanism with the USA and Japan, the other members of the **Quadrilateral grouping** (QUAD).

● **India has signed CSPs with** the United Kingdom, Indonesia, Vietnam and the United Arab Emirates (UAE) thus far, while **Australia has CSPs with** China, Indonesia and Singapore.

○ **Mutual Logistics Support Agreement:** Both sides agreed to continue to deepen and broaden **defence cooperation** by enhancing the scope and complexity of their military exercises and engagement activities to develop new ways to address shared security challenges.

● It will **increase military interoperability** through defence exercises and allow both militaries the reciprocal use of bases, humanitarian and disaster relief cooperation, port exercises and passage exercises.

● **India has such agreements with** the USA (**Logistics Exchange Memorandum of Agreement-LEMOA**), France, Singapore and South Korea.

○ **Joint declaration on 'Shared Vision for Maritime Cooperation in the Indo-Pacific':** The two sides announced a roadmap to harness opportunities and meet challenges together as **comprehensive strategic partners.**

○ **Comprehensive Economic Cooperation Agreement (CECA):** The two sides decided to recommence suspended talks over the **India-Australia CECA** which has been suspended since 2015.

● This move comes in the wake of **India opting out** of the **ASEAN-led Regional Comprehensive Economic Partnership** (RCEP).

○ **Australia-India Strategic Research Fund** to promote innovative solutions for responding to and treating **Covid-19** as well as other jointly determined priorities, to be preceded by a one-off **Special Covid Collaboration Round in 2020.**

○ Both sides have decided to reflect on the recommendations of the ongoing evaluation of the international response over the **World Health Organisation**'s (WHO) role in dealing with the Covid-19 **pandemic**.

● Both countries will work together to **strengthen international institutions** to ensure they are **inclusive and rules-based**.

○ **Framework arrangement on Cyber and Cyber-enabled critical technology cooperation:** Work together in the digital economy, cybersecurity and critical and emerging technologies.

○ **Agreement on agriculture and related activities:** Agriculture was identified as an important pillar of both the economies with shared challenges and climatic conditions.

○ **Memorandum of Understanding (MoU) on mining and processing critical and strategic minerals:** Cooperate **on new technologies for exploration and extraction of minerals** including Australian rare earth metals used for electronics, governance, vocational training and water management.

Note:

drishti

➢ **Untouched Issues:**
  ○ **Tensions between India and China** over the **standoff at the Line of Actual Control** (LAC) and Australia-China tensions over trade issues and differences over the handling of the pandemic.
  ○ There were no discussions on **including Australia in Malabar exercise**.
    ● India is prepared to expand the **Malabar exercise** to also include Australia.
    ● Despite regular requests from Australia, **India resisted** issuing the invitation due to its concerns that the move would give the **appearance of a 'quadrilateral military alliance' aimed at China.**
  ○ Both leaders had no discussions on **the RCEP**, even though earlier Australia had expressed hope that India would reconsider joining the trade agreement.

Way Forward

➢ **Shared values, shared interests, shared geography and shared objectives** are the bedrock of deepening India-Australia ties and the cooperation and coordination between the two countries have picked up momentum in recent years.

➢ Both India and Australia share a vision of a free, open, inclusive and rules-based Indo-Pacific region and cooperative use of the seas by adherence to international law including the **United Nations Convention on the Law of the Sea** (UNCLOS) and peaceful resolution of disputes rather than through unilateral or coercive actions.

Australia to be Included in Malabar Exercise

Why in News

India is prepared to expand the **Malabar exercise** to also include Australia.

Malabar Exercise
➢ It is an **annual trilateral naval exercise** between the navies of **India, Japan, and the USA** which is held **alternately in the Indian and Pacific Oceans.**
➢ It began as a bilateral **naval exercise** between **India and the USA in 1992** and was expanded into a trilateral format with the **inclusion of Japan in 2015.**
➢ Other exercises between India and Australia are **Pitch Black** and **AUSINDEX.**

Key Points

➢ Despite regular requests from Australia, **India resisted** issuing the invitation due to its concerns that the move would give the **appearance of a 'quadrilateral military alliance' aimed at China.**

➢ However, the recent **India-China tensions** over the situation at the **Line of Actual Control** (LAC) may have brought more flexibility to the decision making process.

➢ India is already a member of the **Quad** and attended the **Quadrilateral Security Dialogue** held in Nov 2019.
  ○ Quad is the **informal strategic dialogue between India, the USA, Japan and Australia** with a shared objective to ensure and support a free, open and prosperous" Indo-Pacific region.

Way Forward

➢ The two nations are at **very different levels of development** so there can be converging and diverging interests. Therefore, the future must be woven around the three pillars, which are **economic relationship, geostrategic congruence** and **people-to-people ties** and the glue that can bind this is a sustained momentum.

➢ India and Australia are wary of **China's assault** on maritime security and freedom of navigation **in the Indo-Pacific region.** Inclusion of Australia in Malabar exercise along with strengthening the idea of 'Quad' can therefore promote rule-based, open, free and inclusive Indo-Pacific.

India's Campaign Brochure for UNSC Seat

Why in News

Recently, India has released a **campaign brochure** ahead of the vote for the **non-permanent member** of the **United Nations Security Council** (UNSC) in 2021-22.

➢ This will be the **eighth time** India will occupy a non-permanent UNSC seat, with its last term in 2011-2012.

➢ India also seeks for **a permanent membership in the UNSC**.
  ○ India along with **other countries of G4 grouping** (**Japan, Brazil and Germany**) is asking for a spot for permanent membership in UNSC.
  ○ **Five permanent members:** China, France, the Russian Federation, the UK and the USA.

Note:

Key Points

➤ India is guaranteed a place as it is the **sole candidate for Asia-Pacific** but needs two-thirds of the 193-member General Assembly to vote in its favour in a secret ballot scheduled for 17th June, 2020 in New York (USA).

➤ **Issues Highlighted:**
- ○ International governance has been under increasing strain due to traditional and non-traditional security challenges. **Terrorism** is one of the most cited examples.
- ○ Unreformed and under-representative global institutions and the **Covid-19 pandemic** with its economic impact has increased challenges for the UNSC.

➤ **India's Solutions:**
- ○ Its objective will be the achievement of **N.O.R.M.S: a New Orientation for a Reformed Multilateral System**.
- ○ India will highlight international terrorism, **United Nations** reforms and Security Council expansion, streamlining the peacekeeping operations and technology initiatives during its upcoming tenure.

➤ **Background:**
- ○ Since 2013, India has been planning for a seat in **2021** as the year will mark its **75th year of Independence**.
- ○ Identifying an uncontested spot is not an easy task.
- ○ However, the **Islamic Republic of Afghanistan** agreed to set aside for the 2021-22 seat, in a **friendly gesture**.
- ○ India also **persuaded** the **Asia-Pacific grouping nomination** by diplomacy and negotiations to avoid any last-minute contenders against India.
  - ● India was able to win a **unanimous endorsement from the 55-nation** grouping that **included both China and Pakistan**, in June 2019.
- ○ However, **winning the maximum votes** at the General Assembly this time will be a little **hard for India due to**:
  - ● Rising **tensions** in relations with both **Pakistan and China**.
  - ● Criticism from Turkey, Malaysia and the **Organisation of Islamic Cooperation** (OIC) over the government's decision on **scrapping Article 370** as well as the **Citizenship Amendment Act (CAA) 2019**.

Selection of Non-permanent Members of Security Council

➤ Each year, the General Assembly **elects five non-permanent members** (out of ten in total) for **a two-year term**. The ten non-permanent seats are distributed on a regional basis:
- ○ Five for African and Asian countries.
- ○ One for Eastern European countries.
- ○ Two for Latin American and Caribbean countries.
- ○ Two for Western European and other countries.

➤ **Article 23 of the UN Charter** concerns the composition of the Security Council.

➤ **Other Contenders for Other Seats:**
- ○ **Mexico** is expected to be elected unopposed for the **Latin American group**.
- ○ **Canada, Ireland and Norway** will contend for two seats of the **West European and Others Group** (WEOG).
- ○ **Kenya and Djibouti** will contend for an **African seat.**

Way Forward

➤ India for long has been of the view that the UNSC sought to be reformed by expansion in its permanent membership and non-permanent membership as well.

➤ India has been acknowledged as a rising power by most of the states. Also, there is a pressing need to democratize multilateral fora, starting from the United Nation system itself. In this context, India is making a legitimate claim for its rightful place in the changing architecture of global governance, including the UNSC.

MoU between India and Bhutan

Why in News

The Union Cabinet has given its approval for signing of a Memorandum of Understanding (MoU) with **Bhutan** for **cooperation in the field of environment protection and management of natural resources.**

➤ The MoU will enable **establishment and promotion** of closer and long-term cooperation in **environment protection and management of natural resources** on the basis of **equity, reciprocity and mutual benefits,** taking into account the laws and legal provisions in each country.

Key Points

➢ **Background:**

○ A Memorandum of Understanding (MoU) was signed between the **Central Pollution Control Board (CPCB)** of India and the **National Environment Commission (NEC)** of the Government of Bhutan in 2013.

○ This MoU expired in 2016.

○ Noting the benefits of the earlier MoU, both sides have decided to continue cooperation and collaboration in the field of environment to strengthen the **Indo-Bhutan relationship.**

➢ **Details of the New MoU:**

○ **Time Period:** The MoU shall enter into force on the date of signature and shall continue to remain in force for a period of ten years.

○ **Areas of Cooperation:** Air, Waste, Chemical Management, Climate Change and Any other areas jointly decided upon.

○ **Exchange of Best Practices:**

● The MoU shall facilitate **exchange of experiences, best practices and technical knowledge** through both **public and private sectors** and **research institutions** for sustainable development.

○ **Joint Working Group:**

● It provides for joint projects in areas of mutual interest.

● It provides for **holding of Joint Working Group/ bilateral meetings** to review and **analyze the progress of activities** and keeping their respective ministries/agencies, duly informed of progress and achievements.

Indo-Bhutan Relationship

➢ **Indo-Bhutan Treaty of Peace and Friendship, 1949**

○ The Treaty provides for, among other things, perpetual peace and friendship, free trade and commerce and equal justice to each other's citizens.

○ In 2007 the treaty was re-negotiated, and provisions were included to encourage Bhutan's sovereignty, abolishing the need to take India's guidance on foreign policy.

➢ **Multilateral Partnership:**

○ Both of them share multilateral forums such as **South Asian Association for Regional Cooperation (SAARC)**, **BBIN (Bangladesh, Bhutan, India, and Nepal)**, **BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation)** etc.

➢ **Hydropower Cooperation:**

○ This hydropower cooperation comes **under the 2006 Agreement on Cooperation in Hydropower.** Under a protocol to this agreement, India has agreed to assist Bhutan in the development of a minimum of 10,000 MW of hydropower and import of surplus electricity from the same by 2020.

➢ **Trade:**

○ The trade between the two countries is governed by the **India Bhutan Trade and Transit Agreement 1972** which was last renewed in November 2016.

○ The agreement **establishes a free-trade regime between the two countries** and also provides for duty-free transit of Bhutanese exports to third countries.

➢ **Economic Assistance:**

○ India is Bhutan's leading development partner. Since the launch of the First Five Year Plan of Bhutan in 1961, India has been extending financial support to Bhutan's FYPs. India has allotted Rs 4500 crore to Bhutan's 12th FYP (2018-23).

➢ **Educational and Cultural Cooperation:**

○ A large number of college going Bhutanese students study in India. The Government of India provides a number of scholarships to Bhutanese students.

International Religious Freedom Report 2019

Why in News

Recently, the **US State Department** has released its annual **International Religious Freedom (IRF) Report 2019**, which is a survey of the state of **religious freedom** across the world.

➢ It published a report i.e. **the country report for India** to highlight the issue of religious freedom in the country.

➢ Earlier, **the US Commission on International Religious Freedom (USCIRF report)** downgraded India's religious freedom to the lowest grade — in the 'Country of Particular Concern (CPC)' category.

Note:

Key Points

➢ The IRF report listed countries for **positive developments in religious freedom** and **negative examples**.

    ○ **Nicaragua, Nigeria and China** were cited as negative examples.

    ○ It stated that in China, state-sponsored repression against all religions continues to intensify because of the Chinese Communist Party.

    ○ **India is not cited in either list**.

➢ **The Country Report for India:**

    ○ It highlighted the developments that took place in 2019 i.e. **the status of Jammu and Kashmir, the Citizenship (Amendment) Act (CAA) and the National Register of Citizens (NRC).**

    ○ It discussed in detail about **mob lynchings, anti-conversion laws, cow vigilantism** and related issues.

    ○ Taking note of the alleged attacks and discrimination **against religious and ethnic minorities in India, the report emphasised the need to ensure full protection to minorities in the country as guaranteed under the Constitution**.

    ○ It also outlines the U.S. engagement with India on these issues.

➢ **India's Stand:**

    ○ The Indian government **has rejected the report by asserting** that there is no locus standi **for a foreign government to comment on the state of its citizens' constitutionally protected rights.**

    ○ It also emphasised that the report **did not talk about the religious freedom given to various communities** in India.

Freedom of Religion in India

➢ Freedom of religion in India is a **fundamental right** guaranteed by **Article 25-28 of the Constitution of India.**

    ○ **Article 25** (Freedom of conscience and free profession, practice and propagation of religion)

    ○ **Article 26** (Freedom to manage religious affairs)

    ○ **Article 27** (Freedom as to payment of taxes for promotion of any particular religion)

    ○ **Article 28** (Freedom as to attendance at religious instruction or religious worship in certain educational institutions)

➢ Further **Article 29 and 30** of the Constitution deal with the protection of interest of minorities.

➢ **Religious Freedom in the US:**

    ○ The US government has signed an executive order which included a move to formally prioritise religious freedom in the U.S. foreign policy.

    ○ The order also directed the **United States Agency for International Development (USAID)** to allocate $50 million in its yearly budget towards programmes that sought to promote religious freedom.

    ○ Recently, the US faced domestic protests in response to the death of George Floyd, an unarmed black man at the hands of a white police officer.

Indian Naval LOs at Madagascar and Abu Dhabi

Why in News

India is planning to post **Naval Liaison Officers** (LOs) at the **Regional Maritime Information Fusion Centre** (RMIFC) in **Madagascar** and the **European Maritime Awareness in the Strait of Hormuz** (EMASOH) in **Abu Dhabi** for improved **Maritime Domain Awareness** (MDA).

➢ This move comes after **India joined the Indian Ocean Commission** (IOC) as Observer in **March 2020** along with **Japan and the United Nations**.

Key Points

➢ The move **aims** to **improve linkages** of the Navy's **Information Fusion Centre for Indian Ocean Region** (IFC-IOR) in **Gurugram with other IFCs** and become the **repository for all maritime data** in the IOR.

➢ **India is working closely with France**, who is a pre-eminent member of IOC, to post a Naval LO at the RMIFC in Madagascar.

    ○ The **RMFIC functions under the aegis of the IOC** and is designed to deepen maritime domain awareness by monitoring maritime activities and promoting information sharing and exchange.

➢ The Navy LO is expected to be posted at **EMASOH by July** and at the **RMIFC by September or October 2020**.

    ○ India has a LO at the IFC in Singapore for over four years now.

➢ Indian Ocean Commission

    ○ It is an **intergovernmental body and regional forum** created in **1984** to protect the interests of the **western Indian Ocean islands**.

Note:

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- ○ It consists of **Madagascar**, **Comoros**, **La Réunion** (French overseas territory), **Mauritius** and **Seychelles**.
- ○ IOC has **five observers** which are **China**, **European Union** (EU), **Malta** and **International Organisation of La Francophonie** (OIF), **India**, **Japan** and **the UN**.
  - OIF is a 54 french speaking nations collective.

➢ **European Maritime Awareness in the Strait of Hormuz**
- ○ France started EMASOH with the aim to monitor maritime activity and guarantee freedom of navigation in the **Persian Gulf** and the **Strait of Hormuz**.
- ○ It is **based at the French naval base in Abu Dhabi** (UAE).
- ○ It was declared operational by the French Ministry of Armed Forces in February 2020.

➢ **India's Other Initiatives:**
- ○ To strengthen the naval forces and surveillance, India has signed a series of **white shipping agreements**, **Logistics Support Agreements** (LSA) and **maritime cooperation agreements** with several countries, recently.
  - For example, **India Australia Virtual Summit** announced a joint declaration on a shared vision for maritime cooperation in the **Indo-Pacific** in which they agreed to deepen navy-to-navy cooperation and strengthen MDA in the Indo-Pacific region through enhanced exchange of information.
- ○ In **2015**, India unveiled it's strategic vision for the Indian Ocean i.e. **Security and Growth for All in the Region** (SAGAR). It is an increasing recognition of the increasing importance of maritime security, maritime commons and cooperation.
  - Through SAGAR, India seeks to **deepen economic and security cooperation with its maritime neighbours** and **assist in building their maritime security capabilities**.

Way Forward

➢ India's engagement with the Western Indian Ocean will facilitate collective engagement with the islands there, which are becoming strategically significant.

➢ Given China's growing presence in the region, India will be able to increase its naval presence and gain support for its maritime projects across the Indo-Pacific.

Information Fusion Centre for Indian Ocean Region

➢ The **Indian Navy** set up the IFC-IOR in **December 2018** within the premises of the **Information Management and Analysis Centre** (IMAC) in Gurugram to track maritime movements in the region.
- ○ IMAC is located in **Gurugram** and is the main centre of the Indian Navy for **coastal surveillance and monitoring**.
- ○ IMAC is a **joint initiative of Indian Navy, Coast Guard and Bharat Electronics Ltd** and functions under the **National Security Adviser** (NSA).

➢ IFC is the **single point centre linking all the coastal radar chains** to generate a seamless real-time picture of the nearly 7,500 km coastline.

➢ **France** became the **first country to deploy** a LO at the IFC-IOR **followed by the USA** and several other countries including Australia, Japan and the UK have announced their intention to post LOs.

➢ It **coordinates with similar centres** across the globe which include:
- ○ Virtual Regional Maritime Traffic Centre (VRMTC)
- ○ Maritime Security Centre-**Horn of Africa** (MSCHOA)
- ○ **Regional Cooperation Agreement on Combating Piracy and Armed Robbery** (ReCAAP)
- ○ Information Fusion Centre-Singapore (IFC-SG)
- ○ International Maritime Bureau-Piracy Reporting Centre (IMB-PRC)

➢ India's consultative, democratic and equitable leadership can help achieve the security and sustainable growth to all in the region.

Persian Gulf Region

Why in News

The persian gulf region has the presence of the **major producers of crude oil and natural gas,** and thereby contributing **critically to the global economy.**

➢ Thus, **maintaining peace in the geopolitically** significant region through **cooperative security** by the regional members and major world economies is one of the best solutions to stabilize the region politically and economically.

Persian Gulf Region

➢ The lands around the Persian Gulf are shared by **eight** countries namely, **Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.**

➢ These all **eight** countries are **members of the United Nations.**

○ United Arab Emirates (UAE), Bahrain, Saudi Arabia, Oman, Qatar, Kuwait are members of the Gulf Cooperation Council (GCC).

○ Out of persian gulf countries, Iran, Iraq, Kuwait, United Arab Emirates(UAE) and Saudi Arabia are members of OPEC.

➢ Being major producers of **crude oil and natural gas,** there is a **commonality of interest** among these countries.

