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Current Affairs (CONSOLIDATION)

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(PART – I)

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Contents

Polity and Governance	1
● Section 66A of the IT Act	1
● SC Upheld Authority of Delhi's Peace and Harmony Committee	2
● SC on Central Information Commission (CIC)	3
● 'Union' or 'Central' Government	4
● Council of Ministers	5
● Cabinet Committees	6
● Need for Changes in Anti-Defection Law	7
● Election of Speaker and Deputy Speaker	8
● Chief Minister	9
● Assam-Mizoram Border Dispute	10
● Stringent Nature of UAPA	11
● Punjab Suba Movement	13
● Andhra Pradesh-Telangana Water Dispute	14
● BharatNet Project	15
● Infrastructure Facilities for Judiciary	16
● New Portals on Ayush Sector	17
● India Industrial Land Bank	17
● National Ayush Mission	18
● New Solar Projects: NTPC	18
● Department of Public Enterprises	20
● NIPUN Bharat Mission	20
● Global Cybersecurity Index: ITU	21
● Six Years of Digital India Programme	22
● UDISE+ 2019-20 Report	23
Economic Scenario	25
● Inflation Data: June 2021	25
● India's Covid-19 Emergency Response Package: Phase II	26
● Agriculture Infrastructure Fund	27
● Fertiliser Self-Sufficiency	27
● Special Livestock Sector Package	29
● RBI's Retail Direct Scheme	29
● Sankalp Se Siddhi: Mission Van Dhan	31
● Matsya Setu	32
● GI Certified Bhalia Wheat: Gujarat	32
● Youth and Food System	33
● Authorised Economic Operators Programme	35
● Anti-Dumping Duty	36
● Forex Reserves	36
● Contraction of India's Manufacturing Sector: PMI	37
● Revamped Distribution Sector Scheme	38
● Open Network for Digital Commerce	39
● World Bank Support to India's Informal Working Class	40

• Four Years of the GST	41
• Financial Stability Report: RBI.....	43
• New Norms for Independent Directors	45
• Ministry of Cooperation: A New Push to Co-operatives.....	46
• Output Pact: OPEC+.....	47

International Relations.....49

• India Rejects OIC's Proposal	49
• India-EU Meet on Agriculture.....	50
• Vietnam's First Honorary Consul General in India.....	51
• India's Tibet Policy.....	53
• BHIM - UPI Launched in Bhutan	54
• St. Queen Ketevan's Relics: Georgia.....	55
• Assassination of Haiti's President	55
• India-Nepal Rail Services Agreement (RSA)	56
• Stand-Off on GERD	57
• G20 Foreign Ministers Meeting.....	58
• India Joins OECD/G20 Inclusive Framework Tax Deal	59
• 7 th Edition of Indian Ocean Naval Symposium.....	61
• Road Ahead for Afghanistan after US Exit	62

Science and Technology.....64

• Methane in the Moons of Saturn	64
• Suborbital Flight	65
• Discrete Auroras of Mars.....	66
• Few-Electron Bubbles in Superfluid Helium Gas	67
• New Source of Gravitational Waves Discovered	68
• Acute Encephalitis Syndrome	70
• Lymphatic Filariasis.....	70
• dbGENVOC.....	71
• Zika Virus Disease	71
• Covid-19 Vaccine Booster Shots	72
• Lambda Variant of Covid-19.....	73
• Kappa Variant: Covid-19	73
• Fly Ash	74

Environment and Ecology76

• Right to Repair Movement	76
• Green Hydrogen	77
• High-Altitude Yak.....	78
• India's First Cryptogamic Garden	79
• Post-2020 Global Biodiversity Framework	80
• Water Pollution by Detergents	82
• SOP for Environmental Violations: MoEFCC.....	84
• Tiger Corridor in Rajasthan.....	85
• Lemru Elephant Reserve: Chhattisgarh	86
• Human-Wildlife Conflict	87
• Conservation Plans for Cities along Rivers.....	88
• Deaths Due to Hazardous Chemical	90
• Anti-Methanogenic Feed Supplement: Harit Dhara	91

● Melting of Arctic's 'Last Ice Area'	91
● Conservation of Vultures.....	92
● Marine Plastic: Problem, And Solution	94
● Guindy National Park: Tamil Nadu	96
● LEAF Coalition.....	96
● Black Panther Spotted in Navegaon – Nagzira Tiger Reserve.....	97
● King Cobra in Tillari Reserve	99
History	100
● Indian Soldiers in Italy: World War II.....	100
● Swami Vivekananda.....	101
Geography	102
● Heat Dome.....	102
● Taal Volcano: Philippines	103
● Vembanad Lake: Kerala	104
● Incidents of Lightning	104
Social Issues	106
● Drop in Open Defecation: Wash Report.....	106
● Delay in Aadhaar Enrolment due to Incomplete NRC: Assam	107
● 'Joint Communication' for Tribal Communities.....	108
● Draft Anti-Trafficking Bill	109
● Gender Self Identification	110
● Trafficking in Persons Report.....	111
● Tele-Law	112
● Child Soldier Recruiter List.....	113
● ICDS Survey in Jharkhand	114
● World Population Day	116
Art & Culture	118
● Silambam	118
● Kalbeliya Dance	119
● Kuvempu Award 2020	120
Security	121
● Naga Peace Talks	121
Miscellaneous	123
● Malaria Free China	123
● Kesaria Buddha Stupa: Bihar	124
● Jagannath Puri Rath Yatra	125
● Project BOLD: KVIC	126
● SPARSH: System for Pension Administration Raksha	126

Polity and Governance

Highlights

- Section 66A of the IT Act
- SC Upheld Authority of Delhi's Peace and Harmony Committee
- SC on Central Information Commission (CIC)
- 'Union' or 'Central' Government
- Council of Ministers
- Cabinet Committees
- Need for Changes in Anti-Defection Law
- Election of Speaker and Deputy Speaker
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- Assam-Mizoram Border Dispute
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- Global Cybersecurity Index: ITU
- Six Years of Digital India Programme
- UDISE+ 2019-20 Report

Section 66A of the IT Act

Why in News

The **Supreme Court** has issued a **notice to the Centre** on the use of **Section 66A of the Information Technology Act, 2000** that was scrapped several years ago.

- The court struck down the provision as **unconstitutional** and a **violation of free speech** in 2015 in the **Shreya Singhal Case**.
- The IT Act, 2000 provides for legal recognition for transactions through electronic communication, also known as **e-commerce**. The Act also penalizes various forms of cyber crime.

Key Points

- **About Section 66A:**
 - It **empowered police** to make arrests over what policemen, in terms of their subjective discretion, could construe as **"offensive" or "menacing" or for the purposes of causing annoyance, inconvenience, etc.**
 - It prescribed the **punishment for sending messages through a computer or any other communication device** like a mobile phone or a tablet, and a

WHAT THE COURT SAID

THE SUPREME COURT STRUCK DOWN A PROVISION IN THE CYBER LAW WHICH PROVIDES POWER TO ARREST A PERSON FOR POSTING ALLEGEDLY OFFENSIVE CONTENT ONLINE

THE PUBLIC'S right to know is directly affected by Section 66A of the Information Technology Act. The provision "clearly affects" the right to freedom of speech and expression.

Terms like "annoying", "inconvenient" and "grossly offensive" used in the provision are vague as it is difficult for the law enforcement agency and the offender to know the ingredients of the offence.

When judicially trained minds can reach on different conclusions while going through the same content, then how is it possible for law enforcement agency and others to decide as to what is offensive and what is grossly offensive. What may be offensive to a person may not be offensive to the other. (sic)

THE CONTENTIOUS SECTION

66A Punishment for sending offensive messages through communication service, etc. Any person who sends, by means of a computer resource or a communication device —

(a) any information that is grossly offensive or has menacing character; or

(b) any information which he knows to be false, but for the purpose of causing annoyance, inconvenience, danger, obstruction, insult, injury, criminal intimidation, enmity, hatred or ill will, persistently by making use of such a communication device;

(c) any electronic mail for the purpose of causing annoyance or inconvenience or to deceive the addressee, shall be punishable with imprisonment for a term which may extend to three years and with fine.

conviction could fetch a **maximum of three years in jail**.

➤ Issues with Section 66A:

○ Based on Undefined Actions:

- The court observed that the **weakness of Section 66A lay in the fact** that it had created an **offence on the basis of undefined actions**: such as causing **"inconvenience, danger, obstruction and insult"**, which do not fall among the exceptions granted under **Article 19 of the Constitution**, which **guarantees the freedom of speech**.

○ Subjective Nature:

- The court also **observed that the challenge was to identify** where to draw the line. Traditionally, it has been drawn at incitement while terms like **obstruction and insult remain subjective**.

Note:



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○ No Procedural Safeguards:

- In addition, the court had noted that **Section 66A did not have procedural safeguards like other sections of the law** with similar aims, such as the need to obtain the concurrence of the Centre before action can be taken.

- Local authorities could proceed autonomously, literally on the whim of their political masters.

- The **Court did not strike down** two other provisions- **sections 69A and 79 of the IT Act** – and said that they can remain enforced with certain restrictions.

- **Section 69A provides power** to issue directions to **block public access of any information** through any computer resource and **Sec 79 provides for exemption from liability of intermediary** in certain cases.

○ Against the Fundamental Rights:

- Section 66A was **contrary to both Articles 19 (free speech) and 21 (right to life) of the Constitution**.
- **Right to know** is the species of the **right to speech and expression** provided by the **Article 19(1) (a) of the constitution of India**.

SC Upheld Authority of Delhi's Peace and Harmony Committee

Why in News

Recently, the **Supreme Court (SC)** upheld the authority of **Delhi Assembly's Peace and Harmony Committee to summon Facebook India's senior official** in connection with the February 2020 communal violence.

Key Points

➤ Central Governments and Facebook's Claim:

- The formation of the Peace and Harmony committee was not within the authority of the Delhi Assembly as **law and order and police of Delhi is a central subject**.

➤ Delhi Government's Justification:

- The Delhi Assembly had **relied on various entries in the state list and concurrent list**, by which the Delhi Assembly derived its power to discuss and debate on the issue in question.

- It cited **entry 1 in the state list dealing with public order**, which is distinct from **law and order** and **entry 1 in concurrent list** which gives sweeping power to state assemblies to legislate on the subject 'criminal law'.

- **Entry 39 in the state list that gave assemblies power to enforce the attendance of witnesses for the purpose of recording statements** was also relied upon.

➤ SC's Ruling:

○ Rejected Facebook's Abstention:

- Rejected the simplistic approach adopted by Facebook — that it is merely a platform posting third-party information and has **no role in generating, controlling or modulating that information**.

- Facebook **cannot claim any "exceptional privilege" to abstain** from appearing before the Peace Harmony Committee constituted by the Delhi Assembly.

○ Committee's Competence/Powers:

- An **"informed deliberation" by the Assembly's elected representatives on the best measures to combat online mass hate and violence** in their geographical jurisdiction was very much **within the Committee's competence**.

- However Facebook representatives appearing before the Committee **need not answer any query from the Committee directly regarding law, order and the police**, which are subjects on which the Delhi Assembly cannot legislate.

○ Legislative Assembly's Power:

- Dismissed Facebook's argument that the **Assembly ought to confine itself to making laws** rather than enquire into the circumstances of the riots.

- The Assembly does not only perform the function of legislating; **there are many other aspects of governance** which can form part of the essential functions of the Legislative Assembly and consequently the Committee.

- **Legislative Privileges** are the rights belonging to the Legislature for effective discharge of their legislative functions.

- **Article 105 and Article 194** of the Indian Constitution lay down the powers, privileges

Note:

and immunities of Members of Parliament (MPs) and State Assemblies respectively.

- In the larger context, **the concept of peace and harmony goes much beyond law and order and police**, more so in view of on-the-ground governance being in the hands of the Delhi Government
- **Hybrid Governance:**
 - The Centre and Delhi government must work together on governance issues in the Capital. And need to show maturity at their ends.
 - The social media company(Facebook) sought to take advantage of "**divergence of view**" and the **inability of both the Centre and State government** to "see eye to eye on governance issues in Delhi".
 - The SC Noted that **Delhi's hybrid administration – in which the Union government holds the prerogative for several key areas of governance** –has worked well for many years with different political dispensations in power both at the Centre and State.

SC on Central Information Commission (CIC)

Why in News

The **Supreme Court** has directed the **Union of India and all States** to file **status reports** on the latest developments regarding **vacancies and pendency** in the **Central Information Commission (CIC) and State Information Commissions (SICs)**.

Key Points

- **About Central Information Commission (CIC):**
 - **Establishment:** The CIC was **established by the Central Government in 2005**, under the provisions of the **Right to Information Act (2005)**. It is **not a constitutional body**.
 - **Members:** It consists of a **Chief Information Commissioner and not more than ten Information Commissioners**.
 - **Appointment:** They are appointed by the **President** on the recommendation of a committee consisting of the **Prime Minister as Chairperson, the Leader of**

Opposition in the Lok Sabha and a Union Cabinet Minister nominated by the Prime Minister.

- **Jurisdiction:** The jurisdiction of the Commission extends over all Central Public Authorities.
- **Tenure:** The Chief Information Commissioner and an Information Commissioner shall hold office for such term as prescribed by the **Central Government or until they attain the age of 65 years**, whichever is earlier.
 - They are **not eligible for reappointment**.
- **Power and Functions of CIC:**
 - To **receive and inquire into a complaint from any person** regarding information requested under RTI, 2005.
 - It can **order an inquiry into any matter** if there are reasonable grounds (suo-moto power).
 - While inquiring, the Commission has the powers of a **civil court in respect of summoning, requiring documents etc.**
- **State Information Commission:**
 - It is constituted by the **State Government**.
 - It has **one State Chief Information Commissioner (SCIC) and not more than 10 State Information Commissioners (SIC)** to be appointed by the **Governor** on the recommendation of the **Appointments Committee headed by the Chief Minister**.
- **Issues:**
 - **Delays and Backlogs:**
 - On average, the CIC **takes 388 days (more than one year)** to dispose of an appeal/complaint from the date it was filed before the commission.
 - A report released last year has pointed out that **more than 2.2 lakh Right to information cases are pending** at the Central and State Information Commissions (ICs).
 - **No Penalties:**
 - The report found that the Government officials hardly face any punishment for violating the law.
 - Penalties were **imposed in only 2.2% of cases** that were disposed of, despite previous analysis showing a rate of about 59% violations which should have triggered the process of penalty imposition
 - **Vacancy:**
 - Despite repeated directions from the court, there are still **three vacancies in the CIC**.

Note:



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- **Lack of Transparency:**
 - The criteria of selection, etc, nothing has been placed on record.

Right to Information Act

- Genesis of RTI law started in 1986, through judgement of Supreme Court in **Mr. Kulwal v/s Jaipur Municipal Corporation** case, in which it directed that freedom of speech and expression provided under **Article 19** of the Constitution clearly implies Right to Information, as without information the freedom of speech and expression cannot be fully used by the citizens
- It has been implemented in order to see that the **Indian citizens are enabled to exercise their rights to ask some pertinent questions** to the Government and different public utility service providers in a practical way.
- The RTI Act replaced the **Freedom of Information Act 2002**.
- The objective of this act was to **help the citizens avail of quicker services from the government agencies** since the act enables them to ask questions like why a particular application or an official proceeding gets delayed.
- Mainly the act aims at achieving a **corruption-free India**.

'Union' or 'Central' Government

Why in News

Recently, the Tamil Nadu government has decided to shun the usage of the term '**Central government**' in its official communications and **replace it with 'Union government'**.

- In common parlance, the terms "union government" and "central government" are used interchangeably in India. However, the Constituent Assembly did not use the term 'Centre' or 'Central government' in all of its 395 Articles in 22 Parts and eight Schedules in the original Constitution.

Key Points

- **Intent of Constituent Assembly:**
 - **Article 1(1) of the Constitution of India** says "**India, that is Bharat, shall be a Union of States.**"

- On 13th December, 1946, Jawaharlal Nehru introduced the aims and objectives of the Constituent Assembly by resolving that **India shall be a Union of territories willing to join the "Independent Sovereign Republic"**.
 - The emphasis was on the **consolidation and confluence** of various provinces and territories to form a strong united country.
- While submitting the draft Constitution in 1948, **Dr B R Ambedkar, chairman of the drafting committee, had said** that the committee had **used the word 'Union' because:**
 - (a) the **Indian federation was not the result of an agreement** by the units, and
 - (b) the component **units had no freedom to secede from the federation**.
- The members of the Constituent Assembly were very cautious of **not using the word 'Centre' or 'Central government' in the Constitution** as they intended to **keep away the tendency of centralising of powers in one unit**.
- **Meaning of Union & Centre:**
 - According to constitution expert Subash Kashyap, from the point of the usage of the words, '**centre**' indicates a point in the middle of a circle, whereas '**Union**' is the whole circle.
 - In India, the **relationship between the so-called 'Centre' and States**, as per the Constitution, is actually a **relationship between the whole and its parts**.
- Both the Union and the States are created by the Constitution, **both derive their respective authority from the Constitution**.
 - The one is not subordinate to the other in its own field and the authority of one is to coordinate with that of the other.
- The judiciary is designed in the Constitution to ensure that the Supreme Court, the tallest court in the country, has no superintendence over the High Court.
 - Though the Supreme Court has appellate jurisdiction, not only over High Courts but also over other courts and tribunals, they are **not declared to be subordinate** to it.
 - In fact, the **High Courts have wider powers to issue prerogative writs** despite having the

Note:



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power of superintendence over the district and subordinate courts.

- In very common parlance, Union gives a sense of Federal while centre gives more of a sense of unitary government.
 - But practically both are the same in Indian political system.

FEDERAL vs. UNITARY

Federal	Unitary
<ul style="list-style-type: none"> - Dual Government (Central + Regional) - Written Constitution - Division of Powers between Central & State Governments. - Supremacy of the Constitution - Rigid Constitution - Independent Judiciary - Bicameral Legislature 	<ul style="list-style-type: none"> - Single Government - Central only (Regional Gov. may be formed by Central) - Written (France) or Unwritten (Britain) Constitution - No Division of Powers - Supremacy of the Constitution not guaranteed (like Britain) - Flexible (Britain) or Rigid (France) Constitution - Judiciary may or may not be Independent - Bicameral (Britain) or Unicameral (China) Legislature

➤ Associated Issues With the Term Central Government

- **Discarded By Constituent Assembly:** The word 'Centre' is not used in the Constitution; the makers of the Constitution specifically discarded it and instead used the word 'Union'.
- **Colonial Legacy:** 'Centre' is a hangover from the colonial period because the bureaucracy in the Secretariat, New Delhi who are used to using the word 'Central Laws,' 'Central legislature,' etc, and so everyone else, including the media, started using the word.
- **Conflict With Idea of Federalism:** India is a federal government. The power to govern is divided between a government for the whole country, which is responsible for subjects of common national interest, and the states, which look after the detailed day-to-day governing of the state.
 - According to Subash Kashyap, using the term 'Centre' or 'central government' would mean state governments are subservient to it.

Council of Ministers

Why in News

Recently, the Prime Minister **expanded and reshuffled his Council of Ministers (COM)**. The Prime Minister now has 77 ministers, nearly half of them new.

Key Points

➤ About:

- **Article 74 of the Constitution** deals with the **status of the council of ministers** while **Article 75 deals with the** appointment, tenure, responsibility, qualification, oath and salaries and allowances of the ministers.
- The COM consists of three categories of ministers, namely, **cabinet ministers, ministers of state, and deputy ministers**. At the **top of all these ministers stands the Prime Minister**.
 - **Cabinet Ministers:** These head the important ministries of the Central government like home, defence, finance, external affairs and so forth.
 - **Cabinet is the chief policy formulating body** of the Central government.
 - **Ministers of State:** These can either be given independent charge of ministries/ departments or can be attached to cabinet ministers.
 - **Deputy Ministers:** They are attached to the cabinet ministers or ministers of state and assist them in their administrative, political, and parliamentary duties.
- At times, the COM **may also include a deputy prime minister**. The deputy prime ministers are appointed mostly for political reasons.

➤ Constitutional Provisions:

- **Article 74 (COM to aid and advise President):** The advice tendered by Ministers to the President shall not be inquired into in any court.
 - The **President may require the COM to reconsider such advice** and the President **shall act in accordance with the advice tendered after such reconsideration**.
- **Article 75 (Other Provisions as to Ministers):** The PM shall be **appointed by the President** and the other Ministers shall be appointed by the President on the **advice of the PM**.
 - The **total number of ministers, including the Prime Minister, in the COM shall not exceed 15% of the total strength of the Lok Sabha**.
 - This provision was added by the 91st Amendment Act of 2003.
 - A **minister who is not a member of the Parliament (either house) for any period of six consecutive months** shall cease to be a minister.

Note:



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- **Article 77 (Conduct of Business of the Government of India):** The President shall make rules for the more convenient transaction of the business of the Government of India, and for the allocation among Ministers of the said business.
- **Article 78 (Duties of Prime Minister):** To communicate to the President all decisions of the COM relating to the administration of the affairs of the Union and proposals for legislation.
- **Article 88 (Rights of Ministers as Respects the Houses):** Every minister shall have the right to speak and take part in the proceedings of either House, any joint sitting of the Houses and any Committee of Parliament of which he may be named a member. But he shall not be entitled to vote.
- **Responsibility of Ministers:**
 - **Collective Responsibility:**
 - Article 75 clearly states that the **COM is collectively responsible to the Lok Sabha**. This means that all the ministers own joint responsibility to the Lok Sabha for all their acts of omission and commission.
 - **Individual Responsibility:**
 - Article 75 also contains the principle of individual responsibility. It states that the ministers hold office during the pleasure of the President, which means that the President can remove a minister even at a time when the COM enjoys the confidence of the Lok Sabha.
 - However, the President removes a minister only on the advice of the Prime Minister.
- **Council of Ministers in States:**
 - The **Council of Ministers in the states** is constituted and functions in the **same way** as the **Council of Ministers at the Centre (Article 163: COM to aid and advise Governor) and Article 164: Other Provisions as to Ministers).**

Cabinet Committees

Why in News

After a large-scale rejig at the **Council of Ministers**, Prime Minister effected some changes in Cabinet committees.

Key Points

- **About:**
 - **Eight Cabinet Committees:**
 - **Appointments Committee** of the Cabinet.
 - Cabinet Committee on **Accommodation**.
 - Cabinet Committee on **Economic Affairs**.
 - Cabinet Committee on **Parliamentary Affairs**.
 - Cabinet Committee on **Political Affairs**.
 - Cabinet Committee on **Security**.
 - Cabinet Committee on **Investment and Growth**.
 - Cabinet Committee on **Employment & Skill Development**.
 - All committees except Cabinet Committee on Accommodation and Cabinet Committee on Parliamentary Affairs are headed by the Prime Minister.
 - They are **extra-constitutional** in emergence.
 - In other words, they are **not mentioned in the Constitution**. However, the **Rules of Business** provide for their establishment.
 - The **executive in India works** under the Government of India **Transaction of Business Rules, 1961**.
 - These Rules emerge **from Article 77(3)** of the Constitution, which states: "The President shall make rules for the more convenient transaction of the business of the Government of India, and for the allocation among Ministers of the said business."
 - The Prime Minister constitutes **Standing Committees of the Cabinet** and sets out the **specific functions assigned** to them. He can add or reduce the number of committees.
 - In addition to cabinet committees, several **Groups of Ministers (GoMs)** are constituted to look into different issues / subjects.
- **Role of Cabinet Committees:**
 - They are an organizational device **to lessen the enormous workload of the Cabinet**. They facilitate an in-depth examination of policy issues and effective coordination. They are **based on the principles of division of labor and effective delegation**.
 - They not only resolve issues and frame proposals for the Cabinet's consideration, but they also take decisions. The Cabinet can, of course, review their decisions.
- **Groups of Ministers:**

Note:

- These are **ad hoc bodies** formed to give recommendations to the cabinet on certain emergent issues and critical problem areas.
- Some of these GoMs are empowered to take decisions on behalf of the Cabinet whereas the others make recommendations to the Cabinet.
 - The institution of GoMs has become a viable and effective instrument of coordination among the ministries.
- Ministers heading the concerned ministries are inducted into the relevant GoMs and when the advice is crystallised they are disbanded.

Need for Changes in Anti-Defection Law

Why in News

The **Leader of Opposition** in the Goa Legislative Assembly is **set to move a private member's resolution** to recommend to the Central government to address the various issues associated with the **anti-defection law**.

Key Points

➤ About Anti-Defection Act:

- The **Tenth Schedule — popularly known as the Anti-Defection Act** — was included in the Constitution via the **52nd Amendment Act, 1985** and sets the provisions for **disqualification of elected members on the grounds** of defection to another political party.
- The **grounds for disqualification** under the Anti-Defection Law are as follows:
 - If an elected member **voluntarily gives up his membership** of a political party.
 - If he **votes or abstains from voting in such House contrary to any direction issued by his political party** or anyone authorised to do so, without obtaining prior permission.
 - As a pre-condition for his disqualification, his abstention from voting should not be condoned by his party or the authorised person within 15 days of such incident.
 - If **any independently elected member joins any political party**.
 - If **any nominated member joins any political party after the expiry of six months**.

- As per the 1985 Act, a 'defection' by **one-third of the elected members** of a political party was considered a '**merger**'.
- But the **91st Constitutional Amendment Act, 2003**, changed this and now at **least two-thirds of the members** of a party have to be in favour of a "merger" for it to have validity in the eyes of the law.
- The **members so disqualified can stand for elections from any political party for a seat** in the same House.
- The decision on questions as to disqualification on ground of defection are referred to the **Chairman or the Speaker of such House, which is subject to 'Judicial review'**.

➤ Issues Related to Anti-Defection Law:

- **Undermining Representative Democracy:** After enactment of the Anti-defection law, the MP or MLA has to follow the party's direction blindly.
 - This leaves them with **no freedom to vote** their judgment on any issue and undermines representative democracy.
- **Undermining Legislatures:** The core role of an elected MLA or MP is to examine and decide on a policy, bills, and budgets.
 - Instead, the MP becomes just another number to be tallied by the party on any vote that it supports or opposes.
- **Undermining Parliamentary Democracy:** In the parliamentary form, the government is accountable daily through questions and motions and can be removed any time it loses the support of the majority of members of the Lok Sabha.
 - Due to Anti-Defection law, this **chain of accountability has been broken** by making legislators accountable primarily to the political party.
 - Thus, anti-defection law is acting against the concept of parliamentary democracy.
- **Controversial Role of Speaker:** In many instances, the Speaker (usually from the ruling party) has delayed deciding on the disqualification.
 - The Supreme Court has tried to plug this by ruling that the Speaker has to decide the case in three months, but it is not clear what would happen if a Speaker does not do so.

Note:



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- **No Recognition of Split:** Due to the **91st constitutional amendment 2004**, the anti-defection law created an exception for anti-defection ruling.
 - According to this, if two-thirds of the strength of a party should agree for a 'merger' then it will not be counted as a defection.
 - However, the amendment does not recognise a 'split' in a legislature party and instead recognises a 'merger'.
- **Proposed Changes:**
 - One option is that **such matters be referred directly to the high court or the Supreme Court for an express judgment** -- should be given within a period of 60 days.
 - The second option is that if **somebody has any difference of opinion with respect to the party or the party leadership**, he **has the option to resign** and seek the fresh mandate of the people.
 - These changes **envisage the need for an elected representative to be accountable and responsible** towards the people.

Election of Speaker and Deputy Speaker

Why in News

Maharashtra has been without a **Speaker** since February, 2021 while **Lok Sabha** and several **State Assemblies** are without a **Deputy Speaker**.

- The Constitution provides that the **office of the Speaker should never be empty**.

Key Points

- **Election of Speaker:**
 - **Criteria:**
 - The Constitution of India requires the **Speaker to be a member of the House**.
 - Although there are **no specific qualifications prescribed for being elected the Speaker**, an understanding of the Constitution and the laws of the country is considered a major asset for the holder of the Office of the Speaker.
 - Usually, a **member belonging to the ruling party** is elected Speaker. The process has evolved over the years where the ruling party nominates its

- candidate after informal consultations with leaders of other parties and groups in the House.
- This convention ensures that once elected, the Speaker enjoys the respect of all sections of the House.
- **Voting:** The **Speaker (along with the Deputy Speaker)** is elected from **among the Lok Sabha members** by a **simple majority of members** present and voting in the House.
 - Once a decision on the candidate is taken, **his/her name is normally proposed by the Prime Minister or the Minister of Parliamentary Affairs**.
- **Term of Office of the Speaker:** The Speaker holds Office from the **date of his/her election** till immediately **before the first meeting of the next Lok Sabha (for 5 years)**.
 - The speaker once elected is **eligible for re-election**.
 - Whenever the **Lok Sabha is dissolved**, the Speaker **does not vacate his office** and continues **till the newly-elected Lok Sabha meets**.