○ This commonality of interest has given rise to **their own prosperity** and subsequently, **economico-political entanglements among them.**

Background

➢ **British Era:**

○ For eight decades prior to 1970, the persian gulf was **guarded as a 'British lake'.**

○ After the end of the British era, regional players entered with the **intra-regional rivalries** and **forced cooperation.**

➢ **Aggravated Political Tensions in the Region:**

○ Events like the **Muscat conference (1975),** Iranian Revolution (1979) and the Iraq-Iran War (1980) aggravated the political tensions in the region. Subsequently, it **enhanced USA's interests and roles in the region.**

● The Muscat Conference (1975) was intended to develop the unified army cooperation to enhance the security among gulf states to guarantee free navigation in the persian gulf.

○ Later, the **United Nations Security Council Resolution 598 (1987)** was adopted to ensure a ceasefire between Iran and Iraq **specifically** and to explore measures to enhance the security and stability in the region **generally.**

Current Scenario

➢ **Rising Conflicts in the Region:**

○ Recently, the geopolitical factors and conflicts in the **West Asian region — Yemen, Syria, Libya —** aggravated global and regional relationships.

➢ **Declining Role of USA:**

○ The above mentioned conflicts have **hampered USA-Iran relations** that were to be premised on the multilateral agreement on **Iran's nuclear programme agreed to by western powers.**

○ The **declining USA's commitment to sub-regional security** has raised more issues among the members of the **Gulf Cooperation Council (GCC)** due to political and ideological disagreement with Iran.

➢ **Emerging Split Within GCC:**

○ The recent **emergence of conflicting tactical and strategic interests** and subjective considerations has created a division among the members of the GCC.

○ These divisions in the GCC are being aggravated due to following reasons:

● Global economic crisis

● Immediate and longer-term impact of Covid-19 on regional economies

● Problems in the Organization of the Petroleum Exporting Countries (OPEC)

● Decline in oil prices

Possible Stability Framework for the Region

➢ **Regional as well as Global Security:**

○ Any possible framework for stability and security in the region needs to ensure the **security not only on the regional terms but also on global terms.**

○ Because the gulf regional security is not an issue among the Gulf States themselves but it is also an external issue.

➢ **Other Aspects:**

○ Additionally, the framework will also need to ensure the following conditions which include:

● **Peace and stability** in individual littoral states.

Note:

- Freedom to all states of the Gulf littoral to exploit their **hydrocarbon and other natural resources**.
- **Freedom of commercial shipping** in international waters of the Persian Gulf.
- Freedom of **access to, and outlet from, Gulf waters** through the **Strait of Hormuz**.
- The **prevention of conflict** that may impinge on the freedom of trade and shipping.

India's Relation with Persian Gulf Region

➢ **India and GCC:**
  ○ The economic and political relationship of India with the GCC has blossomed in recent years. The governments of the GCC members are **India-friendly and Indian-friendly.**
  ○ The friendly relation has been reflected in the **bilateral trade of around $121 billion** and **remittances of $49 billion** from a workforce of over nine million.
  ○ GCC suppliers account for around **34% of India's crude imports.**

➢ **India and Iran:**
  ○ India has always shared a friendly relationship with Iran. But the India-Iran relation faces one of the **most complex phases** at all times due to the **USA's pressure** which has **politico-economic impacts.**
    • In May 2018, the **USA abandoned the nuclear deal** and reinstated **economic sanctions against Iran.**

➢ **India's Overall Role in the Region:**
  ○ India has **avoided involvement in local or regional disputes** in the region.
  ○ Indian interests do not entail power projection but necessitate peace and regional stability.

India- Laos Relations

Why in News

Recently, the Prime Minister of India had a telephonic conversation with the Prime Minister of Lao People's Democratic Republic (PDR).

Key Points

➢ Both the leaders exchanged views on the health and economic challenges posed by the global **Covid-19 pandemic**.

➢ They agreed on the need for international cooperation, and for sharing of best-practices and experiences, in order to prepare for the post-Covid world.

➢ India's Prime Minister highlighted India's historic and cultural links with Laos and expressed satisfaction at being involved **in the restoration of the Vat Phou hindu temple complex (world heritage site).**
  ○ He also reiterated India's commitment to continue its development partnership with Lao PDR, a valued partner in **India's extended neighbourhood.**

➢ Lao Prime Minister thanked India's support for Lao's development programmes, in capacity building and for scholarships.

Relations Between the Countries

➢ **Political Relations:**
  ○ Based upon historical and civilizational foundations, India and Laos enjoy long standing, friendly and mutually supportive relations.
  ○ Political relations between both the countries were established in February 1956.
  ○ Laos has been supportive on major issues of regional and international concerns to India, including India's claim for permanent membership of the **UN Security Council.**

➢ **Defence Cooperation:**
  ○ Since 1994, under **Indian Technical and Economic Cooperation (ITEC)** Agreement, a two-member Indian Army Training Team has conducted training for Lao defence personnel in English, Computers and Basic Tactics.
    • The Indian team is the only foreign training team besides the Vietnamese and the Chinese.
  ○ Indian Army had also conducted three training capsules on Unexploded Ordnance (Bomb) (UXOs) and De-mining in Laos in 2011, 2012 and 2013.
    • De-mining is the process of removing land mines from an area.

➢ **Economic Cooperation:**
  ○ Bilateral trade between both the nations in 2017-18

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has reached to 193.63 US million dollars. Although the trade balance is heavily shifted in favour of Laos.

○ India has supported development of Laos by extending **Lines of Credit** for infrastructure projects in the fields of transmission line, hydropower project, conversion of diesel to electric driven pump sets, and irrigation projects.

➢ **Cultural Relations:**
○ The two countries share age-old civilisational ties best symbolised by:
● The relic of the Buddha encased in the That Luang Stupa, the national emblem of Lao PDR.
● The Vat Phou Temple Complex, an ancient Shiva temple, whose earliest structures date back to the 5th and 6th Century AD, and which is currently being renovated and restored by the **Archaeological Survey of India.**

➢ **Human Resource Development:**
○ The Government of India has been providing nearly 140 scholarships annually to Lao nationals under various schemes.
○ The **Lao-India Entrepreneurship Development Centre (LIEDC)** set up in November, 2004, trains Lao entrepreneurs for setting up small and medium scale businesses.
○ Agreement for setting up of **Centre of Excellence in Software Development and Training (CESDT)** in Vientiane under **ASEAN** Framework was signed in 2015.

Note:
Line of Credit is a 'soft loan' provided on concessional interest rates to developing countries, which has to be repaid by the borrowing governments. The projects under LOCs are spread over different sectors like agriculture, infrastructure, telecom, railway, transmissio/ power, renewable energy, etc.

India-Tanzania Relations

Why in News

Recently, Prime Minister of India thanked **Dr John Pombe Joseph Magufuli, President of the United Republic of Tanzania** for his assistance provided for the evacuation of Indian citizens from Tanzania in the wake of **Covid-19**.

➢ Both leaders **reviewed the overall bilateral relationship** and expressed satisfaction at the growing development partnership, educational linkages, trade and investment flows and **discussed possibilities of further accelerating** these trends.

Tanzania
➢ It was formed as a **sovereign state in 1964** through the **union of the separate states of Tanganyika and Zanzibar**.
➢ *Dodoma* is the **official capital** and **Dar es Salaam** is the seat of most **g o v e r n m e n t administrations** as well as is the **largest city and port in the country**.

➢ It is located in **east Africa** just south of the Equator. It is bounded by Uganda, Lake Victoria and Kenya to the **north**, by the Indian Ocean to the **east**, by Mozambique, Lake Nyasa, Malawi and Zambia to the **south** and southwest and by Lake Tanganyika, Burundi and Rwanda to the **west**.
➢ **Africa's highest mountain, Kilimanjaro** (5,895 metres) and the **world's second deepest lake, Lake Tanganyika** (1,436 metres deep) are located in Tanzania.

Key Points

➢ Tanzania is **one of the fastest-growing African countries** of this decade and plays an important role in **India-Africa relations**.
➢ Tanzania and India have enjoyed traditionally **close, friendly and cooperative relations**.
➢ The **High Commission of India** in Dar es Salaam has been operating since **November 1961** and the **Consulate General of India** in Zanzibar was set up in **October 1974**.
➢ In October 2019, as part of the **Indian Navy's Overseas Deployment**, four indigenously built ships of the Indian Navy visited the ports at **Dar es Salaam and Zanzibar** located in Tanzania.
➢ **Bilateral Treaties & Agreements:**
○ Agreement on the establishment of a Joint Trade Committee (2000).
○ MOU for Co-operation in the field of Agriculture and Allied Sectors (2002).
○ MoU on Exchange of Programme on Co-operation in the field of Education (2003).

- ○ MOU on Defence Cooperation (2003).
- ○ MOU for Cooperation in the field of Hydrography between Tanzania and India and Protocol on exchange of Hydrographic Data (2015).
- ○ MOU on Cooperation in the field of water resource management and development (2016).
- ○ Loan Agreement between Exim Bank and Government of Tanzania on line of credit for USD 500 million for water supply projects in 17 towns across Tanzania (May 2018).

➤ **Commercial and Economic Relations:**
- ○ India is the **largest trading partner of Tanzania** comprising **16%** of Tanzania's foreign trade.
- ○ India is also **among the top five investment sources** in Tanzania.
- ○ **India's major exports to Tanzania:** Petroleum products, pharmaceuticals and chemicals, motor vehicles, electrical goods, articles of iron and steel, sugar, machinery, etc.
- ○ **Tanzania's major exports to India:** Gold ore, cashew nuts, pulses, timber, spices (mainly cloves), ores and metal scrap, gemstones, etc.

➤ **Development Partnership:**
- ○ Tanzania is a **major beneficiary of training courses** allocated under India's **Indian Technical and Economic Cooperation Programme/Special Commonwealth African Assistance Programme** (ITEC/SCAAP) and under **India Africa Forum Summit** (IAFS) capacity building cooperation.

- ○ India has executed a number of projects under **government grants and soft loans** in Tanzania.
- ○ India provided **essential medicines and vaccines** as grant support to Tanzania in September 2018 and set up a **radiation therapy machine 'Bhabhatron-II'** for cancer patients.
- ○ India has also extended a **Credit Line to Tanzania for various water supply projects** in Dar-es-Salaam, coastal Chalinze region, Tabora, Igunga, Nzega, etc.

➤ **Culture:**
- ○ The **Indian Cultural Centre** (ICC), Dar es Salaam under the **Indian Council for Cultural Relations** (ICCR), coordinates cultural outreach since its establishment in December 2010.
- ○ The 5th **International Day of Yoga** (**21st June**) was celebrated in Tanzania in 2019.

➤ **Indian Community:**
- ○ Tanzania is home to **more than 50,000 people of Indian origin**.
- ○ The Indian origin community is **active in the field of trade, industry and services** in Tanzania.
- ○ **Pravasi Bharatiya Samman Award** and '*Bharat Ko Janiye*' **quiz** generate interest in Tanzania.
  - ● Government of India organises Bharat Ko Janiye Quiz, which is an online quiz for **Non-Resident Indians** (NRIs) and **Overseas Citizens of India** (OCIs) between the age of 18 and 35 years.

■■■

Note:

Science and Technology

SpaceX Crew Dragon

Why in News

Recently, a spacecraft, **Crew Dragon**, built by **SpaceX** has successfully carried astronauts of **National Aeronautics and Space Administration (NASA)** at the **International Space Station**.

- **SpaceX** became the **first private company** to launch people (**human spaceflight**) into orbit, a feat achieved by the US, Russia & China.

Key Points

- **Crew Dragon:**
  - It is a part of the **Dragon 2**, a class of **reusable spacecraft** developed and manufactured by American aerospace manufacturer SpaceX.
  - It is the **fifth class** of US spacecraft to take human beings into orbit, after the **Mercury, Gemini, Apollo and Space Shuttle programs.**
  - The rocket, named **Falcon 9**, which carried the spaceship into the orbit, was also built by SpaceX.
  - It is done under the **Demo-2 Mission** of NASA and SpaceX.
- **Significance of Private Participation:**
  - The landing by SpaceX flight is a culmination of more than decade-long efforts to enable private players to build and operate what essentially is a commercial taxi-service to space, and allow **NASA to concentrate on deep space exploration**, and work more vigorously towards taking **humans to the moon, and Mars**.

- The United States now plans to return to the Moon in 2024 under the **Artemis mission**, establishing a launching pad to Mars by 2030.
- **India and Private Space Companies:**
  - While there are many private companies operating in the space sector in the United States, their contribution is not much significant in India.
  - Most of them collaborate with the **Indian Space Research Organisation (ISRO)**, in building and fabricating the components that go into making rockets and satellites.
  - However, launch services, **including the building of rockets or launch vehicles** are still a monopoly of government space agency, i.e. ISRO.

Importance of Private Participation in India

- **Space tourism** is one among several opportunities that Indian businesses may be keen to explore. A policy framework to enable private participation in this sector, of course, would have to be formulated by the government.
- **Small satellite revolution** is underway, globally, 17,000 small satellites are expected to be launched between 2020 and 2030. A strong private sector in space will help India to tap into this lucrative commercial space launch market.
- **Increasing space competitiveness:**
  - **Singapore** is offering itself as a hub for space entrepreneurship based on its legal environment, availability of skilled manpower and equatorial location.

Note:

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○ **New Zealand** is positioning itself as a location for private rocket launches.

○ **China, too,** has changed its rules to allow private commercial space activity.

○ **ISRO** has been a genuine global pioneer of aerospatial cost compression on several fronts. Cost-effectiveness has given the agency a distinct edge in the commercial arena of satellite launch services.

● With such a valuable base of expertise within the country, it is only natural to expect the emergence of a private space industry that could prove globally competitive.

DRDO's Ultra Swachh

Why in News

The **Defence Research and Development Organisation (DRDO)** has developed a **disinfection unit named Ultra Swachh** to disinfect a wide range of materials, including Personal Protective Equipment (PPEs), electronics items, fabrics, etc.

Key Points

➢ The system uses an advanced oxidative process (ozonation).

○ **Ozonation** is a type of advanced oxidation process, involving the production of very reactive oxygen species able to attack a wide range of organic compounds and all microorganisms.

○ Ozone is more effective than chlorine in destroying viruses and bacteria.

Defence Research and Development Organisation

➢ DRDO was established in 1958 after combining the Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).

➢ It works under the administrative control of the **Ministry of Defenc**e, Government of India.

➢ It is working to establish a world class science and technology base for India and provides our Defence Services decisive edge by equipping them with internationally competitive systems and solutions.

➢ The system is double layered with specialised Ozone sealant technology ensuring trapping of ozone for the necessary disinfection cycle.

➢ It also has a catalytic converter to ensure environment friendly exhaust i.e only oxygen and water.

○ A **catalytic converter** is a device used in exhaust systems to reduce emissions.

➢ The Ultra Swachh comes in two variants namely Ozonated Space and Trinetra Technology. Trinetra technology is the combination of Ozonated space and radical dispenser.

A3i: Unique Trait in Covid-19 in India

Why in News

Recently, scientists from the **Centre for Cellular and Molecular Biology and the Institute of Genomics and Integrative Biology** of the **Council of Scientific and Industrial Research** (CSIR) laboratories have identified a **coronavirus** type **(A3i)** that may be the second most prevalent in India and may comprise 3.5% of the genomes globally.

Key Points

➢ The scientists analysed **213 genomes and found that 62%** of them were A2a, making it the most dominant coronavirus clade in India.

○ **Clade:** The coronavirus type or clade, is a cluster of SARS-CoV-2 viruses that share evolutionary similarities and are grouped together based on characteristic mutations or similarities in parts of their genomes. In layman terms, a clade can be understood as a strain of the virus.

➢ The newly identified **A3i or Clade I/A3i comprised 41%**, making it the **second most common coronavirus** type in India.

○ The A3i clade stood out from other clades due to differences at four different places in its sequence.

○ According to scientific analysis, the A3i clade mutates slowly compared to the A2a which is often disadvantageous for the virus.

○ So far, there is no evidence of whether A3i is more virulent (extremely severe or harmful in its effects) and linked to more deaths.

○ A3i is the predominant strain circulating in Tamil Nadu, Telangana, Maharashtra and Delhi.

➢ **Significance of the Classification:** Such classifications are useful in establishing whether certain strains are particularly virulent, spread more easily, how they are likely to evolve over time and whether some could be less vulnerable to certain kinds of vaccines.

➢ With the **new clade**, there are now **11 SARS-CoV-2 types identified globally** with at least six of them identified in India.

➢ Previous studies have shown that **while type O was the first ancestral family** of the virus identified from China, it's the A2a type, which is the most dominant in the world because of a mutation in its genes that allow that coronavirus' spike to more efficiently infiltrate the lungs.

➢ The **Indian Council of Medical Research** (ICMR) has so far maintained that there are three principal variants in India of the SARS-CoV-2 virus: those that came from Wuhan, the USA, and Europe via air travellers.

Council of Scientific and Industrial Research

➢ It was established by the Government of India in September 1942 as an autonomous body.

➢ It is known for its cutting edge research and development knowledge base in diverse science and technology areas.

➢ It has been ranked first in the Nature Ranking Index-2020.

○ The Nature Index provides close to a real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

Indian Council of Medical Research

➢ It is the apex body in India for the formulation, coordination and promotion of biomedical research.

➢ Its mandate is to conduct, coordinate and implement medical research for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.

➢ It is funded by the Government of India through the Department of Health Research, Ministry of Health and Family Welfare.

microRNA

Why in News

Recently, researchers at the Indian Institute of Technology (IIT) Madras have identified a specific microRNA (miRNA) called 'miR-155' that is over-expressed in tongue cancer.

Key Points

➢ **MicroRNAs:**

○ These are **short non-coding Ribonucleic Acids (RNAs)** containing 20–24 nucleotides that participate in virtually all biological pathways in animals.

○ They play important roles in many cancers, in carcinogenesis, malignant transformation and metastasis.

● **Carcinogenesis:** It is the formation of cancer (uncontrolled development of cells), whereby normal cells are transformed into cancer cells. It is also called oncogenesis or tumorigenesis.

● **Malignant transformation:** It is the process by which cells acquire the properties of cancer. This may occur as a primary process in normal tissue, or secondarily as malignant degeneration of a previously existing benign tumour.

● **Metastasis:** The spread of cancer cells from the place where they first formed to another part of the body. In metastasis, cancer cells break away from the original (primary) tumour, travel through the blood or lymph system and form a new tumour in other organs or tissues of the body.

➢ **Oncomirs:**

○ The miRNAs associated with cancer are called Oncomirs.

○ They affect cancer growth through inhibiting or enhancing the functions of certain proteins.

○ Oncomirs affect cancer by suppressing the performance of tumour-suppressing agents which can prevent the growth and spread of cancer cells and sometimes prevent tumour growth itself.

➢ **Significance of the Research:**

○ The finding could help **develop molecular strategies** to manipulate miR-155 expression to develop therapeutics for tongue cancer.

❍ **miRNA manipulation** is being combined with conventional cancer treatment methods such as chemotherapy, radiotherapy and immunotherapy.

❍ Eliminating miR-155 causes death of cancer cells, arrests the cell cycle and regresses tumour size in animal models and reduces cell viability and colony formation in benchtop (suitable for convenient use on a laboratory workbench) assays.

● An **assay is an investigative (analytic) procedure** in laboratory medicine, pharmacology, environmental biology and molecular biology for qualitatively assessing or quantitatively measuring the presence, amount, or functional activity of a target entity (the analyte).

Ribonucleic Acid

➤ **RNA is a polymer of ribonucleotides** and an important biological macromolecule that is present in all **biological cells**.

➤ It is **principally involved in the synthesis of proteins**, carrying the messenger instructions from Deoxyribonucleic acid (DNA), which itself contains the genetic instructions required for the development and maintenance of life.

➤ **RNA differs from DNA** in three basic respects:

❍ **RNA** employs u**racil as a nitrogenous base,** in place of the t**hymine** used in DNA.

❍ RNA nucleotides possess a **hydroxyl group** at the 2nd position, while DNA is **deoxygenated** at that position to a proton.

❍ **RNA is more often found single-stranded than DNA**, which is typically completely base-paired into a double helix.

Deoxyribonucleic acid (DNA)

Ribonucleic acid (RNA)
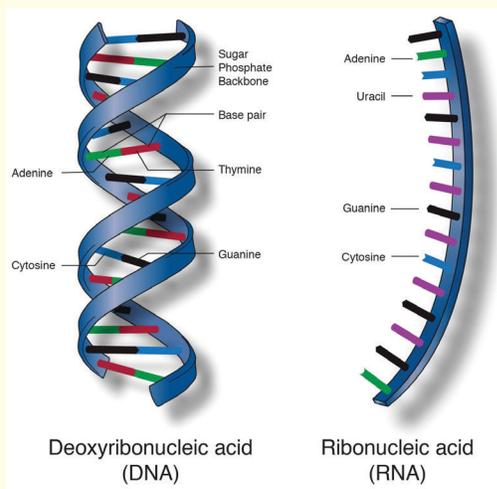
Genetically Modified Seeds

Why in News

Recently, Shetkari Sanghatana, a Maharashtra based farmers' union body has announced agitation for use of unapproved genetically modified seeds of cotton, maize, rice, mustard, soybean and brinjal.

➤ Shetkari Sanghatana is a big supporter of GM seeds. Its main aim is to provide farmers, freedom of access to markets and technology.

➤ Last year its members had broken the law by planting Herbicide Tolerant Bt cotton seeds. This year too it's members are planning to repeat the same.

Key Points

➤ **Genetically Modified Seeds:**

❍ Conventional plant breeding involves **crossing species of the same genus** to provide the offspring with the desired traits of both parents.

● Genus is a class of items such as a group of animals or plants with similar traits, qualities or features.

❍ **Genetic modification** aims to transcend the genus barrier by **introducing an alien gene** in the seeds to get the desired effects. The alien gene could be from a plant, an animal or even a soil bacterium.

● **Bt cotton** is the **only Genetically Modified (GM) crop** that is allowed in India. It has **alien genes from the soil bacterium Bacillus thuringiensis (Bt)** that allows the crop to develop a protein toxic to the common **pest pink bollworm.**

● **Herbicide Tolerant Bt (Ht Bt) cotton,** on the other hand is derived with the insertion of an additional gene, from another soil bacterium, which allows the plant to resist the common **herbicide glyphosate.**

● In **Bt brinjal**, a gene allows the plant to resist attacks of fruit and shoot borers.

● In **DMH-11 mustard**, genetic modification allows cross-pollination in a crop that self-pollinates in nature.

➤ **Legal Position of GM Crops in India**

❍ In India, the **Genetic Engineering Appraisal Committee (GEAC)** is the apex body that allows for commercial release of GM crops.

Note:

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- In 2002, the GEAC had allowed the commercial release of Bt cotton. More than 95% of the country's cotton area has since then come under Bt cotton.
- Use of the unapproved GM variant can attract **a jail term of 5 years and fine of Rs. 1 lakh** under the Environment Protection Act, 1986.
- **Farmers Demand for GM Seeds:**
  - GM seeds reduce the production cost and increase productivity.
    - Ht Bt cotton reduces the high cost of weeding.
    - Bt brinjal reduces the use of pesticides.
- **Issues Involved:** Genetic modification brings about changes that can be harmful to humans in the long run. The long-lasting effect of GM crops is yet to be studied. Some of the issues involved are:
  - **Threat to Biodiversity:**
    - Cross-pollination in GM crops paves the way for **herbicide-resistant superweeds** that can further threaten the sustenance of other crops and pests because of their uncontrolled growth.
    - GM crops because of their pest resistance characteristics could **eliminate important species of pests** that are responsible for sustaining domestic varieties and can pose serious threats to biodiversity. They can **affect the food chain** also.
  - **Nutrition Issues:**
    - Bt brinjal poses risks to human health as its **resistance to antibiotics** can turn medicines ineffective and may result in the formation of new toxins and allergens.
  - **Implications for Consumers and Farmers:**
    - It is claimed that patent laws give developers of the GM crops a dangerous degree of **control/ dominance over the food supply** that results in the over domination of world food production by a few companies.

Way Forward

- **Environmental impact assessment** should be carried out by independent environmentalists, as farmers do not and cannot assess the long-term impact of GM crops on ecology and health.
- Ensure that an **unapproved variety of GM seeds is not available in markets.**

- In order to curb the illegal cultivation of GM seeds, the **Genetic Engineering Appraisal Committee** (GEAC) should:
  - Collaborate with state governments and launch a nation-wide investigation drive.
  - Take action on threats of deliberate GM crop cultivation.
  - Investigate and prosecute those involved in the illegal supply of GM Seeds.
  - Encourage organic farming.
- The government should go for commercialization of GM seeds only after the core and deep research on the long term prospects and benefits of commercialization of GM seeds in India.

Nature Index 2020: Index of Scientific Research

Why in News

Recently, a journal of science i.e. **the Nature Research**, has released the **Nature Index 2020.**

- The **Nature Index** provides a database of **high-quality research** output and collaboration at the institutional, national and regional level of institutions from different countries.

Key Points

- The top three countries in the index are **US, China and Germany** respectively.
- Criteria for the Ranking
  - **Sectors:** Academic and Corporate.
  - **Subjects:** Chemistry, Earth and Environmental Science, Life Sciences, Physical Sciences.
  - **Journal Group:** Nature and Science.

The Nature Index
- The **Nature Index** is a **database of author affiliation information collated** from research articles published in an independently selected group of 82 high-quality science journals.
- The **database** is compiled by **Nature Research.**
- The Nature research is a part of **Springer Nature** which is an American German academic publishing company based in Germany.
- The Index is updated monthly and also releases annual tables of countries.

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➢ The **overall ranking of India is 12th** in the index.

➢ Top 3 Ranking of Institutions from india:

  ○ Council of Scientific and Industrial Research (CSIR)

  ○ Indian Institute of Sciences (IISc)

  ○ Tata Institute of Fundamental Research (TIFR)

163348 (2002 NN4): A Near-Earth Asteroid

Why in News

Recently, the **National Aeronautics and Space Administration (NASA)** has announced that a giant **asteroid** called **163348 (2002 NN4)**, passed near Earth on 6th June 2020.

➢ However, it approached the Earth within the **safe limit of distance**.

Key Points

➢ **163348 (2002 NN4):**

  ○ It was discovered in July 2002 and is expected to approach the earth in June 2020.

  ○ The asteroid is estimated to be between **250-570 meters** in diameter.

  ○ The asteroid is a **Near-Earth Object** and classified as a **Potentially Hazardous Asteroid (PHA)**.

➢ **Near-Earth Objects (NEOs):**

  ○ NEOs are **comets and asteroids** pushed by the **gravitational attraction of nearby planets into orbits** which allow them to enter the Earth's neighbourhood.

  ○ These objects are **composed mostly of water ice** with embedded dust particles.

  ○ NEOs **occasionally approach close to the Earth** as they orbit the Sun.

  ○ NASA's **Center for Near-Earth Object Study (CNEOS)** determines the times and distances of these objects, when their approach to the Earth is close, through the Asteroid Watch Widget.

➢ **Potentially Hazardous Asteroid:**

  ○ It means that an asteroid has the potential to make **threatening close approaches to the Earth**.

  ○ Specifically, all asteroids with a **Minimum Orbit Intersection Distance** (MOID) **of 0.05 AU** (which is about 7,480,000 km) or less and an **Absolute Magnitude (H) of 22.0** (about 150 mt in diameter) or less are considered PHAs.

  ● **Minimum Orbit Intersection Distance** is a method for calculating the **minimum distance between two almost overlapping elliptical** orbits.

  ● **The Astronomical Unit (AU)** is the distance between the Earth and the Sun and is roughly 150 million km.

  ● The **absolute magnitude** is a measure of the star's luminosity i.e. the **total amount of energy radiated** by the star every second.

➢ **Chances of hitting the earth and related Concerns:**

  ○ According to NASA, the objects with large size pose a **great risk to Earth** due to the **level of devastation and the impact** they can cause.

  ○ Less than half of the estimated 25,000 NEOs that are 140 metres or larger in size have been found to date.

  ● NASA's **Near-Earth Object Observations Program** finds, tracks and characterises over 90% of the predicted number of NEOs that are 140 metre or larger in size.

  ○ However, no asteroid **larger than 140 metre has a "significant" chance of hitting** the Earth for the **next 100 years**.

Asteroids

➢ Asteroids orbit the Sun and are small bodies in the solar system.

➢ They are made up of metals and rocks.

➢ They tend to have shorter and elliptical orbits.

➢ They do not produce a coma or tail atmosphere.

➢ The **asteroid belt** is a torus-shaped region in the Solar System, located roughly between the orbits of the planets Jupiter and Mars.

Comet

➢ Comets also orbit the Sun and are relatively small bodies of the solar system.

➢ They are made up of ice and hydrocarbons.

➢ Comets have an eccentric orbit.

➢ When comets approach the sun, some part of their ice melts and the other materials vapourise due to the heat of the sun. This results in a glowing halo that extends outwards through space.

  ○ Therefore, a thin atmospheric tail is formed when close to the Sun.

Note:

Significance

➢ The scientific interest in **comets and asteroids** is largely due to their status as **relatively unchanged remnant debris from the** solar system formation process over **4.6 billion years ago**. Therefore, they offer clues about the **chemical mixture** from the planets formed.

➢ Significantly, among all the reasons that will eventually cause the extinction of life on Earth, **an asteroid hit is widely acknowledged** as one of the likeliest.

   ❍ Over the years, scientists have suggested different ways to ward off such a hit, such as blowing up the asteroid before it reaches Earth, or deflecting it off its Earth-bound course by hitting it with a spacecraft.

New Drug for Amoebiasis

Why in News

Recently, researchers from the **Jawaharlal Nehru University (JNU)** have developed new drug molecules against the **protozoa** '*Entamoeba histolytica'* that causes **amoebiasis.**

Key Points

➢ **The Protozoa and High Oxygen Level:**

   ❍ The protozoa is **anaerobic or microaerophilic** in nature such that it **cannot survive high concentrations of oxygen**.

      ● Anaerobic organisms are those who exist in the absence of free oxygen.

      ● A **microaerophilic** atmosphere is ideal for a **microorganism** that can grow under **reduced oxygen** and increased carbon dioxide levels.

   ❍ However, during infection, **it faces a high surge of oxygen** inside the human body. The organism synthesizes large amounts of cysteine to **counter oxidative stress**.

➢ **Synthesis of Cysteine:**

   ❍ This **pathogen deploys cysteine** as one of the essential molecules in its defence mechanism against **high oxygen levels**. It **expresses two crucial enzymes** for **synthesizing cysteine**.

      ● Cysteines are enzymes that degrade proteins in the body.

● Cysteine biosynthesis is crucial for the survival of *E. histolytica* and for similar protozoan parasites.

➢ **JNU Research:**

   ❍ Researchers have characterized and determined the molecular structures of both the crucial enzymes.

   ❍ They have also successfully screened for potent inhibitors for one of the enzymes, **O-acetyl L-serine sulfhydrylase (OASS).**

   ❍ Some of these inhibitors can **check the growth of this organism with high efficacy** by targeting their pathways.

   ❍ The identified molecules can lead to the **development of drug molecules**.

Protozoa

➢ These are the **single-celled eukaryotes, either free-living or parasitic**, which feed on organic matter such as other microorganisms or organic tissues and debris.

   ❍ **Eukaryotes** are organisms whose cells have a nucleus enclosed within membranes, unlike prokaryotes, which have no membrane-bound organelles.

   ❍ A **parasite is an organism** that lives on or in a host and gets its food from or at the expense of its host. For example, plasmodium parasites which cause malaria.

➢ **Habitat:** Mostly they are **aerobic** (with oxygen) but some are **anaerobic** (without oxygen) and present in the rumen or human intestine.

➢ **Size and Shape:** The size and shape of Protozoa vary greatly, from microbial (1μm) to large enough and can be seen by the naked eye.

➢ **Nutrition:** Protozoans are **heterotrophs** and have **holozoic nutrition**.

   ❍ **Holozoic nutrition** can be defined as a method of nutrition which **involves the ingestion of some complex organic substances** (such as parts of a plant or animal) that may be in the solid or the liquid form.

Entamoeba histolytica

➢ According to the **World Health Organization (WHO),** *Entamoeba histolytica* is the **third-leading cause of morbidity and mortality** due to parasitic disease in humans.

   ❍ Predominantly infecting humans and other primates, *E. histolytica* is estimated to infect about **35-50 million people** worldwide.

Note:

○ A **parasitic disease** is an infectious disease caused or transmitted by a parasite. For example, Malaria.

➢ It causes **amoebiasis or amoebic dysentery**, which is highly prevalent in developing countries.

Amoebiasis

➢ It is a disease caused by the parasite *Entamoeba histolytica*.

➢ Amoebiasis infection is most common **in tropical areas** with untreated water. E.g. India .

➢ It **spreads through drinking or eating uncooked food,** such as fruit, that may have been washed in contaminated local water.

➢ If symptoms occur, they may be mild and include cramping and diarrhoea.

➢ It can be treated through antibiotics.

Global Vaccine Summit

Why in News

Recently, the Prime Minister of India addressed the **virtual Global Vaccine Summit**.

➢ It was **hosted** by the **United Kingdom (UK)** and almost 50 countries including the business leaders, UN agencies, civil society, government ministers, Heads of State and country leaders participated in the Summit.

Key Points

➢ **Purpose:**

○ The Summit was intended to urge nations around the world **to pledge funding for vaccinations** to protect the world from **future outbreaks of infectious diseases**.

○ The Summit was aimed at **raising USD 7.4 million** to immunise a further **300 million** children in the **world's poorest countries by 2025**.

➢ **India's Contribution:**

○ India has pledged **USD 15-million** as India's contribution to the **Global Alliance for Vaccines and Immunizations** (GAVI).

● GAVI is an **international organisation** which brings together public and private sectors to create equal access to vaccines for children.

○ India had also mentioned that it has **shared its stocks of medicines with over 120 countries** in the wake of the pandemic.

➢ **Status of Vaccination in India:**

○ India is the **world's foremost producer of vaccines** and contributes to the immunisation of about **60% of the world's children**.

○ India has also added **six vaccines** to its **Universal Immunization Programme (UIP)** to expand protection of vaccination in the country.

● UIP was launched by the government in **1985**, to prevent mortality and morbidity in children and pregnant women against **12 vaccine-preventable diseases**.

● Under UIP **free of cost vaccination** is provided against twelve vaccine-preventable diseases i.e. Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea.

○ The country has also **digitised the vaccine supply chain** and an electronic intelligence network has been developed to monitor the integrity of the cold chain.

● But, recently the report released by the **World Health Organisation (WHO)** observed the **disruption of the Global Vaccination Programme in the country** in the wake of the Covid-19 pandemic.

LiDAR Based Research in Tamar Valley

Why in News

A UK-based team of archeologists has continued its research over the **Tamar Valley** through **LiDAR (Light Detection and Ranging)** despite lockdown due to **Covid-19** in the country.

➢ LiDAR is commonly used by geologists and surveyors to make high-resolution maps.

Tamar Valley

➢ Tamar valley is located in the **south of England** and is a rich archaeological landscape with many sites **belonging to the Iron Age and Roman era**.

➢ The area is a **World Heritage Site due to its historic mining activities**.

Note:

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○ A World Heritage Site is a place that is listed by the **United Nations Educational, Scientific and Cultural Organization (UNESCO)** for its **special cultural or physical significance**.

○ The list of World Heritage Sites is maintained by the **international 'World Heritage Programme'**, administered by the UNESCO World Heritage Committee.

LiDAR

➤ **Description:**

○ LiDAR (Light Detection and Ranging) is a **remote sensing** method that uses light in the form of a pulsed laser **to measure ranges and variable distances**.

○ These light pulses, combined with other data recorded by the airborne system, generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

○ A LiDAR instrument principally **consists of a laser, a scanner and a specialized GPS receiver**.

● Airplanes and helicopters are the most commonly used platforms for acquiring LiDAR data over broad areas.

➤ **Applications:**

○ LiDAR is used for **agriculture, hydrology** and **water management** systems.

○ **Geology-related** applications.

○ It is also used in **archaeology**.

RT-nPCR Test

Why in News

Researchers at the **Centre for Cellular and Molecular Biology (CCMB)** have developed a **new test** to detect **novel coronavirus (SARS-CoV-2)** named '**Reverse Transcription nested Polymerase Chain Reaction (RT-nPCR) test**.

➤ CCMB, one of the **Council of Scientific & Industrial Research (CSIR) laboratories**, is situated in Hyderabad (Telangana).

Key Points

➤ **RT-nPCR Test:**

○ It **does not depend on RT-qPCR (**testing approved by the ICMR) **but uses standard RT-PCR** as part of an endpoint assay (i.e. to measure biochemical activity of a sample).

○ It has been developed on a **low-cost** and **low-tech** model.

○ This new test is **awaiting approval from the Indian Council of Medical Research (ICMR).**

➤ **RT-qPCR Test:**

○ The ICMR has recommended only **Reverse Transcription Polymerase Chain Reaction (RT-qPCR) test** for novel coronavirus testing.

● **PCR** is an enzymatic reaction used to amplify DeoxyRibonucleic Acid (DNA).

● Unlike conventional PCR, which relies on end point analysis, **qPCR** enables the analyst to **monitor DNA amplification in real time**, as the reaction proceeds. This allows quantification of DNA.

● However, coronavirus is made up of Ribonucleic Acid (RNA). Therefore to detect coronavirus, **RNA is converted into DNA using a technique called Reverse Transcription (RT).**

➤ **RT-qPCR vs RT-nPCR:**

○ In RT-qPCR, the viral RNA is quantified, whereas in RT-nPCR, the viral RNA that nests is studied.

○ RT-qPCR is costly, takes longer, needs special apparatus and can be performed only in a lab with sophisticated equipment. It requires a real time thermal cycler, which is an expensive instrument.

○ RT-nPCR is economical, can be tested on a large scale, does not require special apparatus and can be done in a lab with basic equipment. It needs a simple PCR machine.

○ Further, the CCMB scientists found a high percentage of false negative cases while comparing RT-qPCR with the new test.

● The RT-nPCR test was able to identify 90% of the detected samples as positive by RT-qPCR. It also detected 13% samples as positive among samples that were negative by the standard RT-qPCR test (likely false negatives).

■■■

Note:

Environment and Ecology

Highlights

- Scorpionfish: Scorpaenopsis neglecta
- Sixth Mass Extinction
- Environmental Performance Index
- Sunderbans Damaged in Cyclone Amphan
- Assam Gas Leak
- Oil Spill in Siberia
- World Environment Day
- Microplastics in Deep Oceans
- Biodiversity Park in Uttarakhand
- World Oceans Day

- Aerosols Radiative Forcing in Western Trans-Himalayas
- Rise in the Population of Asiatic Lions
- Athirapally Hydel Electric Project
- Estimation Exercise of Indian Gaur in Nilgiris
- Expansion of the Amery Ice Shelf
- Poaching Increased During Lockdown
- Malabar Gliding Frog
- Tropical Cyclone: Cristobal
- Cyclone Nisarga
- Lonar Crater

Scorpionfish: Scorpaenopsis neglecta

Why in News

Recently, researchers at the **Central Marine Fisheries Research Institute (CMFRI)** have found a rare **Scorpionfish (*Scorpaenopsis neglecta*)** from Sethukarai coast in the **Gulf of Mannar**.

➢ This for the **first time** the particular species is **discovered alive in Indian waters**.