➤ Role and Powers of Speaker:

- **Interpretation:** He/She is the **final interpreter of the provisions of the Constitution of India, the Rules of Procedure and Conduct of Business of Lok Sabha and the parliamentary precedents**, within the House.
- **Joint Sitting of Both Houses:** He/She presides over a **joint sitting** of the two Houses of Parliament.
 - Such a sitting is **summoned by the President** to settle a deadlock between the two Houses on a bill.
- **Adjournment of Sitting:** He/She can adjourn the House or suspend the meeting **in absence one-tenth of the total strength of the House (called the quorum)**.
- **Casting Vote:** The speaker does not vote in the first instance but in the case of a tie; when the House is divided equally on any question, the Speaker is entitled to vote.
 - Such a vote is called a Casting Vote, and its purpose is to resolve a deadlock.
- **Money Bill:** He/She decides whether a bill is a **money bill** or not and his/her decision on this question is final.
- **Disqualifying Members:** It is the speaker who decides the questions of disqualification of a

Note:



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member of the Lok Sabha, arising on the ground of defection under the provisions of the **Tenth Schedule**.

- The **52nd amendment** to the Indian Constitution vests this power in the Speaker.
- In 1992, the Supreme Court ruled that the decision of the Speaker in this regard is subject to **judicial review**.
- **Chairing the IPG:** He/She acts as the **ex-officio chairman of the Indian Parliamentary Group (IPG)** which is a link between the **Parliament of India and the various parliaments of the world**.
 - He also acts as the **ex-officio chairman of the conference of presiding officers of legislative bodies in the country**.
- **Constitution of Committees:** The Committees of the House are constituted by the speaker and function under the speaker's overall direction.
 - The Chairmen of all **Parliamentary Committees are nominated by him/her**.
 - Committees like the **Business Advisory Committee, the General Purposes Committee and the Rules Committee** work directly under his Chairmanship.
- **Privileges of the House:** The **Speaker is the guardian of the rights and privileges of the House**, its Committees and members.
- **Removal of Speaker:** Under following conditions, the speaker, may have to vacate the office earlier:
 - If he ceases to be a member of the Lok Sabha.
 - If he resigns by writing to the Deputy Speaker.
 - If he is **removed by a resolution passed by a majority of all the members of the Lok Sabha**.
 - Such a resolution can be moved only after giving 14 days' advance notice.
 - When a resolution for the removal of the Speaker is under consideration of the House, he/she may be present at the sitting but not preside.
- **Deputy Speaker of the Lok Sabha:**
 - **Election:**
 - The Deputy Speaker is also **elected by the Lok Sabha** from amongst its members right after the election of the Speaker has taken place.
 - The date of election of the **Deputy Speaker is fixed by the Speaker (date of election of the Speaker is fixed by the President)**.

○ **Term of Office and Removal:**

- Like the Speaker, the **Deputy Speaker remains in office usually during the life of the Lok Sabha (5 years)**.
- The Deputy Speaker may vacate his/her office earlier in any of the following three cases:
 - If he ceases to be a member of the Lok Sabha.
 - If he resigns by writing to the Speaker.
 - If he is **removed by a resolution passed by a majority of all the then members of the Lok Sabha**.
 - Such a resolution can be moved **only after giving 14 days' advance notice**.

○ **Responsibilities and Powers:**

- The Deputy Speaker **performs the duties of the Speaker's office when it is vacant**.
 - He/She also acts as the **Speaker when the latter is absent from the sitting of the House**.
 - He/She also **presides over the joint sitting of both the Houses of Parliament**, in case the Speaker is absent from such a sitting.
- The Deputy Speaker has **one special privilege**, that is, whenever he/she is appointed as a member of a parliamentary committee, he/she automatically becomes its chairman.

Chief Minister

Why in News

Recently, **Pushkar Singh Dhami** was sworn in as the **11th Chief Minister (CM)** of Uttarakhand.

- He takes over the position just a few months ahead of Assembly polls, due early in 2022.

Key Points

➤ **Appointment:**

- **Article 164 of the Constitution** envisages that the **Chief Minister shall be appointed by the governor**.
 - A leader of the party that has got the majority share of votes in the assembly elections, is appointed as the Chief Minister of the state.
 - The **Governor is the nominal executive authority**, but **real executive authority rests with the Chief Minister**.

Note:



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- However, the **discretionary powers** enjoyed by the governor reduces to some extent the power, authority, influence, prestige and role of the Chief Minister in the state administration.
- A person who is not a member of the state legislature can be appointed as Chief Minister for six months, within which time, he should be elected to the state legislature, failing which he ceases to be the Chief Minister.
- **Term of the CM:**
 - The **term of the Chief Minister is not fixed** and he holds office during the pleasure of the governor.
 - He cannot be dismissed by the governor as long as he enjoys the majority support in the legislative assembly.
 - The **State Legislative Assembly** can also remove him by passing a vote of **no-confidence** against him.
- **Powers and Functions:**
 - **With Respect to Council of Ministers:**
 - The **governor appoints only those persons as ministers** who are recommended by the Chief Minister.
 - He **allocates and reshuffles the portfolios among ministers.**
 - He **can bring about the collapse of the council of ministers** by resigning from office, since the Chief Minister is the head of the council of ministers.
 - **With Respect to Governor:**
 - **Under Article 167 of the Constitution**, the Chief Minister acts as a link between the Governor and state council of ministers.
 - CM **advises the Governor regarding the appointment of important officials** like advocate general, chairman and members of the **State Public Service Commission, State Election Commission**, etc.
 - **With Respect to State Legislature:**
 - All the **policies are announced by him on the floor of the house.**
 - He **recommends dissolution of legislative assembly** to the Governor.
 - **Other Functions:**
 - He is the **chairman of the State Planning Board.**

- He acts as a **vice-chairman of the concerned zonal council** by rotation, holding office for a period of one year at a time.
- He is a **member of the Inter-State Council and the Governing Council of NITI Aayog**, both headed by the prime minister.
- He is the **chief spokesman of the state government.**
- He is the **crisis manager-in-chief** at the political level during emergencies.
- As a leader of the state, he **meets various sections of the people and receives memoranda from them regarding their problems**, and so on.
- He is the **political head of the services.**

Assam-Mizoram Border Dispute

Why in News

Recently, several IED (Improvised Explosive Device) blasts were carried out inside Cachar district of Assam allegedly by miscreants from Mizoram. These blasts signal the **re-emergence of long-unresolved Assam-Mizoram Border Dispute.**

- The **boundary issue between Assam and Mizoram** has existed since the formation of Mizoram — first as a union territory in 1972, and then as a full-fledged state in 1987.
- In India, Inter-state disputes are multifaceted, besides disputes over boundaries, there are **disputes over sharing of water (rivers)** and migration also impacts the federal polity of India.

Note

- During colonial times, **Mizoram was known as Lushai Hills**, a district of Assam.
- Mizoram was granted **statehood in 1987** by the State of Mizoram Act, 1986.
- **Assam became a constituent state of India in 1950** and lost much of its territory to new states that emerged from within its borders between the early 1960s and the early 1970s.

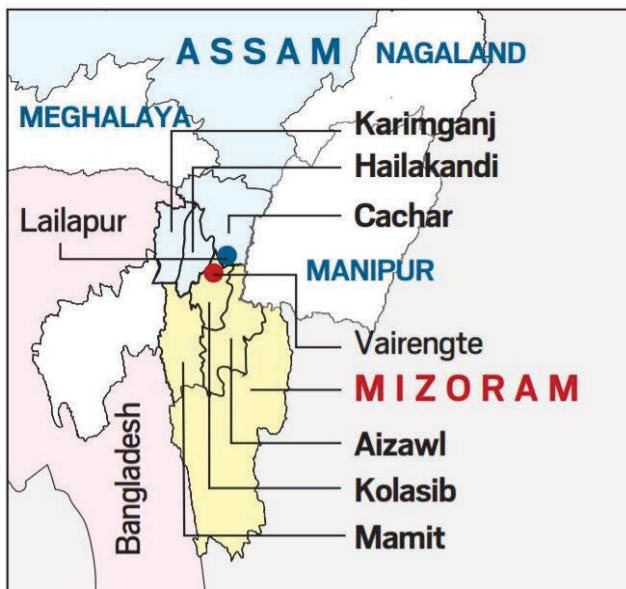
Key Points

- **About:**
 - The boundary issue between present-day Assam and Mizoram **dates back to the colonial era** when

Note:

inner lines were demarcated according to the administrative needs of British Raj.

- The Assam-Mizoram dispute **stems from two notifications passed under British era.**
 - First, **notification of 1875**, that differentiated Lushai Hills from the plains of Cachar.
 - Second, **notification of 1933**, that demarcates a boundary between Lushai Hills and Manipur.
- Mizoram believes the **boundary should be demarcated on the basis of the 1875 notification**, which is derived from the **Bengal Eastern Frontier Regulation (BEFR) Act, 1873.**
 - Mizo leaders are against the demarcation notified in 1933, according to them, the **Mizo society was not consulted.**
 - On the other hand, the **Assam government follows the 1933 demarcation.**
 - As a result both states continue to have a **differing perception of the border** and that is the point of conflict.
- There is a **164.6-km inter-state border that separates Assam and Mizoram**, with the three Assam districts of Cachar, Hailakandi and Karimganj sharing a border with Kolasib, Mamit and Aizawl districts of Mizoram.
- Further, the boundary between Mizoram and Assam **follows naturally occurring barriers of hills, valleys, rivers and forests**, and both sides have attributed border skirmishes to perceptual differences over an imaginary line.



- In the **Northeast's complex boundary equations**, clashes between Assam and Mizoram residents are less frequent than they are between other neighbouring states of Assam, like with Nagaland.

➤ Overall Condition of Inter-State Disputes in India:

- **Issue of Boundary:** Boundary disputes between the states are one of major reasons for Inter-state disputes in India. For example,
 - **Karnataka and Maharashtra both lay claim to Belgaum**, and every now and then the matter comes up.
 - The **North-Eastern Areas (Reorganisation) Act, 1971**, changed the political map of northeast India, by establishment of the states like Manipur and Tripura and the formation of Meghalaya.
 - However, this reorganisation has resulted in many boundary disputes in the northeastern region, like Assam-Nagaland, Assam-Meghalaya, etc.
- **Issue of Migration:** There have been violent agitations in some states over migrants and job seekers from other states.
 - This is because the existing resources and the employment opportunities are not enough to meet the needs of the growing population.
 - The **'sons of the soil' concept** for preference in employment in the states concerned tends to destroy the roots of a healthy federalism.
- **Disputes over Sharing Water Resources:** The most long standing and contentious inter-state issue has been the **sharing of river waters.**
 - Most of the Indian rivers are inter-state, i.e., they flow through more than one state.
 - Due to an increase in demand for water, a number of inter state disputes over sharing river waters have surfaced.

Stringent Nature of UAPA

Why in News

Recently, the death of **Father Stan Swamy**, a Jesuit priest and tribal rights activist, while in judicial custody, has brought the stringent provisions of **Unlawful Activities (Prevention) Act (UAPA)** into the focus.

- **UAPA** is the **India's main anti-terrorism legislation**, but the law makes it more difficult to obtain bail.

Note:



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- This difficulty in obtaining bail is being seen as one of the principal reasons for **Fr. Swamy's death** as a prisoner in a hospital and **compromises constitutional liberties**.

Key Points

➤ Background of UAPA:

- In the mid-1960s, in order to **curb the various secession movements**, the Government of India considered enacting a stringent law.
- In March 1967, a **peasant uprising in Naxalbari** imparted a sense of urgency.
- On 17th June, 1966, the President had promulgated the **Unlawful Activities (Prevention) Ordinance**.
 - The ordinance intended to **"provide for the more effective prevention of unlawful activities of individuals and associations"**.
- After initial resistance from the Parliament (owing to its stringent nature), the **Unlawful Activities (Prevention) Act was passed in 1967**.
- The Act provided for declaring an association or a body of individuals "unlawful" if they indulged in any activity that **envisages secession or questions or disclaims the country's sovereignty and territorial integrity**.
- Prior to the UAPA's enactment, associations were being declared unlawful under the **Criminal Law (Amendment) Act, 1952**.
 - However, the Supreme Court held that the provision on bans was unlawful because there was **no judicial mechanism** to scrutinise the validity of any ban.
- Therefore, the UAPA included **provisions for a Tribunal** which has to confirm within six months the notification declaring an outfit unlawful.
- After the **Prevention of Terrorism Act (POTA), 2002**, was repealed, the UAPA was expanded to include what would have been terrorist acts in earlier laws.

➤ Current Status of the Act:

- In its present form, the UAPA has been **amended in 2004 and 2013**, to expand its scope.
- **Expanded Scope of Law:**
 - Punishment for terrorist acts and activities,
 - Acts threatening the country's security, including its economic security (a term that covers fiscal

and monetary security, food, livelihood, energy ecological and environmental security),

- Provisions to prevent the use of funds for terrorist purposes, including money.
- The ban on organisations was initially for two years, but from 2013, the period of proscription has been extended to five years.
- Further, the amendments aim to give effect to various anti-terrorism resolutions of the **United Nations Security Council** and requirements of the **Financial Action Task Force**.
- In 2019, the Act was amended to empower the **government to designate individuals as terrorists**.
- **Modus Operandi of UAPA:**
 - Just like other special laws dealing with narcotic drugs and the now-defunct laws on terrorism, the UAPA also modifies the **Code of Criminal Procedure (CrPC)** to give it more teeth. For example,
 - A remand order can be for 30 days instead of the usual 15,
 - Maximum period of judicial custody before the filing of a chargesheet is extendable from the usual 90 days to 180 days.
- **Controversy Regarding UAPA:**
 - **Vague Definition of Terrorist Act:** The definition of a **"terrorist act" under the UAPA** substantially differs from the definition promoted by the **United Nations (UN) Special Rapporteur on the Protection of Human Rights and Fundamental Freedoms while Countering Terrorism**.
 - UAPA, on the other hand, offers an overbroad and ambiguous definition of a **"terrorist act"** which includes the death of, or injuries to, any person, damage to any property, etc.
 - **Denial of Bail:** The major problem with the UAPA lies in its **Section 43(D)(5)**, which makes it difficult for any accused person to obtain bail.
 - In case, if police have filed the chargesheet that there are reasonable grounds for believing that the accusation against such person is prima facie true, bail cannot be granted.
 - Further, a Supreme Court judgment on this has clarified that the court considering bail should not examine the evidence too deeply, but must go by the prosecution version based on broad probabilities.

Note:



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- Thus, UAPA **virtually denies bail**, which is a safeguard and guarantee of the **constitutional right to liberty**.
- **Pendency of Trials:** Given the state of justice delivery system in India, the rate of pendency at the level of trial is at an average of 95.5%.
- **State Overreach:** It also includes any act that is “likely to threaten” or “likely to strike terror in people”, giving unbridled power to the government to brand any ordinary citizen or activist a terrorist without the actual commission of these acts.
 - It gives the state authority vague powers to detain and arrest individuals who it believes to be indulged in terrorist activities.
- **Undermining Federalism:** Some experts feel that it is against the federal structure since it neglects the authority of state police in terrorism cases, given that ‘Police’ is a state subject under 7th schedule of Indian Constitution.

Punjab Suba Movement

Why in News

Recently, the **Shiromani Gurdwara Parbandhak Committee (SGPC)** commemorated the first entry of a police force inside the **Golden Temple** on 4th July, 1955 during the **Punjab Suba movement (Morcha)**.

Key Points

- **About:**
 - It **started in Punjab soon after Independence**. Shiromani Akali Dal (Political Party) was leading the movement for a **Punjabi speaking state**.
 - However, **there was also opposition to this idea**.
 - Those in favour of the demand used to raise the slogan **Punjabi Suba Amar Rahe** and those opposing the demand were raising slogans in favour of ‘**Maha-Punjab**’.
 - It was in April, 1955 that the government **banned the slogans fearing law and order problems under section 144 of the Code of Criminal Procedure (CrPC)**.
 - The demand for creation of Punjabi Suba **automatically gave basis to the demand for having a separate state of Haryana**.

- **Demand of the Movement:**
 - A Punjabi speaking **state which will have Punjabi speaking areas’ population**.
 - There should be **no attempt to temper for increasing or decreasing its size artificially**. The Punjabi speaking state **will be under the Indian Constitution**.
- **Formation of Punjab:**
 - With the passage of the **Punjab Reorganization Act 1966** (and in accordance with the earlier recommendations of the States Reorganization Commission), **Haryana was separated from Punjab in 1966 to become the 17th state** of India.
 - And the erstwhile state of **East Punjab was now divided into two states that is Haryana and Punjab**.
 - Some **territory was also transferred to Himachal Pradesh**, then a Union territory.
 - And the city of **Chandigarh** became a **Union territory to serve as the provisional capital of both the Punjab and Haryana**.
- **Constitutional Provisions for Creation of States:**
 - Indian constitution **empowers the Union government to create new states out of existing states or two merge one state with another**. This process is called **reorganisation of the states**.
 - The basis of reorganisation could be **linguistic, religious, ethnic or administrative**.
 - **Article 3** provides the following procedure:
 - **Presidential reference** is sent to the State Assembly.
 - After presidential reference, **a resolution is tabled and passed in the Assembly**.
 - The Assembly has to pass a **Bill creating the new State/States**.
 - **A separate Bill has to be ratified by Parliament**.

Advantages and

Disadvantages of Creation of New States

Advantages	Disadvantages
Better management of economic resources	Possibility of increase in the inter-State water, power, and boundary disputes
More investment opportunities	The feeling of nationalism would diminish in the cries of regional autonomy

Note:

Faster economic growth	Small states depend to a substantial extent on the central government for financial aid
More people of the same small state and same province will have a say in their state affairs	Different statehood may lead to the hegemony of the dominant community

Current Statehood Demands in India

- **Vidarbha:**
 - It comprises the **Amravati and Nagpur divisions of eastern Maharashtra**.
- **Delhi:**
 - To gain the control of such substantive powers, Delhi government is aspiring for full statehood.
- **Harit Pradesh:**
 - It consists of agriculturally dominated districts of **Western Uttar Pradesh**.
- **Purvanchal:**
 - It is a geographic region of north-central India, which comprises the **eastern end of Uttar Pradesh state**.
- **Bodoland:**
 - The Bodos are the largest ethnic and linguistic community in **northern Assam**.
- **Saurashtra:**
 - Kathiawar Peninsula, also called Saurashtra Peninsula, peninsula in **southwestern Gujarat state**.
- **Gorkhaland:**
 - It is a proposed state covering areas inhabited by the ethnic Gorkha (Nepali) people, namely **Darjeeling hills and Dooars in the northern part of West Bengal**.

Andhra Pradesh-Telangana Water Dispute

Why in News

Amid escalating tensions, the Police forces were deployed at various hydel power projects in bordering districts of **Andhra Pradesh and Telangana**.

- Andhra Pradesh has complained to the **Krishna River Management Board (KRMB)** about the drawing of

water from the **Srisailem project** by Telangana for power generation.

- The KRMB, in its recent orders, had asked Telangana to stop power generation. The tension has emerged over defiance of orders of the **KRMB** by Telangana Government.

Key Points

- **About 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 the constitution of an Apex Council by the 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 **Srisailem Reservoir** led to the Telangana government filing a complaint against Andhra Pradesh.
 - The Srisailem 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.
- **Inter-State River 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.

Note:

- 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.
 - The decision of the tribunal is final and binding on the parties to the dispute.
 - **Neither the Supreme Court nor any other court** is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

BharatNet Project

Why in News

Recently, the Union Cabinet approved a **Viability Gap Funding** support of up to Rs. 19,041 crore (Out of the total expense of Rs. 29,430 crore) for the implementation of the **BharatNet project** through **Public-Private Partnership** model.

- **Public-Private Partnership (PPP)** involves **collaboration between a government agency and a private-sector company** that can be used to finance, build, and operate projects. The PPP Model in this critical infrastructure of Telecom is a **novel initiative**.
- **Viability Gap Funding (VGF)** means a **grant one-time or deferred, provided to support infrastructure projects** that are economically justified but fall short of financial viability.

Key Points

- **About:**
 - It is the **world's largest rural broadband connectivity**

programme using Optical fibre. And also a **flagship mission** implemented by **Bharat Broadband Network Ltd. (BBNL)**.

- BBNL is a **Special Purpose Vehicle (SPV)** set up by the Government of India under the **Companies Act, 1956** with an authorized capital of Rs 1000 crore.
- It is a highly scalable network infrastructure accessible on a non-discriminatory basis, **to provide on demand, affordable broadband connectivity of 2 Mbps to 20 Mbps for all households** and on demand capacity to all institutions, to realise the vision of **Digital India**, in partnership **with States and the private sector**.
- It is being implemented by the **Department of Telecommunication under the Ministry of Communications**.
- **National Optical Fibre Network (NOFN)** which was launched in October 2011 was **renamed as Bharat Net Project in 2015**.
 - NOFN was envisaged as an **information superhighway through the creation of a robust middle-mile infrastructure** for reaching broadband connectivity to **Gram Panchayats**.
- In 2019, the Ministry of Communications also launched the **'National Broadband Mission'** to facilitate universal and equitable access to broadband services across the country.
- **Funding:**
 - The entire project is being funded by **Universal service Obligation Fund (USOF)**, which was set up for improving telecom services in rural and remote areas of the country.
- **Objective:**
 - The objective is to **facilitate the delivery of e-governance, e-health, e-education, e-banking, Internet** and other services to rural India.
- **Phases of the Project:**
 - **First Phase:**
 - Provide one lakh gram panchayats with broadband connectivity by laying underground **Optic Fibre Cable (OFC) lines by December 2017**.
 - **Second Phase:**
 - Provide connectivity to all the gram panchayats in the country using an optimal mix of underground fibre, fibre over power lines, radio and satellite media **by March 2019**.

Note:



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○ Third Phase:

- From **2019 to 2023**, a state-of-the-art, future-proof network, including **fibre between districts and blocks, with ring topology** to provide redundancy would be created.

➤ Current Extension of BharatNet:

- The project will be **extended to all inhabited villages beyond the gram panchayats in 16 States** which are:

- Kerala, Karnataka, Rajasthan, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, West Bengal, Assam, Meghalaya, Manipur, Mizoram, Tripura, Nagaland and Arunachal Pradesh.

- The revised strategy will include **creation, upgrading, operation, maintenance and utilisation of BharatNet** by the **private sector partner**, who will be selected by a competitive international bidding process.

- The selected **private sector partner** is expected to provide **reliable, high speed broadband services** as per predefined **Services Level Agreement (SLA)**.

➤ Significance of PPP in BharatNet:

○ Faster Roll Out:

- The **PPP Model** will **leverage private sector efficiency for operation, maintenance, utilisation and revenue generation** and is expected to result in the faster roll out of BharatNet.

○ Increased Investment:

- The private sector partner is expected to **bring an equity investment and raise resources towards capital expenditure and for operation and maintenance of the network**.

○ Better Access:

- Extension of BharatNet to all inhabited villages will **enable better access to e-services offered by various governments, enable online education, telemedicine, skill development, e-commerce and other applications of broadband**.

of the **Centrally Sponsored Scheme (CSS)** for **Development of Infrastructure Facilities for Judiciary upto 2026** at a total cost of Rs. 9000 crore.

- Rs. 50 crore will be allocated for **Gram Nyayalayas Scheme** through **National Mission for Justice Delivery and Legal Reforms**.

National Mission for Justice Delivery and Legal Reforms

- **Launch:** It was approved by the Union Government in June 2011.
- **Objective:** To increase access to justice by reducing delays and arrears in the system and enhance accountability through structural changes and by.

Key Points

➤ About:

- CSS for Development of Infrastructure Facilities for Judiciary has been in operation **since 1993-94**.
- This proposal for continuation of the CSS will help in construction of 3800 court halls and 4000 residential units (both new and ongoing projects) for judicial officers of District and Subordinate Courts, 1450 lawyer halls, 1450 toilets complexes and 3800 digital computer rooms.
- This will help in improving the functioning and performance of the Judiciary in the country and will be a new step towards building better courts.
- The upgraded **"Nyaya Vikas-2.0" web portal** and mobile application is used for monitoring physical and financial progress of CSS judicial infrastructure projects by geo-tagging completed and ongoing projects.

➤ Gram Nyayalayas:

- Gram Nyayalayas or village courts are established under the **Gram Nyayalayas Act, 2008** for speedy and easy access to the justice system in the rural areas of India.
- The Act came into force from 2nd October 2009.
- **Jurisdiction:**
 - A Gram Nyayalaya has jurisdiction **over an area specified by a notification by the State Government in consultation with the respective High Court**.
 - The Court **can function as a mobile court** at any place within the jurisdiction of such Gram Nyayalaya, after giving wide publicity to that regard.

Infrastructure Facilities for Judiciary

Why in News

The Union Government has approved continuation

Note:



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- They have **both civil and criminal jurisdiction over the offences.**
- **Monitoring:**
 - The **Gram Nyayalaya Portal** helps online monitoring of working of the Gram Nyayalayas by the implementing states.

New Portals on Ayush Sector

Why in News

Five new portals on Ayush Sector have been launched - **CTRI** (Clinical Trial Registry of India), **RMIS** (Research Management Information System), **SAHI** (Showcase of Ayurveda Historical Imprints), **AMAR** (Ayush Manuscripts Advanced Repository), and **e-Medha** (electronic Medical Heritage Accession).

- **Meaning of 'Ayush':** Traditional & Non-Conventional Systems of Health Care and Healing Which Include Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy etc.

Key Points

- **New Portals:**
 - **Clinical Trial Registry of India (CTRI):** It is a primary Register of **Clinical Trials** under the **World Health Organization's** International Clinical Trials Registry Platform.
 - Creation of Ayurveda Data Set in CTRI facilitates the usage of Ayurveda Terminologies to record clinical study based on Ayurveda interventions.
 - **Clinical study** is research that studies new tests and treatments and evaluates their effects on human health outcomes.
 - **Research Management Information System (RMIS):** It will be a one stop solution for Research and Development in Ayurveda based studies.
 - **Showcase of Ayurveda Historical Imprints (SAHI):** It showcases inscriptions, Archeo-botanical Information, Sculptures, classical texts and advanced Archeo Genetic studies.
 - It will be of tremendous use in understanding of Indian Knowledge system with a focus on indigenous health care practices.
 - **Ayush Manuscripts Advanced Repository (AMAR):** It has digitized information on rare and hard to find Manuscripts and catalogues of Ayurveda,

Yoga, Unani, Siddha, Sowa Rigpa in libraries or in individual collections across India or in other parts of the world.

- **e-Medha (electronic Medical Heritage Accession):** Online public access catalog for more than 12000 Indian medical heritage books through **NIC's (National Informatics Centre)** e-granthalaya platform.
- **e-Granthalaya:** It is a Digital Platform developed by NIC for **Government Libraries for Automation of In-house activities** as well as member services and Networking for resource sharing.

India Industrial Land Bank

Why in News

The **India Industrial Land Bank (IILB)**, a **GIS-based portal**, has seen a 30% increase in page views each month since April 2021.

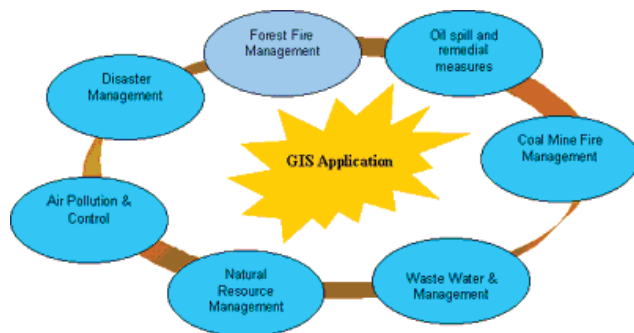
Key Points

- **About:**
 - **Department for Promotion of Industry & Internal Trade (DPIIT)** has developed IILB portal, a **GIS-enabled database of industrial areas/clusters** across the country to adopt a committed approach towards resource optimization, industrial upgradation and sustainability.
 - The portal serves as a **one-stop solution to the free and easy accessibility of all industrial information** including availability of raw material, agriculture, horticulture, minerals, natural resources; distance from key logistic nodes; layers of terrain and urban infrastructure.
 - It **aims to provide information on available land for prospective investors** looking at setting up units in the Country.
 - It also provides **links to State GIS Portals and State Land Banks.**
- **Geographic Information System (GIS):**
 - A GIS is a **computer system for capturing, storing, checking, and displaying data** related to positions on Earth's surface.
 - By relating seemingly unrelated data, GIS can help individuals and organizations **better understand spatial patterns** and relationships.

Note:



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- GIS can use any information that includes location. The **location can be expressed in many different ways**, such as latitude and longitude, address, or ZIP code.
- GIS can include **data about people**, such as **population, income, or education level**.
 - It can also include **information about the sites of factories, farms, and schools, or storm drains, roads, and electric power lines** etc.

National Ayush Mission

Why in News

The government has decided to **continue the National Ayush Mission (NAM)** as a **centrally sponsored scheme** till 2026.

- The project will have a total cost of Rs. 4,603 crore, of which the Centre will bear Rs 3,000 crore share, and the states will cover the rest.
- Recently, **new portals on the Ayush sector** were also launched.