➢ It has been deposited in the **National Marine Biodiversity Museum** of the CMFRI.

Key Points

➢ **Characteristics of *Scorpaenopsis neglecta*:**

○ **Powerful sensory system:**

- Unlike other fish, this band-tail Scorpion fish uses its **lateral sensory system** instead of eyes to hunt its prey.
- **Lateral sensory system** is a system of sense organs found in fishes which is used to detect movement, vibration, and pressure gradients in the surrounding water.

○ **Colour changing:**

- The fish has the ability to **change colour** and **camouflage** to escape from predators and while catching a prey.
- **Camouflage**: It is a defense or tactic that organisms use to disguise their appearance, usually to blend in with their surrounding environment.This allows prey to avoid predators, and for predators to sneak up on prey.

○ **Neurotoxic:**

- The fish is called 'scorpionfish' because its **spines contain neurotoxin**.
    - **Neurotoxins** are **chemical substances** that are poisonous to the nervous system.
    - Neurotoxins work by disrupting chemical signals sent between neurons and paralysing the whole system.
    - Generally snakes i.e. **King Cobra** and **marine snakes** have these types of venom.
- When the spines pierce an individual, the venom gets injected immediately.

➢ **About the Scorpionfish:**

○ **Scorpionfish** belong to the family **Scorpaenidae** which are mostly marine fish that includes many of the world's most venomous species.

○ It is commonly found in the **Indo-West Pacific region** of the world.

Note:

- It is a biogeographic region of Earth's seas, comprising the tropical waters of the Indian Ocean, the western and central Pacific Ocean, and the seas connecting the two in the general area of Indonesia.
  - It is a **nocturnal feeder** and lays motionless in the sea bottom and waits for the prey to come close to it.
    - **Nocturnal species** are those which prefer to be active at night and sleep during the day. E.g. Bats.

The Central Marine Fisheries Research Institute

➢ It was established by the Government of India in 1947 under the Ministry of Agriculture and Farmers Welfare and later it joined the **Indian Council of Agricultural Research (ICAR)** family in 1967.

➢ It is a leading tropical marine fisheries research institute in the world, headquartered in **Kochi, Kerala**.

➢ **Objectives:**
  - Marine Fishery Resource Assessment.
  - Productivity and Production Enhancement through Mariculture.
  - Conservation of Marine Biodiversity.
  - Transfer of Technology, Training and Consultancy.

Sixth Mass Extinction

Why in News

Recently, the researchers have observed that the ongoing **sixth mass extinction** is one of the **most serious environmental threats** to the existence of civilisation.

➢ Mass extinction refers to a substantial increase **in the degree of extinction** or when the **Earth loses more than three-quarters** of its species in a geologically short period of time.
  - Since life first evolved on the planet, a short geological period of time is defined as **less than 2.8 million years**.

History of Mass Extinction

➢ So far, the Earth has experienced **five mass extinctions**.

Era	Impact and Possible Reasons
First Mass Extinction: End Ordovician, 444 million years ago	➢ **86% of species lost** ➢ Severe ice age that lowered sea levels, possibly triggered by the uplift of the Appalachians. The newly exposed silicate rock sucked CO_2 out of the atmosphere, chilling the planet.
Second Mass Extinction: Late Devonian, 383-359 million years ago	➢ **75% of species lost** ➢ With the emergence of land plants, their deep roots stirred up the earth, releasing nutrients into the ocean. This might have triggered algal blooms which sucked oxygen out of the water, suffocating bottom dwellers like the trilobites.
Third Mass Extinction: End Permian, 252 million years ago	➢ **96% of species lost** ➢ A cataclysmic eruption near Siberia blasted CO_2 into the atmosphere. Methanogenic bacteria responded by belching out methane, a potent greenhouse gas. Global temperatures surged while oceans acidified and stagnated, belching poisonous hydrogen sulfide.
Fourth Mass Extinction: End Triassic, 201 million years ago	➢ **80% of species lost** ➢ No clear causes have been found.
Fifth Mass Extinction: End Cretaceous, 66 million years ago	➢ **76% of all species lost** ➢ Volcanic activity and climate change along with asteroid species

Note:

Key Points

➢ **Background:**
  ❍ The **five mass extinctions that took place in the last 450 million years** have led to the destruction of 70-95% of the species of plants, animals and microorganisms that existed earlier.
  ❍ All these extinctions were caused due to the catastrophic alterations to the environment, such as massive volcanic eruptions, depletion of oceanic oxygen or collision with an asteroid.
    ● After each of these extinctions, it took millions of years to regain species comparable to those that existed before the event.

➢ **Ongoing Sixth Mass Extinction:**
  ❍ It has been observed that the **sixth extinction is human-caused** and is more immediate than climate destruction. Thus, the ongoing sixth mass extinction is referred to as the anthropocene extinction.
    ● Currently, **only an estimated 2% of all of the species** that ever lived are alive but the absolute number of species is greater than ever before.
  ❍ It is described as the most serious environmental problem since the loss of species will be permanent.
    ● The loss of species has been occurring since human ancestors developed agriculture over 11,000 years ago. Since then, the human population has increased from about 1 million to 7.7 billion.

➢ **Outcomes of the Study:**
  ❍ The study has described sixth mass extinction as the most serious environmental problem.
    ● The study analysed 29,400 species of terrestrial vertebrates and concluded that over 515 of them are near extinction.
    ● Most of these 515 species are from South America (30%), followed by Oceania (21%), Asia (21%) and Africa (16%) among others.
  ❍ It has also observed that the disappearance of these populations has been occurring since the 1800s.

➢ **Impacts:**
  ❍ The **extinction of the species** causes tangible impact such as in the form of a loss in crop pollination and water purification.
  ❍ Further, if a species has a specific function in an ecosystem, the loss can lead to consequences for other species by impacting the food chain.

  ❍ When the number of individuals in a population or species drops too low, its contributions to ecosystem functions and services become unimportant.
  ❍ The effects of extinction are expected to worsen the genetic and cultural variability which would change entire ecosystems.
    ● When genetic variability and resilience is reduced, its contribution to human welfare may be lost.

Environmental Performance Index

Why in News

India secured 168th rank in the 12th edition of the Environment Performance Index (EPI) 2020.

➢ India's rank was 177th in 2018.

Environmental Performance Index

➢ EPI is a biennial index prepared by Yale University and Columbia University in collaboration with the **World Economic Forum**.

➢ It offers a scorecard that highlights leaders and laggards in environmental performance and provides practical guidance for countries that aspire to move toward a sustainable future.

➢ This index was first published in 2002 designed to supplement the environmental targets set forth in the United Nations Millennium Development Goals.

Key Points

➢ **EPI 2020:**
  ❍ EPI Index 2020 measured the environmental performance of 180 countries.
  ❍ The index considered 32 indicators of environmental performance and included 10-year trends in environmental performance at the national and global levels.
  ❍ Denmark topped the index with a score of 82.5.

➢ **India' Performance:**
  ❍ **India scored 27.6** out of 100 in the 2020 EPI index and its performance was worse than all South Asian countries, except Afghanistan.
  ❍ India scored below the regional (South-Asia) average score on all five key parameters on environmental health, including air quality, sanitation and drinking water, heavy metals and waste management.

Note:

- These findings resonated with the concerns raised by the **'State of India's Environment 2020** in Figures', published by the Centre for Science and Environment.
  - It has also scored below the regional average on parameters related to biodiversity and ecosystem services too.
  - India was at second position after Pakistan on 'climate change' among the South-Asia countries.
    - Pakistan's score (50.6) was the highest under the climate change category.
  - A ten-year comparison progress report in the index showed that India slipped on climate-related parameters.
    - The report indicated that black carbon, carbon dioxide emissions and greenhouse emissions per capita increased in ten years.

Environmental Conservation Programmes in India

- **Climate Change: National Action Plan on Climate Change**
- **Desertification: National Action Programme to Combat Desertification**
- **Pollution Control: National Clean Air Program**
- **Environmental Impact Assessment: Environment Management Plan**
- **Forest Protection: National Afforestation Programme**
- **Animal Conservation: Project Elephant, Project Tiger**

Sunderbans Damaged in Cyclone Amphan

Why in News

Recently, the Chief Minister of West Bengal highlighted that **about 28% of the Sunderbans** has been **damaged by Cyclone Amphan** and launched a drive for planting **mangroves** and trees to mark the **World Environment Day** (**5th June**).

Key Points

- The Indian Sunderbans, an **area south of the Dampier Hodges line**, is spread over 9,630 sq km, of which the mangrove forest accounts for 4,263 sq km.

- 1,200 sq km of that mangrove forest has been destroyed.
- **Mangroves** not only **reduce wind speed** but **break the waves during a storm** surge caused by a cyclone.
- **Trees turned yellow and red** after the cyclone mostly **due to salinity** and trees can only survive if the salinity of the soil comes down.
- **Dampier Hodges line** is an imaginary line, passing through 24 Parganas South and North districts (West Bengal) which indicates the northern-most limits of the estuarine zone affected by tidal fluctuations.
- The **damage has been much on the Indian side** of the Sundarbans and not on the Bangladesh side.
- The CM has directed the Forest Department to be prepared to plant 3.5 crore mangroves by **14th July** which is celebrated as the **World Forest Day**.

Sundarbans

- It is a **vast contiguous mangrove forest ecosystem** in the **coastal region of Bay of Bengal** spread over **India and Bangladesh** on the delta of the **Ganges, Brahmaputra and Meghna rivers**.
- The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant mangrove forests and presents an excellent example of ongoing ecological processes.
- It constitutes **over 60% of the country's total mangrove forest area**.
- Indian Sundarbans was recognised as **UNESCO World Heritage Site in 1987**, '**Wetland of International Importance**' under the **Ramsar Convention** in **January 2019** and also a **Biosphere Reserve** in **1989**.
- The area is **known for its wide range of fauna**, including 260 bird species and is home to many rare and globally threatened wildlife species such as the **Estuarine Crocodile**, Royal Bengal Tiger, Water Monitor Lizard, **Gangetic Dolphin** and **Olive Ridley Turtles**.
- The Sunderbans Delta is the **only mangrove forest in the world inhabited by tigers**.
  - For its preservation, **Discovery India** and **World Wide Fund** (WWF) India partnered with the Government of West Bengal and local communities in the Sundarbans in 2019.

Mangroves

- Mangroves are the plant communities occurring in **inter-tidal zones along the coasts of tropical and subtropical countries**.

➢ Mangrove forests perform **multiple ecological functions** such as production of woody trees, provision of habitat, food and spawning grounds for fin-fish and shellfish, provision of habitat for birds and other valuable fauna; protection of coastlines and accretion of sediment to form new land.

➢ Among the states and Union Territories, **West Bengal has the highest percentage** of area under total Mangrove cover **followed by Gujarat and Andaman and Nicobar Islands**.

➢ The India State of Forest Report gives the data about mangroves and their conditions in the country.

Assam Gas Leak

Why in News

Recently, a gas leak has occurred at **Baghjan well in Tinsukia district of Assam** following a blowout.

➢ The Baghjan well is a **purely gas-producing** well in Tinsukia district, and is at an aerial distance of 900 metres from the **Dibru-Saikhowa National Park**.

➢ It has been drilled by **Oil India Limited (OIL)** since 2006.

➢ Natural gas is a mix of propane, methane, propylene and other gases.

Key Points

➢ **Gas Leak:**
  ○ The gas well at Baghjan was under maintenance, for which it was temporarily shut. The Blowout Preventer (BOP) was also removed.
  ○ However, the gas started to ooze out of the well during the maintenance. The reason behind the blowout (a sudden/uncontrolled release of gas/oil) is not clear.

➢ **Possible Reasons:**
  ○ It **may have occurred due to lack of attention**, **poor workmanship**, bad maintenance, old age, sabotage to morpho-tectonic factors.
  ○ Sometimes, the **disturbance of pressure balance** in a well may also lead to sudden blowouts.

➢ **Steps Taken:** The authorities have built a temporary water reservoir through pipelines from the Dangori river nearby the well to control the blowout.
  ○ To control a blowout, a **huge quantity of water** is required so that the gas does not catch fire.

○ The control of a blowout depends on two things: the size of the reservoir and the pressure at which the gas is flowing out. Many blowouts also automatically collapse on their own.

➢ **Challenges:** The gas leak at the Baghjan is still not under control and it is continuously leaking.
  ○ The limited space and non-availability of open space above the well head poses a huge challenge in placement of BOP.
  ○ The BOP placement involves a huge risk since Baghjan is a gas well and runs the risk of catching fire at any point.

➢ **Impact:**
  ○ The **gas is flowing with the wind in the radius of up to 5 km** and condensate (the residue from gas) is falling on bamboo, tea gardens, banana trees, betel nut trees among others.
  ○ While the well is outside the **Eco Sensitive Zone** of the park, there are reports that the condensate is falling into Dibru-Saikhowa National Park and Maguri-Motapung wetland too.
  ○ The gas leak has also caused deaths of **Gangetic dolphins**, and a variety of fish. The number of birds have also decreased because they have flown away.

➢ **Assessment of the Impact:** To safeguard the environment, OIL has engaged a National Accreditation Board for Education and Training (NABET) accredited consultant to carry out an Environment Impact Assessment study to assess the effects of blowout on terrestrial and aquatic ecosystems and to work on a Socio-Economic Impact Assessment.
  ○ NABET is a constituent Board of **Quality Council of India**.
  ○ It offers accreditation to educational organisations, vocational training organizations and skill certification bodies.

Dibru-Saikhowa National Park

➢ Dibru-Saikhowa is a **National Park as well as a Biosphere Reserve** situated in the south bank of the river Brahmaputra in Assam.

➢ It is one of the **19 biodiversity hotspots** in the world.

➢ The forest type of Dibru-Saikhowa comprises semi-evergreen forests, deciduous forests, littoral and swamp forests and patches of wet evergreen forests.
  ○ It is the **largest swamp forest in north-eastern** India.

Oil Spill in Siberia

Why in News

Recently, **Russia** has declared a **state of emergency** in its **Krasnoyarsk Region** after a power plant **fuel leaked** causing 20,000 tonnes of diesel oil to escape into **the Ambarnaya River**.

➢ Krasnoyarsk Region is located in the vast and sparsely populated **Siberian peninsula** and the Ambarnaya river is part of a network that flows into the **environmentally sensitive Arctic Ocean**.

Key Points

➢ **Reasons for the Spill:**

○ The **thermoelectric power plant** which is located near **Norilsk city** (known as the country's **nickel capital**), around 3000 km northeast of Moscow, is **built on permafrost** which has **weakened** over the years owing to **climate change**.

● This caused the **pillars that supported the plant's fuel tank to sink**, leading to a loss of containment.

○ According to a report, **Norilsk is one of the most heavily polluted places** on Earth.

➢ **Concerns:**

○ The leak can have a serious **impact on the local ecology**.

● The Ambarnaya river flows to the **Pyasino lake and river Pyasina**, which connects it to the **Kara Sea**, a **part of the Arctic Ocean**.

○ The **most toxic components** of diesel fuel are light **aromatics** (benzene, toluene, ethylbenzene and xylene), which in significant quantities will nevertheless **dissolve in water** and **can in no way be collected.**

○ **Damages** to the Arctic waterways due to the spill could be at least **over UDS 76 million**. The estimate does not include atmospheric damage due to **greenhouse gases** and **soil pollution**.

○ According to the environmentalists, the river would be difficult to clean, given its **shallow waters and remote location**, as well as the magnitude of the spill.

○ The **World Wildlife Fund** (WWF) described this as the **second-largest known oil leak** in modern Russia's history in terms of volume.

● It is only exceeded by a crude oil spill in the **northwestern region of Komi** that took place over several months in **1994**.

➢ **Measures:**

○ The declaration of the state of emergency would bring in **extra forces and federal resources for the clean-up efforts**.

○ The Ambarnaya river is difficult to clean up because the **remote location has no roads**.

○ **Boom obstacles** (an obstacle strung across a navigable stretch of water to control or block navigation) are placed in the river but they are **unable to contain the oil** because of **shallow waters**.

○ There is a need to establish **monitoring of water quality** downstream up to the mouth of the Pyasina river.

● Diesel fuel is **lighter** than oil so it is **likely to evaporate** rather **than sink** but it is **more toxic to clean up**.

○ **Burning the fuel** would be **too risky** as it will generate a lot of **heat** and will lead to the **melting of ice**.

○ It is recommended to **dilute the layer with reagents**.

● A **reagent** is a substance or compound added to a system to cause a chemical reaction or added to test if a reaction occurs.

Note:

World Environment Day

Why in News

The **World Environment Day** is observed on the **5th of June every year** for encouraging worldwide awareness and action to protect our environment.

➢ The day has been celebrated **since 1974** by **engaging governments, businesses, celebrities and citizens** to focus their efforts on a pressing environmental issue.

➢ **India** will be **focusing on the Nagar Van (Urban Forests)** in addition to the official theme of the World Environment Day.

➢ Further, the **Indian Navy** has also marked the day through various initiatives which are intended to **reduce its environmental footprint**.

Key Points

➢ **Description:**
  ○ The **theme** of World Environment Day 2020 is **'Celebrating Biodiversity', a concern that is both urgent and existential**.
  ○ Almost **one million species are facing extinction** worldwide and thus there has never been a more important time to focus on **biodiversity.**
  ○ The day will be **hosted** in **Colombia** in **partnership with Germany**.

➢ **Initiatives by Indian Navy:**
  ○ Released **'Indian Navy Environment Conservation Roadmap' (INECR)** which is a guiding document and key enabler for progressively achieving a **green footprint**.
  ○ It has voluntarily implemented all six schedules of the **International Convention for the Prevention of Pollution from Ships (MARPOL) regulations**.
    ● It covers **pollution of the marine environment** by ships from operational or accidental causes.
    ● It lists various forms of marine pollution caused by oil, noxious liquid substances, harmful substances in packaged form, sewage and garbage from ships, etc.
  ○ Currently, it has been focussing on the **reduction of overall power consumption** through a progressive induction of energy efficient equipment.

Urban Forests

➢ **Description:**
  ○ An urban forest is a forest, or a collection of trees, that grow within a city, town or a suburb. In a wider sense, it may include any kind of woody plant vegetation growing in and around human settlements.

➢ **Significance:**
  ○ Biodiversity conservation has traditionally been considered confined to remote forest areas but with **increasing urbanization,** a **need has arisen to safeguard and save biodiversity in urban areas** also.
  ○ It concentrates on all tree-dominated as well as other green resources in and around urban areas, such as woodlands, public and private urban parks and gardens, street trees and square plantations, botanical gardens and cemeteries.

➢ **Benefits:**
  ○ It is expected to **create microclimate and reduce the urban heat island effect**.
    ● An **urban heat island** is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities.
  ○ The urban forests play key roles in supporting water management in urban areas through management of the **urban hydrological cycle**.
  ○ Urban forests can **sequester huge amounts of carbon** by capturing carbon dioxide from the atmosphere.

➢ **Challenges:**
  ○ **Lack of appropriate tree planting spaces** due to increased urbanisation.
  ○ **Invasive non-native plant species** threatening urban forest ecosystems.
  ○ **Lack of awareness** among people.

➢ **Solutions:**
  ○ Novel and innovative methods like that of the Japanese **'Miyawaki' method** of afforestation can be used to grow urban forests and expand the green cover in these areas.
    ● Miyawaki is a technique pioneered by Japanese botanist Akira Miyawaki, that helps **build dense, native forests in a short time**.
  ○ The increased **awareness about the urban forestry and management** of the same would help to increase the urban forest cover with increasing urbanisation.