Meaning of 'Ayush'

- Traditional & Non-Conventional Systems of Health Care and Healing Which Include Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homoeopathy etc.
- The positive features of the Indian systems of medicine namely their diversity and flexibility; accessibility; affordability, a broad acceptance by a large section of the general public; comparatively lesser cost and growing economic value, have great potential to make them providers of healthcare that the large sections of our people need.

Key Points

- **Launch:**

- Launched in **September 2014** by the **Department of AYUSH** under the **Ministry of Health and Family Welfare**, during the **12th Plan** for implementation through States/UTs.

- Now, it is **implemented by the Ministry of Ayush**.

➤ About:

- The scheme involves **expansion** of the AYUSH sector **to promote holistic health** of Indians.
- The Mission **addresses the gaps in health services through supporting** the efforts of State/UT Governments **for providing AYUSH health services/education** in the country, particularly in **vulnerable and far-flung areas**.

➤ Components of the National AYUSH Mission:

○ Obligatory Components:

- AYUSH Services.
- AYUSH Educational Institutions.
- Quality Control of ASU&H (Ayurveda, Siddha and Unani & Homoeopathy) Drugs.
- Medicinal Plants.

○ Flexible Component:

- AYUSH Wellness Centres comprising Yoga and Naturopathy,
- Tele-medicine,
- Innovations in AYUSH including Public Private Partnership,
- IEC (Information, Education and Communication) activities,
- Voluntary certification scheme: Project based, etc.

➤ Expected Outcomes:

- **Better access to AYUSH healthcare** services through increased healthcare facilities and better availability of medicines and trained manpower.
- Improvement in **AYUSH education** through a well-equipped enhanced number of AYUSH Educational institutions.
- To focus on **reducing communicable/non-communicable diseases** through targeted public health programmes using AYUSH systems of Healthcare.

New Solar Projects: NTPC

Why in News

Recently, **National Thermal Power Corporation**

Note:

Limited (NTPC) Renewable Energy Ltd (REL) signed a Memorandum of Understanding with the **Union Territory of Ladakh** to set up the country's first **Green Hydrogen Mobility project**.

- NTPC REL will also set up a **solar park at Rann of Kutch in Gujarat** from where it will also generate **green hydrogen** on a commercial scale under the **Ultra-Mega Renewable Energy Power Parks (UMREPP) scheme**.
 - Hydrogen produced from renewable sources is called green hydrogen.

Ultra-Mega Renewable Energy Power Parks (UMREPP) Scheme

- It is a scheme to develop **Ultra Mega Renewable Energy Power Parks (UMREPPs)** under the existing **Solar Park Scheme**.
 - The scheme was rolled out by the **Ministry of New & Renewable Energy (MNRE)** in 2014.
 - **Solar Park Scheme** is also a scheme of MNRE to set up a number of solar parks across various states in the country. It proposes to provide financial support by the Government of India to establish solar parks.
- The objective of the UMREPP is **to provide land upfront to the project developer and facilitate transmission infrastructure for developing Renewable Energy (RE) based Power Parks** with solar/wind/hybrid and also with storage systems.

Key Points

- **Green Hydrogen Mobility Project:**
 - NTPC REL has planned to **ply 5 hydrogen buses**, to start with, in the region and the company will be **setting up a solar plant and a green hydrogen generation unit** in Leh towards this end.
 - This will put **Leh as the first city in the country** to implement a green hydrogen based mobility project. This would be **zero emission mobility in true sense**.
 - This is also **in line with the Prime Minister's vision of a 'carbon neutral' Ladakh**.
 - It will **help Ladakh develop a carbon free economy** based on renewable sources and green hydrogen.
- **India's Largest Solar Park:**
 - NTPC REL will set up a **4.75 gigawatt (GW) renewable energy park at Rann of Kutch** in Khavada, Gujarat.

This will be **India's largest solar park** to be built by the largest power producer of the country.

- Kutch region in Gujarat, the **largest salt desert in the country** and host to two of India's largest coal-fired power plants, will now add another feather to its cap.

➤ Other Major Projects of NTPC:

- Recently, NTPC has also commissioned **India's largest Floating Solar of 10 MW (ac)** on the reservoir of Simhadri Thermal Power Plant, Andhra Pradesh. An additional **15 MW (ac)** would be commissioned by August 2021.
- Further, a **100 MW Floating Solar Project on the reservoir of Ramagundam Thermal Power Plant, Telangana** is in the advanced stage of implementation.

➤ Other Solar Energy Initiatives:

- **National Solar Mission** : Solar energy has taken a central place in India's **National Action Plan on Climate Change** with the National Solar Mission as one of the key Missions.
- **INDC's target**: It targets installing 100 GW grid-connected solar power plants by the year 2022.
 - This is in line with **India's Intended Nationally Determined Contributions (INDCs)** target to achieve about 40% cumulative electric power installed capacity from non-fossil fuel based energy resources and to reduce the emission intensity of its GDP by 33 to 35% from 2005 level by 2030.
- **Launch of ISA**: The launch of the **International Solar Alliance (ISA)** was announced by the Prime Minister of India and the President of France in 2015, at the **21st session of the United Nations Climate Change Conference of the Parties (COP-21) in Paris, France**.
 - **Government Schemes**: Such as Solar Park Scheme, Canal bank & Canal top Scheme, Bundling Scheme, **Grid Connected Solar Rooftop Scheme** etc.
 - **One Sun One World One Grid**: India has an ambitious cross-border power grid plan '**One Sun One World One Grid**' that seeks to transfer solar power generated in one region to feed the electricity demands of others.

Note:



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Department of Public Enterprises

Why in News

Recently, the government reallocated the Department of Public Enterprises (DPE) to the finance ministry from the ministry of heavy industries.

- The Finance Ministry will now have six departments while DPE's parent ministry, the Ministry of Heavy Industries and Public Enterprises will now be called the Ministry of Heavy Industries.

Key Points

- **About:**
 - It is the nodal department for all the Central Public Sector Enterprises (CPSEs) and formulates policy pertaining to CPSEs.
 - CPSEs are those companies in which the direct holding of the Central Government or other CPSEs is 51% or more.
 - It lays down, in particular, policy guidelines on performance improvement and evaluation, autonomy and financial delegation and personnel management in CPSEs.
 - It furthermore collects and maintains information in the form of a Public Enterprises Survey on several areas in respect of CPSEs.
 - It will now be the sixth department in the finance ministry besides economic affairs, revenue, expenditure, financial services and Department of Investment and Public Asset Management (DIPAM).
 - The shift of DPE to the Finance Ministry will help in efficient monitoring of the capital expenditure, asset monetisation and financial health of the CPSEs.
- **Background:**
 - In their report, the Estimates Committee of 3rd Lok Sabha (1962-67) stressed the need for setting up a centralized coordinating unit, which could also make continuous appraisal of the performance of public enterprises.
 - Which led to the setting up of the Bureau of Public Enterprises (BPE) in 1965 in the Ministry of Finance.

- In 1985, BPE was made part of the Ministry of Industry. In May, 1990, BPE was made a full-fledged Department known as the Department of Public Enterprises (DPE).

➤ Major Functions:

- Coordination of matters of general policy affecting all Public Sector Enterprises (PSEs).
- Restructuring or closure of PSEs including the mechanisms.
- Rendering advice relating to revival.
- Counselling, training and rehabilitation of employees in CPSEs under Voluntary Retirement Scheme.
- Categorisation of CPSEs including conferring 'Ratna' status, among others.
 - CPSEs are classified into 3 categories- Maharatna, Navratna and Miniratna. Presently, there are 10 Maharatna, 14 Navratna and 74 Miniratna CPSEs.

NIPUN Bharat Mission

Why in News

The Ministry of Education has launched NIPUN (National Initiative for Proficiency in Reading with Understanding and Numeracy) Bharat Scheme.

- It aims to cover the learning needs of children in the age group of 3 to 9 years.

Key Points

- **Part of NEP 2020:**
 - This initiative is being launched as a part of NEP (National Education Policy) 2020.
 - This policy aims to pave the way for transformational reforms in school and higher education systems in the country. This policy replaced the 34 year old National Policy on Education (NPE), 1986.
- **Objective:**
 - To create an enabling environment to ensure universal acquisition of foundational literacy and numeracy, so that every child achieves the desired learning competencies in reading, writing and numeracy by the end of Grade 3, by 2026-27.
- **Focus Areas:**
 - It will focus on providing access and retaining children in foundational years of schooling; teacher

Note:



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capacity building; development of high quality and **diversified Student and Teacher Resources/Learning Materials**; and **tracking the progress of each child** in achieving learning outcomes.

➤ **Implementation:**

- NIPUN Bharat **will be implemented by the Department of School Education and Literacy**.
- A **five-tier implementation mechanism** will be set up at the National- State- District- Block- School level in all States and UTs, under the **aegis of the centrally sponsored scheme of Samagra Shiksha**.
 - 'Samagra Shiksha' programme was launched **subsuming three existing schemes**: Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE).
 - The aim of the scheme is **to treat school education holistically**, from pre-school to Class XII.
- A **special package for foundational literacy and Numeracy (FLN) under NISHTHA (National Initiative for School Heads and Teachers Holistic Advancement)** is being developed by NCERT.
 - Around **25 lakh teachers** teaching at pre-primary to primary grade **will be trained** this year on FLN.
 - **NISHTHA** is a capacity building programme for "Improving Quality of School Education through Integrated Teacher Training".
- **Stage-wise targets** are being set in a continuum from the pre-primary or balvatika classes.

Global Cybersecurity Index: ITU

Why in News

Recently, **India was ranked tenth (10th) in Global Cybersecurity Index (GCI) 2020 by ITU (International Telecommunication Union)** by moving up 37 places.

- The affirmation came just ahead of the sixth anniversary of **Digital India on 1st July**.

Key Points

➤ **Top Ranking:**

- The **US topped (1st)**, followed by the UK (United Kingdom) and Saudi Arabia tied on the **second position together**.

- Estonia was **ranked third (3rd)** in the index.

➤ **Results for India:**

- India **scored a total of 97.5 points from a possible maximum of 100 points**, to make it to the **tenth position worldwide** in the GCI 2020.
- India **secured the fourth position in the Asia Pacific region**.
- India is **emerging as a global IT superpower**, asserting its digital sovereignty with firm measures to safeguard data privacy and online rights of citizens.
- The result shows **substantial overall improvement and strengthening under all parameters of the cybersecurity domain**.

➤ **Basis of Assessment:**

- On the basis of performance on **five parameters of cybersecurity**, which are,
 - Legal measures, technical measures, organisational measures, capacity development, and cooperation.
- The performance is then **aggregated into an overall score**.

➤ **International Telecommunication Union:**

- It is the **United Nations specialized agency** for information and communication technologies – ICTs.
- **Founded in 1865** to facilitate international connectivity in communications networks. It is **Headquartered in Geneva, Switzerland**.
- It **allocates global radio spectrum and satellite orbits**, develops the technical standards that ensure networks and technologies seamlessly interconnect, and strives to improve access to ICTs to underserved communities worldwide.
- Recently, **India got elected as a member of ITU Council for another 4-year term**-from 2019 to 2022. India has remained a regular member since 1952.

➤ **Challenges to Cyber Security in India:**

- Deploying multiple cybersecurity tools **reinforces a fragmented and complex security environment** that is prone to risks arising from human error.
- Cybersecurity challenges **companies face as they shift the majority of their employees to a remote working arrangement** in a really short period of time.
- India **lacks indigenization in hardware as well as software cybersecurity tools**. This makes India's cyberspace vulnerable to cyberattacks motivated by state and non-state actors.

Note:



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- India doesn't have an 'active cyber defense' like the EU's **General Data Protection Regulation (GDPR)** or the US' Clarifying Lawful Overseas Use of Data (CLOUD) Act.
- **Efforts to Improve Cyber Security in India:**
 - **National Cyber Security Strategy 2020:** It is being formulated to improve cyber awareness and cybersecurity through more stringent audits.
 - **Draft Personal Data Protection Bill, 2018** (based on the recommendation of Justice BN Srikrishna Committee) to secure citizens' data.
 - The scheme to set up **I4C (Indian Cyber Crime Coordination Centre)** was approved in October 2018, to deal with all types of cybercrimes in a comprehensive and coordinated manner.
 - **National Computer Emergency Response Team (CERT-In)** functions as the nodal agency for coordination of all cyber security efforts, emergency responses, and crisis management.
 - Protection and resilience of critical information infrastructure with the set up of **National Critical Information Infrastructure Protection Centre (NCIIPC)**.
- **International Mechanisms:**
 - **Budapest Convention on Cybercrime:** It is an international treaty that seeks to address Internet and computer crime by harmonizing national laws, improving investigative techniques, and increasing cooperation among nations. It came into force on 1st July 2004. **India is not a signatory to this convention.**
 - **Internet Governance Forum (IGF):** It brings together all stakeholders i.e. government, private sector and civil society on the Internet governance debate.
- **India's Techade:** The **data** and **demographic dividend** combined with India's proven tech prowess presents massive opportunity for the country, and this decade will be '**India's techade**'.
- **Highlighted Various Schemes of Digital India programme:**
 - **Diksha:** It stands for Digital Infrastructure for Knowledge Sharing. It serves as **National Digital Infrastructure for Teachers**. All teachers across the nation will be equipped with advanced digital technology.
 - **eNAM:** It was launched on 14th April 2016 as a **pan-India electronic trade portal linking Agricultural Produce Market Committees (APMCs)** across the States.
 - **eSanjeevani:** It is a **telemedicine service** platform of the Ministry of Health & Family Welfare.
 - **DigiBunai:** DigiBunai **aids the weavers** to create digital artwork and translate the saree design to be loaded to the looms. DigiBunai™ is a first of its kind Open Source software for Jacquard and dobby weaving.
 - **PM SVANidhi scheme:** The Ministry of Housing and Urban Affairs (MoHUA) has launched **Pradhan Mantri Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)**, for providing affordable loans to street vendors. It **incentivises digital transactions by the street vendors**.
 - **Digital solutions during Covid-19:** Contact tracing app, **Aarogya Setu**.
- **Digital India Programme:** It was **launched in 2015**. The programme has been **enabled for several important Government schemes**, such as BharatNet, Make in India, Startup India and Standup India, industrial corridors, etc.
- **Vision Areas:**
 - Digital infrastructure as Utility to Every Citizen.
 - Governance and services on demand.
 - Digital empowerment of citizens.
- **Objectives:**
 - To prepare India for a knowledge future.
 - For being transformative that is to realize IT (Indian Talent) + IT (Information Technology) = IT (India Tomorrow).
 - Making technology central to enabling change.
 - On being an Umbrella Programme – covering many departments.

Six Years of Digital India Programme

Why in News

Recently, the Prime Minister of India addressed a virtual event to mark the completion of six years of **Digital Indian programme**.

Key Points

- **Important Points of Address:**

Note:



UDISE+ 2019-20 Report

Why in News

Recently, the Union Education Minister released the **Report on United Information System for Education Plus (UDISE+) 2019-20** for School Education in India.

United Information System for Education Plus

- It is **one of the largest Management Information Systems on school education**. It was launched in 2018-2019 to speed up data entry, reduce errors, improve data quality and ease its verification.
- It is **an application to collect the school details** about factors related to a school and its resources.
 - It is an **updated and improved version of UDISE, which was initiated in 2012-13** by the Ministry of Education.
- It **covers more than 1.5 million schools, 8.5 million teachers and 250 million children**.
- It helps **measure the education parameters from classes 1 to 12** in government and private schools across India.

Key Points

- **Total Students:**
 - In 2019-20, total students in school education from **pre-primary to higher secondary have crossed**

26.45 crore. This is **higher by 42.3 lakh** compared to 2018-19.

➤ Gross Enrolment Ratio:

- **Gross Enrolment Ratio (GER)** at all levels of school education has **improved in 2019-20** compared to 2018-19.
 - **Upper Primary level** increased to **89.7%** from 87.7%.
 - **Elementary Level** increased to **97.8%** from 96.1%.
 - **Secondary Level** increased to **77.9%** from 76.9%.
 - **Higher Secondary Level** increased to **51.4%** from 50.1%.
- GER is the **number of students enrolled in a given level of education**, regardless of age, expressed as a **percentage of the official school-age population** corresponding to the same level of education.

➤ Pupil Teacher Ratio:

- In 2019-20, **96.87 lakh teachers** were engaged in school education. This is **higher by about 2.57 lakh** compared to 2018-19.
- The Pupil Teacher Ratio (PTR) has **improved at all levels of school education**.

➤ Enrolment of Divyang Students:

- Enrolment of Divyang students has **increased by 6.52% over 2018-19**.

➤ Enrolment of Girls:

- In 2019-20, **enrolment of girls from primary to higher secondary is more than 12.08 crore**. This is an increase by 14.08 lakh compared to 2018-19.

➤ Gender Parity Index:

- Between 2012-13 and 2019-20, the **Gender Parity Index (GPI)** at both **Secondary and Higher Secondary levels have improved**.
 - GPI in primary, secondary and tertiary education is the **ratio of the number of female students enrolled at primary, secondary and tertiary levels of education to the number of male students in each level**.
- Improvement of GPI has been **most pronounced at the higher secondary level**, which has gone up to 1.04 in 2019-20 from 0.97 in 2012-13.

➤ Facilities at Schools:

- **Electricity:** More than **80% of schools in India in 2019-20 had functional electricity**. This is an improvement of more than 6% over the previous year 2018-19.

Note:



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- **Computers:** The number of schools having functional computers **increased to 5.2 lakh in 2019-20 from 4.7 lakh in 2018-19.**
- **Internet:** The number of schools having internet facilities **increased to 3.36 lakh in 2019-20 from 2.9 lakh in 2018-19.**
- **Hand Wash Facility:** More than **90% of schools in India had hand wash facilities in 2019-20.** This is a major improvement as this percentage was only 36.3% in 2012-13.

- **Medical Check-Ups:** More than **82% of schools conducted medical check-ups of students in 2019-20**, an increase of more than 4% compared to the previous year 2018-19.

➤ **Some Important Government Initiatives:**

- **New National Education Policy (NEP), 2020.**
- **Sarva Shiksha Abhiyan.**
- **Mid Day Meal Scheme.**
- **Right To Education (RTE) Act, 2009.**
- **Beti Bachao Beti Padhao.**



Note:

Economic Scenario

Highlights

- Inflation Data: June 2021
- India's Covid-19 Emergency Response Package: Phase II
- Agriculture Infrastructure Fund
- Fertiliser Self-Sufficiency
- Special Livestock Sector Package
- RBI's Retail Direct Scheme
- Sankalp Se Siddhi: Mission Van Dhan
- Matsya Setu
- GI Certified Bhalia Wheat: Gujarat
- Youth and Food System
- Authorised Economic Operators Programme
- Anti-Dumping Duty
- Forex Reserves
- Contraction of India's Manufacturing Sector: PMI
- Revamped Distribution Sector Scheme
- Open Network for Digital Commerce
- World Bank Support to India's Informal Working Class
- Four Years of the GST
- Financial Stability Report: RBI
- New Norms for Independent Directors
- Ministry of Cooperation: A New Push to Co-operatives
- Output Pact: OPEC+

Inflation Data: June 2021

Why in News

Recently, the **Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade** has released the **Wholesale Price Index (WPI)** for the month of June, 2021.

Key Points

- **Wholesale Price- Inflation:**
 - Inflation in wholesale prices **stayed high in June 2021 at 12.07%** following the record high of 12.94% in May 2021.
- **Reason:**
 - The high rate of inflation in June 2021, is primarily due to **low base effect**.
 - **Base effect:** It is the effect that choosing a different reference point for a comparison between two data points can have on the result of the comparison.
 - **Rise in prices** of mineral oils viz petrol, diesel, naphtha, furnace oil etc.
 - Increased **costs of manufactured products** like basic metal, food products, chemical products etc as compared the corresponding month of the previous year.

- **Retail inflation** based on the **Consumer Price Index (CPI)**, was at **6.26%** in June 2021.

➤ Implication:

- Wholesale Price- Inflation's potential to spill over into retail inflation (CPI inflation) levels **will inject 'uneasiness' in the monetary policy**.
- **Monetary policy** is the macroeconomic policy laid down by the central bank. It involves management of money supply and interest rate and is the demand side economic policy used by the government of a country to achieve macroeconomic objectives like inflation, consumption, growth and liquidity.

Wholesale Price Index

- It **measures the changes in the prices** of goods sold and **traded in bulk by wholesale businesses to other businesses**.
- Published by the **Office of Economic Adviser**, Ministry of Commerce and Industry.
- It is the **most widely used** inflation indicator in India.
- Major criticism for this index is that the general public does not buy products at wholesale price.
- The **base year of All-India WPI** has been revised from **2004-05 to 2011-12 in 2017**.

Note:

Consumer Price Index

- It measures **price changes from the perspective of a retail buyer**. It is released by the **National Statistical Office (NSO)**.
- The **CPI calculates the difference in the price of commodities and services** such as food, medical care, education, electronics etc, which Indian consumers buy for use.
- The CPI **has several sub-groups** including food and beverages, fuel and light, housing and clothing, bedding and footwear.
- Four **types of CPI** are as follows:
 - CPI for **Industrial Workers (IW)**.
 - CPI for **Agricultural Labourer (AL)**.
 - CPI for **Rural Labourer (RL)**.
 - CPI (**Rural/Urban/Combined**).
 - Of these, the first three are compiled by the **Labour Bureau** in the Ministry of Labour and Employment. Fourth is compiled by the NSO in the Ministry of Statistics and Programme Implementation.
- **Base Year** for CPI in general is **2012**. However the base year for **CPI for Industrial Worker (CPI-IW)** is **2016**.
- The **Monetary Policy Committee (MPC)** uses CPI data to control inflation (within range 4+/-2%). In April 2014, the **Reserve Bank of India (RBI)** had adopted the CPI as its key measure of inflation.

CPI vs. WPI

- WPI tracks inflation at the producer level and CPI captures changes in prices levels at the consumer level.
- **WPI does not capture changes in the prices of services**, which CPI does.

Inflation

- Inflation refers to the **rise in the prices of most goods and services of daily or common use**, such as food, clothing, housing, recreation, transport, consumer staples, etc.
- Inflation measures the **average price change in a basket of commodities and services** over time.
- Inflation is **indicative of the decrease in the purchasing power** of a unit of a country's currency.
 - This could ultimately lead to a **deceleration in economic growth**.
- However, a **moderate level of inflation is required** in the economy to ensure that production is promoted.

- In India, inflation is primarily measured by **two main indices — WPI & CPI** which measure wholesale and retail-level price changes, respectively.

Core Inflation

- It is the **change in the costs of goods and services but does not include those from the food and energy sectors**. This measure of inflation excludes these items **because their prices are much more volatile**.
 - **Core inflation** = Headline inflation – (Food and Fuel) inflation.

India's Covid-19 Emergency Response Package: Phase II

Why in News

The Union Cabinet has recently approved a Rs. 23,123 crore package to boost emergency response and healthcare systems.

- It includes funding for 20,000 additional ICU (intensive care unit) beds and the setting up of paediatric units in all districts, ahead of a potential third wave of **Covid-19** in the country.

Key Points

- **Background:**
 - **Phase I of Package:** In March 2020, when the country was faced with the first wave of the Covid-19 pandemic, the Central Sector Scheme of Rs. 15,000 crore was announced for the "**India Covid-19 Emergency Response and Health Systems Preparedness Package**".
 - It aimed at providing a critical impetus to the efforts of the Ministry of Health and Family Welfare (MoHFW) and States/UTs, and catalysing health systems activities for pandemic management.
 - Since mid-February 2021, the country is experiencing a **second wave** which has spread into rural, peri-urban and tribal areas.
- **Phase II of Package:**
 - The Phase-II of the Package has **Central Sector (CS)** and **Centrally Sponsored Schemes (CSS)** components.
 - The Union government fully funds the central sector schemes, whereas centrally sponsored

Note:



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schemes are jointly funded by the Centre and states.

- It would be **implemented from 1st July 2021 to 31st March 2022.**

➤ **Purpose:**

- Includes funding for paediatric units in all 736 districts, and the setting up of 20,000 ICU beds, 20% of which would be “hybrid”, that is, for adults as well as children.
 - There are apprehensions about **a third wave of Covid-19 affecting children more than before.**
- It is **aimed at preventing the problems observed during the second wave**, including lack of transport facilities for oxygen and shortage of medicines, from happening again.
- The Centre **would provide support to its hospitals, the All India Institutes of Medical Sciences, and other institutes of national importance**, for repurposing 6,688 beds for Covid-19 management.
- **Genome sequencing** machines would be provided to the **National Centre for Disease Control.**
- The package would also provide for the expansion of the national telemedicine platform, **eSanjeevani**, by increasing daily consultations from 50,000 at present to 5 lakh.
- **States would be supported** to carry out at least 21.5 lakh tests a day and add 8,800 ambulances.

Agriculture Infrastructure Fund

Why in News

Recently, the Union Cabinet approved some modifications in the **Central Sector Scheme** of Financing Facility under ‘**Agriculture Infrastructure Fund**’.

Key Points

- **Launch:** It was launched in 2020 as a part of the **Rs. 20 lakh crore stimulus package** announced in response to the **Covid-19 crisis.**
- **Aim:** To provide **medium-long term debt financing facility** for investment in viable projects for post-harvest management Infrastructure and community farming assets.
 - The **funds will be provided for** setting up of cold stores and chains, warehousing, grading and

packaging units, e-marketing points linked to e-trading platforms, besides **PPP (Public Private Partnership) projects** for crop aggregation sponsored by central/state/local bodies.

- **Duration:** Extended to 13 years upto 2032-33.

➤ **Features:**

- **Eligible Beneficiaries:**

- They are Farmers, **Farmer Producer Organizations (FPOs)**, Primary Agricultural Credit Society (PACS), Marketing Cooperative Societies, **Self Help Groups (SHGs)**, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Start-ups, and Central/State agency or Local Body sponsored PPP Projects.
- Eligibility has been **extended to State agencies and Agricultural Produce Marketing Committees (APMCs)**, as well as federations of cooperative organisations, FPOs and SHGs.

- **Financial Support:** Rs. **1 Lakh Crore** will be provided by **banks and financial institutions** as loans to eligible beneficiaries.

- Moratorium for repayment may vary subject to minimum of 6 months and maximum of 2 years.

- **Interest Subvention:** Loans will have **interest subvention of 3% per annum** up to a **limit of Rs. 2 crore**. This subvention will be available for a maximum period of seven years.

- **CGTMSE Scheme:** A credit guarantee coverage will be available for eligible borrowers from this financing facility under **Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme** for a loan up to Rs. 2 crore.

- **Management:** The fund will be managed and monitored through an online **Management Information System (MIS)** platform. It will enable all the qualified entities to apply for loans under the Fund.

- The National, State and District level monitoring committees will be set up to ensure real-time monitoring and effective feed-back.

Fertiliser Self-Sufficiency

Why in News

Recently, the **Minister of Chemicals and Fertilisers** has reviewed the **initiatives of the Department of Fertilisers** for making India **Atmanirbhar in Fertilisers**.

Note:



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- The **Government** is planning to liberalise **Market Development Assistance (MDA) policy** to promote the **use of alternative fertilisers**.

Key Points

- **MDA Policy:**
 - MDA policy was earlier limited to **city compost only**.
 - There were **demands to expand this policy** by incorporating **organic waste** like **Biogas, Green Manure, organic compost of rural areas, solid/liquid slurry, etc.**
 - This expansion will fully complement the **Swachh Bharat Abhiyan**.
- **Government Initiatives and Schemes:**
 - **Neem Coating of Urea:**
 - The Department of Fertilizers (DoF) has made it mandatory for all the domestic producers to produce **100% urea as Neem Coated Urea (NCU)**.
 - The benefits of use of NCU are as under:-
 - Improvement in soil health.
 - Reduction in usage of plant protection chemicals.
 - Reduction in pest and disease attack.
 - An increase in yield of paddy, sugarcane, maize, soybean, Tur/Red Gram.
 - Negligible diversion towards non-agricultural purposes.
 - Due to slow release of Nitrogen, Nitrogen Use Efficiency (NUE) of Neem Coated Urea increases resulting in reduced consumption of NCU as compared to normal urea.
 - **New Urea Policy (NUP) 2015:**
 - Objectives of the policy are-
 - To maximize **indigenous urea production**.
 - To promote energy efficiency in the urea units.
 - To rationalize the subsidy burden on the Government of India.
 - **New Investment Policy- 2012:**
 - The Government announced **New Investment Policy (NIP)-2012** in January, 2013 and made amendments in 2014 to facilitate fresh investment in the **urea sector** and to make **India self-sufficient in the urea sector**.
 - **Policy on Promotion of City Compost:**
 - The Government of India approved a **policy**

on promotion of City Compost, notified by the DoF in 2016 granting Market Development Assistance of Rs. 1500/- for scaling up production and consumption of city compost.