Note:

Biodiversity

➢ **Importance of Biodiversity:**
  ○ The theme for the **International Biodiversity Day for 2020** was **"Our solutions are in nature"**.
    ● The theme highlights that **Biodiversity remains the answer to a number of sustainable development challenges**.
  ○ Biodiversity is the variety and variability of life on Earth. Biodiversity is typically a measure of **variation at the genetic, species, and ecosystem level**.
  ○ Human health ultimately depends upon **ecosystem products and services** (such as availability of freshwater, food and fuel sources) which are requisite for good human health and productive livelihoods.
  ○ Biodiversity loss can have significant **direct human health impacts** if ecosystem services are no longer adequate to meet social needs.
  ○ Indirectly, **changes in ecosystem services affect** livelihoods, income, local migration and, on occasion, may even cause political conflict.

➢ **Biodiversity in India:**
  ○ India has nearly **8% of the global biodiversity**.
  ○ The country is endowed with rich biodiversity having several species of animals and plants and hosts **4 of the 35 global biodiversity hotspots** which include:
    ● **Himalaya:** Includes the entire Indian Himalayan region (and that falling in Pakistan, Tibet, Nepal, Bhutan, China and Myanmar).
    ● **Indo-Burma:** Includes entire North-eastern India, except Assam and Andaman group of Islands (and Myanmar, Thailand, Vietnam, Laos, Cambodia and southern China).
    ● **Sundalands:** Includes Nicobar group of Islands (and Indonesia, Malaysia, Singapore, Brunei, Philippines).
    ● **Western Ghats and Sri Lanka:** Includes entire Western Ghats (and Sri Lanka).

Microplastics in Deep Oceans

Why in News

Recently, researchers have observed that **deep sea hotspots of biodiversity** are also l**ikely to be microplastic hotspots**.

➢ Although microplastics are known to spread on the global seafloor, the processes that control their dispersal and concentration in the deep sea remain largely unknown.

➢ The researchers have studied the **spatial distribution and ultimate settling position of the microplastics** and its **effects on the biodiversity hotspots** in the deep oceans.
  ○ There are above-ground biodiversity hotspots like the tropical rain forests, alpine tundra, etc. Likewise, there are landforms beneath the sea that provide rich marine diversity which include **Coral reefs**, Sea mounts, etc.

Microplastics

➢ Microplastics are small plastic pieces of **less than five millimeters** in size.

➢ It includes microbeads (solid plastic particles of less than one millimeter in their largest dimension) that are used in cosmetics and personal care products, industrial scrubbers which are used for aggressive blast cleaning, microfibers used in textiles and virgin resin pellets used in plastic manufacturing processes.

➢ Apart from cosmetics and personal care products, most of the microplastics result from the **breakdown of larger pieces of plastic** that were not recycled and broke up due to exposure to the sun or physical wear.

➢ Microplastics damage aquatic creatures including turtles and birds. It blocks digestive tracts, and alters feeding behavior. Subsequently, it reduces the growth and reproductive output in marine animals.

Deep Sea

➢ The deep sea or deep layer is the **lowest layer in the ocean**, existing below the thermocline and above the seabed, **at a depth of 1000 fathoms or more**.
  ○ Fathom is a unit of length **equal to six feet** (1.8 metres).
  ○ A thermocline is a thin but distinct layer in a large body of fluid in which temperature changes more rapidly with depth than it does in the layers above or below.
  ○ In the ocean, the thermocline **divides the upper mixed layer from the calm deep water below**.

Key Findings

➢ **Role of Thermohaline Circulations:**
  ○ It has been observed that **thermohaline-driven**

Note:

circulations can **control the distribution of microplastics** by creating **hotspots of accumulation**, analogous to current's role in depositing seafloor sediments.

- The ocean currents are usually driven by the winds in the upper 100 meters of the ocean's surface. However, ocean currents also flow thousands of meters below the surface.
- The ocean currents may be **classified based on their depth** as
  - **Surface Currents :** The surface currents constitute about 10 % of all the water in the ocean, these waters are the upper 400 m of the ocean.
  - **Deep Ocean Currents:** These currents make up the other 90 % of the ocean water. These currents are driven by **differences in the water's density**, which is controlled by **temperature (thermo) and salinity (haline)**. This process is known as **thermohaline circulation**.
- In the Earth's polar regions ocean water gets very cold, forming sea ice. As a consequence the surrounding seawater gets saltier, because when sea ice forms, the salt is left behind.
- As the seawater gets saltier, its density increases, and it starts to sink. Surface water is pulled in to replace the sinking water, which in turn eventually becomes cold and salty enough to sink. This initiates the deep-ocean currents driving the global conveyor belt.

➢ **Vulnerability of Benthos:**
  ❍ Further, these thermohaline currents **supply oxygen and nutrients** to deep-sea **benthos**, so deepsea biodiversity hotspots are also likely to be microplastic hotspots.
    - Benthos is the community of organisms that live on, in, or near the seabed, river, lake, or stream bottom, also known as the benthic zone.

Biodiversity Park in Uttarakhand

Why in News

Uttrakhand opened its **biggest biodiversity park** in Haldwani on the **World Environment Day** (5th June).

➢ **Biodiversity** is the **variety and variability of life on Earth**. Biodiversity Parks are basically natural reserves with varieties of plants and animals.

➢ The **theme** of this year's World Environment Day is **'Celebrate Biodiversity'.**

Key Points

➢ Inside the Park, there are thematic gardens, a soil museum, species of plants, lichens, mosses and algae from the Jurassic era, a vermicompost unit, an interpretation centre, and a state-of-the-art weather station.

➢ The Park has 40 unique sections having 479 rare plant species of cactus, medicinal herbs, different types of trees, etc.
  ❍ The various species of plants have been brought to the park from diverse terrains like **Niti Mana Valley** and even from some glaciers around Kedarnath.
  ❍ Niti Mana Valley is located near the India Tibetan Border in Chamoli district of Uttarakhand.

➢ The plant species in the biodiversity park is divided into spiritual & religious, scientific, human health, and aesthetic value sections.
  ❍ The spiritual section has trees that find mention in holy scriptures like Guru Granth Sahib, Quran, Bible, and others.

➢ It showcases the different kinds of soil found in various topographies of Uttarakhand — alpine, bhabhar, sub-mountainous, mountainous, tertiary, loam, terai.

➢ Various environmental concepts and conservation issues including global warming, forest rivers, species extinction, internal communication of plants and recent developments like spread of virus from animals to human beings are explained at the interpretation centre inside the park.

World Oceans Day

Why in News

The World Oceans Day is celebrated every year on **8th June** to create awareness about the benefits that mankind gets from the ocean.

➢ The Day was designated by the United Nations General Assembly in 2008.

➢ The theme of the World Oceans Day 2020 is **'Innovation for a Sustainable Ocean'**.

Key Points

➢ **Importance of Oceans:**

  ○ Oceans cover **71% of the Earth's surface** and hold 97% of the planet's water.

  ○ They help feed the world and provide most of the oxygen.

  ○ A variety of life-saving medicinal compounds, including anti-inflammatory and anti-cancer drugs have been discovered in the oceans.

  ○ The ocean is vital to the world's economy, with more than 90% of trade using sea routes and as a source of jobs for millions of people.

  ○ They play a key role in regulating the weather and climate.

  ○ The Sustainable Development Goal 14 is 'Conserve and sustainably use the oceans, seas and marine resources for sustainable development'.

➢ **Threats to Oceans:**

  ○ Pollution, overfishing, invasive species, and rising ocean acidity due to the extensive use of fossil fuels.

  ○ Plastic waste is also one of the biggest threats faced by the oceans today.

Way forward

The oceans are facing unprecedented pressures from factors ranging from pollution to climate change. Thus, the need to balance the preservation of a healthy ocean and ever-increasing economic activities requires a fresh approach and rethinking in many areas.

Aerosols Radiative Forcing in Western Trans-Himalayas

Why in News

Recently, a study by **the Aryabhatta Research Institute of Observational Sciences (ARIES)** has found that **radiative forcing of aerosols** i.e. effect of anthropogenic aerosols is much higher over the high altitudes of western trans-Himalayas.

➢ **ARIES,** Nainital is an autonomous research institute under the Department of Science and Technology (DST), Ministry of Science and Technology.

➢ The Trans-Himalayas Mountain Region is located to the north of the Great Himalayas which consists of **Karakoram, Ladakh, Zaskar and Kailash mountain**

ranges. It is also called the **Tibet Himalayan Region** because most of the part of these ranges lies in Tibet.

Key Points

➢ **Aerosol Radiative Forcing:**

  ○ The study analysed the **variability of aerosol optical, physical and radiative properties** from January 2008 to December 2018 and the role of fine and coarse particles in **Aerosol Radiative Forcing (ARF)** assessment.

  ○ The ARF values at top of the atmosphere were mostly low over Hanle and Merak.

    ● **ARF** is the **effect of anthropogenic aerosols on the radiative fluxes** at the top of the atmosphere and at the surface and on the absorption of radiation within the atmosphere.

    ● Hanle and Merak, situated in Ladakh are the part of **Indian Astronomical Observatory (IAO).**

  ○ **Change in Temperature:**

    ● The study shows that monthly-mean atmospheric radiative forcing of aerosols leads to heating rates of **0.04 to 0.13 degree celsius per day**.

    ● Further, the temperature over the Ladakh region is increasing **0.3 to 0.4 degree celsius per decade** from the last 3 decades.

➢ **Aerosol Optical Depth:**

  ○ The observations show that the **Aerosol Optical Depth (AOD)** exhibited a distinct seasonal variation with higher values (0.07) in May and lower (0.03) in winter months.

  ○ **AOD** is a measure of how **light is absorbed or reflected by airborne particles** as it travels through the atmosphere.

    ● If aerosols are concentrated near the surface, **an optical depth of 1 or above** indicates very **hazy conditions**.

    ● An optical depth or **thickness, of less than 0.1** over the entire atmospheric vertical column is considered **clean**.

➢ **Angstrom Exponent:**

  ○ The lower values of **Angstrom Exponent (AE)** in spring indicated dominance of coarse-mode dust aerosols.

  ○ **The Angstrom Exponent** is a parameter that describes **how the optical thickness of an aerosol typically depends on the wavelength** of the light.

Note:

- **Composition of Air:**
  - **Pure and polluted dust** exhibited fractions between 16% and 23%, with a low frequency of less than 13% of absorbing aerosols, denoting weak influence of **anthropogenic aerosols** and **Black Carbon** over the trans-Himalayan sites.

Significance of the Study

- The atmospheric aerosols **play a key role in the regional/global climate system** through scattering and absorption of incoming solar radiation and by modifying the cloud structure.
- The transport of **light-absorbing carbonaceous aerosols and dust from the polluted Indo-Gangetic Plain and desert areas over the Himalayas** constitutes a major climatic issue due to severe **impacts on atmospheric warming and glacier retreat**.
- This heating over the Himalayas facilitates the **"elevated-heat pump"** that strengthens the temperature gradient between land and ocean and modifies the atmospheric circulation and the monsoon rainfall.
- A deep scientific study of **aerosol generation, transport, and its properties have important implications in the mitigation of climate change**.
- The study can help better **understand the aerosol optical and microphysical properties** and improve the **modelling of aerosol effects in view of aerosol-climate implication** via modifications in atmospheric warming and changes in the snow/glacier albedo over the trans-Himalayan region.

Background

- Measurements of aerosol optical and microphysical properties started during the last decade at the **Indian Astronomical Observatory (IAO) at the high altitude background sites of Hanle and Merak in the trans-Himalayas** under the frameworks of **Aerosol Radiative Forcing over India (ARFI)** and **Astronomical Site Survey program of Indian Institute of Astrophysics (IIA)**, Bangalore.
- The **Indian Astronomical Observatory**, located near **Leh in Ladakh**, has one of the world's highest located sites for optical, infrared and gamma-ray telescopes.
- In addition to this, few in-situ measurements of carbonaceous aerosols and ionic species have also been performed at Himansh Observatory (Spiti Valley) in the western Himalayas.

Aerosol

- Aerosols are defined as a combination **of liquid or solid particles suspended** in a gaseous or liquid environment.
- In the atmosphere, these particles are mainly situated in the low layers of the **atmosphere (< 1.5 km) since aerosol sources** are located on the terrestrial surface.
- However, certain aerosols can still be found in the stratosphere, especially volcanic aerosols ejected into the high altitude layers.
- The origin of atmospheric aerosols is either **natural or the result of anthropogenic activities.**
  - **Natural sources of aerosols** include sea salt generated from breaking waves, mineral dust blown from the surface by wind, and volcanoes.
  - **Anthropogenic aerosols** include sulfate, nitrate, and carbonaceous aerosols, and are mainly from fossil fuel combustion sources.
  - **Significance:**
    - Reflect **more energy from the sun back to space**.
    - In remote places with cleaner air, the effect of aerosol particle formation on clouds is found to be much larger.
    - Affect the atmospheric chemical composition.
    - Can **reduce visibility**.
    - Have important impacts on **air quality and human health** (e.g. aerosols can cause damage to heart and lungs).
    - Serve as nuclei for cloud droplets or ice crystals in ice clouds.

Rise in the Population of Asiatic Lions

Why in News

Recently, the Gujarat Forest Department has announced an **increase in the population of Asiatic lions in the Gir forest region**.

- Total **674 lions** were recorded compared to the **523 in the Lion Census of 2015**.
- The count was estimated from a **population observation exercise** called **Poonam Avlokan** in place of the **15th Lion Census**.

drishti

- The 15th lion census was due to be conducted on 5th and 6th June, but was postponed indefinitely due to the **Covid-19 outbreak**.
- Poonam Avlokan is a **monthly in-house exercise** carried out **every full moon**. It is a mechanism developed by the Forest Department in 2014 as part of preparations for the 2015 Lion Census.

Key Points

➢ **Numerical Analysis:**
- The lion population has **grown** by **almost 29%** from the last count in 2015.
  - The lion population in the state of Gujarat has **doubled since 2001.**
- Moreover, the distribution of the lions has **expanded from 22,000 sq. km** in **2015 to 30,000 sq. km in 2020**.
  - Thus, the **geographical distribution area** for Gir forests's lions has been **increased by 36%**.

➢ **Significance of 2020 Count:**
- The 2015 Census had counted 523 lions, **up from 411 in 2010**.
  - But 12 lions were killed in a **flash flood in Amreli** just a month after the 2015 Census.
- The deaths of lions in 2015 was followed by deaths of more than two dozen lions in an **outbreak of Canine Distemper Virus (CDV) and babesiosis in 2018**.
  - Babesia is a tiny parasite that infects red blood cells and is usually transmitted by a tick bite. Infection with Babesia is called babesiosis.
- Additionally, the **babesiosis outbreak was also reported in Gir in 2020**, and around two dozen lions were reported to be killed.

➢ **Reasons for Increase:**
- Over the last several years, the lion population in Gujarat has been **steadily rising**.
- This increase has been powered by **community participation, emphasis on technology, wildlife healthcare, proper habitat management and steps to minimise human-lion conflict**.

Regular Lion Census

➢ **History:**
- The **first Lion Census** was conducted by the **Nawab of Junagadh** in **1936**.

- **Since 1965, the Forest Department** has been regularly conducting the Lion Census every five years.

➢ **Procedure:**
- **Time Period:**
  - The regular Lion Census is conducted **once every five years**. The **last Census** was conducted in **2015**.
  - The Lion Census usually runs **for more than two days**, including a preliminary census and a final census.
  - However, the Poonam Avlokan is carried out for **24 hours assessing the number of lions** and their locations in their respective jurisdictions.
- **Participation:**
  - The Forest Department **invites NGOs, experts and wildlife enthusiasts** to join the Census for transparency and augmenting manpower.
  - Whereas the Poonam Avlokan exercise is conducted **only by forest staff**.
  - Thus, the Lion Census experiences **larger participation** of the people compared to the Poonam Avalokan exercise.
- **Methodology Used:**
  - The Lion Census is done using the **block counting method** — in which census enumerators remain stationed at water points in a given block and estimate abundance of lions in that block, based on direct sighting of lions who need to drink water at least once in 24 hours during the summer.
  - Under Poonam Avlokan exercise, the teams keep moving in their respective territories and make their estimates based on **inputs provided by lion trackers and on chance sightings**.

Gir National Park

➢ The Gir National Park and Wildlife Sanctuary is located in the **Junagadh district of Gujarat**.

➢ The Gir Forests is the **only natural habitat of Asiatic lions**. It was declared as a sanctuary in 1965 and a national park in 1975.

➢ Gir is often linked with **"Maldharis"** who have survived through the ages by having a symbiotic relationship with the lions.
- Maldharis are religious **pastoral communities** living in Gir. Their settlements are called **"nesses"**.

Note:

Protection for Asiatic Lions

➢ **Protection Status:**
  ❍ **IUCN Red List:** Endangered
  ❍ **CITES:** Appendix I
  ❍ **Wildlife (Protection) Act 1972:** Schedule I

➢ **Conservation Efforts:**
  ❍ The **"Asiatic Lion Conservation Project"** has been launched by the Union Ministry of Environment, Forests and Climate Change (MoEFCC).
  ❍ The project has been approved for **three financial years from 2018 to 2021**.
  ❍ The project envisages scientific management with the involvement of communities in coordination with multi-sectoral agencies for disease control and veterinary care for overall conservation of Asiatic lions.

Athirapally Hydel Electric Project

Why in News

Recently, the **Kerala government** has approved the proposed **Athirapally Hydro Electric Project** (AHEP) on the **Chalakudy river** in **Thrissur** district of the state.

➢ There are **already five dams for power and one for irrigation** and it will be the seventh along the 145 km course of the Chalakudy river.

Key Points

➢ The total installed capacity of AHEP is **163 MW** and the project is supposed to make use of the tail end water coming out of the existing **Poringalkuthu Hydro Electric Project** that is constructed across the Chalakudy river.
  ❍ AHEP envisages diverting water from the Poringalkuthu project as well as from its **own catchment of 26 sq km**.

➢ Kerala state government has given a **no-objection certificate** (NOC) to the **Kerala State Electricity Board** (KSEB) for a period of **seven years** and has permitted it to proceed with the project's implementation.

➢ KSEB officials are confident that they can manage approval from the **Ministry of Environment, Forest and Climate Change** as it was **approved in 2012 by an Expert Appraisal Committee** (EAC) for river valley and hydro-electric projects.

Chalakudy River

➢ It **originates in the Anamalai region of Tamil Nadu** and is joined by its major tributaries Parambikulam, Kuriyarkutti, Sholayar, Karapara and Anakayam in Kerala.

➢ The river **flows through Palakkad, Thrissur and Ernakulam** districts of Kerala.

➢ It is the **4th longest river in Kerala** and one of very few rivers of Kerala, which is having **relics of riparian vegetation** in substantial level.
  ❍ A **riparian zone** is the interface between land and a river or stream. Plant habitats and communities along the river margins and banks are called **riparian vegetation**, characterized by hydrophilic plants.

➢ It is the **richest river in fish** diversity perhaps in India as it contains 85 species of freshwater fishes out of the 152 species known from Kerala only.

➢ The famous waterfalls, **Athirappilly Falls and Vazhachal Falls**, are situated on this river.

➢ It **merges with the Periyar River near Puthenvelikkara** in Ernakulam district.

  ❍ EACs are constituted for giving environmental clearance under the **Environmental Impact Assessment** (EIA).

➢ **Opposition**:
  ❍ The government's move to revive the already controversial power project has gained **opposition from various political leaders and environmentalists**.
    ● KSEB **first mooted the project in 1996** but it had been **suspended** due to strong opposition by the local community backed by environmentalists and politicians with green concerns.
    ● A report by the **Kerala State Biodiversity Board** pointed out in **1997** that the power project would **adversely affect the ecology** of the fragile river ecosystem at Athirappilly.
  ❍ It is feared that it will cause people to **organise a protest on the lines of Silent Valley** in the coming days.
    ● **Silent Valley** was an **ecological movement** with huge mass participation that forced the Kerala government to **abandon dam construction across the Kunthri River in Palakkad** district during the **late 1970s and early 1980s**.