- To increase sales volumes, compost manufacturers willing to market city compost were allowed to sell city compost in bulk directly to farmers.
- Fertilizer companies marketing city compost are covered under the **Direct Benefit Transfer (DBT)** for Fertilizers.
- **Use of Space Technology in Fertilizer Sector:**
 - DoF commissioned a three year Pilot Study on **"Resource Mapping of Rock Phosphate using Reflectance Spectroscopy and Earth Observations Data"** by National Remote Sensing Centre under ISRO, in collaboration with Geological Survey of India (GSI) and the Atomic Mineral Directorate (AMD).
- **The Nutrient Based Subsidy (NBS) Scheme:**
 - It has been implemented from **April 2010 by the DoF**.
 - Under **NBS**, a **fixed amount of subsidy decided on an annual basis**, is provided on each grade of subsidized Phosphatic & Potassic (P&K) fertilizers depending on its nutrient content.
 - It aims at ensuring the balanced use of **fertilizers, improving agricultural productivity, promoting the growth of the indigenous fertilizers industry** and also reducing the burden of Subsidy.

Fertilizer Consumption in India

- **India's fertiliser consumption in FY20** was about 61 million tonnes — of which **55% was urea**—and is estimated to have increased by 5 million tonnes in FY21.
- Since **non-urea (MoP, DAP, complex) varieties** cost higher, many **farmers prefer to use more urea** than actually needed.
- The government has taken a number of **measures to reduce urea consumption**. It introduced **neem-coated urea** to reduce illegal diversion of urea for non-agricultural uses. It also stepped up the **promotion of organic and zero-budget farming**.
- Currently, the fertiliser production of the country is 42-45 million tonnes, and **imports are at around 18 million tonnes**.

Note:

- **Subsidy on Urea:** The Centre **pays subsidy on urea to fertiliser manufacturers on the basis of cost of production** at each plant and the units are required to sell the fertiliser at the government-set Maximum Retail Price (MRP).
- **Subsidy on Non-Urea Fertilisers:** The MRPs of non-urea fertilisers are **decontrolled or fixed by the companies**. The Centre, however, pays a flat per-tonne subsidy on these nutrients to ensure they are priced at “reasonable levels”.
 - Examples of non-urea fertilisers: **Di-Ammonium Phosphate (DAP), Muriate of Potash (MOP)**.
 - All **Non-Urea based fertilisers are regulated under Nutrient Based Subsidy Scheme**.

Special Livestock Sector Package

Why in News

The **Cabinet Committee on Economic Affairs (CCEA)** has approved implementation of a special livestock sector package.

Key Points

- **About the Package:**
 - **Aim:** To boost growth in the livestock sector and thereby making **animal husbandry** more remunerative to 10 crore farmers engaged in Animal Husbandry Sector.
 - **Total Amount:** The **Central government will spend Rs. 9,800 crore** on livestock development over the next five years in a bid to **leverage almost Rs. 55,000 crore of outside investment** into the sector.
 - It includes the **share of investments by State Governments, State Cooperatives, Financial institutions, External funding agencies** and other stakeholders.
- **Merger of Schemes:**
 - The package has been designed by **revising and realigning various components** of the Department of **Animal Husbandry & Dairying** Schemes for the next five years, starting 2021-22.
 - All the schemes of the Department will be merged into **three broad categories** as:
 - **Development Programmes:** It includes **Rashtriya**

Gokul Mission, National Programme for Dairy Development (NPDD), National Livestock Mission (NLM) and **Livestock Census and Integrated Sample Survey (LC & ISS)** as sub-schemes.

- **Disease Control Programme:** It is **renamed as Livestock Health and Disease Control (LH & DC)** which includes the present Livestock Health and Disease Control (LH & DC) scheme and **National Animal Disease Control Programme (NADCP)**.
- **Infrastructure Development Fund:** The **Animal Husbandry Infrastructure Development fund (AHIDF)** and the **Dairy Infrastructure Development Fund (DIDF)** are merged and the present scheme for support to **Dairy Cooperatives** and **Farmer Producer Organizations** engaged in Dairy activities is also included in this third category.

National Livestock Mission (NLM)

- NLM was launched in the 2014-15 financial year and seeks to ensure quantitative and qualitative improvement in livestock production systems and capacity building of all stakeholders.
- The scheme is being implemented as a sub scheme of **White Revolution - Rashtriya Pashudhan Vikas Yojana** from April 2019.
- The mission is organised into the following four Sub - Missions:
 - Sub-Mission on Livestock Development.
 - Sub-Mission on Pig Development in North-Eastern Region.
 - Sub-Mission on Feed and Fodder Development.
 - Sub-Mission on Skill Development, Technology Transfer and Extension.

RBI's Retail Direct Scheme

Why in News

Recently, the **Reserve Bank of India (RBI)** announced the '**RBI Retail Direct**' Scheme.

- In February 2021 RBI **proposed to allow retail investors to open gilt accounts** with the central bank to invest in **Government securities (G-secs)** directly.

Key Points

- **About:**
 - Under the scheme, **retail investors (individuals)** will

Note:



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have the facility to open and maintain the 'Retail Direct Gilt Account' (RDG Account) with the RBI.

- **Retail Investor** is a non-professional investor who buys and sells securities or funds that contain a basket of securities such as mutual funds and **Exchange Traded Funds (ETFs)**.

- **A Gilt Account** can be compared with a bank account, except that the **account is debited or credited with treasury bills or government securities instead of money**.

- RDG accounts can be opened through an **online portal** provided for the purpose of the scheme.
- The online portal will give registered users access to **primary issuance of G-secs and access to Negotiated Dealing System-Order Matching system (NDS-OM)**.

- The RBI introduced the **NDS-OM in August 2005**. It is an **electronic, screen based, anonymous, order driven trading system** for dealing in G-secs.

- It is a **one-stop solution to facilitate investment in G-secs** by individual investors.

- RBI seeks to **democratize the ownership of government debt securities** beyond banks and managers of pooled resources such as mutual funds.

➤ **Current G-Sec Market:**

- The G-sec market is **dominated by institutional investors** which are large market actors such as banks, mutual funds and insurance companies.

- These **entities trade in lot sizes of Rs 5 crore or more**.

- So, there is **no liquidity in the secondary market for small investors** who would want to trade in smaller lot sizes.

- The **primary market** is where securities are created, while the **secondary market** is where those securities are traded by investors.

- There is **no easy way for them to exit their investments**. Thus, currently, direct G-secs trading is not popular among retail investors.

➤ **Significance:**

- **Improved Ease of Access:**

- It will make the process of G-sec trading **smoother for small investors** therefore it will **raise retail participation in G-secs** and will **improve ease of access**.

○ **Facilitate Government Borrowings:**

- This measure together with relaxation in mandatory Hold To Maturity (securities that are purchased to be owned until maturity) provisions **will facilitate smooth completion of the government borrowing programme in 2021-22**.

○ **Financialise Domestic Savings:**

- Allowing direct retail participation in the G-Sec market will **promote financialisation of a vast pool of domestic savings** and could be a game-changer in India's investment market.

➤ **Other Measures Taken to Increase Retail Investment in Government Securities:**

- **Introduction of non-competitive bidding** in primary auctions.

- **Non-competitive bidding** means the bidder would be able to participate in the auctions of dated government securities without having to quote the yield or price in the bid.

- **Stock exchanges to act as aggregators** and facilitators of retail bids.

- **Allowing a specific retail segment** in the secondary market.

Government Security

- A G-Sec is a **tradable instrument** issued by the Central Government or the State Governments.

- It **acknowledges the Government's debt obligation**. Such securities are **short term** (usually called treasury bills, **with original maturities of less than one year- presently issued in three tenors, namely, 91 day, 182 day and 364 day**) or **long term** (usually called Government bonds or dated securities with **original maturity of one year or more**).

- In India, the **Central Government issues both treasury bills and bonds or dated securities** while the **State Governments issue only bonds or dated securities**, which are called the State Development Loans (SDLs).

- G-Secs **carry practically no risk of default** and, hence, are **called risk-free gilt-edged instruments**.

- **Gilt-edged securities** are high-grade investment bonds offered by governments and large corporations as a means of borrowing funds.

Note:

Sankalp Se Siddhi: Mission Van Dhan

Why in News

Recently, the **Minister of Tribal Affairs** reviewed various initiatives under '**Sankalp Se Siddhi-Mission Vand Dhan**', by **TRIFED** (Tribal Cooperative Marketing Development Federation of India).

TRIFED

- The Tribal Cooperative Marketing Development Federation of India (TRIFED) came into existence in 1987.
- It is a **national-level apex organization** functioning under the administrative control of the **Ministry of Tribal Affairs**.
- The **ultimate objective** of TRIFED is socio-economic development of tribal people in the country by way of marketing development of the tribal products such as metal craft, tribal textiles, pottery, tribal paintings and pottery on which the tribals depends heavily for a major portion of their income.

Key Points

- **About 'Sankalp se Siddhi':**
 - The 'Sankalp Se Siddhi' initiative, **also known as 'Mission Van Dhan'**, was **introduced by the central government in 2021**, in line with the Prime Minister's aim **to establish a sustainable livelihood for India's tribal population**.
 - Through this mission, TRIFED **aims to expand its operation through convergence of various schemes of different ministries** and departments and launch various tribal development programmes in mission mode.
 - Through this mission, establishment of several **Van Dhan Vikas Kendras (VDVKs)**, **haat bazaars**, **mini TRIFOOD units**, **common facility centres**, **TRIFOOD parks**, **SFRUTI (Scheme of Fund for regeneration of traditional industries)** clusters, **tribes india retail store**, **e-commerce platform** for trifoed and tribes, **India brands** are being targeted.
 - **TRIFED has been implementing several noteworthy programmes** for the empowerment of the tribals.
 - Over the past two years, the '**Mechanism for Marketing of Minor Forest Produce (MFP)**'

through Minimum Support Price (MSP) & Development of Value Chain for MFP' has impacted the tribal ecosystem in a major way.

- **TRIFED has also injected Rs. 3000 crores into the tribal economy**, even during such difficult times, aided by government push.
- The **Van Dhan tribal start-ups**, a component of the same scheme, have emerged as a source of employment generation for tribal gatherers and forest dwellers and the home-bound tribal artisans.

➤ TRIFED is involved in following initiatives:

○ Van Dhan Vikas Yojana:

- Van Dhan Scheme, a **component of 'MSP for MFP'**, was launched in 2018.
- An initiative **targeting livelihood generation for tribal gatherers** and transforming them into entrepreneurs.
- The idea is **to set-up tribal community-owned Van Dhan Vikas Kendra Clusters (VDVKs)** in predominantly forested tribal districts.
- VDVks are **for providing skill upgradation and capacity building training to tribals** and setting up of primary processing and value addition facilities.

○ MSP for MFP:

- Mechanism for Marketing of **Minor Forest Produce (MFP)** Through **Minimum Support Price (MSP)** and Development of Value Chain for MFP **provide MSP to gatherers of forest produce**.
- The scheme **acts as a measure of social safety for MFP gatherers** who are primarily **members of ST (Scheduled Tribe)**.
- The scheme formed a system to ensure fair monetary returns of the gatherers for their endeavour in collection, primary processing, storage, packaging, transportation, etc.
- MFP includes **all non-timber forest produce** of plant origin and includes bamboo, canes, fodder, leaves, gums, waxes, dyes, resins and many forms of food including nuts, wild fruits, honey, lac, tusser etc.

○ Tech For Tribals:

- It **aims to transform 5 crore Tribal Entrepreneurs** by capacity building and imparting entrepreneurship

Note:



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skills to tribal forest produce gatherers enrolled under the **Pradhan Mantri Van Dhan Yojana (PMVDY)**.

- The program will ensure higher success rate of the Tribal Entrepreneurs by enabling and **empowering them to run their business with marketable products** with quality certifications.
- **TRIFOOD Scheme:**
 - It was launched in August 2020 and **promotes value addition to MFP**.
 - TRIFOOD parks will produce processed foods from minor forest produce and also from the food gathered by the tribal people in that region.
- **Village and Digital Connect Initiative:**
 - To ensure that existing schemes and initiatives reach the tribals, TRIFED's regional officials across the country have been visiting identified villages with a significant tribal population.

Matsya Setu

Why in News

Recently, the **Ministry of Fisheries, Animal Husbandry and Dairying** has launched the Online Course Mobile App "**Matsya Setu**" for fish farmers.

- The app was developed by the **Indian Council of Agricultural Research-Central Institute of Freshwater Aquaculture (ICAR-CIFA)** and **National Fisheries Development Board (NFDB)**.

Key Points

- **About:**
 - It **aims to disseminate the latest freshwater aquaculture technologies** to the aqua farmers of the country, thus increasing productivity and income.
 - Aquaculture is **breeding, raising, and harvesting fish, shellfish, and aquatic plants**.
 - **India is the second major producer of fish** through aquaculture in the world.
 - It has a focus on **grow-out culture of commercially important fishes** like carp, catfish, scampi, murrel, ornamental fish, pearl farming etc.
 - It can be used to **disseminate the latest information on different schemes among the stakeholders**,

especially fishers, fish farmers, youth and entrepreneurs across the country, and **facilitate ease of doing business**.

➤ **Other Related Initiatives:**

- **Shaphari: Certification Scheme for Aquaculture Products:** It is a market-based tool for hatcheries to adopt good aquaculture practices and help produce quality antibiotic-free shrimp products to assure global consumers.
- Establishment of **Fisheries and Aquaculture Infrastructure Development Fund (FIDF)** during 2018-19.
- **Pradhan Mantri Matsya Sampada Yojana:** The programme aims to achieve 22 million tonnes of fish production by 2024-25. Also, it is expected to create employment opportunities for 55 lakh people.
 - Focus on **Blue Revolution:** Creating an enabling environment for integrated and holistic management of fisheries for the socio-economic development of the fishers and fish farmers.
 - Extension of **Kisan Credit Card (KCC)** facilities to fishers and fish farmers to help them in meeting their working capital needs.

GI Certified Bhalia Wheat: Gujarat

Why in News

Recently, the first shipment of **Geographical Indication (GI)** certified **Bhalia variety of wheat** was exported to Kenya and Sri Lanka **from Gujarat**.

Key Points

- **About:**
 - The Bhalia variety of wheat **received GI certification in July, 2011**.
 - This Wheat has **high protein content and is sweet in taste**.
 - This crop is **grown mostly across the Bhal region of Gujarat** which includes Ahmedabad, Anand, Kheda, Bhavanagar, Surendranagar, Bharuch districts.
 - This variety is **grown in the rainfed condition without irrigation**.
- **Other GI products from Gujarat are:**

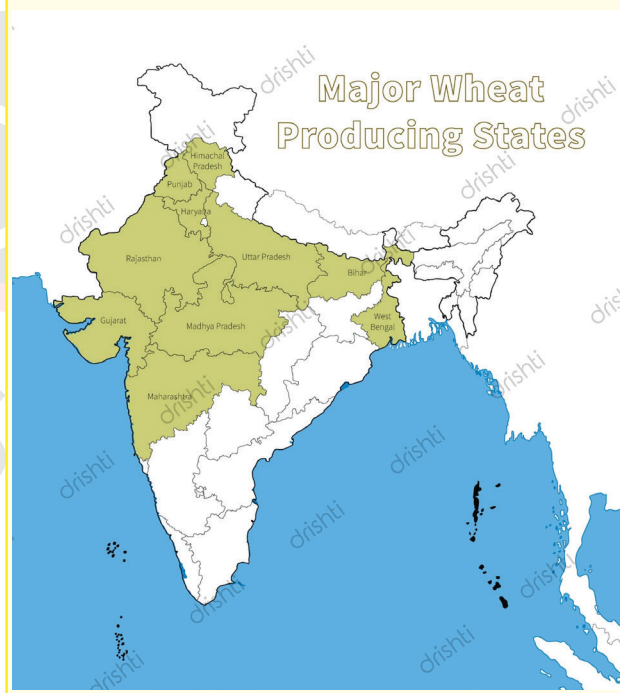
Note:

- Latest is the **wooden printing blocks of Pethapur** and others are, **furniture made in Sankheda**, **agate from Khambhat**, Kutch embroidery, zari craft from Surat, patola from Patan, bandhani from Jamnagar, and Kesar mangoes from Gir.
- **Geographical Indication Status:**
 - GI is an indication used to **identify goods having special characteristics originating from a definite geographical territory**.
 - It is used for **agricultural, natural and manufactured goods**.
 - The **Geographical Indications of Goods (Registration and Protection) Act, 1999** seeks to provide for the registration and better protection of geographical indications relating to goods in India.
 - The Act is **administered by the Controller General of Patents, Designs and TradeMarks**- who is the Registrar of Geographical Indications.
 - The Geographical Indications **Registry is located at Chennai**.
 - The registration of a geographical indication is **valid for a period of 10 years**. It can be **renewed from time to time** for a further period of 10 years each.
 - It is also a part of the **World Trade Organisation's Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
 - **Recent Examples:** **Jharkhand's Sohrai Khovar painting**, **Telangana's Telia Rumaal**, **Tirur Vetilla (Kerala)**, **Dindigul Lock and Kandangi Saree (Tamil Nadu)**, **Odisha Rasagola**, **Shahi Litchi (Bihar)**, etc.
 - **Agricultural and Processed Food Products Export Development Authority (APEDA** - Ministry of Commerce and Industry) has a focus on promotion of exports of GI products.
 - Recently, a consignment of **Dahanu Gholvad sapota** was exported from **Maharashtra's Palghar district**.

Wheat

- **Rabi Crop:** It is **sown in October-December** and **harvested during April-June**.
- **Temperature:** Between **10-15°C (Sowing time)** and **21-26°C (Ripening & Harvesting)** with bright sunlight.
- **Rainfall:** Around 75-100 cm.
- **Soil Type:** Well-drained fertile **loamy and clayey loamy** (Ganga-Satlu plains and black soil region of the Deccan).

- **Major wheat growing states** in India are **Uttar Pradesh, Punjab, Haryana, Madhya Pradesh, Rajasthan, Bihar and Gujarat**.
 - India is the **second largest producer** after China.
 - Success of the **Green Revolution** contributed to the growth of Rabi crops, especially wheat.
- **Macro Management Mode of Agriculture, National Food Security Mission and Rashtriya Krishi Vikas Yojana** are few **government initiatives** to support wheat cultivation.
- The **wheat exports from India witnessed a significant growth of 808%** in the fiscal 2020-21.
 - India exported a substantial quantity of grain to **seven new countries** - **Yemen, Indonesia, Bhutan, Philippines, Iran, Cambodia and Myanmar** during 2020-21.



Youth and Food System

Why in News

A new **UN report on youth and agriculture** underscores the urgent need to make agri-food systems more appealing to young people to secure the future of global food security and nutrition.

- The report '**Promoting youth engagement and employment in agriculture and food systems**' is

Note:

prepared and shared to the UN by the **Committee on World Food Security (CFS)**.

- **CFS** is an inclusive international and intergovernmental platform for all stakeholders to work together on **food security and nutrition for all**. The CFS is hosted by the **Food and Agriculture Organization (FAO)** of the **United Nations (UN)**.

Key Points

➤ Youth in Numbers:

- Youth aged between 15 and 24 years accounted for **16% of the world's population** in 2019.
- Young people were concentrated in **Asia, Central and Southern Asia** with 361 million youth and Eastern and South-Eastern Asia with 307 million youth, followed by sub-Saharan Africa (211 million youth).
- The **International Labour Organization (ILO)** estimated that 440 million youth from the African continent would enter the labour market between 2015 and 2030.

➤ Key Findings:

- **Food systems are the largest employer:** Particularly in the developing countries, yet they often do not provide decent and meaningful work or adequate livelihood opportunities, nor maintain a balance between the needs and rights of different generations.
 - **Food systems** are a **complex web of activities** involving production, processing, handling, preparation, storage, distribution, marketing, access, purchase, consumption, food loss and waste, as well as the outputs of these activities, including social, economic and environmental outcomes.
- **More Employment Opportunities:** **Covid-19** has affected labour markets around the world, hurting employment prospects for the youth more than those belonging to other age groups. Globally, employment among the youth fell 8.7% in 2020 compared with 3.7% for adults.
 - Agri-food systems, if made more appealing and equitable to youth, are a large, **untapped reservoir of employment opportunities**.
- **Importance of Focusing on Developing Countries:** As almost 88% of the world's 1.2 billion youth live, particularly in Africa, where over 70% of youth subsist on USD 2 per day or less.

- **Achieving Sustainable Development Goals:** The youth engagement and employment in sustainable agri-food systems is simultaneously a goal to be realized and a means for the achievement of the **Sustainable Development Goals**, and of economic well-being.

- Youth are on the **front lines to build the food systems of the future**, while also bearing significant risks from **climate change, social and economic inequities, and political marginalization**.

➤ Recommendations:

- **Approaches, initiatives and policies** to strengthen youth engagement and employment in food systems need to be based on the **pillars of rights, equity, agency and recognition**.
- Improving youth-focused **social protection programmes, labour laws** and regulations, and **young people's access to resources** (land, forests, fisheries etc), finance, markets, digital technologies, knowledge and information.
- Supporting youth-led **start-up initiatives** is also important, and requires a supportive policy environment.
- The **redistribution of resources, knowledge and opportunities for youth** can contribute to creating jobs for the youth, as well as directly supporting transitions to sustainable agri-food systems.

Indian Scenario

➤ Youth in Numbers:

- The youth (18-29 years) constitute 22% of India's population, which is more than 261 million people.
- According to the Ministry of Statistics and Programme Implementation, the median age of Indian population is around 28 years in 2021 and will become 31 years by 2031.
- India is also going through the stage of **demographic dividend**.
- Hardly **5% of the youth are engaged in agriculture** though over 60% of the rural people derive their livelihood fully or partly from farming and its related activities.
 - Clearly, the modern youth are disenchanted with agriculture and are shunning it as a profession.

➤ Related Initiatives:

Note:



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- **MAYA Roadmap, 2018:** This was formulated in a conference in New Delhi on “**Motivating and Attracting Youth in Agriculture**” (MAYA).
 - The MAYA road map envisages offering the youth a variety of avenues and opportunities for economic growth, social respect and application of modern technologies in farming and allied activities.
- **ARYA (Attracting and Retaining Youth in Agriculture): Indian Council of Agricultural Research (ICAR)** has initiated this programme. Following are its **Objectives**:
 - To attract and empower the Youth in Rural Areas to take up various Agriculture, allied and service sectors.
 - To enable the **Farm Youth to establish network groups** to take up resource and capital intensive activities like processing, value addition and marketing.
- **National Policy for Farmers, 2007:** To introduce measures which can help attract and retain youths in farming and processing of farm products for higher value addition by making it intellectually stimulating and economically rewarding.

Authorised Economic Operators Programme

Why in News

The **Central Board of Indirect Taxes & Customs (CBIC)** has inaugurated the online filing of **Authorised Economic Operators (AEO)** applications.

- The web application is designed to ensure continuous real-time and digital monitoring of physically filed AEO applications for timely intervention and expedience.

Key Points

- **About:**
 - AEO is a programme (2007) under the aegis of the **World Customs Organization (WCO) SAFE Framework** of Standards to **secure and facilitate global trade**.
 - It aims to **enhance international supply chain security** and **facilitate the movement of goods**.

- Under this, an entity engaged in international trade is **approved by WCO** as compliant with supply chain security standards and **granted AEO status**.
- An entity with an **AEO status is considered a ‘secure’ trader** and a reliable trading partner.
 - Benefits of AEO status include **expedited clearance times, fewer examinations, improved security and communication between supply chain partners**.
- AEO is a **voluntary programme**.
- **Indian AEO Programme:**
 - The AEO Programme was introduced **as a pilot project in 2011**.
 - The security standards detailed in WCO SAFE Framework are the basis of the Indian AEO programme.
 - There is a **three tier AEO Status** for Exporters and Importers. The three tiers are AEO T1, AEO T2, AEO T3, where AEO T3 is the highest level of accreditation.
- **Aim of Indian AEO Programme:**
 - To provide business entities with an internationally recognized certification.
 - To recognize business entities as “secure and reliable” trading partners.
 - To incentivize business entities through defined benefits that translate into savings in time and cost.
 - Secure supply chain from point of export to import.
 - Enhanced border clearance.
 - Reduction in dwell time and related costs.
 - Customs advice / assistance if trade faces unexpected issues with Customs of countries.
- **Benefits:**
 - **Safe and Compliant Business:** Worldwide recognition as safe, secure and compliant business partners in international trade.
 - **Reciprocal Recognition:** India gets trade facilitation by a foreign country with whom India enters into a **Mutual Recognition Agreement/Arrangement (MRA)**.
 - MRA is an international agreement by which two or more countries agree to recognize one another’s conformity assessment results (for example **certifications** or **test results**).
 - **Streamline Cargo security:** It enables Indian Customs to enhance and streamline cargo security through

Note:

close cooperation with the principal stakeholders of the international supply chain viz. importers, exporters, logistics providers, custodians or terminal operators, custom brokers and warehouse operators.

- **Promote Ease of Doing Business:** A liberalized, simplified and rationalized AEO accreditation process has potential to promote **Ease of Doing Business** and to emulate global best practices.
- Facility of **Direct Port Delivery of import Containers** and/ or **Direct Port Entry of Export Containers**.
 - It also fast tracking of refunds and adjudications.
- The Indian AEO Programme is a **game-changer**. It will not only achieve '**Make in India**' but also substantially add to the vision and lead India to become a manufacturing and exporting powerhouse.

Anti-Dumping Duty

Why in News

Recently, the government has decided **not to impose Anti-Dumping Duty (ADD) on imports of certain copper products, from China, Thailand, Korea and three other countries.**

Key Points

- **About:**
 - In April, **Directorate General of Trade Remedies (DGTR)** recommended imposing the duty on "**copper and copper alloy flat-rolled products**" from China, Korea, Malaysia, Nepal, Sri Lanka and Thailand, after conducting a probe.
 - However, the **Ministry of Finance takes the final call** to impose these duties and issues notification for the same.
- **Anti Dumping Duty (Concept):**
 - **Dumping:**
 - Dumping is said to occur **when the goods are exported by a country to another country at a price lower than the price it normally charges** in its own home market.
 - This is **an unfair trade practice** which can have a distortive effect on international trade.
 - **Objective:**
 - Imposition of Anti-dumping duty is **a measure to**

rectify the situation arising out of the dumping of goods and its trade distortive effect.

- In the long-term, anti-dumping duties **can reduce the international competition of domestic companies** producing similar goods.
- It is a **protectionist tariff** that a domestic government imposes on foreign imports that it believes are priced below fair market value.
- The use of anti-dumping measures as an instrument of fair competition is **permitted by the World Trade Organisation.**
- **Different from Countervailing Duties:**
 - ADD is a customs duty on imports providing a protection against the dumping of goods at prices substantially lower than the normal value whereas **Countervailing duty is a customs duty on goods that have received government subsidies** in the originating or exporting country.
- **WTO's Provisions Related to Anti-Dumping Duty:**
 - **Validity:** An anti-dumping duty is **valid for a period of five years** from the date of imposition unless revoked earlier.
 - **Sunset Review:** It **can be extended for a further period of five years** through a sunset or expiry review investigation.
 - A Sunset review/ expiry review is an evaluation of the need for the continued existence of a program or an agency. It allows for an assessment of the effectiveness and performance of the program or agency.
 - Such a review can be initiated suo moto or on the basis of a duly substantiated request received from or on behalf of the domestic industry.

Forex Reserves

Why in News

According to the recent data from the **Reserve Bank of India**, India's **Foreign Exchange (Forex) Reserves** surged by \$ 5 billion to \$ 609 billion in the week ended 25th June, 2021.

- Increase in the **Foreign Currency Assets (FCA)** is the major component of overall reserves.

Key Points

Note:

- **Changes in forex reserves holdings:**
 - **FCA** rose by \$4.7 billion to \$ 566 billion.
 - **Gold reserves** rose by \$365 million to \$36.296 billion.
 - The **special drawing rights (SDRs)** with the **International Monetary Fund (IMF)** remained unchanged at \$1.498 billion.
 - The **country's reserve position with the IMF** increased marginally by \$1 million to \$4.965 billion in the week.
- **Foreign Exchange Reserves:**
 - Foreign exchange reserves are assets held on reserve by a central bank in foreign currencies, which can include bonds, treasury bills and other government securities.
 - It needs to be noted that most foreign exchange reserves are held in US dollars.
 - **India's Forex Reserve include:**
 - Foreign Currency Assets
 - Gold reserves
 - Special Drawing Rights
 - Reserve position with the **International Monetary Fund (IMF)**.
- **Objectives of Holding Forex Reserves:**
 - Supporting and maintaining **confidence in the policies for monetary and exchange rate management**.
 - Provides the capacity to **intervene in support of the national or union currency**.
 - **Limits external vulnerability by maintaining foreign currency liquidity** to absorb shocks during times of crisis or when access to borrowing is curtailed.
- **Significance of rising forex reserves:**
 - **Comfortable Position for the Government:** The rising forex reserves give comfort to the government and the RBI in managing India's external and internal financial issues.
 - **Managing Crisis:** It serves as a cushion in the event of a **Balance of Payment (BoP)** crisis on the economic front.
 - **Rupee Appreciation:** The rising reserves have also helped the rupee to strengthen against the dollar.
 - **Confidence in Market:** Reserves will provide a level of confidence to markets and investors that a country can meet its external obligations.

Foreign Currency Assets

- FCAs are assets that are valued **based on a currency other than the country's own currency**.
- FCA is the **largest component** of the forex reserve. It is expressed in **dollar terms**.
- The FCAs include the **effect of appreciation or depreciation of non-US units** like the euro, pound and yen held in the foreign exchange reserves.

Special Drawing Rights

- The SDR is an international reserve asset, **created by the IMF in 1969 to supplement its member countries' official reserves**.
- The SDR is **neither a currency nor a claim on the IMF**. Rather, it is a **potential claim on the freely usable currencies** of IMF members. SDRs can be exchanged for these currencies.
- The value of the SDR is **calculated from a weighted basket of major currencies**, including the **US dollar, the euro, Japanese yen, Chinese yuan, and British pound**.
- The interest rate on SDRs or (SDRi) is the interest paid to members on their SDR holdings.

Reserve Position in the International Monetary Fund

- A reserve tranche position implies a portion of the required **quota of currency each member country must provide to the IMF** that can be utilized for its own purposes.
- The reserve tranche is **basically an emergency account that IMF members can access** at any time without agreeing to conditions or paying a service fee.

Contraction of India's Manufacturing Sector: PMI

Why in News

The IHS Markit India Manufacturing **Purchasing Managers' Index (PMI)** slipped to **48.1 in June** from **50.8 in May**, moving below the **50-level separating growth from contraction**.

- India's manufacturing activity contracted in June for the first time in 11 months as the **second wave of the Covid-19 pandemic** and **strict containment measures negatively impacted demand** and led to renewed contractions in factory orders, production, exports and quantities of purchases.

Note:

Pressure point

The purchasing managers' index (PMI) for the manufacturing sector dropped to 48.1 in June from 50.8 in May.



Key Points

- **PMI is a survey-based measure** that asks the respondents about changes in their perception about key business variables as compared with the previous month.
- The purpose of the PMI is to **provide information about current and future business conditions** to company decision makers, analysts, and investors.
- It is calculated separately for the manufacturing and services sectors and then a composite index is also constructed.
- The PMI is a number from 0 to 100.
 - A print **above 50 means expansion**, while a score below that denotes contraction.
 - A reading at **50 indicates no change**.
- If the PMI of the previous month is higher than the PMI of the current month, it represents that the economy is contracting.
- It is usually **released at the start of every month**. It is, therefore, considered a good leading indicator of economic activity.
- PMI is compiled by **IHS Markit** for more than **40 economies worldwide**.
 - IHS Markit is a **global leader in information, analytics and solutions** for the major industries and markets that drive economies worldwide.
- As the official data on industrial output, manufacturing and Gross Domestic Product (GDP) growth comes much later, PMI helps to make informed decisions at an earlier stage.
- It is different from the Index of **Industrial Production (IIP)**, which also gauges the level of activity in the economy.

- IIP covers the broader industrial sector compared to PMI.
- However, PMI is more dynamic compared to a standard industrial production index.

Revamped Distribution Sector Scheme

Why in News

Recently, the **Cabinet Committee on Economic Affairs** has approved a **Reforms-based and Results-linked, Revamped Distribution Sector Scheme** worth Rs. 3.03 trillion wherein the Centre's share will be Rs. 97,631 crore.

- It aims to improve the **operational efficiencies and financial sustainability of discoms (excluding Private Sector DISCOMs)**.

Key Points

- **About:**
 - It will provide **conditional financial assistance** to strengthen the **supply infrastructure of discoms (power distribution companies)**.
 - The **financial assistance** will be based on **meeting pre-qualifying criteria** and upon achievement of **basic minimum benchmarks**.
 - All the **existing power sector reforms schemes** such as **Integrated Power Development Scheme, Deen Dayal Upadhyaya Gram Jyoti Yojana, and Pradhan Mantri Sahaj Bijli Har Ghar Yojana** will be **merged** into this umbrella program.
 - The scheme will be **available till 2025-26**.
- **Implementation:**
 - It would be based on the **action plan worked out for each state** rather than a **'one-size-fits-all' approach**.
- **Nodal Agencies:**
 - Rural Electrification Corporation and Power Finance Corporation.
- **Components:**
 - **Consumer Meters and System Meters:**
 - The scheme involves a **compulsory smart metering ecosystem** across the distribution sector—starting from electricity feeders to the consumer level, including in about 250 million households.

Note:

- It is proposed to install approximately **10 crore prepaid Smart Meters** by December, **2023** in the first phase.
- **Feeder Segregation:**
 - Scheme also focuses on funding for **feeder segregation for unsegregated feeders**, which would enable solarization under the **PM-KUSUM Scheme**.
 - Solarization of feeders will lead to cheap/ free day time power for irrigation and additional income for the farmers.
- **Modernization of Distribution system in Urban Areas:**
 - **Supervisory Control and Data Acquisition (SCADA)** in all urban areas.
- **Rural and Urban area System strengthening.**
- **Special Category States:**
 - North-Eastern State of Sikkim and States/Union Territories of Jammu & Kashmir, Ladakh, Himachal Pradesh, Uttarakhand, Andaman & Nicobar Islands, and Lakshadweep will be treated as Special Category States.
- **Objectives:**
 - Reduction of **AT&C losses (operational losses due to inefficient power system)** to pan-India levels of 12-15% by 2024-25.
 - Reduction of **cost-revenue gap** to zero by 2024-25.
 - Developing Institutional Capabilities for Modern DISCOMs.

Open Network for Digital Commerce

Why in News

The **Department for Promotion of Industry and Internal Trade (DPIIT)** has issued orders appointing an advisory committee for its **Open Network for Digital Commerce (ONDC)** project that is aimed at curbing “digital monopolies”.

- This is in the direction of making **e-commerce** processes **open source**, thus creating a platform that can be **utilised by all online retailers**.
- Earlier, the **Ministry of Consumer Affairs** released draft **e-commerce rules** for consumer protection

which seek to bring changes to how e-commerce marketplaces, including Amazon and Flipkart, operate after small businesses complained that they misuse market dominance and deep-discounting to gain an unfair advantage.

Key Points

- **About:**
 - The ONDC aims at promoting open networks developed on open-sourced methodology, using open specifications and open network protocols, independent on any specific platform.
 - The project to integrate e-commerce platforms through a network based on open-source technology has been tasked to the **Quality Council of India**.
 - Implementation of ONDC, which is expected to be on the **lines of Unified Payments Interface (UPI)** could bring various operational aspects put in place by e-commerce platforms to the same level.
 - Various operational aspects include onboarding of sellers, vendor discovery, price discovery and product cataloguing etc.
 - On ONDC, buyers and sellers may transact irrespective of the fact that they are attached to one specific e-commerce portal.
- **Significance:**
 - If the ONDC gets implemented and mandated, it would mean that **all e-commerce companies** will have to operate **using the same processes** (like Android Based Mobile Devices).
 - This could give a huge booster shot to smaller online retailers and new entrants.
 - If mandated, this **could be problematic for larger e-commerce companies, which have their own processes and technology deployed** for these segments of operations.
 - ONDC is expected to **digitise the entire value chain, standardise operations, promote inclusion** of suppliers, derive **efficiency in logistics** and enhance **value for consumers**.
- **Meaning of Open-Source:**
 - Making a software or a process open-source means that the **code or the steps of that process is made available freely** for others to use, redistribute and modify it.

Note:



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- For example, while the operating system of **Apple's iPhones (iOS) is closed source**, meaning it cannot be legally modified or reverse engineered,
- **Google's Android operating system is open-source**, and therefore it is possible by smartphone manufacturers such as Samsung, Xiaomi, OnePlus, etc to modify it for their hardware.

➤ **Government Initiatives Regarding e-Commerce in India:**

- **Consumer Protection (e-commerce) Rules 2020**
- **Consumer Protection Act, 2019**

E-Commerce

- Electronic commerce or e-commerce is a business model that lets firms and individuals buy and sell things over the Internet.
- Propelled by rising smartphone penetration, the launch of 4G networks and increasing consumer wealth, the Indian e-commerce market is expected to grow to **USD 200 billion by 2026**.
- The Indian e-commerce industry has been on an upward growth trajectory and is **expected to surpass the US** to become the second-largest e-commerce market in **the world by 2034**.

Major Types of E-commerce

TYPE OF E-COMMERCE	EXAMPLE
B2C—Business to Consumer	Amazon.com is a general merchandiser that sells consumer products to retail consumers.
B2B—Business to Business	eSteel.com is a steel industry exchange that creates an electronic market for steel producers and users.
C2C—Consumer to Consumer	eBay.com creates a marketplace where consumers can auction or sell goods directly to other consumers.
P2P—Peer to Peer	Gnutella is a software application that permits consumers to share music with one another directly, without the intervention of a market maker as in C2C e-commerce.
M-commerce—Mobile commerce	Wireless mobile devices such as PDAs (personal digital assistants) or cell phones can be used to conduct commercial transactions.

World Bank Support to India's Informal Working Class

Why in News

The **World Bank** has approved a **USD 500 million loan programme to support India's informal working class** to overcome the current pandemic distress.

- The loan will create greater flexibility for states to **cope with the ongoing pandemic, future climate and disaster shocks**.

Key Points

➤ **World Bank's Financial Support:**

○ **About:**

- Of the USD 500 million commitment, USD 112.50 million will be financed by its concessionary lending arm **International Development Association (IDA)** and the rest will be a loan from **International Bank for Reconstruction and Development (IBRD)**.
- The loan has a **maturity period of 18.5 years** including a grace period of five years.

○ **Fundings Since Start of Pandemic:**

- In 2020, **provided immediate emergency relief cash transfers to about 320 million individual bank accounts** identified through pre-existing national social protection schemes.
- Also an **additional food rations** for about 80 crore individuals.

➤ **Significance:**

- States can now **access flexible funding** from disaster response funds to design and implement appropriate social protection responses.
- The funds will be utilised in **social protection programmes for urban informal workers, gig-workers, and migrants**.
 - A gig worker is indulged in the gig economy which is a free market system in which temporary positions are common and organizations contract with independent workers for short-term engagements.
- It is aimed at building the resilience of economies and livelihoods of communities.
- Investments at the municipal level will promote **National Digital Urban Mission** that will create a shared digital infrastructure for people living in urban areas and will scale up **urban safety nets and social insurance for informal workers**.
 - It will also include gender-disaggregated information on women workers and female-headed households.
 - This will allow policymakers to address gender-based service delivery gaps and effectively reach

Note:



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the unreached, particularly widows, adolescent girls, and tribal women.

- **Street vendors** are an integral part of India's urban informal economy. The programme will give street vendors **access to affordable working capital loans of up to Rs 10,000**.
 - Some five million urban street vendors could benefit from the new credit programme,
- **Informal Sector Worker:**
 - The informal sector is the part of any economy that is **neither taxed nor monitored** by any form of government.
 - The workers who indulge in the informal sector are informal sector workers or informal workers.
 - The informal sector provides **critical economic opportunities for the poor**.
 - It is largely characterized by **skills gained outside of a formal education, easy entry, a lack of stable employer-employee relationships, and a small scale of operations**.
 - Unlike the formal economy, the informal sector's components are not included in **GDP** computations.
- **Need to Protect Informal Workforce:**
 - India's estimated 450 million informal workers comprise **90% of its total workforce**, with 5-10 million workers added annually.
 - Further, according to **Oxfam's latest global report**, out of the total 122 million who lost their jobs in 2020, 75% were lost in the informal sector.
 - **Job loss and further increasing informalisation** due to the **Covid-19 pandemic** and subsequent **lockdown** has resulted in lack of **social protection** to poor.
 - Moreover, in the financial year 2020-21, the economy contracted by 7.7%. So, there is an **urgent need to revive the economy by generating employment** and the informal sector is more labour intensive.
- **Some Initiatives by the Government:**
 - **Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)**
 - **Labour Reform**
 - **Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)**
 - **PM SVANidhi: Micro Credit Scheme for Street Vendors**
 - **Atmanirbhar Bharat Abhiyan**

- **Deendayal Antyodaya Yojana National Urban Livelihoods Mission**

World Bank Group

- The World Bank Group is a unique global partnership which consists of five development institutions.
- **International Bank for Reconstruction and Development (IBRD)** provides loans, credits, and grants.
- **International Development Association (IDA)** provides low- or no-interest loans to low-income countries.
- **The International Finance Corporation (IFC)** provides investment, advice, and asset management to companies and governments.
- **The Multilateral Guarantee Agency (MIGA)** insures lenders and investors against political risk such as war.
- **The International Centre for the Settlement of Investment Disputes (ICSID)** settles investment-disputes between investors and countries.
 - **India is not a member of ICSID.**
- As of now, IBRD has 189 member countries, while IDA has 173.

Four Years of the GST

Why in News

Recently, the **Central Board of Indirect Taxes and Customs (CBIC)** decided to felicitate around 54,000 taxpayers to mark the competition of 4 years of **Goods and Services Tax (GST)**.

Key Points

- **Achievements of GST:**
 - **Automated Indirect Tax Ecosystem:**
 - The introduction of **e-way bills** coupled with the **crackdown on fake invoicing** has helped in bringing in a substantial portion of GST revenues, which were either being evaded or under-reported.
 - E-invoicing system **would also usher the taxpayers into a fully automated compliance regime** wherein the computation of tax liabilities and matching of input tax credit would become very simple.

Note:



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○ Simplification of Compliance:

- Various initiatives viz. **linking the customs portal with GST portal** for credit availability on imports, making available proper means for matching input tax credit, increased automation of the refund procedure to seamless operation of the Invoice Registry Portal, helped simplify tax compliance.

○ Functioning of GST Council:

- The GST Council made corrections to law, issued clarifications on complex issues, rationalized GST rates and introduced relaxations for dealing with the **Covid-19 pandemic**, which establishes that the GST Council structure has been very functional and agile.

○ Example to the World:

- India has served as an example to the world by **successfully implementing one of the most complex tax transformation projects** for the country.

➤ Challenges:

○ Fiscal Federalism:

- This issue **became controversial when GST collections fell because of the pandemic**.
- Because **GST entailed a bigger surrender of taxation powers for the states** – states do not levy direct taxes or customs duties – **a guaranteed revenue growth of 14% for a period of five years was offered** to them by the centre to get them to agree.

○ Issues Highlighted by the 15th Finance Commission:

- The **15th Finance Commission** has highlighted several areas of concern in the GST regime relating to **multiplicity of tax rates, shortfall in GST collections vis-à-vis the forecast, high volatility in GST collections**, inconsistency in filing of returns, dependence of States on the compensation from Centre and so on.

○ Large Businesses vs Small Businesses:

- The fundamental principles on which the GST law was built viz. seamless flow of input credits and ease of compliance **has been impaired by IT glitches**.
- Indirect taxes, unlike direct taxes such as income tax, **do not differentiate between the rich and the poor** and therefore put a bigger burden on the latter.

- Further, **small and medium businesses are still grappling to adapt to the tech-enabled regime**.

➤ Suggestions:

- With **oil prices sky-rocketing across the country**, the policymakers **need to contemplate the inclusion of petroleum and related products within the GST net**.
- It is vital to finally **constitute the GST Appellate Tribunal** as it is obvious that all taxpayers do not have the finances or means to approach the High Court for every practical difficulty faced.
- **Streamlining of anti-profiteering measures and simplification of compliance procedures** also needs to be revisited to ensure that the cost efficiency and reduction in prices envisaged under GST law finally reaches the common man.

Goods and Services Tax

➤ About:

- The GST is a **value-added tax levied on most goods and services sold for domestic consumption**.
- The GST is **paid by consumers**, but it is **remitted to the government by the businesses selling the goods and services**.
- GST, which **subsumed almost all domestic indirect taxes** (petroleum, alcoholic beverages and stamp duty are the major exceptions) under one head, is perhaps the biggest tax reform in the history of independent India. It was launched into operation on the midnight of 1st July 2017.

➤ Features of GST:

- **Applicable on Supply Side:** GST is applicable on **'supply'** of goods or services as against the old concept on the manufacture of goods or on sale of goods or on provision of services.
- **Destination based Taxation:** GST is based on the principle of destination-based consumption taxation as against the principle of origin-based taxation.
- **Dual GST:** It is a dual GST with the Centre and the States simultaneously levying tax on a common base. The GST to be levied by the Centre is called **Central GST (CGST)** and that to be levied by the States is called **State GST (SGST)**.
 - Import of goods or services would be treated as inter-state supplies and would be subject to **Integrated Goods & Services Tax (IGST)** in addition to the applicable customs duties.

Note:

- **GST rates to be mutually decided:** CGST, SGST & IGST are levied at rates to be mutually agreed upon by the Centre and the States. The rates are notified on the recommendation of the **GST Council**.
- **Multiple Rates:** GST is levied at four rates viz. **5%, 12%, 18% and 28%**. The schedule or list of items that would fall under these multiple slabs are worked out by the GST council.
 - This is aside from the tax on gold that is kept at 3% and rough precious and semi-precious stones that are placed at a special rate of 0.25% under GST.
- **GST Council:**
 - It is a **constitutional body (Article 279A)** for making recommendations to the Union and State Government on issues related to GST.
 - 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.
- **Reforms brought about by GST:**
 - **Creation of a Common National Market:** By amalgamating a large number of Central and State taxes into a single tax.
 - **Mitigation of cascading effect:**
 - The GST that a merchant pays to procure goods or services (i.e. on inputs) can be set off later against the tax applicable on supply of final goods and services. The set off tax is called **input tax credit**.
 - The GST thus avoids cascading effect or tax on tax which increases the tax burden on the end consumer.
 - **Reduction in Tax Burden:** From the consumers' point of view, the biggest advantage is in terms of reduction in the overall tax burden on goods.
 - **Making Indian Products More Competitive:** Introduction of GST is making Indian products more competitive in the domestic and international markets owing to the full neutralization of input taxes across the value chain of production.

Financial Stability Report: RBI

Why in News

Recently, the **Reserve Bank of India (RBI)** released the **23rd issue** of its **Financial Stability Report (FSR)**.

- The FSR which is **published biannually** reflects the collective assessment of the **Sub-Committee of the Financial Stability and Development Council (FSDC - headed by the Governor of RBI)** on risks to **financial stability and the resilience of the financial system**.
- The Report also discusses **issues relating to development and regulation of the financial sector**.

Key Points

- **Impact of Covid-19 Second-Wave:**
 - The impact of the **Covid-19 Second-Wave** on the balance sheets of Indian banks has been **less than what was projected** before and **capital buffers are reasonably resilient** to withstand future shocks.
 - A **capital buffer** is required reserves held by financial institutions put in place by regulators. These are designed to provide banking organizations with the means to support the economy in adverse situations.
 - **Covid-19 Second-Wave** has dented economic activity, but **monetary, regulatory and fiscal policy measures have helped curtail the solvency risk** of financial entities, stabilise markets, and maintain financial stability.
 - **Solvency risk** is the risk of being unable to absorb losses, generated by all types of risks, with the available capital.
- **Global Recovery:**
 - Sustained **policy support, benign financial conditions and the gathering momentum of vaccinations** are nurturing an uneven global recovery.
 - **Policy support has helped** in shoring up financial positions of banks, containing non-performing loans and maintaining solvency and liquidity globally.
- **New Risks:**
 - While the recovery is underway, **new risks have emerged which are:**
 - **Nascent and mending state of the upturn** (Revival of Economy).

Note:

- Economy Vulnerable to shocks and **future waves of the pandemic**.
- International **commodity prices** and **inflationary pressures**.
- Global spillovers amid high uncertainty.
- Rising incidence of data breaches and **cyber attacks**.

➤ **Gross Non-Performing Asset Ratio:**

- The **Gross Non-Performing Asset (GNPA)** ratio of India's Scheduled Commercial Banks (SCBs) may climb by the **end of 2021-22** to as much as **11.2% under a severe stress scenario**, from **7.48% in March 2021**.
 - The GNPA ratio of SCBs may increase to **9.8% by March 2022 under the baseline scenario**.
- While **banks' exposures to better rated large borrowers are declining**, there are incipient signs of stress in the **Micro, Small and Medium Enterprises (MSMEs)** and retail segments.
- The demand for consumer credit across banks and **Non-Banking Financial Companies (NBFCs)** has decreased, with some deterioration in the risk profile of retail borrowers becoming evident.
 - **Retail Loans** are provided to purchase property, vehicles or other assets such as essential electronics.

➤ **CRAR & PCR:**

- Banks have managed to capitalise themselves well during 2020-21 aiding them in **maintaining adequate capital adequacy even under stress situations**.
- The **Capital to Risk-Weighted Assets Ratio (CRAR)** of SCBs increased to **16.03%** and the **Provisioning Coverage Ratio (PCR)** stood at **68.86%** in March 2021.

➤ **Restructuring of Loans:**

- During 2020-21 the RBI had introduced a **one-time restructuring scheme** to aid borrowers affected by the Covid-19 pandemic.
- The scheme was to be **invoked by December 2020 and implemented within 90 days for retail borrowers and 180 days for corporate borrowers**.
- By March 2021, **0.9% of total bank advances (loans) were under restructuring**.
 - MSMEs had the **highest restructure ratio at 1.7%**.

- Corporate borrowers had a **restructured ratio of 0.9%** of total advances.
- **0.7% of total retail advances** were restructured.

➤ **Suggestions:**

○ **Balance Sheet Stress:**

- Banks need to **reinforce their capital and liquidity positions** to fortify themselves against **potential balance sheet stress**.

○ **Policy Support:**

- Sustained **policy support and simultaneous increased fortification of capital and liquidity buffers** by financial entities is important.

○ **Financial Needs:**

- Stronger **capital positions, good governance and efficiency in financial intermediation** can be the touchstones of this endeavour so that financing needs of productive sectors of the economy are met while the integrity and soundness of banks and financial institutions are secured on an enduring basis.

Non-Performing Asset

- NPA refers to a **classification for loans or advances that are in default** or are in arrears on scheduled payments of principal or interest.
- In most cases, **debt is classified as non-performing, when the loan payments have not been made for a minimum period of 90 days**.
- **Gross non-performing assets** are the sum of all the loans that have been defaulted by the individuals who have acquired loans from the financial institution.
- **Net non-performing assets** are the amount that is realized after provision amount has been deducted from the gross non-performing assets.

Capital Adequacy Ratio

- It is the **ratio of a bank's capital in relation to its risk weighted assets and current liabilities**. It is also known as **Capital-to-Risk Weighted Asset Ratio (CRAR)**.
- It is **decided by central banks to prevent commercial banks** from taking excess leverage and becoming insolvent in the process.

Provisioning Coverage Ratio

- It refers to the prescribed **percentage of funds to be set aside by the banks for covering the prospective losses due to bad loans**.

Note:

New Norms for Independent Directors

Why in News

The **Securities and Exchange Board of India (Sebi)** has approved stricter norms related to appointment of **independent directors** and decided to introduce a **framework for accredited investors** along with other measures.

- Sebi is a statutory body established in accordance with the provisions of the **Securities and Exchange Board of India Act, 1992**. The basic functions of the Sebi is to protect the interests of investors in securities and to **promote and regulate the securities market**.

Key Points

- **Independent Directors:**
 - Independent directors **can be appointed only through a special resolution** passed by shareholders. A special resolution **requires 75% of votes in favour** to be passed.
 - The regulator has also elaborated and strengthened the **disclosure requirements for the skills required** to be an independent director.
 - The **nomination and remuneration committee** of the board of directors, which decides on appointments and compensation, and the **audit committee** should have **two-thirds independent directors compared to a simple majority now**.
 - All **related party transactions** (between a company and its related entities) **shall be approved by only independent directors** on the audit committee.
 - Also, a listed company will be required to **disclose the resignation letter of an independent director**.
 - Also, there will be a **one-year cooling period for an independent director transitioning to a whole-time director** in the same company/ holding/ subsidiary/ associate company or any company belonging to the **promoter group**.
- **Accredited Investors:**
 - Sebi has approved this **new category of wealthy, well-informed investors** who will be allowed to **invest in riskier products**, not usually allowed to individuals.

Independent Director

- An Independent Director (also sometimes known as an outside director) is a director on a board of directors **representing minority shareholders** and who does not have a pecuniary relationship with the company or related persons, except for sitting fees.
- Their role is to take a stand unambiguously and independently to have a check and balance on the whims of majority shareholders that may expose the company to unwarranted risks.
- The **Companies Act, 2013** has mandated all **listed public companies to have at least one-third** of the total Directors to be independent.
- Their role requires them to be clinical while businesses expect them to be practical, that's the tight rope they walk on.

- These entities (accredited investors) could be individuals, family trusts, proprietorships, etc.
- They will be given the **flexibility to invest** the less than minimum amount mandated in Sebi rules and also to some extent get relaxation from regulatory requirements.
- They will enhance the attractiveness of **alternative investment funds (AIFs)**.
 - 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.
- **Other Important Changes Undertaken:**
 - To provide easy access to investors to participate in **public and rights issues** by using various payment avenues, Sebi has also decided to permit banks, other than scheduled banks, to act as a banker to such issues.
 - Unlike initial and follow-up public offering, the rights issue is not open for the general public but only to existing shareholders of the company.
 - Sebi also **increased the maximum reward amount for an informant who blows the whistle on insider trading** to Rs 10 crore from Rs 1 crore now.
 - **Insider trading** involves trading in a public company's stock by someone who has non-public, material information about that stock for any reason.

Note:



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- The regulator has also approved amendments to its **mutual fund regulations** which requires **asset management companies (AMCs)** to use more funds in riskier schemes (New funds).
 - Currently, AMCs have to invest only 1% of the amount raised in a new fund offer, or Rs 50 lakh, whichever is lower.
- The new norms will be effective **from 1st January, 2022**.
- **Significance:**
 - The changes seek to strengthen the **corporate governance** practices as well as **attract more investors**.
 - It will help **maintain the interest of minority shareholders** in the corporate boardroom where their representation is minimal.
 - This should hopefully result in **truly 'independent' independent directors** and not those with merely a semblance of independence.

Ministry of Cooperation: A New Push to Co-operatives

Why in News

Recently, a separate '**Ministry of Co-operation**' has been created by the Central Government for realizing the vision of '**Sahkar se Samridhi**' (Prosperity through Cooperation) and to give a **new push to the cooperative movement**.

- The Government has signaled its **deep commitment to community based developmental partnership**. It also fulfils the **budget announcement made by the Finance Minister in 2021**.

Key Points

- **Significance of Ministry of Cooperation:**
 - It will provide a **separate administrative, legal and policy framework for strengthening the cooperative movement** in the country.
 - It will help deepen **Co-operatives** as a true people based movement **reaching upto the grassroots**.
 - It will work to **streamline processes for 'Ease of doing business'** for co-operatives and **enable development of Multi-State Co-operatives (MSCS)**.
- **About 'Co-operatives':**

- 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**.
- There are many **types of cooperatives** such as **Consumer Cooperative Society, Producer Cooperative Society, Credit Cooperative Society, Housing Cooperative Society and Marketing Cooperative Society**.
- The **United Nations General Assembly** had declared the year **2012 as the International Year of Cooperatives**.
- India is an agricultural country and laid the foundation of **World's biggest cooperative movement in the world**.
- In India, a **Co-operative based economic development model is very relevant** where each member works with a spirit of responsibility.
- **Constitutional Provisions Related to Cooperatives:**
 - The **Constitution (97th Amendment) 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 **Article 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".

Co-operative Movement in India

- **Co-operative Movement in Pre-Independence Era:**
 - The Cooperatives were **first started in Europe** and the British Government replicated it in India to **mitigate the miseries of the poor farmers, particularly harassment by moneylenders**.
 - The term Cooperative Societies came into existence when the **farmers of Pune and Ahmednagar (Maharashtra) spearheaded an agitation against the money lenders who were charging exorbitant rates of interest**.
 - British government came forward and passed three acts- the **Deccan Agricultural Relief Act (1879)**,

Note:

the Land Improvement Loan Act (1883) and the Agriculturists Loan Act (1884).

- The **first credit cooperative society was formed in Banking in 1903** with the support of the Government of Bengal. It was registered under the **Friendly Societies Act** of the British Government.
- But the enactment of the **Cooperative Credit Societies Act, 1904** gave Cooperative a definite structure and shape.
- In **1919**, cooperation became a provincial subject and the provinces were authorised to make their own cooperative laws under the **Montague-Chelmsford Reforms**.
 - The categorization carried on to the **Government of India Act, 1935**.
- In 1942, the Government of British India enacted the **Multi-Unit Cooperative Societies Act** to cover Cooperative Societies with membership from more than one province.
- **Co-operative Movement in Post-Independence Era:**
 - After independence, **cooperatives became an integral part of Five-Year Plans**.
 - In **1958**, the **National Development Council (NDC)** had recommended a **national policy on cooperatives** and also for training of personnel and setting up of Co-operative Marketing Societies.
 - **National Cooperative Development Corporation (NCDC)**, a statutory corporation, was set up under National Cooperative Development Corporation Act, 1962.
 - In **1984**, Parliament of India enacted the **Multi-State Cooperative Societies Act** to remove the plethora of different laws governing the same types of societies.
 - The Government of India announced a **National Policy on Co-operatives in 2002**.
- **Importance of Cooperatives:**
 - It **provides agricultural credits and funds** where state and private sectors have not been able to do very much.
 - It **provides strategic inputs** for the agricultural-sector; consumer societies meet their consumption requirements at concessional rates.
 - It is an organization for the poor who wish to **solve their problems collectively**.