Note:

- ➤ **Environmental Threats**:
  - ○ Athirappally is home to some **rarest species of birds, animals and plant species** which will be impacted.
    - ● Apart from being home to **hornbills**, tigers and leopards, the forests also host the Nilgiri langur, the **lion-tailed macaque** and the rare Cochin forest cane turtle.
  - ○ **Fish varieties** in the Chalakudy river would be impacted.
  - ○ Around 168 hectares of **biodiversity-rich forests in the Western Ghats** would be submerged.
  - ○ **Kadar tribal settlements** in the forests will be dismantled and displaced. The move seems to be violative of the forest rights granted to the Kadars under the **Forest Rights Act, 2006**.
  - ○ It would **sever** the only link between the **Peechi Vazhani Wildlife Sanctuary, Thrissur and the Idamalayar basin of the Periyar river**.
  - ○ The vital **elephant corridor between the Parambikulam Sanctuary** (also a **tiger reserve**) **and the Pooyamkutty forests** would also be affected.
  - ○ On the **tourism front**, the project would **wipe out the majestic Athirappally and Vazhachal waterfalls**, which draw 0.6 million domestic and foreign tourists every year.

Estimation Exercise of Indian Gaur in Nilgiris

Why in News

Recently, the **first population estimation exercise of the Indian Gaur (Bison)** was carried out in the Nilgiris Forest Division, Tamil Nadu.

- ➤ **World Wide Fund for Nature India** assisted the exercise and highlighted that there are estimated 2,000 Indian gaurs across the division.

Key Points

- ➤ It has been revealed that the **majority of the animals in conflict-prone areas** in the division live dangerously close to human habitations due to their habitat loss and fragmentation, exacerbating the probability of having problematic interactions with humans.

- ➤ Due to easy availability of food and lack of threat from predators, gaurs prefer to inhabit tea estates and human settlements.

- ➤ The **spread of invasive species of plants** in reserve forest have further degraded the Gaur's natural habitat.

- ➤ The **changing land-use patterns like converting tea estates** into resorts and buildings has led to erection of more fences limiting the traditional pathways used by the gaurs to move between habitats.

- ➤ In areas except for Nilgiri Forest Division, there are sizable populations of gaurs but interactions with humans were comparatively less due to native forests being largely free of invasive flora and land-use patterns also remaining relatively stable.

Indian Gaur

- ➤ The Indian Gaur or Bison (Bos gaurus) is the largest and the tallest in the family of wild cattle and is a grazing animal.

- ➤ **Threats:**
  - ○ **Food Scarcity:**

  - ● The destruction in the grasslands has led to the decline in availability of food for these animals.
  - ● Due to the planting of commercially important trees, the lush grassland has diminished which is the prime source of fodder for this wild cattle.
  - ● They have to fight for their food due to indiscriminate grazing of domestic animals in the areas.
  - ○ **Poaching:**
    - ● The illegal hunting of the Indian bison is done for their commercial value as well as due to the high demand of gaur meat in the illegal market of India-Nepal border.
- ➤ **Conservation:**
  - ○ **IUCN Red List**: Vulnerable.
  - ○ **Wild Life Protection Act, 1972**: Schedule I.
- ➤ Nowadays, this animal is kept well and protected in some of the famous national parks of India like Nagarhole, **Bandipur**, Kabini and Masinagudi (**Mudumalai)**.

Note:

World Wide Fund for Nature India

➢ It was established as a **charitable trust on 27th November, 1969** and today it is one of the leading conservation organizations in the country.

➢ In 1987, it changed its name from the World Wildlife Fund to World Wide Fund for Nature India.

➢ It is a science-based organization which addresses issues such as the conservation of species and its habitats, climate change, water and environmental education, among many others.

➢ Mission Statement: To stop the degradation of the planet's natural environment and build a future in which humans live in harmony with nature, by:

❍ Conserving the world's biological diversity.

❍ Ensuring that the use of renewable natural resources is sustainable.

❍ Promoting the reduction of pollution and wasteful consumption.

Expansion of the Amery Ice Shelf

Why in News

The **National Centre for Polar and Ocean Research (NCPOR)** has predicted an increase **in the expansion of Amery Ice Shelf (AIS) boundaries** from its 2016 positions.

➢ The AIS is **one of the largest glacier drainage basins** in the world, located on the **east coast of Antarctica.**

❍ The AIS dynamics and mass balance help in understanding the **changes in the global climate scenario.**

➢ The prediction made by NCPOR is expected to help to understand the **ongoing changes in the ocean and atmospheric forces better.**

Key Points

➢ **Description:**

❍ The predictions are based on a **16-year-long satellite-based observation** that covered an area of 60,000 sq. km across the AIS.

❍ The study intends to analyze **AIS extension and the influence of ocean atmospheric forcing in East Antarctica.**

➢ **Expansion of AIS:**

Ice Shelves

➢ The floating sheets of ice are called **'ice shelves'.** It plays a multi-faceted role in maintaining the **stability of a glacier.**

➢ The ice sheet mass balance, sea stratification, and bottom water formation are important parameters for the balancing of a glacier. Ice shelves **connect a glacier to the landmass.**

❍ The **ice sheet mass balance** of a glacier is the net balance between the mass gained by snow deposition, and the loss of mass by melting.

❍ **Sea stratification** takes place when water masses with different properties - salinity, oxygenation, density, temperature - form layers that act as barriers to water mixing.

❍ The **deep-ocean bottom water** is formed by the cooling and sinking of surface water at high latitudes.

❍ It has been predicted that there would be a **24% increase** in the expansion of AIS boundaries by **2021** and another **24% expansion by 2026** from its 2016 positions.

❍ The study has also observed a **spatio-temporal change** in the ice shelf as reflected by the **extension of the Prydz, Mackenzie and the Sandefjord Bays** which forms a part of the AIS.

➢ **Significance:**

❍ In the background of the global warming scenario, the study reveals about the **advancement in the predicted ice shelf extent,** the future dynamism of ocean heat fluctuation and Antarctic Amery ice shelf mass shifting-extent.

❍ The study has also observed that the **critical cooling of the Sea Surface Temperature (SST)** is resulting in an **advancement of the ice shelf by 88%** in the past 15 years. These changes would contribute in a major way to **climate variability.**

Poaching Increased During Lockdown

Why in News

According to a report released by the **TRAFFIC**, there has been a significant increase in reported poaching of wild animals during the lockdown.

Note:

- The report was named as **'Indian wildlife amidst Covid-19 crisis: An analysis of poaching and illegal wildlife trade trends'.**

- The analysis was carried out by comparing media-reported instances of poaching during a six-week pre-lockdown period (February 10 to March 22) with those from six weeks during the lockdown (March 23 to May 3).

Key Points

- **Incidences of poaching increased to more than double** during the lockdown period. The increase in poaching incidents was for **consumption and local trade.**
  - Poaching of **ungulates** (a group of large mammals with hooves), hunted mainly for their meat, **saw the highest increase** during the lockdown period.
  - Poaching of **small mammals such as hares, porcupines, pangolins, giant squirrels, civets, monkeys and smaller wild cats** also showed a marked increase.
  - Among big cats, **nine leopards were reported to have been killed,** against four in the pre-lockdown period.

- Several **protected Chinkaras** (Gazella bennettii), were reported to have been poached in Rajasthan.
  - Chinkara is a protected species under the **Schedule 1** of the **Wildlife (Protection) Act, 1972.**
  - IUCN Status: **Least Concern.**

- Despite being linked to the **Covid-19** crisis, **Pangolins** were targeted by poachers in various parts of the country.

- However, some species, like **tortoises and big cats, which need transportation of trafficked parts have not been poached** because there was no transportation available.
  - **Seizures of wild pet-birds also reduced** due to lack of transportation and market.

- **Issues Involved:**
  - If poaching of ungulates and small animals remains unchecked **it will lead to depletion of prey base** for big cats like tigers and leopards.
  - This in turn will lead to higher incidences of **human-wildlife conflicts.**
  - It will lead to **depletion of the ecosystems** and undermine the significant successes that India has achieved in the field of wildlife conservation.

TRAFFIC

- TRAFFIC is a leading **Wildlife Trade Monitoring Network** and **non-governmental organisation** working globally on trade in wild animals and plants in the context of both biodiversity conservation and sustainable development.

- It is a joint program of the **World Wildlife Fund (WWF) and** the **International Union for Conservation of Nature (IUCN)**, created in 1976.

- TRAFFIC focuses on leveraging resources, expertise and awareness of the latest globally urgent species trade issues such as tiger parts, elephant ivory and rhino horn.

World Wildlife Fund

- It is the world's **leading conservation organization** 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.

- WWF collaborates at every level with people around the world to develop and deliver innovative solutions that protect communities, wildlife, and the places in which they live.

Malabar Gliding Frog

Why in News

Recently, a rare amphibian, **Malabar Gliding Frog (*Rhacophorus malabaricus*)** was spotted in Pullad, Kerala.

- It is **endemic** to the rainforest of **western ghats.**
  - **Endemic species** are those plants and animals that exist only in one geographical region.

Key Points

- **Characteristics:**
  - It is a **green frog** with **slender body**, **webbed feet**, **unusual body positions** and very well **camouflaged**.
    - **Camouflage**, also called **cryptic coloration**, is a defense mechanism or tactic that organisms use to disguise their appearance, usually to blend in with their surroundings.

○ The fingers and toes are like sticks to attach and walk through tree branches.

○ It has a **high gliding abilities**, with the long skin between the fingers which helps to cover **10 to 12 feet** in one leap.

○ It has a **body length of 10 cm**, making it one of the **largest mossy frogs**.

● **Mossy Frogs:** These frogs have the skin which is green in colour and resembles moss growing on the rock.

○ The breeding period is during the monsoon and usually the females choose to spawn on the lush green leaves overhanging a waterbody.

○ As their body is so soft, they can live only in moist forests with streams.

○ Behaviour like **cannibalism** has been found among tadpoles.

○ **Foam Nests:**

● They built **foam nests** above small pools of water, into which the tadpoles drop after hatching.

➢ **Concern:** The Malabar gliding frog population is declining **due to deforestation, climate change, developmental activities,** and **toxic chemicals**.

➢ **Protection Status:** In the **International Union for Conservation of Nature (IUCN) Red List** , it is placed under the **Least Concern** category.

Western Ghats

➢ These are the mountain ranges running parallel along the **western coast of India starting from Gujarat and ending in Tamil Nadu**.

➢ **Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala** are the six Indian states covered by Western Ghats.

➢ The mountain range is also a **'Hottest Hotspot' of biodiversity.**

➢ The Ghats are often called the **Great Escarpment of India** and are also a **UNESCO World Heritage Site**.

➢ **High Biodiversity and Endemism** are special features of Western Ghats along with the presence of **Evergreen Forests**.

Amphibia

➢ They fall under the **Chordata phylum** of the kingdom Animalia. Examples: **Frogs, Salamanders**, etc.

➢ These are **multicellular vertebrates** that live both on **land and water**.

➢ They are the **first cold-blooded animals** to have appeared on land.

○ **Cold-blooded animals** can be defined as the animals which cannot regulate their internal body temperature with the change in the environment.

➢ They respire through the lungs and skin.

➢ They have **three chambered** hearts.

Tropical Cyclone: Cristobal

Why in News

➢ Recently, a **tropical Cyclone named Cristobal** has formed in the southern **Gulf of Mexico.**

Key Points

➢ **Atlantic Hurricane Season:**

○ Tropical cyclones in the **North Atlantic** are called **hurricanes, tropical storms, or tropical depressions.**

○ The Atlantic hurricane season is the period in a year when hurricanes usually form in the Atlantic Ocean.

○ In the **Northern Atlantic Ocean,** a distinct hurricane season occurs from June 1 to November 30, sharply peeking from late August through September.

○ Worldwide, **tropical cyclone activity peaks in late summer,** when the difference **between temperatures is large** and **sea surface temperatures** is the **greatest.**

➢ **Favourable Conditions in Gulf Of Mexico:**

○ **Sea surface temperature** is generally very high in **southwestern Gulf of Mexico,** which is to allow the system to strengthen.

○ **Wind shear** i.e. the increase in wind speed with height in the atmosphere, or a sharp change in wind direction, **is low as the storm emerges** over open water and begins its northward.

Note:

- The **low wind shear** favors strengthening of the system even if interaction with Mexico first weakens the storm.

Gulf of Mexico

➤ The Gulf of Mexico is an **ocean basin and a marginal sea of the Atlantic Ocean,** largely surrounded by the **North American continent.**

➤ It is bounded on the northeast, north and northwest by the **Gulf Coast of the United States,** on the southwest and **south by Mexico,** and on the **southeast by Cuba.**

Tropical Cyclone

➤ A Tropical cyclone is an intense circular storm that originates over **warm tropical oceans and is characterized by low atmospheric pressure, high winds, and heavy rain**.

➤ A characteristic feature of tropical cyclones is the **eye**, a central region of clear skies, warm temperatures, and low atmospheric pressure.

➤ Storms of this type are called **hurricanes in the North Atlantic and eastern Pacific** and **typhoons in SouthEast Asia and China.** They are called **tropical cyclones in the southwest Pacific and Indian Ocean region.**

➤ In the **southern hemisphere storms rotate clockwise** and **anticlockwise in the northern hemisphere.**

➤ **Conditions Favourable for Tropical Cyclone Formation:**

   ❍ **Large sea surface with temperature higher than 27°C:** Ocean waters having temperatures of 27° C or more is the source of moisture which feeds the storm.The condensation of moisture releases enough latent heat of condensation to drive the storm.

   ❍ **Presence of the Coriolis force:** The Coriolis force is zero at the equator (no cyclones at equator because of zero Coriolis Force) but it increases with latitude.

   - Coriolis force at 5° latitude is significant enough to create a storm.

   - About 65% of cyclonic activity occurs between 10° and 20° latitude.

   - The rotation of the earth about its axis affects the direction of the wind. This force is called the **Coriolis force.**

   ❍ **Weak low-pressure area:** Small local differences in the temperature of water and of air produce various low pressure centers of small size.

   - A weak cyclonic circulation develops around these areas.

   ❍ **High humidity:** Such conditions exist over the equatorial doldrums, especially in western margins of oceans (this is because of east to west movement of ocean currents), which have great moisture carrying capacity because the trade winds continuously replace the saturated air.

   - **Doldrums:** Known to sailors around the world as the doldrums, **the Inter-Tropical Convergence Zone, (ITCZ)** is a **belt around the Earth extending approximately five degrees north and south of the equator.** Here, the prevailing trade winds of the northern hemisphere blow to the southwest and collide with the southern hemisphere's driving northeast trade winds.

Cyclone Nisarga

Why in News

A fast-moving **depression in the Arabian Sea** has intensified **into a cyclone named 'Nisarga'.**

➤ The **name** 'Nisarga' has **been suggested by Bangladesh.**

Key Points

➤ As per the **India Meteorological Department**, the impact of the cyclone is likely to be felt in **Maharashtra** and **Gujarat.**

➤ There is a **concern about the impact of the cyclonic storm on the battle against Covid-19,** as the rain and flooding may set back social distancing and other necessary measures at evacuation centres, and even at some Covid-19 facilities located in low-lying areas.

➤ Few days back, **super cyclone Amphan** - one of the strongest cyclones the country has seen in the last few decades - hit West Bengal, Odisha and Bangladesh.

   ❍ **Cyclone Nisarga is expected to be weaker than Cyclone Amphan** in strength and intensity.

   ❍ However in case of both the cyclones, the **exceptional warm ocean temperatures** seem to be behind the intense storms.

Note:

➢ **Cyclones in Arabian Sea:**
- ❍ While cyclones have always been more frequent in Bay of Bengal, they have been **less frequent off of India's western coast** — a trend that has been gradually changing, according to scientists.
- ❍ Further, cyclones formed in the Bay of Bengal are stronger than those on the Arabian Sea side. Th**e relatively cold waters of the Arabian Sea discourage the kind of very strong cyclones** that are formed on the Bay of Bengal side.
- ❍ The **year 2019 was slightly unusual** as the Arabian Sea saw the most frequent and intense cyclonic activity in more than 100 years. Five cyclones originated in the area in 2019 — **Vayu**, **Hikka**, **Kyarr**, **Maha** and Pavan – when normally only one or two are formed.
  - ● The Arabian Sea saw more cyclonic storms than the Bay of Bengal during 2019. The Bay of Bengal reported less than normal number of cyclones. The three cyclones formed were — Cyclones **Pabuk**, **Fani**, **Bulbul**.
- ❍ Post-monsoon cyclones have been seen in Arabian Sea. However, pre-monsoon cyclones, such as Nisarga, have so far been rare.

India Meteorological Department
➢ IMD was established in 1875.
➢ It is an agency of the **Ministry of Earth Sciences of the Government of India.**
➢ It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

Lonar Crater

Why in News

Recently, the water in the **Lonar lake in the Buldhana district of Maharashtra** was found to be **turning reddish** over the past few days.

➢ The local administration of the district has requested the **National Environmental Engineering Research Institute (NEERI), Nagpur**, to find out the reason behind it.

Key Points

➢ The colour of water in Maharashtra's Lonar lake, also known as **Lonar crater,** has changed to red.

➢ It is said to be normal when the lake gets rainwater.

➢ **Probable Reasons:**
- ❍ **Algal Bloom:**
  - ● **An algal bloom or algae bloom** is a **rapid increase or accumulation in the population** of algae in freshwater or marine water systems, and is often recognized by the **discoloration in the water**.
  - ● Change in colour is generally attributed to algal bloom in the lake around the time of monsoon.
- ❍ **Change in Salinity:**
  - ● Due to the evaporation of water, the salinity in the water has increased. Hence, it is believed to be a factor behind the change in colour.
- ❍ **Biological Change:**
  - ● The colour change seems to be a biological change in the Lonar crater as during the **lockdown phase**, there was no disturbance to the lake and naturally it has turned red.

Lonar Lake
➢ Lonar Lake, also known as Lonar crater, is a notified **National Geo-heritage Monument**, saline, soda lake, located at **Lonar in Buldhana district, Maharashtra**.
- ❍ Geo-heritage refers to the geological features which are inherently or culturally significant offering insight to earth's evolution or history to earth science or that can be utilized for education.
- ❍ **Geological Survey of India (GSI)** is the parent body which is making efforts towards identification and protection of geo-heritage sites.

➢ It is situated inside the Deccan Plateau—a massive plain of volcanic basalt rock created by eruptions.

➢ It is believed to have been created over 52,000 years ago when a meteorite hit the Earth.

➢ It is formed in basaltic rock with a diameter of 1.85 km and depth of 500 feet.

■■■

Art & Culture

NAIMISHA 2020

Why in News

The **National Gallery of Modern Art (NGMA)**, New Delhi will organise **online NAIMISHA 2020- Summer Art Program** from 8th June 2020 to 3rd July 2020, to reach its audiences during the **Covid-19** outbreak.

Key Points

- **NAIMISHA 2020:**
  - It is an initiative to provide a chance to participants and art enthusiasts to create and learn from practising artists.
  - The programme includes online workshops sessions on painting, sculpture, printmaking and indrajaal (an interdisciplinary creative workshop).
  - The exhibition of selected artworks from the program will be displayed on So'ham, the cultural media platform of NGMA.
- **So'ham:**
  - It is the first cultural media platform of India, under the banner of NGMA.
  - The platform aims to develop a dialogue between NGMA, artists and art enthusiasts.
  - It is inspired by the Vedic philosophy of So'ham, which stands for one's identity and its connection to the universe.

National Gallery of Modern Art

- NGMA was established in 1954, at the Jaipur House, New Delhi.
- It is run and administered as a subordinate office to the Ministry of Culture, Government of India.
- The NGMA has two branches one at Mumbai and the other at Bengaluru.
- One of its objectives is to acquire and preserve works of modern art from the 1850s onward.

SPIC MACAY

Why in News

Recently, the **Prime Minister of India addressed the SPIC MACAY's International Convention** via video conference.

- He appreciated the new elements in the SPIC MACAY convention this year like nature walk, heritage walk, literature and holistic food along with Yoga and Naad Yoga.
- He also stated that music is strengthening the ideal of **'Ek Bharat Shreshtha Bharat'**.

Key Points

- SPIC MACAY (**Society for the Promotion of Indian Classical Music And Culture Amongst Youth**) is a non-political, nationwide, voluntary movement **founded in 1977 by Dr Kiran Seth.**
  - He was awarded the **Padma Shri** for his contribution to the arts in 2009.
- It is a participatory student movement **registered under the Societies Registration Act, 1860** .
- In 2011, it was awarded the **Rajiv Gandhi Sadbhavana award** in recognition of its contribution to youth development.
- Its **intention** is to enrich the quality of formal education by increasing awareness about different aspects of Indian heritage and inspiring the young mind to imbibe the values embedded in it.
- It is **supported nationally** by the Ministry of Culture, Ministry of Youth Affairs and Sports, and the Ministry of Human Resource Development.
- It has been organising national and international conventions for the last 35 years.
  - **Anubhav**, a week-long online project, seeks to help youngsters indulge in mystical and diverse aspects of Indian art, culture and heritage. It is expected to reduce the stress triggered by **Covid-19.**

Note:

➢ The movement has a **central executive body in New Delhi** and organises its programmes through a worldwide network of schools, colleges and educational institutions.

Rajiv Gandhi Sadbhavana Award

➢ In 1992, a year after Rajiv Gandhi's assassination, the All India Congress Committee (AICC) of the Indian National Congress (INC) instituted Rajiv Gandhi National Sadbhavana award in memory of the former Prime Minister Rajiv Gandhi.

➢ This award is presented every year to those who have devoted their life in understanding and promoting social harmony. It constitutes a citation and cash Prize of Rs. 10 Lakh.

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Note:

Social Issues

Highlights

- *Educational Complexes for Tribal Students: Odisha*
- *World Day Against Child Labour 2020*

Educational Complexes for Tribal Students: Odisha

Why in News

Recently, the Government of Odisha has announced the establishment of **three mega educational complexes exclusively for tribal students,** where both academic and sporting skills will be harnessed.

Key Points

➢ **Establishment:**
  ○ The complexes will be established in **tribal dominated districts** such as **Keonjhar, Sundargarh and Mayurbhanj**.
    ● **Santal and Bhuyan** are two dominant tribal groups living in these districts.
  ○ Each complex will house **3,000 tribal students**, which is an unique initiative in the field of **tribal education**.
  ○ These complexes will have state of the art facilities to improve educational and sporting skills of tribal students from **Standard I to XII.**
    ● **State-of-the-art** (**cutting edge or leading edge**) refers to the **highest level of general development**, as of a device, technique, or scientific field achieved at a particular time.
➢ **Funding:**
  ○ Funds required for mega complexes will be sourced from **Odisha Mineral Bearing Areas Development Corporation (OMBADC),** which was formed for focused development of **mineral rich districts**. Incidentally, most mineral rich districts are tribal dominated.
➢ **Tribal Population in Odisha:**
  ○ According to the 2011 Census, tribal people constitute **8.6%** of the nation's total population i.e. over 104 million people.
    ● **Tribe** has been defined as a **group of indigenous people** having common name, language and territory tied by strong kinship bonds, having distinct customs, rituals and beliefs etc.
    ● **The President** under **Article 342** is empowered to declare communities as scheduled tribes. While **Parliament** by law can amend the list.
  ○ **Odisha's tribal population** constitutes **9.17%** of the country's tribal population.
  ○ In Odisha, tribal population is **22.85%** of State's total population.
    ● In terms of **percentage tribal population**, it occupies the **third position** in India.
    ● The First and Second are **Madhya Pradesh and Maharashtra** respectively.
  ○ Similarly, of India's total 75 **particularly vulnerable tribal groups**, 13 reside in Odisha.
  ○ With 62 tribal communities, Odisha has the most diverse tribes in India.
    ● Keonjhar, where tribes such as Sounti, Ho, Juang, Kharwar, Mahali, Oraon Kolha and Kora reside is the most mined district of the State.
    ● **Keonjhar** district contains **more than 70%** of the iron ore reserves of Odisha.

Educational Schemes for Tribals
➢ **Eklavya Model School: Residential School** based on Navodaya Model to be opened in each tribal block by 2022.
➢ **Rajiv Gandhi National Fellowship Scheme (RGNF):** RGNF was introduced in the year 2005-2006 with the objective to encourage the students belonging to ST community to pursue higher education.
➢ **Vocational Training Center in Tribal Areas:** The aim of this scheme is to develop the skill of ST students

depending on their qualification and present market trends.

➢ **National Overseas Scholarship Scheme:** The National Overseas Scholarship Scheme provides financial assistance to 20 students selected for pursuing higher studies abroad for Ph.D. and postdoctoral studies.

➢ Pre and Post Matric Scholarship Schemes.

World Day Against Child Labour 2020

Why in News

Recently the World Day Against Child Labour has been observed on **June 12ᵗʰ 2020.**

Key Points

➢ The **theme** for the year 2020 is **Covid-19: Protect children from child labour, now more than ever** which focuses on the impact of **Covid-19** crisis on child labour.

➢ On 12ᵗʰ June 2002, the International Labour Organisation launched the **World Day Against Child Labour**.

➢ Since then, every year, the day is marked to highlight the plight of child labourers worldwide and also to take required measures to eliminate it.

Data Across the World

➢ **Absolute Numbers: 152 million** children between the **ages of 5-17 were** in child labour, almost half them, 73 million, in hazardous child labour.

➢ **Age Specific:** Almost half (48%) of the victims of child labour were aged 5-11, 28% were 12-14 years old, and 24% were 15-17 years old.

➢ **Sectors:** Child labour is concentrated **primarily in agriculture and allied activities (71%)**, 17% in services; and 12% in the industrial sector.

India and the Child Labour

➢ In the age group of 15-18 years, India has around 23 million working children. This means **one in eleven children** between the **ages of 5-18 years** in the country are working.

➢ Five states which are the India's biggest child labour employers- **Uttar Pradesh, Bihar Rajasthan, Madhya Pradesh and Maharashtra.**

Child Labour

➢ The **International Labour Organisation (ILO)** defines **child labour as work that deprives children of their childhood, their potential and their dignity**, and that is harmful to their physical and mental development.

➢ In the least developed countries, slightly more than one in four children (ages 5 to 17) are engaged in labour that is considered detrimental to their health and development.

➢ The eradication of Child Labour is part of the **UN Sustainable Development Goal Target 8.7**.

➢ **International Laws on Child Labour**

   ○ **The UN Convention on the Rights of the Child, 1989:** It contains the idea that children are not just objects who belong to their parents and for whom decisions are made, or adults in training. Rather, they are human beings and individuals with their own rights.

   ○ **International Labour Organizations Conventions on the minimum age for admission to employment of the year 1973** (ILO convention 138) and on the **worst forms of child labour of the year 1999** (ILO convention182).

➢ **Constitutional Provisions:**

   ○ **Article 21A:** Right to Education

   ○ **Article 24:** Prohibition of employment of children (below the age fourteen years) in factories, etc.

   ○ **Article 39:** The State shall, in particular, direct its policy towards securing the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength.

➢ **Initiatives by the Government of India:**

   ○ **Gurupadswamy Committe: In 1979,** the central government formed the first statutory committee to analyse and research on the issue of child labour in India.

    ● One of their major observations was that the problem of child labour is inextricably linked to poverty.

    ● Taking into account the findings and recommendations of the committee, the Union Government enacted the **Child labour (Prohibition and & Regulation) Act in 1986.**

Note:

- **National Policy on Child Labour (1987):** It focuses more on rehabilitation of children working in hazardous occupations and processes, rather than on prevention.
- **Juvenile Justice (Care and Protection of Children) Act 2000 (the JJ Act) and amendment of the JJ Act in 2006:** It includes the working child in the category of children in need of care and protection, without any limitation of age or type of occupation.
- **The Right to Education Act, 2009** has made it mandatory for the state to ensure that all children **aged 6 to 14 years** are in school and receive free education.
- Another landmark step was the enactment of the **Child labour (Prohibition and Prevention) Amendment Act, 2016**.
  - Initiatives **like Operation Smile, Operation Muskaan** to rescue and rehabilitation of childrens from an unorganised sector, manufacturing units and other factories.
  - Recently, India has ratified International **Labour Organizations Convention (ILO) no 138 (minimum age for employment)** and **Convention no 182 (worst forms of child labour).**

Impact of Covid-19

- **In India,** the lockdown to curb the spread of the Covid-19 has left **child labourers** with no source of income, no means of protection against the disease.
- The lockdown has forced millions of migrant workers — facing long-term unemployment — to return to their villages without any jobs. Children of returnee migrants have been forced to become child labourers.

Concerns

- The issue of child labour is still prevalent in India, despite the presence of several laws.
- Child labour legislation to protect children has been inadequate and face the following challenges:
  - **Definitional issue:** One of the biggest challenges in eradicating child labour is the confusion around the definition of a child, in terms of age, in various laws dealing with child labour.
  - **Lack of identification:** Age identification of children is a difficult task in India due to the lack of identification documents E.g. Birth Certificates, School Certificates etc.
  - **Weak enforcement of law**: Due to lack of adequate deterrence and corruption it is difficult to eradicating child labour
- **Poverty and lack of school** are considered as the main causes of child labour.
- People from rural areas with little education often see no alternative but to take their children out of school and put them to work. The children grow up without education, health facilities and no knowledge of their rights.
- The extreme form of **child labour that is forced labour**, in which children suffer not only the impact of hazardous working conditions but lack of freedom.

■■■

Security

Highlights

- 36th Anniversary of Operation Blue Star
- Internal Displacement Caused by Disasters

36th Anniversary of Operation Blue Star

Why in News

Recently, **the 36th anniversary of Operation Blue Star** was observed by the country.

Key Points

➢ **Operation Blue Star:**

○ It is a **code name given to an Indian Military Operation** to remove the separatists who were hidden inside the Golden Temple at Amritsar on 5th June 1984.

○ The operation was ordered by the then Prime Minister Indira Gandhi, primarily to take control of the Harmandir Sahib Complex in Amritsar (popularly known as the Golden Temple).

○ The Indian military entered into the premises of the temple to drive out the Sikh extremist religious leader, Jarnail Singh Bhindranwale and his armed followers.

○ The operation had two components to it, Operation Metal which was the invasion on the temple complex and Operation Shop which was confined to the countryside of the state.

○ This Operation helped in eliminating Khalistani terrorism.

➢ **Background:**

○ Jarnail Singh Bhindranwale wanted the Indian government to pass the Anandpur Resolution, and thereby agree to the formation of a separate state of Khalistan for Sikhs.

○ Since 1982, this radical leader of Sikhism had managed to gain enough support for his cause and by mid-1983 had set up a base inside the Golden Temple complex, with ammunition and his followers.

○ Hence, Operation Blue Star was launched between 1st June and 6th June 1984, with the aim of getting rid of Bhindranwale and his demands.

○ The operation resulted in the death of Bhindranwale.

➢ Few months post-Operation Blue Star, Indira Gandhi was assassinated by her Sikh bodyguards, followed by severe anti-Sikh riots in Delhi.

National Security Guard

➢ The **National Security Guard (NSG)** is a counter-terrorism unit that formally came into existence in 1986 by an act of Parliament- 'National Security Guard Act, 1986'.

➢ Its headquarters is located in Manesar, Gurugram.

➢ The idea behind raising such force came in the aftermath of Operation Blue Star, Akshardham Temple attack and the assassination of former PM Indira Gandhi, for combating terrorist activities with a view to protect states against internal disturbances.

Internal Displacement Caused by Disasters

Why in News

Recently, the '**State of India's Environment 2020 in Figures**' report was published by the **Centre for Science and Environment** (CSE).

➢ It states that India had **around 50 lakh internal displacements** caused by disasters and extreme weather conditions like **floods, cyclones and drought** in 2019.

Key Points

➢ **Major Findings related to Internal Displacement:**

Note:

drishti

- According to it, the **internal displacements** in India were the highest in the world in 2019.
  - **Internal Displacement** refers to the **forced movement of people** within the country they live in, **due to conflict, violence, development projects, natural disasters and climate change.**
  - It refers to the number of movements, not people, as individuals can be displaced several times.
- **Natural Disasters:** Displacements due to the flooding caused by the **south-west monsoon** and followed by **Cyclone Fani**, **Vayu**, **Bulbul** and **drought** conditions.
- **Forced Migration**: It has also caused many **migrants** to move for work from one state to another.
- **Impact of Covid-19:** Due to the impact of **lockdown** which was imposed to contain the **Covid-19 pandemic**, many workers migrated to their homes because of lack of employment and food.
- **2011 Census Data on Migrant Populations:**
  - There were over **45 crore migrants** in the country at the time, with the vast majority migrating within their own state.
  - In 2011, over **1.7 crore new migrants** had moved for employment purposes, mostly from rural to urban areas.

➢ **Other Findings:**

- The **report outlines** the status of **sustainable development**, **livestocks, forests, water, waste, air, land, wildlife and other natural resources, environmental crimes and global economic risk**.
- **Sustainable Development Goals (SDGs):**
  - India faces major **challenges in achieving** all of the 17 SDGs, especially SDG1 (No Poverty) and SDG 6 (Clean Water and Sanitation).
- **Forest Cover and Water Resources:**
  - Forest cover has shrunk in **38% of districts**, while **five out of 21 river basins** are now in a state **of absolute water scarcity**.
  - Only **Punjab** managed to get an average national ranking in the **management of water resources**.
- **Status of Tigers:**

- It notes that there were **747 tigers more in 2018 than in 2014**.
- However, the **net area meant for tiger conservation shrunk** by 179 square kilometres.
- **Environmental Crime:**
  - The report found that in 2018, total 35,196 environmental crimes were recorded in the country.
  - Majority of those **cases are pending for police verification and in various courts**.
- **Global Risk:**
  - The **global risk** is determined **as an uncertain event or condition** that can cause **significant negative impact** on several countries or industries in the next ten years.
  - The **top 4 global risks in terms of likelihood** are all found to be environment related as **extreme weather, climate action failures, natural disaster and biodiversity loss**.
  - Under the **top 4 risks in terms of impact**, three were found to be environment related as **climate action failure**, **biodiversity loss**, **extreme weather**.
  - In terms of the severity of impact over the next 10 years the top risk is failure **of climate change mitigation and adaptation.**

Way Forward

➢ The report is an eye opener in terms of issues related to environment and biodiversity, development, poverty and internal migration and will help to understand their impacts.

➢ It would further facilitate better decision making in mitigating the related problems.

➢ There is an urgent need to take efforts towards conservation of environment, disposition of cases related to environmental crimes, providing livelihood to the migrants and achieving SDGs.

➢ For the same, the centre and all the states must collaborate to prevent any loss to the environment and humans as well.

■■■

Note:

Miscellaneous

Highlights

- *Kohala Hydropower Project*
- *Statehood Day of Telangana*
- *Payments Infrastructure Development Fund*
- *Nagar Van Scheme*
- *iCommit Initiative*
- *Airborne Rescue Pod for Isolated Transportation: ARPIT*
- *Aditya: India's First Solar Ferry*

- *Dropping Water levels in Germany's Rhine River*
- *IFLOWS-Mumbai: Flood Warning System*
- *Renaming of Kolkata Port Trust*
- *Central Institute of Medicinal and Aromatic Plants*
- *AarogyaPath: CSIR*
- *Digital Initiatives by WCL*
- *World Food Prize 2020*

Kohala Hydropower Project

Why in News

China will be setting up a Kohala hydropower project in **Pakistan-occupied Kashmir (PoK)** under China-Pakistan Economic Corridor (CPEC).

➢ India has already objected to the construction of the hydropower project.

China-Pakistan Economic Corridor

➢ The China-Pakistan Economic Corridor (CPEC) is a part of the **One Belt One Road (OBOR)**, intended to improve infrastructure within Pakistan for better trade with China and to further integrate the countries of the region.

○ OBOR has two main components, One Belt - the land-based belt, and One Road refers to the ocean going 'Maritime Silk Road', which aims to connect the East Asian economic region with the European economic circle and runs across the continents of Asia, Europe and Africa.

➢ India has boycotted the Belt and Road Forum organised by China. China's insistence on establishing the CPEC project through PoK is seen by India as a deliberate disregard of its territorial claims.

Key Points

➢ **Description:**
○ The **Kohala hydropower** project will be **built on the Jhelum river**.

○ It is a 1,124-megawatt power project intended to provide more than five billion units of clean and low-cost electricity annually for consumers in Pakistan.

➢ **India's Stand:**
○ India has opposed the move on the grounds that the entire territory of the Union Territories of Jammu and Kashmir and Ladakh are integral and inalienable parts of India.
  - Earlier **India had also objected** to the **construction of the Diamer-Bhasha dam** in the Gilgit-Baltistan region of the PoK.
  - In the past too, India has opposed projects jointly taken up by Pakistan and China in PoK as part of the CPEC.
○ India has **consistently conveyed her protest and shared concerns** with both China and Pakistan on all such projects in the **Indian territories under Pakistan's illegal occupation**.

Statehood Day of Telangana

Why in News

The Prime Minister of India greeted the people of **Telangana on Statehood Day (2nd June)**.

Key Points

➢ On **2nd June, 2014** the **northwestern part of Andhra Pradesh** was separated and 29th state Telangana was created with Hyderabad as its capital.

Note:

➢ **The Andhra State Act (1953)** formed the first linguistic state of India, known as the state of Andhra, by taking out the Telugu speaking areas from the State of Madras (now Tamil Nadu).

➢ **The States Reorganisation Act (1956)** merged the Telugu-speaking areas of Hyderabad state with the Andhra state to create the enlarged Andhra Pradesh state.

➢ The **Andhra Pradesh Reorganisation Act (2014)** bifurcated Andhra Pradesh into two separate states, namely, the Andhra Pradesh (residuary) and the Telangana.

> **Note:**
> ➢ **Four icons of Telangana are:**
> ❍ State Bird - Palapitta (Indian Roller or Blue Jay).
> ❍ State Animal - Jinka (Deer).
> ❍ State Tree - Jammi Chettu (Prosopis Cineraria).
> ❍ State Flower - Tangedu (Tanner's Cassia).
> ➢ These icons reflect the culture and tradition of Telangana state and three of them - Tangedu flowers, Palapitta and Jammi Chettu are associated with the popular festivals of **Bathukamma** and Dasara, while Jinka reflects the mindset of the people of Telangana as it is very sensitive and innocent.

Payments Infrastructure Development Fund

Why in News

Recently, the **Reserve Bank of India (RBI)** has announced the creation of a Rs 500-crore **Payments Infrastructure Development Fund** (PIDF).

Key Points

➢ **Aim:** PIDF has been created to **encourage deployment of Point of Sale (PoS) infrastructure**, both physical and digital, in **tier-3 to tier-6 centres** and **north eastern states.**
   ❍ The setting of PIDF is in line with the measures proposed by the **vision document on payment and settlement systems in India 2019-2021.**
   ❍ It is also in line with the **RBI's proposal to set up an Acceptance Development Fund** which will be used to develop card acceptance infrastructure across small towns and cities.