- It **softens the class conflicts** and reduces the social cleavages.
- It **reduces the bureaucratic evils** and follies of political factions;
- It **overcomes the constraints** of agricultural development;
- It creates a **conducive environment for small and cottage industries**.

➤ **Challenges:**

- **Mismanagement and Manipulation:**
 - A hugely large membership turns out to be **mismanaged unless some secure methods are employed** to manage such co-operatives.
 - In the elections to the **governing bodies, money became such a powerful tool that the top posts of chairman and vice-chairman usually went to the richest farmers** who manipulated the organization for their benefits.
- **Lack of Awareness:**
 - People are **not well informed about the objectives of the Movement**, rules and regulations of co-operative institutions.
- **Restricted Coverage:**
 - Most of these **societies are confined to a few members and their operations extended to only one or two villages**.
- **Functional Weakness:**
 - The Co-operative Movement has suffered from **inadequacy of trained personnel**.

Output Pact: OPEC+

Why in News

Recently, the United Arab Emirates (UAE) pushed back against a plan by the **Organization of the Petroleum Exporting Countries (OPEC+) Plus** group to **extend the global pact to cut oil production beyond April 2022**.

Key Points

- **The Output Pact & Fluctuating Oil Price:**
 - The OPEC+ group of countries had, in April 2020, entered into a **two-year agreement (Output Pact)**, which entailed **steep cuts in crude production to deal with a sharp fall in the price of oil** as a result of the **Covid-19 pandemic**.

Note:



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- The price of **Brent crude** hit an **18-year low of under USD 20 per barrel in April 2020** as economic activity around the world crashed as countries dealt with the pandemic.
- In **November 2020**, the prices started rising and in **July 2021**, they were **USD 76.5 per barrel** mainly due to the steady rollout of **vaccination programmes** around the world.
- OPEC+, however, **maintained lower levels of production** despite crude oil prices reaching pre-Covid levels, with Saudi Arabia, notably, announcing a further cut in production of 1 million barrels per day for the February-to-April period, which **helped boost rising prices even further**.
 - The OPEC+ group ran into **sharp criticism from developing economies, including India, for deliberately maintaining low supply levels to raise prices**.
- In April, OPEC+ agreed to gradually increase crude production, including a **phased end to Saudi Arabia's 1 million barrel per day cut in production by July**.
- **UAE's Objection:**
 - UAE agreed that there was a need to increase crude oil production from August 2021, but did not agree to a condition by the **OPEC Joint Ministerial Monitoring Committee (JMMC)** that the **two-year production agreement be extended by six months**.
 - The UAE's key objection to the existing agreement is the **reference output used to calculate the total**

production apportioned to each oil-exporting country.

- The **baseline production level reference** used in the current agreement was **not reflective of the UAE's production capacity** and, therefore, led to the UAE being apportioned a lower share of total production of crude oil.
- UAE would be open to extending the agreement if baseline production levels were reviewed to be fair to all parties.

➤ **Impact of OPEC+ conflict on India:**

- **Delayed Relief:**
 - If the UAE and other OPEC+ nations do not reach an agreement to increase production in August, **expected relief in the form of lower crude oil prices could be delayed**.
- **High Domestic Prices:**
 - India is currently **facing record-high prices of petrol and diesel**. High crude prices have led to **Indian oil marketing companies hiking the price of petrol by about 19.3%** and that of diesel by about 21% since the beginning of 2021.
- **Slow Recovery:**
 - The high price of crude oil was **slowing down the economic recovery of developing economies post the pandemic**.
- **Inflation:**
 - The high prices might also increase the **Current Account Deficit** and put **inflationary pressure** on the Indian economy.



Note:

International Relations

Highlights

- India Rejects OIC's Proposal
- India-EU Meet on Agriculture
- Vietnam's First Honorary Consul General in India
- India's Tibet Policy
- BHIM - UPI Launched in Bhutan
- St. Queen Ketevan's Relics: Georgia
- Assassination of Haiti's President
- India-Nepal Rail Services Agreement (RSA)
- Stand-Off on GERD
- G20 Foreign Ministers Meeting
- India Joins OECD/G20 Inclusive Framework Tax Deal
- 7th Edition of Indian Ocean Naval Symposium
- Road Ahead for Afghanistan after US Exit

India Rejects OIC's Proposal

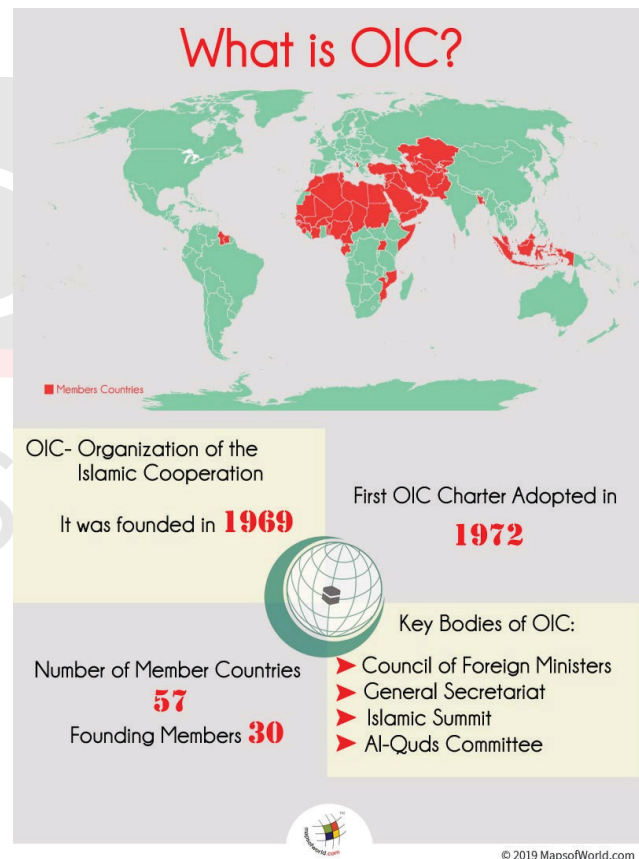
Why in News

Recently, the Ministry of External Affairs rejected the **Organisation of Islamic Cooperation's (OIC)** proposal to assist a dialogue between India and Pakistan.

- Earlier in December 2020, **India also rejected the criticism of its Kashmir policy by the OIC.**

Key Points

- **OIC's Stand:**
 - Offered to **arrange a meeting between India and Pakistan** and proposed to send a delegation to Jammu & Kashmir in line with resolutions of the OIC council of foreign ministers.
 - Pakistan has **repeatedly sought to raise the Kashmir issue at the OIC** against the backdrop of **India's dramatically improved relations with several key players in West Asia** and in the Islamic organisation, including Saudi Arabia, the United Arab Emirates, Bahrain, Qatar, Indonesia and Bangladesh.
- **India's Response:**
 - The OIC **should be watchful that their platform is not subverted by "vested interests" such as Pakistan to interfere in internal affairs of India** or for anti-India propaganda through biased and one-sided resolutions.



India & OIC

- **India's relationship with OIC as an organisation:**
 - At the 45th session of the Foreign Ministers' Summit in 2018, **Bangladesh, the host, suggested that India, where more than 10% of the world's Muslims live, should be given Observer status, but Pakistan opposed the proposal.**

Note:

- In **2019**, India made its maiden appearance at the **OIC Foreign Ministers' meeting**, as a "guest of honour".

- This **first-time invitation** was seen as a **diplomatic victory for India**, especially at a time of heightened tensions with Pakistan following the Pulwama attack.

➤ **Criticism of India's Policies by OIC:**

- It has been **generally supportive of Pakistan's stand on Kashmir**, and has issued statements criticising the alleged Indian "atrocities" in the state/Union Territory.
- In 2018, the OIC General Secretariat had "**expressed strong condemnation of the killing of innocent Kashmiris by Indian forces** in Indian-occupied Kashmir".
- It described the "**direct shooting at demonstrators**" as a "**terrorist act**", and "called upon the international community to play its role in order to reach a just and lasting solution to the conflict in Kashmir".
- OIC has **criticised the Government of India over the Citizenship (Amendment) Act, 2019**, and the **Babri Masjid verdict** of the **Supreme Court**.
- OIC has also criticised the Indian government for what it called "**growing Islamophobia**" in India.

➤ **India's Response:**

- India has always **maintained that OIC has no locus standi in matters strictly internal to India** including that of Union Territory of Jammu & Kashmir which is an integral and inalienable part of India.

➤ **India's relationship with OIC member countries:**

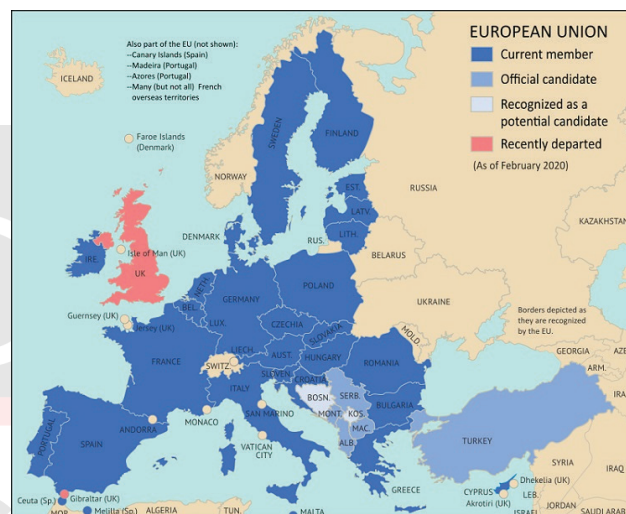
- Individually, India has **good relations with almost all member nations**.
- Ties with the **UAE** and **Saudi Arabia**, especially, have improved significantly in recent years.
 - The Crown Prince of Abu Dhabi (UAE) was a special chief guest at the 68th **Republic Day** celebrations in 2017.
- The OIC includes two of India's close neighbours, **Bangladesh and Maldives**.
 - Indian diplomats say **both countries privately admit that they do not want to complicate their bilateral ties with India** on Kashmir.

India-EU Meet on Agriculture

Why in News

Recently, a Virtual meeting between **India's Union Minister for Agriculture & Farmers Welfare** and a **Member of the European Commission (EC), Agriculture** was held.

- The strong momentum of the India-European Union (EU) relations especially since the last **India-EU Summit in July, 2020** was acknowledged.
- Earlier, Indian Prime Minister participated in the **India-European Union (EU) Leaders' Meeting**.



Key Points

➤ **Major Discussions:**

○ **EU Common Agricultural Policy (CAP):**

- **Launched in 1962**, it is a **partnership between agriculture and society, and between Europe and its farmers**.
- It is a **common policy for all EU countries**. It is managed and funded at European level from the resources of the EU's budget.
- It aims to support farmers, improve agricultural productivity, ensure a stable supply of affordable food, safeguard EU farmers, tackle **climate change** and the sustainable management of natural resources etc.

○ **EU Farm to Fork Strategy:**

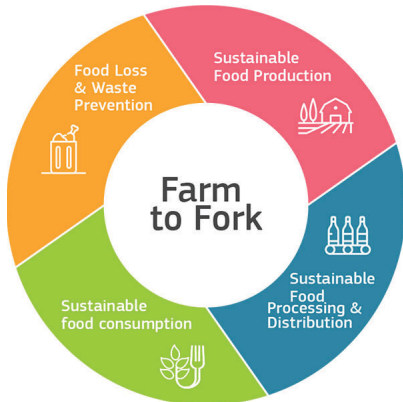
- It is at the heart of the European Green Deal aiming to make food systems fair, healthy and

Note:



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environmentally-friendly. It aims to **accelerate transition to a sustainable food system**.



- Reforms were undertaken by the EU in the CAP as well as the **Farm to Fork Strategy** to make agriculture green as well as sustainable.

- The EU has also set a **target of bringing 25% of the area in the EU under Organic Farming by 2030**.

○ **G20 Agriculture Ministers' Meeting 2021:**

- It is one of the ministerial meetings organized as part of the **G20 Leaders Summit 2021**, which will be hosted by Italy in October 2021.
- It will **focus on three broad, interconnected pillars of action: People, Planet, Prosperity**.
- Both India-EU are looking forward to bilateral cooperation at the summit.

○ **United Nations Food System Summit 2021:**

- The **United Nations (UN)** Secretary General has called for the first ever **UN Food Systems Summit to be held in September 2021** to strategize the actions for positive change in Agri-food systems in the world to realize the vision of the **2030 Agenda for Sustainable Development**.
- The EU and India are looking forward to strengthening their cooperation at the summit.

➤ **India's Stand:**

○ **Dominance of Small Farmers:**

- 70% of its rural households still depend primarily on agriculture for their livelihood, with **82% of farmers being small and marginal**.

○ **Highlighted the recent initiatives to Increase Farmers Income:**

- Agriculture Infrastructure Fund** with a corpus of Rs One Lakh Crore for development of farm

gate and agriculture marketing infrastructure in rural areas.

- Scheme of formation of 10000 Farmer Produce Organizations (FPOs)** to help small and marginal farmers in marketing of agricultural produce.

○ **Explained Steps to Make Agriculture Sustainable and Environment Friendly:**

- Encouragement of application of **Nano-urea**.
- Organic Farming** under the Pramparagat Krishi Vikas Yojana.

○ **Maximum Residual Limit (MRL) of Tricyclazole:**

- Raised the issue of fixing the **Maximum Residual Limit (MRL)** of **Tricyclazole** used in rice crop which has been a concern for India and is **affecting India's Basmati Rice Exports to the EU**.
 - The **MRL** is the **maximum concentration for a pesticide on a crop or food commodity** resulting from the use of pesticide according to Good Agricultural Practices (GAP), which is expressed in ppm.
 - Tricyclazole** is a fungicide used for the control of rice blast but it is not approved for use in the EU.

Vietnam's First Honorary Consul General in India

Why in News

Vietnam has **appointed Honorary Consul General of Vietnam in Bangalore** to promote trade, economics, investment, tourism, educational and cultural cooperation between Vietnam and the State of Karnataka.

- Industrialist **N.S. Srinivasa Murthy** based in Bengaluru has been appointed as Honorary Consul General of Vietnam for Karnataka.



Note:

- He is the **first honorary consul general of Vietnam from India**. The appointment is for a **period of three years**.

Key Points

➤ India-Vietnam Relations:

- **History of Cultural Ties:** **Cultural** and economic links between India and Vietnam date back to the 2nd century.
 - Both the countries have agreed to have various commemorative activities in the **year 2022, to mark the 50th anniversary of the establishment of diplomatic relations** between the two countries.
- **Anti-Imperialist Struggle:**
 - Even before official diplomatic ties were established in 1972, India **supported Vietnam's anti-colonial struggle** during its independence movement.
 - During the **Cold War** period, India supported Hanoi's "Four Points" for resolving the **Vietnam conflict** (American war in Vietnam).
 - India also supported Vietnam during the **Kampuchea crisis (Cambodian-Vietnamese War)** in the late 1970s.
- **Look East Policy:** The relationship was further strengthened when India, in the early 1990s, initiated its "**Look East Policy**" with the specific objective of **economic integration** and **political cooperation** with Southeast Asia and East Asia.
 - In 2014, the 'Look East Policy' was **graduated into an 'Act East Policy'**.
- **Comprehensive Strategic Partnership (CSP):** The strategic partnership was elevated to comprehensive strategic partnership in 2016, given the new security challenges of the 21st century.

➤ Defence Cooperation:

- **Sale of military equipment to Vietnam:** Negotiations for four large patrol vessels and **BrahMos short-range cruise missiles** are going on.
- **Training Vietnam's armed forces in military equipment:** Kilo-class submarines & Sukhoi aircraft.
- **Military exercises:** VINBAX, IN-VPN BILAT.

- **Geostrategic Convergence:** India and Vietnam have their **shared apprehension of an aggressive China**.

- China's virtually claiming the whole **South China Sea** as its territory and its assertiveness in the Indian Ocean.
- China **complained about Indian cooperation for the exploration for oil in Vietnamese waters, especially in light of the disputed political status of the Spratly Islands**.
- India and Vietnam have agreed to strengthen their strategic partnership "in line with India's **Indo-Pacific Oceans Initiative (IPOI)** and the **ASEAN's Outlook on Indo-Pacific** to achieve shared security, prosperity and growth for all in the region."

➤ Regional Cooperation:

- India and Vietnam closely cooperate in various regional forums such as **ASEAN, East Asia Summit, Mekong Ganga Cooperation**, besides UN and WTO.
- Vietnam has supported India's bid to become a permanent member of the UN Security Council and join the Asia-Pacific Economic Cooperation (APEC).

➤ Economic Cooperation:

- Trade and economic relations for mutual benefit, which have significantly improved over the years particularly after the **ASEAN- India Free Trade Agreement** was signed.
- India is now among the top ten trading partners of Vietnam.
- India is **investing in development and capacity assistance** for Vietnam through quick impact projects (QIP), proposals in the area of water resource management in Vietnam's Mekong Delta region, Sustainable Development Goals (SDGs), and digital connectivity.

➤ Science and Technology Cooperation:

- India and Vietnam have signed the **Framework Agreement** on cooperation in:
 - Exploration and uses of outer space for peaceful purposes, IT cooperation, **Cyber Security**.
 - Uses of Atomic Energy for Peaceful Purposes.
- Vietnam has been a large recipient of training programs under **Indian Technical and Economic Cooperation (ITEC)** programs.
- A proposal to set up a **Centre for Satellite Tracking and Data Reception** and an **Imaging facility in Vietnam** under **ASEAN-India Cooperation mechanism** is under consideration.

Note:

India's Tibet Policy

Why in News

Recently, some Chinese nationals protested against the celebration of the birthday of the Dalai Lama in India.

- The Dalai Lama and Tibet is one of the **major irritants between India and China relations**.
- China considers the Dalai Lama a separatist, who has great influence over Tibetans. India seeks to use Tibetan card in order to counter China's continuing aggression at the Line of Actual Control.

Key Points

➤ Background of India's Tibet Policy:

- For centuries, **Tibet was India's actual neighbour**, as most of India's boundaries and the 3500km LAC is with the Tibetan Autonomous Region, and not the rest of China.
- In 1914, it was Tibetan representatives, along with the Chinese that **signed the Simla convention with British India that delineated boundaries**.
- However, after **China's full accession of Tibet in 1950**, that **China repudiated the convention and the McMahon line** that divided the two countries.
- Further, in **1954, India signed an agreement with China**, agreeing to recognize Tibet as "**Tibet region of China**".
- In 1959, following the **Tibetan uprising**, the Dalai Lama (spiritual leader of Tibetan people) and many of his followers fled to India.
- **Former Prime Minister Jawahar Lal Nehru** gave him and Tibetan refugees shelter, and **helped in setting up the Tibetan government in exile**.
- The **official Indian policy** is that the Dalai Lama is a spiritual leader, and the Tibetan community in India, with more than a lakh exiles, is not allowed to undertake any political activity.

➤ Shift in India's Tibet Policy:

- In the event of increasing tensions between India and China, there has been a shift in India's Tibet Policy. This shift in the policy, earmarks the Indian government actively managing with the Dalai Lama in public forums. For Example,
 - In 2014, Prime Minister of India (PM) had invited the head of the Tibetan government in



exile in India, Lobsang Sangay, to his swearing in ceremony.

- However, he did not invite him in 2019 after being re-elected for a second five-year term, to ensure a smooth passage for a **second informal summit** between him and Chinese president Xi Jinping.
- Recently, the Prime Minister of India (PM) wished the Dalai Lama in the first such public acknowledgement since 2013, the first time as PM.
- The shift in India's Tibet policy is **majorly focused on symbolic aspects**, but there are **many challenges** pertaining to India's Approach to Tibet Policy.
- **Challenges Associated with India's Approach to Tibet Policy:**
 - **Changes in Tibetan Demography:** Over the past few decades, China is promoting people from mainland China to migrate into Tibet.
 - China is increasing suppression of the Tibetan populations' links to the Dalai Lama and pouring in investment, infrastructure projects in the region.
 - **Tibetans Against Each Other:** As India-China tensions grow and turn violent after the Galwan valley clash, China has begun to raise Tibetan Militia groups.
 - Further, the Indian Army trains the Tibetan Special Frontier Force, which could lead to Tibetans fighting each other in the future.
 - **Issue of Tibetan Citizenship:** The Indian government doesn't give citizenship to Tibetans born in India after the cut-off year of 1987.

Note:



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- This has created a sense of dissatisfaction amongst the youth of the Tibetan community.
- Further, in the past few years, the US has also increased its role, by accepting more Tibetan refugees. This will impact India's role as a sole entity arguing about the future of Tibetan refugee.
- **Question of Dalai Lama's Succession:** The 86 years old Dalai Lama is not only the spiritual leader, but the political leader of the community worldwide.
 - The Dalai Lama asserts that his successor could be a living incarnation, in a specific area in India or even in another country like Taiwan.

BHIM - UPI Launched in Bhutan

Why in News

The **Union Minister of Finance of India** along with her counterpart, the **Finance Minister of Bhutan** has jointly launched **Bharat Interface for Money-Unified Payments Interface (BHIM-UPI)** in Bhutan.

- The payment system was launched by **NPCI International Payments Ltd. (NIPL)**, the international arm of **National Payment Corporation of India (NPCI)**, in partnership with the **Royal Monetary Authority (RMA)** of Bhutan.

Key Points

- **About:**
 - Bhutan is the **first country** to adopt **UPI standards** for its Quick Response (QR) code, and the first country in our immediate neighbourhood to accept mobile based payments through the BHIM App.
 - It is also the **second country after Singapore** to have **BHIM-UPI acceptance at merchant locations**.
 - Bhutan will also become the **only country to both issue and accept RuPay cards as well as accept BHIM-UPI**.
- **Bharat Interface for Money-Unified Payments Interface (BHIM-UPI):**
 - BHIM is developed by the **National Payment Corporation of India (NPCI)**.
 - It is an initiative to enable fast, secure, reliable cashless payments through the mobile phone.
 - BHIM is based on **Unified Payment Interface (UPI)** to facilitate e-payments directly through banks.



- It is interoperable with other Unified Payment Interface (UPI) applications, and bank accounts.
- **Unified Payments Interface (UPI)** is an instant real-time payment system, allowing users to transfer money on a real-time basis, across multiple bank accounts without disclosing details of one's bank account to the other party.

➤ Advantages:

- The simple, safe, cost-effective mobile-based payments system has become one of the most prominent forms of digital payments.
- The payment infrastructures of the two countries are seamlessly connected and **will benefit a large number of tourists and businessmen from India who travel to Bhutan each year**.
 - This will enhance the ease of living and ease of travelling through cashless transactions at the touch of a button.
- In 2020, UPI enabled commerce worth USD 457 billion, which is equivalent to approximately 15% of India's GDP.

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.

National Payments Corporation of India (NPCI)

- NPCI, an umbrella organisation for operating retail payments and settlement systems in India, is an initiative of **Reserve Bank of India (RBI)** and **Indian Banks' Association (IBA)** under the provisions of the **Payment and Settlement Systems Act, 2007**.

Note:

- It is a **"Not for Profit" Company** under the provisions of **Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013)**, with an intention to provide infrastructure to the entire Banking system in India for physical as well as electronic payment and settlement systems.

St. Queen Ketevan's Relics: Georgia

Why in News

Recently, India has gifted one part of the holy relics of 17th century St. Queen Ketevan to the Georgian government.

- These relics were gifted on the **first ever visit of India's External Affairs Minister to independent Georgia**.
- Georgia is a **strategically important country situated at the intersection of Eastern Europe and Western Asia**.

Key Points

- **About:**
 - Queen Ketevan was from Kakheti, a **kingdom in eastern Georgia**.
 - It is believed that, she was **killed in 1624 in Shiraz (modern day Iran) for not converting to Islam**.
 - The parts of her remains were brought to Goa by Augustinian monks in 1627.
 - The relics of the martyred Queen Ketevan were found by the **Archaeological Survey of India (ASI)** in 2005 in the ruins of the Church of St. Augustine in Goa.
 - Many historical, religious and spiritual sentiments of the Georgian people are attached to St. Queen Ketevan.

Church of St. Augustine

- Church of St. Augustine is a ruined church complex located in Goa.
- The church was completed in 1602 by Augustinian monks who landed in Goa in 1587.
- The church was abandoned in 1835 after the Portuguese government of Goa began evicting many religious orders in Goa under its new repressive policies.
- The subsequent neglect caused the vault of the church to collapse in 1842.

- It is a part of the **Churches and convents of Goa**, which is a **UNESCO World Heritage Site**.

Caucasus

- Mountain system and region **lying between the Black Sea (west) and the Caspian Sea (east)** and occupied by Russia, Georgia, Azerbaijan, and Armenia.



Assassination of Haiti's President

Why in News

Recently, Haiti's President Jovenel Moise was **assassinated at his private residence in Port-au-Prince, Haiti**.

Key Points

- **About Haiti:**
 - Haiti is a country in the **Caribbean Sea** that includes **the western third of the island of Hispaniola** and such smaller islands as Gonâve, Tortue (Tortuga), Grande Caye, and Vache. The capital is Port-au-Prince.
 - Its population is almost entirely descended from African slaves, **won independence from France in 1804**, making it the **second country in the Americas, after the United States, to free itself from colonial rule**.
 - It is the **world's first independent Black-led republic**.
 - The nation underwent about **two centuries of Spanish colonial rule** and **more than a century of French rule**.

Note:



- Over the centuries, however, **economic, political, and social difficulties** as well as a number of **natural disasters** have beset Haiti with chronic poverty and other serious problems.
- It is the **Western Hemisphere's poorest country**, has a painful history of **foreign interventions, economic exploitation and dictatorial rule**.
- **Recent Instability:**
 - Haiti's latest instability revolves around a **dispute over Jovenel Moïse's presidency**. He was elected in 2016 to a five-year term, but **because of contention over election results, he did not take office until the next year**.
 - Under Jovenel Moïse's administration, the political and **economic situation in Haiti further deteriorated**.
 - Jovenel Moïse insisted that it entitled him to another year in power — a **claim that Haiti's opposition rejected**.
 - In February 2021, when Moïse's opponents said his term ended, they declared their Supreme Court Judge as interim president. Jovenel Moïse called it a **coup attempt, and 23 opponents were arrested**.
 - At the same time there has been a **surge in kidnappings, rapes and killings as rival gangs battle each other** and the police for control of Haiti's streets.
 - The human rights activists have accused Jovenel Moïse's government of having ties to the gangs.
 - So far this year, at least **278 Haitians have been killed** in gang-related violence.
 - The unprecedented level of **violence and subsequent displacements** is creating a host of **secondary issues**.

India-Nepal Rail Services Agreement (RSA)

Why in News

India and Nepal have signed a **Letter of Exchange (LoE)** to the **India-Nepal Rail Services Agreement (RSA) 2004**.

- It will **allow all authorized cargo train operators to utilize the Indian railway network to carry Nepal's container and other freight** - both bilateral between Indian and Nepal or third country from Indian ports to Nepal.
 - The authorized cargo train operators **include public and private container trains Operators**, automobile freight train operators, special freight train operators or any other operator authorized by Indian Railways.

Key Points

- **About Rail Services Agreement (RSA), 2004:**
 - The Rail Services Agreement was executed in 2004 between the **Ministry of Railways, Government of India** and the **Ministry of Commerce, the Govt. of Nepal** for introduction of **freight train services** between these two countries to and from **Birgunj (Nepal) via Raxaul (India)**.
 - The agreement **guides movement between India and Nepal by rail**.
 - The Agreement shall be **reviewed every five years** and **may be modified (through Letters of Exchange)** by the Contracting Parties by mutual consent.
 - In the past, there have been **amendments to RSA through LoE on three occasions**.
 - First such amendment was in 2004.
 - Second LoE was signed in 2008 at the time of introduction of bilateral cargo between the two countries which required introduction of new customs procedures.
 - Third LoE was signed in 2016 enabling rail transit traffic to/from Visakhapatnam Port in addition to existing provision of rail transportation through Kolkata/Haldia Port.
- **Benefits of the Latest Agreement:**
 - **Allow Market Forces to Operate:** This liberalization will **allow market forces (such as consumers and**

Note:

buyers) to come up in the rail freight segment in Nepal, and is likely to increase efficiency and cost-competitiveness, eventually benefiting the Nepalese consumer.