➢ **Corpus:** It has a corpus of Rs 500 crore in which **the RBI has made an initial contribution of Rs 250 crore.** The remaining will come from the card-issuing banks and card networks operating in the country.

➢ **Recurring contributions:** The PIDF will also receive recurring contributions to cover operational expenses from card-issuing banks and card networks. RBI will also contribute to yearly shortfalls, if necessary.

➢ **Governance:** The fund will be **governed through an advisory council** but will be managed and administered by the RBI.

➢ **Need:** Most of the PoS terminals in the country are concentrated in tier 1 and 2 cities because of the high cost of merchant acquisition and merchant terminalisation.
   ❍ The **merchant onboarding** and **training** is a key challenge for enhancing the reach of digital payments in smaller towns and cities.
   ❍ Merchant onboarding means adding the new merchant in a payment gateway system.

➢ **Benefit:**
   ❍ Push to digital payments across India.
   ❍ Reduce demand for cash over time.

Nagar Van Scheme

Why in News

The government has announced implementation of the **Nagar Van Scheme** on the occasion of the **World Environment Day (5th June).**

Key Points

➢ **Description:**
   ❍ The Nagar Van (Urban Forests) aims to develop **200 Urban Forests across the country** in the next **five years**.
      • **Warje Urban Forest in Pune (Maharashtra)** will be considered as a role model for the Scheme.
   ❍ The Scheme enforces **people's participation and collaboration** between the Forest Department, Municipal bodies, NGOs, Corporates and local citizens.
   ❍ These urban forests will primarily be on the **existing forest land in the City or any other vacant land** offered by local urban local bodies.

➢ **Finances:**
  ○ The finances for the scheme will be paid for by the **CAMPA (Compensatory Afforestation Fund (CAF) Act, 2016)** funds.
    ● The CAF Act was enacted to manage the funds collected for **compensatory afforestation** which till then was managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
    ● Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
    ● As per the rules, **90% of the CAF money** is to be given to the **states** while **10%** is to be **retained by the Centre**.

iCommit Initiative

Why in News

Recently, the **iCommit initiative** was launched on the occasion of the **World Environment day** (5th June).

➢ The initiative is driven by **Energy Efficiency Services Limited (EESL),** under the administration of the **Ministry of Power,** Government of India .

Key Points

➢ iCommit initiative is centred around the idea of **building an energy resilient future.**
  ○ It is a clarion call to all stakeholders and individuals to continue moving towards energy efficiency, renewable energy, and sustainability to create a robust and resilient energy system in the future.
  ○ The prerequisite for this goal is to create a **flexible and agile power system.**
    ● A healthy power sector can help the nation in meeting the objective of energy access and security for all.
➢ It seeks to bring together a diverse spectrum of government and private players to build a new energy future for India.
➢ The initiative will also celebrate and promote key undertakings of Government of India such as:

  ○ **National Electric Mobility Mission 2020**
  ○ **FAME 1 and 2**
  ○ **Deendayal Upadhyaya Gram Jyoti Yojana**
  ○ **Saubhagya Scheme**
  ○ **Ujwal DISCOM Assurance Yojna (UDAY)**
  ○ **Atal Distribution system Improvement Yojna (AJAY)**
  ○ **Smart Meter National Programme**
  ○ **Pradhanmantri Kisan Urja Suraksha evam Utthan Maha abhiyan (KUSUM)**
  ○ **Solar Parks, Grid Connected Rooftop,**
  ○ **UnnatJyoti by Affordable LED for All (UJALA),** amongst others.

Airborne Rescue Pod for Isolated Transportation: ARPIT

Why in News

Recently, the **Indian Air Force (IAF)** has designed, developed and inducted an **Airborne Rescue Pod for Isolated Transportation i.e. ARPIT.**

➢ This pod will be **utilised for evacuation of critical patients with infectious diseases** including **Covid-19** from high altitude areas, isolated and remote places.
➢ Supporting the **Atmanirbhar Bharat Initiative**, only indigenous materials have been used to fabricate this pod.
➢ Requirement of an air evacuation system with facility to prevent spread of infectious **aerosol** from a Covid-19 patient during air travel was felt by IAF when the disease was declared as a **pandemic**.

Key Points

➢ **Lightweight Isolation System:**
  ○ The pod has a **transparent and durable cast perspex (transparent plastic that is sometimes used instead of glass)** for enhanced patient visibility which is larger, higher and wider than the existing models.
  ○ The isolation system caters for a suitable number of air exchanges, integration of medical monitoring instruments, and ventilation to an intubated patient.
  ○ In addition, it generates high constant negative pressure in the isolation chamber for prevention of infection risk to aircrew, ground crew and health care workers involved in air transportation.

Note:

➢ **High Efficiency Particulate Air:**
  ○ It utilises **High Efficiency Particulate Air (HEPA)** H-13 class filters and supports invasive ventilation using transport ventilators.
  ○ HEPA: It is an air-filtration system designed to capture at least 99.97% of fine airborne particles, dust, pollen, mold, bacteria, with a size of at least 0.3 micrometre.

➢ **Cost Effective:**
  ○ It has been developed at a **cost of Rs. 60,000 only**, as compared to the imported systems costing up to Rs. 60 lakh.

Aditya: India's First Solar Ferry

Why in News

Recently, **India's first solar-powered ferry**, Aditya has been shortlisted for the Gustave Trouvé Award as the only **entrant from Asia**.

➢ Aditya, is among 12 such ferries that have been shortlisted for the award across the world.

> **Gustave Trouvé Awards**
> ➢ Gussies Electric Boat Awards were instituted in memory of Gustave Trouvé, a French electrical engineer and pioneer in electric cars and boats.
> ➢ Trouvé was a prolific inventor with over 75 patents. He had also developed a 5-m-long prototype electric boat in 1881.

Key Points

➢ **Description:**
  ○ Aditya is operating between **Vaikkom and Thavanakkadavu in Kerala**. It was launched in November 2016 and started its services in 2017.
  ○ It is India's first solar-powered ferry and the largest solar-powered boat.
    ● It is operated by the Kerala State Water Transport Department (KSWTD) and built by Navalt Solar and Electric Boats, Kochi.
  ○ It is powered by a motor that can source energy from solar panels, batteries, and generators.
    ● Solar vessels do not create air and noise pollution.

➢ **Significance:**
  ○ Aditya has a very low per km energy cost and it

operates 22 trips a day, covering a total of 66 km, carrying 75 passengers per trip.
  ○ It needs just Rs. 180 per day in energy cost, compared to about Rs. 8,000 for a diesel-run ferry of similar size, which is unusual for a high technology product to have such a low energy cost.
  ○ It has a high financial viability with zero pollution vessels.

Dropping Water levels in Germany's Rhine River

Why in News

Recently, **a part of the Rhine River** flowing through Germany has been experiencing its lowest water levels in two decades.

➢ The lowest water levels have prompted fears of shipping disruption on Europe's most important inland waterway.
 ○ **Rhine** waters in **Germany** have dropped 40% since April 2020.

Key Points

➢ **Reduced Water Levels:**
  ○ Germany has not received the spring showers and subsequently, the water level dropped to around 1 meter in the month of June which is the lowest for the time of year in at least two decades.
    ● Usually, a mix of glacial run-off and rain feeds the river, but contributions from glaciers have been disturbed in recent years due to **global warming**.
  ○ Germany had experienced dropped water levels in 2018 which had disrupted industrial ships, severing downriver factories from North Sea ports.

➢ **Impacts:**
  ○ The water drop levels in 2018 were severe enough to affect German economic growth.
  ○ Further, groundwater levels have reduced after record-breaking heat waves recorded in 2019 which have consequently dried out soil and wilted vegetation from consecutive years of drought.
  ○ Additionally, if the low water levels are sustained, refineries using the river's water will have reduced output compared to 2018.

Note:

Rhine River

➤ The Rhine River is the **second-longest river in Central and Western Europe** after the Danube and originates in the Swiss Alps (in Switzerland).

➤ The **Rhine river is called by different names** depending on the country it flows through. It is called **Rhein in Germany**; Rhine in France and Rijn in the Netherlands.

➤ The **Rhine flows through six countries -Switzerland, Principality of Liechtenstein, Austria, Germany, France and the Netherlands** before flowing into the North Sea at Rotterdam.
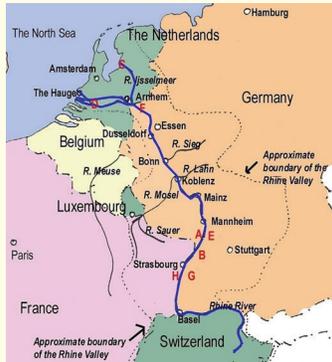
IFLOWS-Mumbai: Flood Warning System

Why in News

Recently, an integrated **flood warning system - known as IFLOWS-Mumbai** was launched making Mumbai the second city in India after Chennai to have such a system.

Key Points

➤ **Developed by:** It is developed by the Ministry of Earth Sciences (MoES), in coordination with the Municipal Corporation of Greater Mumbai (MCGM).

➤ **Working/ Features:** The IFLOWS-Mumbai comprises seven modules, namely **data assimilation, flood, inundation, vulnerability, risk, dissemination and decision support system**.

  ○ It incorporates weather models from **National Centre for Medium Range Weather Forecasting (NCMRWF)**, **India Meteorological Department (IMD)** and field data from the rain gauge network stations.

  ○ This **Geographic Information System (GIS)**-based decision support system has all relevant details - such as land topography, land use, infrastructure, population, lakes, creeks and data on river **bathymetry (study of the beds or floors of water**

bodies) of all rivers namely Mithi, Dahisar, Oshiwara, Poisar and Ulhas.

  ○ The system has provisions to capture the urban drainage within the city and predict the areas of flooding in advance so that the civic body can issue alerts in advance.

➤ **Benefits:** This will boost the city's resilience by providing early warning for flooding specially during high rainfall events and cyclones. Bengaluru and Kolkata may also get such a system by 2021.

➤ **Need:**

  ○ Mumbai has the history of flooding during extreme rainfall events. It had faced massive floods in July 2005, and recently in 2017.

  ○ Rise in extreme rainfall events in India that are **driven by warming temperatures** and changes in the monsoon due to climate change.

  ○ According to the **Global Report on Internal Displacement 2020,** nearly five million people were displaced in India in 2019 because of disasters related to Southwest Monsoon and Cyclones.

  ○ According to the **'State of India's Environment 2020 in Figures'** the internal displacements in India caused by disasters and extreme weather conditions were the highest in the world in 2019.

Renaming of Kolkata Port Trust

Why in News

The Union Cabinet has given its approval to **rename Kolkata Port as Syama Prasad Mookerjee Port.**

➤ Earlier, the announcement was made on the 150th anniversary celebration of the trust.

Key Points

➤ The Kolkata Port is the **oldest operating port in India,** and was constructed by the **British East India Company.**

➤ It is the **only riverine Major Port.** Its navigational channel is **one of the longest** in the world.

➤ **Gateway to Eastern India:**

  ○ It is the guiding factor to trade and commerce of vast hinterland comprising the entire Eastern India including **Bihar and Eastern Uttar Pradesh** and the **two land-locked Himalayan Kingdoms of Nepal and Bhutan.**

Note:

Shyama Prasad Mookerjee (1901-1953)

➢ Born in a Bengali Family

➢ Leader of Hindu Mahasabha.

➢ Served as a minister in the Bengal government in 1937.

➢ Member of Constituent Assembly and later, the first Lok Sabha.

➢ Minister in Nehru's first cabinet after independence; resigned in 1950 due to differences over relations with Pakistan.

➢ Founder of Bharatiya Jana Sangh (The Bharatiya Janata Party -BJP is the successor of BJS).

➢ Was opposed to India's policy of autonomy to Jammu & Kashmir; arrested during Jana Sangh's agitation against Kashmir policy; died during detention.

➢ **Governance:** The Kolkata Port Trust is an **autonomous body** under the Ministry of Shipping, administered through the **Major Port Trusts Act, 1963.**

Central Institute of Medicinal and Aromatic Plants

➢ **Established:** Central Institute of Medicinal and Aromatic Plants, popularly known as **CIMAP**, was established originally as **Central Indian Medicinal Plants Organisation** (CIMPO) in **1959**. It was rechristened as Central Institute of Medicinal and Aromatic Plants (CIMAP) in 1978.

➢ **Objectives:** It is a frontier plant research laboratory of **Council of Scientific and Industrial Research (CSIR)**. It focuses on high quality research in biological and chemical sciences and extending technologies and services to the farmers and entrepreneurs of Medicinal and Aromatic Plants (MAPs).

➢ **Headquarters:** Lucknow, Uttar Pradesh.

    ❍ CIMAP, Lucknow houses the **National Gene Bank of Medicinal and Aromatic Plants**, in addition to seed gene bank, tissue and DNA bank.

➢ **Research Centres:** Bangalore (Karnataka), Hyderabad (Telangana), Pantnagar (Uttarakhand) and Purara (Uttarakhand).

➢ CIPAM is presently accredited by **International Centre for Science and High Technology-United Nations Industrial Development Organization (ICS-UNIDO)** and **Indian-Ocean Rim Association (IORA)** as a focal point for research and training on Medicinal Plants among participating member countries.

International Centre for Science and High Technology

➢ It was **established in 1988** and operates under the **legal framework of the United Nations Industrial Development Organization (UNIDO)**. It focuses on the transfer of know-how and technology from industrialized to developing countries.

➢ The Centre focuses its activities on **four core scientific programmes:**

    ❍ Rational drug design and development.

    ❍ Next generation biofuels and bio-based chemicals.

    ❍ Geothermal energy.

    ❍ Nanotechnologies.

➢ **Headquarters:** Trieste, Italy.

AarogyaPath: CSIR

Why in News

Recently, the government has launched an **information platform 'AarogyaPath' to provide real-time availability of critical healthcare supplies** for manufacturers, suppliers and customers.

➢ It is a **Council of Scientific and Industrial Research (CSIR)** National Healthcare Supply Chain Portal.

Key Points

➢ It is an integrated public platform that provides single-point availability of key healthcare goods such as medical equipment, drugs, apparel, etc.

➢ **Vision:**

    ❍ To set up an information management and forecasting database platform at national level to capture demand and supply scenarios for key healthcare needs items.

    ❍ CSIR expects AarogyaPath to become the national healthcare information platform of choice in the years to come, filling a critical gap in last-mile delivery of patient care within India through improved availability and affordability of healthcare supplies.

➢ **Beneficiaries:** Hospitals, pathology laboratories, research institutes, medical colleges and individual patients. It will also create **opportunities for business**

expansion due to an expanded network of buyers and visibility of new requirements for products.

➢ **Importance in Situations like a Pandemic:**

○ Anticipated shortages can be addressed and met at national level.

○ Opportunistic Pricing, hoarding and over-forecasting can be checked.

○ Over-production can be avoided. This would help to reduce wastage of resources.

Council of Scientific and Industrial Research

➢ It was established by the Government of India in **September 1942 as an autonomous body**. It comes under the **Ministry of Science and Technology.**

➢ It is known for its cutting edge research and development knowledge base in diverse science and technology areas.

➢ It has been ranked first in the **Nature Ranking Index-2020.**

○ The Nature Index provides close to a real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

Digital Initiatives by WCL

Why in News

Recently, the Coal India Subsidiary - Western Coalfields Ltd (WCL) has launched a surveillance system called **WCL EYE** for monitoring its mining operations and a mobile application named **SAMVAAD** to connect with its employees and stakeholders.

Key Points

➢ **WCL EYE:**

○ It is a **digital surveillance system** that will monitor operations of 15 major mines of the company, accounting for 70% of the company's coal production.

○ It will monitor coal stocks and availability of coal at sidings.

○ It will also monitor placement of rakes and loading at railway sidings and ensure accountability.

➢ **SAMVAAD:**

○ It is a **mobile and desktop app** for employees & stakeholders.

○ It will provide a virtual platform for suggestion/feedback/experience sharing.

○ The Quick Response Teams will respond to the queries and feedback in a 7 days mandated period.

Coal India Limited

➢ CIL is a **Maharatna Central Public Sector Enterprise (CPSE)** that came into being in November 1975.

➢ It is the world's single largest **coal** producer.

➢ It produces around 83% of India's overall coal production and provides for 40% of primary commercial energy requirement.

➢ In pursuance to initiatives towards development of **clean coal technology**, CIL is planning to set-up a coal based Methanol plant in the premises of Dankuni Coal Complex (DCC) near Kolkata.
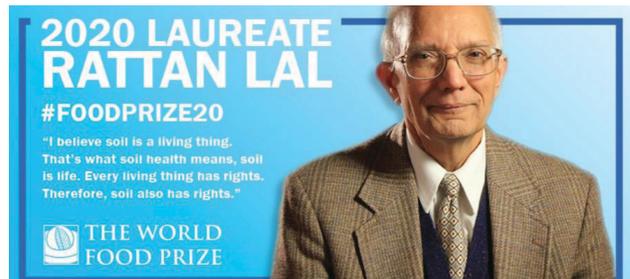
Coal Sector under Atmanirbhar Bharat Abhiyan

➢ Commercial mining has been introduced on the basis of a revenue-sharing mechanism, ending the government monopoly in coal mining.

➢ Coal Gasification or Liquefaction will be incentivised.

➢ Infrastructure investment worth Rs. 50,000 crores will be done to boost production.

➢ Mining plan simplification will be undertaken to incentivise production.

World Food Prize 2020

Why in News

Indian-American soil scientist - **Dr. Rattan Lal** - has been declared the winner of the World Food Prize 2020.

➢ He played a major role in developing and mainstreaming a **soil-centric approach** to increasing food production that conserves natural resources and mitigates climate change.

➢ Three separate United Nations Climate Change Conferences have adopted his strategy of restoring soil health as a means to sequestering carbon.

2020 LAUREATE RATTAN LAL #FOODPRIZE20 — "I believe soil is a living thing. That's what soil health means, soil is life. Every living thing has rights. Therefore, soil also has rights." THE WORLD FOOD PRIZE

Note:

➢ In 2007, he was among those **recognised with a Nobel Peace Prize Certificate** for his contributions to the **Intergovernmental Panel on Climate Change (IPCC)** reports, when the IPCC was named co-recipient of the **Nobel Prize.**

Key Points

➢ **Objective:** The World Food Prize is the foremost international honor recognizing the achievements of individuals who have advanced human development by improving the **quality, quantity or availability of food in the world.**

➢ **Field Covered:** It is an **annual award** that recognizes contributions in any field involved in the world food supply including plant, animal and soil science; food science and technology; nutrition, rural development, etc.

➢ **Eligibility:** It is open for any individual without regard to race, religion, nationality or political beliefs.

➢ **Cash Prize:** In addition to the cash award of $2,50,000, the laureate receives a sculpture designed by the noted artist and designer, Saul Bass.

➢ **Presentation of the Award:**
  ○ The Prize is presented each October on or around **UN World Food Day (16th October)**.
  ○ It is presented by the **World Food Prize Foundation** which has over 80 companies, individuals, etc. as donors.
  ○ The World Food Prize Foundation is located in Des Moines, USA.

➢ **Background:**
  ○ **Dr. Norman E. Borlaug**, winner of the **Nobel Peace Prize in 1970** for his work in global agriculture, conceived the Prize. He is also known as the **Father of the Green Revolution.**
  ○ The World Food Prize was created in 1986 with sponsorship by General Foods Corporation.
  ○ It is also known as the **"Nobel Prize for Food and Agriculture".**
  ○ **Dr. M.S. Swaminathan**, the father of India's green revolution, was the **first recipient of this award in 1987**.

■■■

Note:

Key Points

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Summary