- **Reduce Transportation Cost:** The liberalisation will particularly reduce transportation costs for automobiles and certain other products whose carriage takes place in special wagons and will boost rail cargo movement between the two countries.
- **Enhance Regional Connectivity:** Wagons owned by Nepal Railway Company will also be authorized to carry Nepal-bound freight (inbound and outbound on Kolkata/Haldia to Biratnagar/Birganj routes) over the Indian Railways network as per IR standards and procedures.
 - The signing of this LoE marks another milestone in India's efforts to enhance regional connectivity under the "Neighbourhood First" policy.
- **Other Connectivity Project:**
 - **Nepal being a landlocked country**, it is surrounded by India from three sides and one side is open towards Tibet which has very limited vehicular access.
 - India-Nepal has undertaken various connectivity programs to enhance people-to-people linkages and promote economic growth and development.
 - MoUs have been signed between both the governments for laying an electric rail track linking Kathmandu with Raxaul in India.
 - India is looking to develop the inland waterways for the movement of cargo, within the framework of trade and transit arrangements, providing additional access to sea for Nepal calling it linking Sagarmatha (Mt. Everest) with Sagar (Indian Ocean).

Neighbourhood First Policy

- It is part of India's foreign policy that actively focuses on improving ties with India's immediate neighbours which is being termed as Neighbourhood first policy in the media.
- It was started well by inviting all heads of state/heads of government of South Asian countries in the inauguration of PM Narendra Modi first term and later held bilateral talks with all of them individually which was dubbed as a mini SAARC summit.
- In the second swearing-in ceremony in 2019, India had invited the heads of BIMSTEC countries.

- In 2019, India and Nepal have jointly inaugurated a cross-border petroleum products pipeline.
 - Pipeline carries petroleum products from Motihari in India to Amlekhgunj in Nepal.
 - This is South Asia's first cross-border petroleum products pipeline.

Stand-Off on GERD

Why in News

Recently, Ethiopia has started the second phase of filling a Grand Ethiopian Renaissance Dam's (GERD) reservoir on the upper Blue Nile, which raised tensions from Sudan and Egypt ahead of an upcoming UN Security Council meeting on the issue.

- Ethiopia had previously announced it would proceed to the second stage of filling in July, with or without a deal.



Key Points

- **About:**
 - The Nile, Africa's longest river, has been at the center of a decade-long complex dispute involving several countries that are dependent on the river's waters.
 - Ethiopia began the construction of the GERD in 2011 on the Blue Nile.
 - This 145-meter-tall hydropower project is Africa's biggest dam project and will have lasting impacts on its longest river- Nile.
 - Blue Nile is a tributary of the Nile river and it carries about two-thirds of the river's water volume and most of the silt.
 - Egypt, which lies downstream, has objected to the construction of the dam and proposed a longer timeline for the project.

Note:

- It does not want the water level of the Nile to dramatically drop as the reservoir fills with water in the initial stages.
- Sudan **has also been involved** due to its location.
- The Nile is an important water source in the region so there are concerns that **this dispute may evolve into a full-fledged conflict between Egypt and Ethiopia**.
- Recently, **the USA has stepped in** to mediate.
- **Dam's Importance for Ethiopia:**
 - Ethiopia believes this dam will **generate approximately 6,000 megawatts of electricity** which will support its industrial growth.
 - It **can also export surplus electricity** to neighbouring regions to generate revenue.
 - Neighbouring countries like Kenya, Sudan, Eritrea and South Sudan also suffer from electricity shortages and they can also benefit from the hydropower project if Ethiopia decides to sell electricity to them.
- **Egypt's Concern:**
 - Egypt lies downstream and is concerned that **Ethiopia's control over the water could result in lower water levels** within its own borders.
 - Egypt depends on the Nile for approximately 97% of its drinking water and irrigation supplies.
 - The dam would jeopardise food and water security and livelihoods of ordinary Egyptian citizens.
- **Sudan's Stand:**
 - Sudan too is **concerned that if Ethiopia were to gain control over the river**, it would affect the water levels Sudan receives.
 - However, **Sudan is likely to benefit from the power generated** by the dam.
 - The **regulated flow of the river will save Sudan from serious flooding** in August and September. Thus it has proposed **joint management of the dam**.

Nile River

- The River Nile is in Africa. It **originates in Burundi**, south of the equator, and flows northward through northeastern Africa, eventually flowing through Egypt and finally **draining into the Mediterranean Sea**.
- The **source of the Nile is sometimes considered to be Lake Victoria**, but the lake itself has feeder rivers of considerable size like the Kagera River.

- The Nile River is **considered as one of the longest rivers in the world**.
 - The Nile is **formed by three principal streams**: the Blue Nile, the Atbara, and the White Nile.
- The **Nile basin is huge** and includes parts of Tanzania, Burundi, Rwanda, Congo (Kinshasa), Kenya.
- The Nile River **forms an arcuate delta** as it empties into the Mediterranean Sea. Deltas with triangular or fan-shape are called arcuate (arc-like) deltas.

G20 Foreign Ministers Meeting

Why in News

Recently, **Italy** hosted the **G-20** foreign ministers' meeting to discuss the **fight against Covid-19** and how to **speed up the recovery of the global economy** and **boost sustainable development in Africa**.

- Currently, **Italy holds the presidency of G-20**. The **G-20 summit** is scheduled to be held in Italy in October, 2021.
- **India** is expected to hold the **presidency of the G-20 in 2023**.

G-20

- The G20 is an **informal group of 19 countries** and the **European Union**, with representatives of the International Monetary Fund and the World Bank.
- The G20 membership comprises **a mix of the world's largest advanced and emerging economies**, representing about **two-thirds of the world's population**, **85% of global gross domestic product**, **80% of global investment** and over **75% of global trade**.
- The **members of the G20** are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union.
- It does **not have any permanent secretariat or headquarters**.

Key Points

- **About the Meeting:**
 - **On Covid-19:**
 - **Criticized China and Russia** for engaging in **vaccine diplomacy**.

Note:

- **Vaccine diplomacy** is the **branch of global health diplomacy** in which a nation uses the development or delivery of vaccines to strengthen ties with other nations.
- Promoting a science-based holistic **One Health approach**.
 - 'One Health' is an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes.
- **On Climate Change:**
 - Increased climate variability and extreme weather events **impact agriculture output** and are **among the forces driving the rise in global hunger**.
- **On Africa:**
 - The **Covid-19 pandemic, conflict, drought, economic woes, and extreme weather** are reversing years of progress.
 - In the whole of Africa, **250 million people** were experiencing hunger, which is nearly **20% of the population (as of 2019)**.
- **India's Stand:**
 - Flagged the issue of "**vaccine equity**".
 - This came in the wake of the **European Union's (EU) opposition** to India's and South Africa's proposal to increase large-scale manufacturing of vaccines by **waiving some parts of the intellectual property rules** under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).
 - These rules prevent **international firms with the capacity** to produce approved vaccinations owing to issues with licencing.
 - **Economy** needs **decentralised globalisation**, including in manufacturing, food and health. **Resilient supply chains** must develop in parallel.
 - Today, the **world is much more interlinked and interdependent**. But it **should not be that globalisation should apply only to resources and markets while production centres remain concentrated in the hands of a few**.
 - **Many countries, including India, faced difficulties getting medical equipment during the pandemic and faced disruption in a number of areas -**

such as a computer chip shortage and stalling automobile production.

➤ **Vaccine Equity:**

○ **About:**

- It entails **both affordability of vaccines and access opportunities for populations** across the world, **irrespective of geography and geopolitics**.

○ **Need:**

- **Inequitable vaccine distribution** is not only **leaving untold millions of people vulnerable to the virus** but also allowing deadly variants to emerge and bounce back across the world.
- As variants continue to spread, even **countries with advanced vaccination programs** have been **forced to reimpose stricter public health measures**, and some have **implemented travel restrictions**.

○ **Initiative to Ensure Vaccine Equity:**

- **COVAX:** It is a **global initiative** aimed at **equitable access to Covid-19 vaccines** led by **UNICEF**, Gavi (The Vaccine Alliance), the **World Health Organization**, the Coalition for Epidemic Preparedness and others.
- **India** also began its '**Vaccine Maitri**' to supply Covid vaccine to different nations.

India Joins OECD/G20 Inclusive Framework Tax Deal

Why in News

India and the majority of the members of **OECD-G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS)** have joined a new **two-pillar plan** to reform international taxation rules.

- The two-pillar plan - **inclusive framework tax deal on Base Erosion and Profit Shifting (BEPS)**- seeks to **reform international tax rules** and ensure that multinational enterprises pay their fair share wherever they operate.

Key Points

➤ **About:**

- The signatories of the plan amounted to **130 countries and jurisdictions**, representing more than **90% of global GDP**.

Note:



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- The new framework seeks to **address the tax challenges** arising from the **digitalisation of economies**.
- It also seeks to **address concerns over cross-border profit shifting** and bring in subject-to-tax rule to stop **treaty shopping**.
 - Treaty shopping is an attempt by a person to indirectly access the benefits of a tax treaty between two countries without being a resident of any of those.
- **Two Pillar Plan:**
 - **Pillar One:**
 - It will **ensure a fairer distribution of profits and taxing rights** among countries with respect to the largest MNEs, including digital companies.
 - It would re-allocate some taxing rights over MNEs from their home countries to the markets where they have business activities and earn profits, regardless of whether firms have a physical presence there.
 - According to OECD, more than USD 100 billion of profit are expected to be reallocated to market jurisdictions each year.
 - **Pillar Two:** It is about **minimum tax and subject-to-tax rules** (All sources of income liable to tax without taking account of tax allowances).
 - It seeks to put a minimum standard tax rate among countries through a **global minimum corporate tax rate**, currently **proposed at 15%**.
 - This is **expected to generate an additional USD 150 billion** in tax revenues.
- **Significance:**
 - It will ensure that large multinational companies pay their fair share of tax everywhere.
 - The two-pillar package will provide much-needed support to governments needing to raise necessary revenues to repair their budgets and their balance sheets while investing in essential public services, infrastructure and the measures necessary to help optimise the strength and the quality of the post-Covid recovery.
- **India's Stand:**
 - **India will have to roll back the equalisation levy** that it imposes on companies such as Google, Amazon and Facebook when the global tax regime is implemented.
 - It is aimed at taxing foreign companies which have a significant local client base in India but are billing them through their offshore units, effectively escaping the country's tax system.
 - The 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.
 - India **favours a wider application of the law** to ensure that the **country won't collect less** under the proposed framework **than it gets through the equalisation levy**.
 - India is in favour of a consensus solution which is simple to implement and simple to comply with.
 - The solution should result in **allocation of meaningful and sustainable revenue** to market jurisdictions, particularly for developing and emerging economies.
 - The Two Pillar Plan **justifies India's stand** for a **greater share of profits for the markets** and consideration of **demand side factors in profit allocation**.

Base Erosion and Profit Shifting (BEPS)

- BEPS is a term used to describe tax planning strategies that exploit mismatches and gaps that exist between the tax rules of different jurisdictions.
- It is done to **minimize the corporation tax** that is payable overall, by either making tax profits 'disappear' or **shift profits to low tax jurisdictions where there is little or no genuine activity**.
- In general BEPS strategies are **not illegal; rather they take advantage of different tax rules operating in different jurisdictions**.
- BEPS is of **major significance** for developing countries due to their heavy reliance on corporate income tax, particularly from multinational enterprises (MNEs).
- The BEPS initiative is an **OECD** initiative, approved by the **G20**, to identify ways of providing more standardised tax rules globally.
 - **OECD:** It is an intergovernmental economic organisation, founded to stimulate economic progress and world trade.
 - Most OECD members are high-income economies and are regarded as developed countries.

Note:

- **G20:** It is the leading international forum for economic, financial and political cooperation of large economies.
- India is a member of G20, however, not a member but a key partner of OECD
- The OECD/G20 Inclusive Framework was established in 2016.
- India has ratified the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting (“**Multilateral Instrument**” or “**MLI**”) - outcome of the OECD / G20 Project to tackle BEPS.

7th Edition of Indian Ocean Naval Symposium

Why in News

Recently, the 7th edition of **Indian Ocean Naval Symposium (IONS)** was hosted by the French Navy at Réunion island.

- It is a **biennial event** which was **conceived by the Indian Navy in 2008**.

Key Points

- **About:**
 - The IONS is a voluntary and inclusive initiative that **brings together navies of Indian Ocean Region littoral states** to increase **maritime co-operation and enhance regional security**.
 - It also serves to develop an **effective response mechanism** and **humanitarian assistance and disaster relief (HADR)** against **natural disasters**.
 - The chairmanship of IONS has been held by India (2008-10), UAE (2010-12), South Africa (2012-14), Australia (2014-16), Bangladesh (2016-18) and Islamic Republic of Iran (2018-21).
 - **France** assumed the **Chairmanship in June 2021** for a two-year tenure.
- **Members:**
 - IONS includes **24 member nations** that touch or lie within the **Indian Ocean Region (IOR)**, and **8 observer nations**.
 - The members have been geographically grouped into the following **four sub-regions**:



- **South Asian Littorals:** Bangladesh, India, Maldives, Pakistan, Seychelles, Sri Lanka and United Kingdom (British Indian Ocean Territory)
- **West Asian Littorals:** Iran, Oman, Saudi Arabia and United Arab Emirates
- **East African Littorals:** France (Reunion), Kenya, Mauritius, Mozambique, South Africa, and Tanzania.
- **South East Asian and Australian Littorals:** Australia, Indonesia, Malaysia, Myanmar, Singapore, Thailand and Timor-Leste.
- **Significance For India:**
 - IONS fits into **India's three-fold ambitions** in the region:
 - **Strengthening and deepening the relations** with the Indian Ocean littoral states;
 - Establishing its leadership potential and aspirations of being a **net-security provider**; and
 - Fulfilling **India's vision of a rules-based and stable maritime order** in the IOR.
 - It will help India **to consolidate its sphere of influence from the Straits of Malacca to Hormuz**.
 - IONS can be used to **counter-balance the increasing presence of China** in the region.
- **Other Important Groupings/Initiatives Associated with IOR:**
 - **Indian Ocean Rim Association:** The **Indian Ocean Rim Association (IORA)** was established in 1997.
 - It is aimed at strengthening regional cooperation and sustainable development within the Indian Ocean region.

Note:

- **Indian Ocean Commission:** Recently, India has been approved as an **observer of the Indian Ocean Commission**, the inter-governmental organization that coordinates maritime governance in the south-western Indian Ocean.
- **Security and Growth for All in the Region (SAGAR):** It was launched in 2015.
 - Through SAGAR, India seeks to deepen economic and security cooperation with its maritime neighbours and assist in building their maritime security capabilities.
- **Asia Africa Growth Corridor:** The idea of **Asia Africa Growth Corridor (AAGC)** emerged in the joint declaration issued by India and Japan in 2016.
 - The AAGC is raised on four pillars of Development and Cooperation Projects, Quality Infrastructure and Institutional Connectivity, Enhancing Capacities and Skills and People-to-People partnership.

Road Ahead for Afghanistan after US Exit

Why in News

Recently, the **US troops departed from the biggest airbase in Afghanistan** after the 20-year-long war, effectively ending their military operations in the country.

Key Points

- **Background:**
 - On **11th September 2001**, **terrorist attacks in America** killed nearly 3,000 people.
 - **Osama Bin Laden**, the head of Islamist terror group al-Qaeda, was quickly identified as the man responsible.
 - The **Taliban**, radical Islamists who ran Afghanistan at that time, **protected Bin Laden**, and refused to hand him over. So, a month after 9/11, the **US launched airstrikes against Afghanistan (Operation Enduring Freedom)**.
 - After the attacks, the **NATO coalition troops declared war on Afghanistan**.
 - The **US dislodged the Taliban regime and established a transitional government in Afghanistan**.
- **Reason for US Pull Back:**



- The US had reached the conclusion long ago that the **war was unwinnable**.
- The US administration **had sent a representative to the first-ever meeting between the Taliban and the Afghan government** that was hosted by Pakistan in Murree in 2015.
 - However, the **Murree talks did not progress**.
- **Doha Talk:** The US appointed a special envoy for Afghanistan with a mandate to directly negotiate with the Taliban. They held talks with Taliban representatives in Doha that **led to the February 2020 agreement between the US and the insurgents**.
 - Before the Doha talks started, the **Taliban had maintained that they would hold direct talks only with the US, and not with the Kabul government**, which they did not recognise.
 - The US effectively accepted this demand when **they cut the Afghan government off the process and entered direct talks with the insurgents**.
- **Terms of Agreement between the US and the Taliban:**
 - It dealt with four aspects of the conflict — **violence, foreign troops, intra-Afghan peace talks and the use of Afghan soil by terrorist groups** such as al-Qaeda and the Islamic State (the IS has an Afghan unit).
 - In the agreement, the US administration promised that it would withdraw all American troops from Afghanistan by 1st May, 2021.
 - The deadline has been **pushed to 11th September 2021**.
 - The Taliban promised to reduce violence, join intra-Afghan peace talks and cut all ties with foreign terrorist groups.

Note:

➤ **India's reach out to the Taliban:**

- **India** made contacts with the Taliban in Doha.
 - This signals a late but realist acknowledgement from the Indian side that the Taliban would play a critical role in Afghanistan in the coming years.
- India has **three critical areas** in dealing with the Taliban.
 - Protecting its investments, which run into billions of rupees, in Afghanistan;
 - Preventing a future Taliban regime from being a pawn of Pakistan;
 - Making sure that the Pakistan-backed anti-India terrorist groups do not get support from the Taliban.
- In the past, India chose not to engage the Taliban (New Delhi had backed the **Northern Alliance**) and the costs were dear when the Taliban was in power.
 - In November 2001, the Northern Alliance took control of the Afghanistan capital Kabul. The Northern Alliance fought a defensive war against the Taliban government and were being helped

by the US and other countries that agreed with it, including the UK.

➤ **Possible Scenarios for Afghanistan:**

- The American withdrawal **has turned the balance of power in the battleground in favour of the Taliban.**
- They are already making rapid advances, and could launch a major offensive targeting the city centres and provincial capitals once the Americans are out.
- There could be **three scenarios**:
 - There could be a **political settlement in which the Taliban and the government agree to some power-sharing mechanism** and jointly shape the future of Afghanistan. As of now, this looks like a remote possibility.
 - **An all-out civil war may be possible**, in which the government, economically backed and militarily trained by the West, holds on to its positions in key cities and the Taliban expand its reach in the countryside, while other ethnic militias fight for their fiefs. This is already unfolding.
 - The **Taliban taking over the country.**

Note:



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Science and Technology

Highlights

- Methane in the Moons of Saturn
- Suborbital Flight
- Discrete Auroras of Mars
- Few-Electron Bubbles in Superfluid Helium Gas
- New Source of Gravitational Waves Discovered
- Acute Encephalitis Syndrome
- Lymphatic Filariasis
- dbGENVOC
- Zika Virus Disease
- Covid-19 Vaccine Booster Shots
- Lambda Variant of Covid-19
- Kappa Variant: Covid-19
- Fly Ash

Methane in the Moons of Saturn

Why in News

NASA's (National Aeronautics and Space Administration) Cassini spacecraft had detected an unusually high concentration of methane, along with carbon dioxide and dihydrogen, in the moons (Titan and Enceladus) of Saturn by flying through their plumes (in 2017).

- It found that **Titan** has methane in its atmosphere and **Enceladus** has a liquid ocean with erupting plumes of gas and water.
- An international research team has used new statistical methods to understand if methanogenesis or methane production by microbes could explain the molecular hydrogen and methane.

Key Points

- **Findings:**
 - Cassini found **ice particles, salts, hydrogen and organic molecules** in the plumes, tentative **hints of an ocean that is similar to Earth's oceans** in composition.
 - There is also evidence for **alkaline hydrothermal vents on Enceladus' seafloor**, similar to those that **support methanogens in Earth's oceans**.
- **About Methanogens:**
 - Most of the methane on Earth has a biological origin. **Microorganisms called methanogens are capable of generating methane** as a metabolic byproduct.

- They **do not require oxygen to live** and are widely distributed in nature.
- They are **found in swamps, dead organic matter, and even in the human gut**.
- They are **known to survive in high temperatures** and simulation studies have shown that they **can live in Martian conditions**.
- Methanogens have been widely studied to understand **if they can be a contributor to global warming**.
- **Possibility of Methanogens on Enceladus:**
 - Methane **could be formed by the chemical breakdown of organic matter** present in Enceladus' core.
 - **Hydrothermal processes** could help the formation of carbon dioxide and methane.
 - Enceladus' hydrothermal vents **could be habitable to Earth-like microorganisms (Methanogens)**.

Titan

- Titan is the **largest moon of Saturn** and the second largest moon in our solar system.
 - **Jupiter's moon Ganymede** is just a little bit larger.
- It has **liquid rivers, lakes, and seas on its surface** (though these contain hydrocarbons like methane and ethane, not water).
- Titan's atmosphere is **made mostly of nitrogen**, like Earth's, **but is four times denser**.
- Unlike Earth, it has **clouds and methane rain**.
- Because it is so far from the **Sun** **it's surface temperature is (-179 degree Celsius)**.

Note:

Enceladus

- Enceladus is a **small, icy moon which has an abundance of hydrogen molecules** in water plumes. 98% of the gas in the plumes was found to be water and **1% is hydrogen** and the remaining is a mixture of molecules of carbon dioxide, methane, and ammonia.
- Underwater **vents present on Enceladus resemble the vents present on Earth's ocean floors**, where microbes and other sea life congregate.

Suborbital Flight

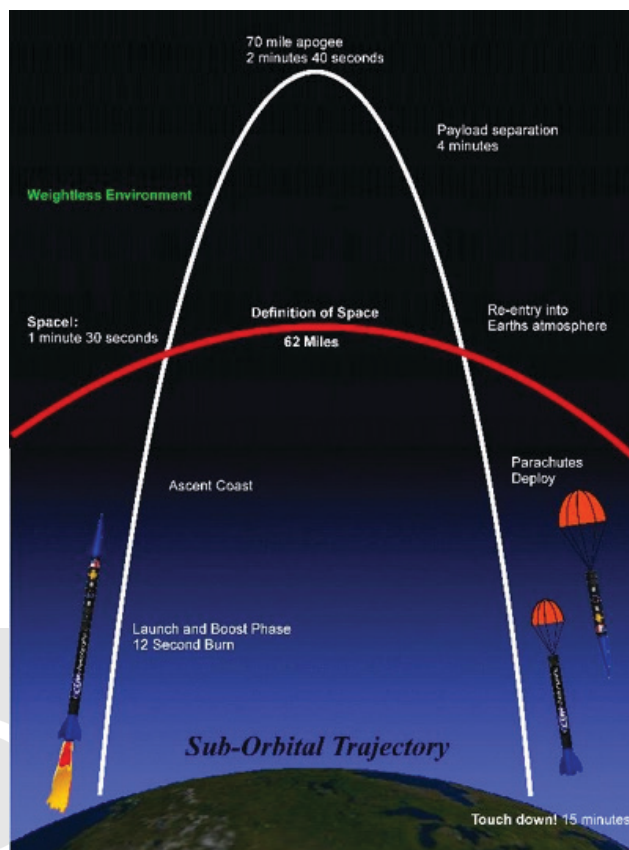
Why in News

Recently, a six person crew on **Virgin Galactic's VSS Unity spaceship** undertook a brief trip to the "edge of space" which is known as **Suborbital Flight**.

- **Sirisha Bandla**, an astronaut born in India, was a part of the crew. She was the **third woman of Indian origin** to go to space after **Kalpana Chawla** and **Sunita Williams**.
- **Virgin Galactic** is a British-American **spaceflight company**, operating in the United States.

Key Points

- **Suborbital Flight/Trajectory:**
 - When an **object travels at a horizontal speed of about 28,000 km/hr or more**, it goes into orbit once it is above the atmosphere.
 - The **satellites need to reach that threshold speed (orbital velocity)** in order to orbit Earth.
 - Such a satellite would be **accelerating towards the Earth due to gravity**, but its **horizontal movement is fast enough to offset the downward motion** so that it moves along a circular path.
 - Any object travelling **slower than 28,000 km/hr must eventually return to Earth**.
 - Any object that launches to space but **does not reach sufficient horizontal velocity to stay in space falls back to Earth**. Hence they fly in a suborbital trajectory.
 - It means that while these **vehicles will cross the ill-defined boundary of space**, they will **not be going fast enough to stay in space** once they get there.



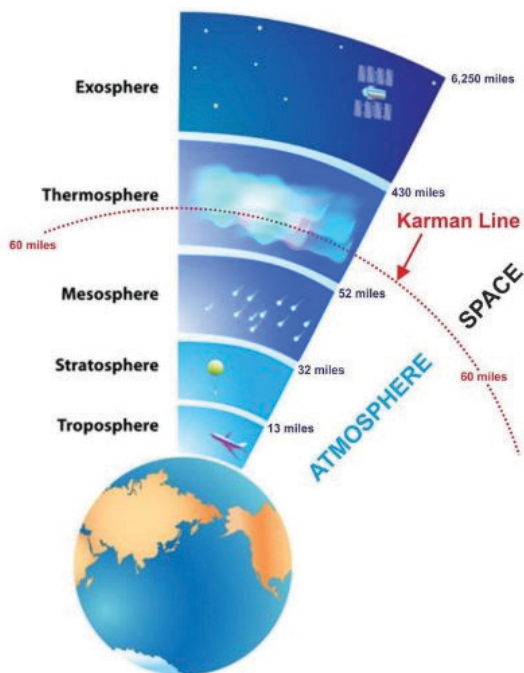
➤ Significance of Suborbital Flights:

- **Increased Access:**
 - It would provide **increased flight access for design innovation** and experimental manipulation due to high projected flight rates.
- **Research:**
 - Suborbital flights will be helpful for **microgravity research**. Microgravity is the **condition in which people or objects appear to be weightless**.
 - Suborbital flights could also be an **alternative to parabolic flights** in aeroplanes that space agencies currently use to simulate **zero gravity**.
 - **Zero Gravity** or Zero-G can simply be defined as the **state or condition of weightlessness**.
- **Cost Effective:**
 - They would be **far less expensive** than carrying experiments and people to the **International Space Station**.
- **Edge of Space/Karman Line:**
 - The most widely accepted boundary of space is known as the **Karman line**. The **Fédération Aéronautique Internationale (FAI)** defines Karman

Note:

Line as the altitude of 100 kilometres above Earth's mean sea level.

- FAI is the world governing body for air sports, and also stewards definitions regarding human spaceflight.

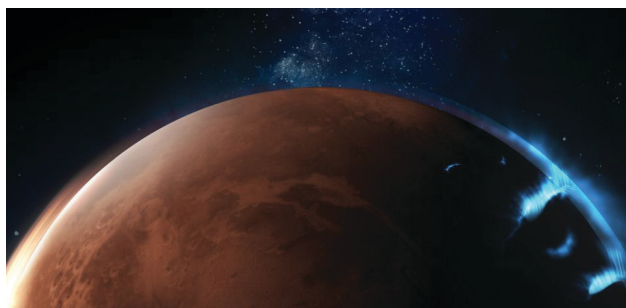


- The Kármán line has been compared to international waters, as there are no national boundaries and human laws in force beyond the line.
- It is named after **Theodore von Karman (1881–1963)**, a Hungarian American engineer and physicist, who was active primarily in aeronautics and astronautics.
 - He was the **first person to calculate the altitude at which the atmosphere becomes too thin to support aeronautical flight** and arrived at 83.6 km himself.
- However, other organizations do not use this definition. **There is no international law defining the edge of space**, and therefore the limit of national airspace.

Discrete Auroras of Mars

Why in News

Recently, the UAE's **Hope spacecraft** has captured images of glowing atmospheric lights in the Mars night sky, known as discrete auroras.



- The Hope Probe, the Arab world's first mission to Mars, took off from Earth in July 2020, and has been orbiting the Red Planet (Mars) since February 2021. It is expected to create the **first complete portrait of the planet's atmosphere**.

Key Points

- Auroras:**
 - An Aurora is a **display of light in the sky predominantly seen in the high latitude regions** (Arctic and Antarctic). It is **also known as a Polar light**.
 - They commonly occur at high northern and southern latitudes, less frequent at mid-latitudes, and seldom seen near the equator.
 - While **usually a milky greenish color**, auroras can also show red, blue, violet, pink, and white. These colors appear in a variety of continuously changing shapes.
 - Auroras are **not just something that happens on Earth**. If a planet has an atmosphere and magnetic field, they probably have auroras.
- Cause of Auroras on Earth:**
 - Auroras are caused **when charged particles ejected from the Sun's surface - called the solar wind - enter the Earth's atmosphere**.
 - The typical aurora is **caused by collisions between charged particles from space with the oxygen and nitrogen in Earth's upper atmosphere**.
 - The electrons - which come from the **Earth's magnetosphere**, the region of space controlled by Earth's magnetic field - transfer their energy to the oxygen and nitrogen atoms and molecules, making them "excited".
 - When a large number of electrons come from the magnetosphere to bombard the atmosphere, the **oxygen and nitrogen can emit enough light for the eye to detect, giving us beautiful auroral displays**.

Note:



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- In the **northern part of our globe**, the **polar lights are called aurora borealis or Northern Lights**, and are seen from the US (Alaska), Canada, Iceland, Greenland, Norway, Sweden and Finland.
- In the **south, they are called aurora australis or southern lights**, and are visible from high latitudes in Antarctica, Chile, Argentina, New Zealand and Australia.
- **Discrete Auroras of Mars:**
 - Unlike auroras on Earth, which are seen only near the north and south poles, **Discrete Auroras (DA) on Mars are seen all around** the planet at night time.
 - These DAs are traced out where **energetic particles excite the atmosphere** after being funneled down by a patchy network of crustal **magnetic fields that originate from minerals** on the surface of Mars.
- **Martian Auroras are Different:**
 - Unlike Earth, which has a strong magnetic field, the **Martian magnetic field has largely died out**. This is because the molten iron at the interior of the planet - which produces magnetism - has cooled.
 - However, the **Martian crust**, which hardened billions of years ago when the magnetic field still existed, **retains some magnetism**.
 - So, in contrast with Earth, which acts like one single bar magnet, **magnetism on Mars is unevenly distributed**, with fields strewn across the planet and differing in direction and strength.
 - These **disjointed fields channel the solar wind to different parts of the Martian atmosphere**, creating "discrete" auroras over the entire surface of the planet as charged particles interact with atoms and molecules in the sky— as they do on Earth.

Few-Electron Bubbles in Superfluid Helium Gas

Why in News

Recently, Scientists at the **Indian Institute of Science (IISc)**, Bangalore for the first time discovered **two species of Few-Electron Bubbles (FEBs) in Superfluid Helium Gas**.

Key Points

- **Electron Bubble:**
 - An electron bubble is the **empty space created**

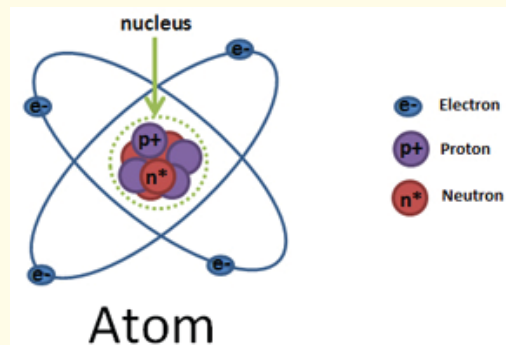
around a free electron in a cryogenic gas or liquid, such as neon or helium. They are typically very small, about **2 nm in diameter** at atmospheric pressure.

Helium

- It is a chemical element with the **symbol He and atomic number 2**. The British chemist **Sir William Ramsay** discovered the **existence of helium on Earth in 1895**.
- It is a **colourless, odourless, tasteless, non-toxic, inert, monatomic gas**, the first in the noble gas group in the periodic table.
- Its **boiling point is the lowest among all the elements**.

Electrons

- **Matter is made up of atoms**, which are the basic units of chemical elements such as hydrogen, helium or oxygen.
- Atoms are **made up of three particles**: Protons, Neutrons and Electrons.
- Hence, **electrons are the subatomic particles that orbit the nucleus of an atom**. They are generally **negative in charge** and are much **smaller than the nucleus of the atom**.



- An electron injected into a **superfluid** form of helium creates a **Single Electron Bubble (SEB)** — a cavity that is free of helium atoms and contains only the electron. The shape of the bubble depends on the energy state of the electron.
 - For instance, the bubble is spherical when the electron is in the ground state (i.e. state of lowest energy). There are also **multiple electron bubbles** that contain **thousands of electrons**.
 - **Superfluidity** is the **frictionless flow and other exotic behaviour observed in liquid helium at temperatures near absolute zero** (-273.15°C), and similar frictionless behaviour of electrons in a superconducting solid. In each case the

Note:

unusual behaviour arises from quantum mechanical effects.

➤ **Few-Electron Bubbles:**

- FEBs, on the other hand, are **nanometre-sized cavities in liquid helium containing just a handful of free electrons**. The number, state, and interactions between free electrons dictate the physical and chemical properties of materials.
 - FEBs form an interesting system that has both **electron-electron interaction and electron-surface interaction**.
 - FEBs were found to be **stable for at least 15 milliseconds** (quantum changes typically happen at much shorter time scales) which would enable researchers to trap and study them.

➤ **Significance:**

○ **Study Properties:**

- FEBs can serve as a useful model to study how the energy states of electrons and interactions between them in a material influence its properties.

○ **Decipher Phenomenons:**

- There are several phenomena that FEBs can help scientists decipher, such as:
 - Turbulent flows in superfluids and viscous fluids, or the flow of heat in superfluid helium.
 - Just like how **current flows without resistance in superconducting materials** at very low temperatures, **superfluid helium also conducts heat efficiently at very low temperatures**.

New Source of Gravitational Waves Discovered

Why in News

Recently, **LIGO Scientific Collaboration (LSC)** has made the **discovery of gravitational waves from a pair of neutron star-black hole (NS-BH) mergers**.

- The reverberations from these two objects were picked up using a **global network of gravitational wave detectors**, the most sensitive scientific instruments ever built.
- Until now, the **LIGO-Virgo Collaboration (LVC)** was only able to observe collisions between pairs of

black holes or neutron stars. The **NS-BH merger is a hybrid collision**.

Black Hole

- A black hole is a **place in space where gravity pulls so much that even light can not get out**. The gravity is so strong because matter has been squeezed into a tiny space.
- **Gravitational waves are created** when two black holes orbit each other and merge.

Neutron Stars

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

Key Points

➤ **About the Gravitational Waves:**

- These are **invisible ripples in space** that form when:
 - A star explodes in a **supernova**.
 - Two big stars orbit each other.
 - Two **black holes** merge.
 - Neutron star-Black hole (NS-BH) merges.
- They **travel at the speed of light** (1,86,000 miles per second) and squeeze and stretch anything in their path.
 - As a gravitational wave travels through space-time, it causes it to stretch in one direction and compress in the other.
 - Any object that occupies that region of space-time also stretches and compresses as the wave passes over them, though very slightly, which can only be detected by specialized devices like LIGO.
- **Theory and Discovery:**
 - These were proposed by **Albert Einstein** in his **General Theory of Relativity**, over a century ago.
 - However, the first **gravitational wave** was actually detected by LIGO only in 2015.

➤ **Detection Technique:**

Note:

- As the **two compact and massive bodies orbit around each other**, they come closer, and **finally merge, due to the energy lost in the form of gravitational waves**.
 - The Gravitational Waves signals are buried deep inside a lot of background noise. To search for the signals, scientists use a **method called matched filtering**.
 - In this method, **various expected gravitational waveforms predicted by Einstein's theory of relativity, are compared with the different chunks of data** to produce a quantity that signifies how well the signal in the data (if any) matches with any one of the waveforms.
 - Whenever this match (in technical terms "**signal-to-noise ratio**" or **SNR**) is **significant (larger than 8)**, an event is said to be detected.
 - **Observing an event in multiple detectors** separated by thousands of kilometers almost simultaneously gives scientists increased confidence that the signal is of astrophysical origin.
- **Importance of Discovery:**
- A **neutron star has a surface** and black hole does not. A **neutron star is about 1.4-2 times the mass of the sun** while the other black hole is much more massive. **Widely unequal mergers** have very interesting effects that can be detected.
 - Inferring from data as to how often they merge **will also give us clues about their origin and how they were formed**.
 - These observations **help us understand the formation and relative abundance of such binaries**.
 - **Neutron stars are the densest objects in the Universe**, so these findings can also **help us understand the behaviour of matter at extreme densities**.
 - **Neutron stars are also the most precise 'clocks' in the Universe**, if they emit extremely periodic pulses.
 - The discovery of pulsars going around Black Holes **could help scientists probe effects under extreme gravity**.
- **LIGO Scientific Collaboration (LSC):**
- LSC was **founded in 1997** and currently made up of more than 1000 scientists from over 100 institutions and 18 countries worldwide.
- It is a **group of scientists** focused on the **direct detection of gravitational waves**, using them to explore the fundamental physics of gravity, and developing the emerging field of gravitational wave science as a tool of astronomical discovery.
 - **LIGO Observatories:** The LSC carries out the science of the **LIGO Observatories**, located in **Hanford, Washington** and **Livingston, Louisiana** as well as that of the GEO600 detector in Hannover, Germany.
 - **Other Observatories:**
 - **VIRGO:** Virgo is located **near Pisa in Italy**. The Virgo Collaboration is currently composed of approximately 650 members from 119 institutions in 14 different countries including Belgium, France, Germany, Hungary, Italy, the Netherlands, Poland, and Spain.
 - **The Kamioka Gravitational Wave Detector (KAGRA):** The KAGRA detector is **located in Kamioka, Gifu, Japan**. The host institute is the Institute of Cosmic Ray Researches (ICRR) at the University of Tokyo.

LIGO-India Project

- The **LIGO-India observatory** is scheduled for completion in 2024, and will be built in the **Hingoli District of Maharashtra**.
- LIGO India is a planned **advanced gravitational-wave observatory** to be located in India as part of the worldwide network.
 - The LIGO project operates three gravitational-wave (GW) detectors.
 - Two are at Hanford in the State of Washington, north-western USA, and one is at Livingston in Louisiana, south-eastern USA.
- The LIGO-India project is an **international collaboration between** the LIGO Laboratory and three lead institutions in the LIGO-India consortium: **Institute of Plasma Research, Gandhinagar; IUCAA, Pune; and Raja Ramanna Centre for Advanced Technology, Indore**.
 - It will significantly improve the sky localisation of these events.
 - This increases the chance of observation of these distant sources using electromagnetic telescopes, which will, in turn, give us a more precise measurement of how fast the universe is expanding.

Note:

- This interferometer is underground and uses cryogenic mirrors. It has 3 km arms.

Acute Encephalitis Syndrome

Why in News

The **Jal Jeevan Mission (JJM)** has provided tap water supply to more than **97 lakh households** in five **JE-AES (Japanese Encephalitis-Acute Encephalitis Syndrome)** affected states.

- The five states with priority districts are **Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal**.
- **JJM envisages supply of 55 litres of water per person per day to every rural household** through Functional Household Tap Connections (FHTC) **by 2024**. The **Jal Shakti Ministry is the nodal ministry** for the implementation of the scheme.

Key Points

- **Acute Encephalitis Syndrome (AES):**
 - **About:** AES is a severe case of encephalitis transmitted by mosquitoes and is characterized by high fever and inflammation of the brain.
 - The **World Health Organisation (WHO)** in **2006**, coined the term AES to signify a group of diseases which seem similar to one another but are difficult to differentiate in the chaotic environment of an outbreak.
 - **Vulnerable Population:** The disease most commonly affects children and young adults and can lead to considerable morbidity and mortality.
 - **Causative Agents:** Viruses are the main causative agents in AES cases, although other sources such as bacteria, fungi, parasites, spirochetes, chemicals, toxins, and noninfectious agents have also been reported over the past few decades. It is **not vaccine-preventable**.
 - **Japanese Encephalitis** virus (JEV) is the major cause of AES in India (ranging from 5%-35%).
 - Herpes simplex virus, **Nipah virus**, **Zika virus**, **Influenza A virus**, **West Nile virus**, Chandipura virus, mumps, **measles**, **dengue**, scrub typhus, *S.pneumoniae* are also found as causative agents for AES.
 - **Symptoms:** Confusion, disorientation, coma, or inability to talk, high fever, vomiting, nausea, and unconsciousness.

- **Diagnosis:** The **National Vector Borne Disease Control Programme (NVBDCP)** in India has set up countrywide surveillance for AES through sentinel sites with a focus on detecting Japanese Encephalitis (JEV).

- In the sentinel surveillance network, AES/JE is diagnosed by **IgM Antibody Capture ELISA**, and virus isolation is done in the National Reference Laboratory.

➤ Status of AES in India:

- According to the NVBDCP, 10,485 AES cases were diagnosed in 2018 with 632 deaths across 17 states.
- India records **fatality rate at 6% in AES, but the fatality rises to 25% amongst children**.
- Bihar, Assam, Jharkhand, Uttar Pradesh, Manipur, Meghalaya, Tamil Nadu, Karnataka, and Tripura are **worst affected**.

Lymphatic Filariasis

Why in News

Recently, the **Maharashtra government has started a drug administration drive for the elimination of Lymphatic Filariasis (LF)** and become the **first State in the country to resume giving rounds of the drug** after the second wave of **Covid-19**.

Key Points

- **About:**
 - LF, commonly known as **elephantiasis** and is considered as a **Neglected Tropical Disease (NTD)**. It is the **second most disabling disease after mental health**.
 - It **impairs the lymphatic system** and can lead to the **abnormal enlargement of body parts**, causing pain, severe disability and social stigma.
 - The lymphatic system is a network of vessels and specialized tissues that are essential to maintaining the overall fluid balance and health of organs and limbs and, importantly, are a major component of the body's immune defense system.
 - Lymphatic filariasis is a **vector-borne disease**, caused by infection with parasites **classified as nematodes (roundworms)** of the family Filarioidea. There are **3 types** of thread-like filarial worms which causes lymphatic filariasis:

Note:



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- **Wuchereria Bancrofti** is responsible for 90% of the cases.
- **Brugia Malayi** causes most of the remainder of the cases.
- **Brugia Timori** also causes the disease.

➤ **Drug Treatment:**

- The **World Health Organization (WHO)** recommends **three drug treatments** to accelerate the **global elimination of lymphatic filariasis**.
- The treatment, **known as IDA**, involves a combination of ivermectin, diethylcarbamazine citrate and albendazole.
- The plan is to administer these drugs for two consecutive years. The life of the adult worm is hardly four years, so it would die a natural death without causing any harm to the person.

➤ **Scenario in India:**

- Lymphatic filariasis poses a grave threat to India. An **estimated 650 million Indians across 21 states and union territories are at risk** of lymphatic filariasis.
- **Over 40% of worldwide cases** are found in India.
- The government launched the **Accelerated Plan for Elimination of Lymphatic Filariasis (APELF) in 2018**, and as part of intensifying efforts towards elimination, **later rolled out IDA treatment (triple drug therapy)** in a phased manner.

➤ **Global Initiatives:**

- **WHO's New Roadmap for 2021–2030:** To prevent, control, eliminate and eradicate a set of 20 diseases, termed neglected tropical diseases, by 2030.
- **Global Programme to Eliminate Lymphatic Filariasis (GPELF):**
 - In 2000, WHO established the **GPELF** to stop transmission of infection with **Mass Drug Administration (MDA)** and to alleviate suffering among people affected by the disease through **morbidity management and disability prevention (MMDP)**.
 - The **target set by GPELF in 2000 to eliminate LF as a public health problem globally by 2020 was not achieved**. Despite setbacks due to Covid-19, WHO will **accelerate work to achieve this target by 2030**.

dbGENVOC

Why in News

Recently, the **National Institute of Biomedical Genomics (NIBMG)**, funded by the **Department of Biotechnology**, has **created the world's first database of genomic variations in oral cancer (dbGENVOC)**.

Key Points

➤ **About dbGENVOC:**

- dbGENVOC, a comprehensive, flexible database framework, developed with **an aim to allow potential users to access, query, browse and download** clinically relevant somatic and germline variation data from Indian oral cancer patients.
- **Somatic or acquired genomic variants** are the most common cause of cancer, occurring from **damage to genes in an individual cell** during a person's life.
- A germline variant occurs in gametes and is **passed directly from a parent to a child** at the time of conception. Cancers caused by **germline pathogenic variants** are called inherited or hereditary.
- It will be updated annually with variation data from new oral cancer patients from different regions of India and southeast Asia.

➤ **Cancer Burden in India:**

- According to the World Cancer Report 2020, India had an **estimated 1.16 million new cancer cases in 2018**.
- 1 in 10 Indians **will develop** cancer during their lifetime and **1 in 15 will die** of the disease.
- The **six most common cancer types** in India are breast cancer, oral cancer, cervical cancer, lung cancer, stomach cancer, and colorectal cancer.
- **Oral cancer is the most prevalent form of cancer among men in India**, largely fuelled by tobacco-chewing.

Zika Virus Disease

Why in News

Recently, Zika Virus Disease (ZVD) was reported for the first time in Kerala.

Note:



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Key Points➤ **About:**

- Zika virus is a **mosquito-borne flavivirus** that was **first identified in Uganda** in 1947 in monkeys. It was later identified in **humans in 1952 in Uganda** and the **United Republic of Tanzania**.

➤ **Transmission:**

- ZVD is caused by a virus **transmitted primarily by Aedes mosquitoes (AM)**, mainly *Aedes aegypti*.
 - This is the same mosquito that **transmits dengue, chikungunya and yellow fever**.
- Zika virus is **also transmitted** from mother to fetus during pregnancy, through sexual contact, transfusion of blood and blood products, and organ transplantation.

➤ **Symptoms:**

- Symptoms are generally mild and include fever, rash, conjunctivitis, muscle and joint pain, malaise or headache. Most people with Zika virus infection do not develop symptoms.
- Zika virus infection during pregnancy **can cause infants to be born with microcephaly** (smaller than normal head size) and other congenital malformations, known as congenital Zika syndrome.

➤ **Treatment:**

- There is **no vaccine or medicine for Zika**. Instead, the focus is on relieving symptoms and includes rest, rehydration and acetaminophen for fever and pain.

➤ **Related Government Programme/Initiatives:**

- **Integrated Disease Surveillance Programme:** To strengthen/maintain decentralized laboratory based and IT enabled disease surveillance systems for epidemic prone diseases to monitor disease trends.
- **National Vector Borne Disease Control Programme:** The central nodal agency for prevention and control of six vector borne diseases i.e. Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis and Chikungunya in India.
- **Rashtriya Bal Swasthya Karyakram (RBSK):** An initiative under the **National Health Mission**, has a **surveillance for Microcephaly** (system for monitoring birth defects).

Dengue

- Dengue is transmitted by several species of **mosquito within the genus Aedes**.
- Symptoms include **fever, headache, muscle, and joint pains, and a characteristic skin rash** that is similar to measles.
- The **dengue vaccine CYD-TDV or Dengvaxia** has been approved in about 20 countries.

Chikungunya

- Chikungunya is caused by a **mosquito-borne virus**.
- It is transmitted by **Aedes aegypti and Aedes albopictus mosquitoes**.
- Its symptoms are characterized by **abrupt fever and severe joint pain**, often in hands and feet, and may include headache, muscle pain, joint swelling or rash.
- There is no **specific antiviral drug** treatment for chikungunya.
- There is **no commercial chikungunya vaccine**.

Yellow Fever

- It is an **acute viral haemorrhagic disease** transmitted by infected mosquitoes. The "yellow" in the name refers to the jaundice that affects some patients.
- **Symptoms** of yellow fever include **fever, headache, jaundice, muscle pain, nausea, vomiting and fatigue**.
- Yellow fever vaccine which is **known as 17D** and according to the **World Health Organization (WHO)** also it is safe and affordable. However, there are reports of multisystem organ failure following vaccination.

Covid-19 Vaccine Booster Shots

Why in News

Recently, **Pfizer and BioNTech** have announced that they would seek regulatory authorization for a third booster dose of their **Covid-19 vaccine (BNT162b2)**.

- This development comes amid the global spread of highly transmissible **Delta strain of Covid-19**.

Key Points➤ **Booster Shots:**

- A booster is a means of **strengthening one's immune system** against a **particular pathogen**.

Note:

- It may be exactly the **same original vaccine**, in which case its **goal is to increase the magnitude of protection** by producing more **antibodies**.
- Scientists **can also tweak what goes into the booster** if they are aiming **to protect people from a new variant** — a version of the virus that's mutated significantly from the original version people were vaccinated against.
- These shots are **only for the fully-vaccinated**.

➤ **Need:**

- These boosters will be **particularly helpful for the elderly and immunocompromised people** whose bodies were unable to mount a robust protection against the virus following the first two shots.
- Secondly, if there are studies showing that a new variant can sneak past the antibodies created by a specific vaccine, the need of a tweaked booster shot arises then.

➤ **Concerns:**

- Booster shots are **yet to get a nod** from the **World Health Organisation (WHO)**.
- In fact, the WHO has **expressed caution** in encouraging third doses.
- Such a recommendation is unnecessary and premature given the **paucity of data on booster shots** and the fact that **high-risk individuals in much of the world still haven't been fully vaccinated**.

Lambda Variant of Covid-19

Why in News

After the cases of **Delta Variant** of **Covid-19** continuously rising, a new variant called **Lambda Variant (LV)** is emerging as a new threat.

- Lambda Variant is **dominant in Peru**, **India has not yet reported any case of LV**.

Key Points

➤ **About:**

- The **strain was first identified in Peru** in December 2020. Lambda is the dominant variant in the South American country with 81% samples found to be carrying it.
- Until recently, it was **largely concentrated in a handful of South American countries**, including

Ecuador and Argentina, but since April it has been detected in more than 25 Countries.

- Previously known by its **Formal Scientific Name C.37**, the **World Health Organisation (WHO)** designated this variant seventh and the newest **Variant of Interest (VOI)**.

- **Another four** have been **designated as 'variants of concern'**.

➤ **Concerns:**

- LV has **at least seven significant mutations in the spike protein** (the **Delta variant** has three) which could have a range of implications, including the possibility of increased transmissibility or enhanced resistance to antibodies, created either through natural infection or vaccination.
 - It is the coronavirus spike protein that binds to a human protein to initiate the process of infection.
- The LV has **greater infectivity than the Alpha and Gamma variants** (known to have originated in the UK and Brazil respectively).
- A study also reported decreased effectiveness of the **Chinese Sinovac vaccine (Coronavac)** against the Lambda variant.

Kappa Variant: Covid-19

Why in News

Recently, two cases of the **Kappa variant of Covid-19** have been recorded in Uttar Pradesh (UP).

- According to the **World Health Organisation (WHO)**, Kappa is one of the two Covid-19 variants, the other being **Delta**, first identified in India.
- Earlier a new variant **Lambda** was reported from Peru.

Key Points

➤ **About:**

- As India raised **objection over the B.1.617.1 mutant of the novel coronavirus being termed an "Indian Variant"**, the WHO had named this variant '**Kappa**' and B.1.617.2 'Delta' just as it **named** various variants of the coronavirus using Greek alphabets.
 - The **Delta and Kappa variants are actually siblings, the direct descendants of a variant**

Note:

that earlier used to be referred to as the **double mutant, or B.1.617**.

- It is still listed among 'variants of interest' and not 'variants of concern' by the WHO.

➤ **Variants of Interest:**

- They are **SARS-CoV-2 variants with genetic changes** that are predicted or known to **affect virus characteristics such as transmissibility, disease severity, immune escape, diagnostic or therapeutic escape**.

- **Examples:** Lambda, Iota, Eta and Kappa variants.

➤ **Variant of Concern:**

- A variant **for which there is evidence of an increase in transmissibility, more severe disease** (e.g., increased hospitalizations or deaths), **significant reduction in neutralization by antibodies** generated during previous infection or vaccination, reduced effectiveness of treatments or vaccines, or diagnostic detection failures.

- **Examples:** Alpha, Beta, Gamma and Delta variants.

Fly Ash

Why in News

National Thermal Power Corporation (NTPC) Limited has invited **Expression of Interest (EOI)** for sale of **fly ash**, in its endeavour to **achieve 100% utilization of fly ash**, from the designated plants of the Middle East and other regions.

- **Fly Ash** is a **byproduct from burning of coal** in the thermal power generation.

Key Points

➤ **Fly Ash:**

○ **About:**

- It is **called fly ash because** it is transported from the combustion chamber by exhaust gases.
- It is collected from the exhaust gases by **electrostatic precipitators or bag filters**.
 - An **electrostatic precipitator (ESP)** is defined as a **filtration device** that is used to remove fine particles like smoke and fine dust from the flowing gas.
 - It is the commonly used device for air pollution control.

○ **Composition:**

- Fly ash includes substantial amounts of silicon dioxide (SiO_2), aluminium oxide (Al_2O_3), ferric oxide (Fe_2O_3) and calcium oxide (CaO).

○ **Properties:**

- **Resemble Portland cement** but is chemically different.
 - Portland cement is a binding material in the form of a finely ground powder that is manufactured by burning and grinding a **mixture of limestone and clay**.
 - Its chemical composition includes **calcium silicates, calcium aluminate and calcium aluminoferrite**.
- Exhibit **cementitious** properties.
 - A cementitious material is one that hardens when mixed with water.

○ **Uses:**

- It is used in concrete and cement products, road base, metal recovery, and mineral filler among others.

○ **Harmful Effects:**

- Fly ash particles are **toxic air pollutants**. They can trigger heart disease, cancer, respiratory diseases and stroke.
- When combined with water they **cause leaching of heavy metals** in ground water.
- It also **pollutes the soil**, and affects the root development system of trees.

➤ **Fly Ash Utilisation:**

- NTPC has **collaborated with Cement manufacturers** around the country to supply Fly Ash.
- To promote the use of Fly Ash bricks in building construction, NTPC has set up **Fly Ash brick manufacturing Plants** at its **Coal based Thermal Power Plants**.
 - These bricks are being **utilized in Plants as well as township construction activities** exclusively.
 - On average, 60 million Fly Ash bricks are being manufactured annually by NTPCs own Fly Ash brick Plants.
- As per the MoEF&CC directives, NTPC stations must keep at least **20% of total Fly Ash produced** in reserve for the issue to Fly Ash brick/ blocks/ tiles manufacturers and issuing Fly Ash **free of cost to them**.

Note:

- About 9% of the total Fly Ash produced in NTPCs stations, is being utilized by Fly Ash bricks/blocks and tiles manufacturing units annually.
- During the year 2020-21, almost 15 NTPC stations supplied Fly Ash to various Road projects and Ash utilization crossed by nearly 20 million tonnes.
- Over the last five years the fly ash utilisation has grown up by 80% in the country.
- **Pradhan Mantri Awas Yojana (Urban)** has focused on new construction technologies such as **using fly**

ash bricks that are innovative, and environmentally friendly.

- Even state governments have come out with their Fly ash utilization policies, e.g. **Maharashtra was the first state to adopt the policy.**
- A **web portal for monitoring of fly ash generation and utilization** and a **mobile based application** titled "**ASHTRACK**" has been launched by the Government.
- **GST** rates on fly ash and its products have been reduced to 5%.



Note:

Environment and Ecology

Highlights

- Right to Repair Movement
- Green Hydrogen
- High-Altitude Yak
- India's First Cryptogamic Garden
- Post-2020 Global Biodiversity Framework
- Water Pollution by Detergents
- SOP for Environmental Violations: MoEFCC
- Tiger Corridor in Rajasthan
- Lemru Elephant Reserve: Chhattisgarh
- Human-Wildlife Conflict
- Conservation Plans for Cities along Rivers
- Deaths Due to Hazardous Chemical
- Anti-Methanogenic Feed Supplement: Harit Dhara
- Melting of Arctic's 'Last Ice Area'
- Conservation of Vultures
- Marine Plastic: Problem, And Solution
- Guindy National Park: Tamil Nadu
- LEAF Coalition
- Black Panther Spotted in Navegaon – Nagzira Tiger Reserve
- King Cobra in Tillari Reserve

Right to Repair Movement

Why in News

In recent years, countries around the world have been attempting to pass effective 'right to repair' laws.

- The movement traces its roots back to the very dawn of the computer era in the 1950s.
- The goal of the movement is to get companies to make spare parts, tools and information on how to repair devices available to customers and repair shops to increase the lifespan of products and to keep them from ending up in landfills.

Key Points

- **Right to Repair:**
 - The Right to Repair electronics refers to government legislation that is intended to allow consumers the ability to repair and modify their own consumer electronic devices, where otherwise the manufacturer of such devices require the consumer to use only their offered services.
 - The idea originally originated from the USA where the Motor Vehicle Owners' Right to Repair Act 2012, required the manufacturers to provide the necessary documents and information to allow anyone to repair their vehicles.
- **Benefits:**

- This will help boost business for small repair shops, which are an important part of local economies.
- It will help reduce the vast mountain of electrical waste (e-waste) that piles up each year on the continent.
- It will save consumers' money.
- It will contribute to circular economy objectives by improving the life span, maintenance, re-use, upgrade, recyclability and waste handling of appliances.
- **Reason for Encouraging the Movement:**
 - Electronic manufacturers are encouraging a culture of 'planned obsolescence'.
 - 'Planned obsolescence' means that devices are designed specifically to last a limited amount of time and to be replaced.
 - This can lead to immense pressure on the environment and wasted natural resources.
 - Manufacturing an electronic device is a highly polluting process. It makes use of polluting sources of energy, such as fossil fuel, which has an adverse impact on the environment.
- **Reason for Opposing:**
 - Large tech companies, including Apple, Microsoft, Amazon and Tesla have argued that opening up their intellectual property to third party repair services or amateur repairers could lead to exploitation and impact the safety and security of their devices.

Note:



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➤ Right to Repair Movement around the World:

- The **United States President** has signed an executive order calling on the Federal Trade Commission to **curb restrictions imposed by manufacturers that limit consumers' ability to repair** their gadgets on their own terms.
- The **UK, too**, introduced **right-to-repair rules** that should make it much easier to buy and repair daily-use gadgets such as TVs and washing machines.

E-waste in India

➤ Official Data:

- According to the **Central Pollution Control Board (CPCB)**, India generated more than **10 lakh tonnes of e-waste in 2019-20**, an increase from 7 lakh tonnes in 2017-18.

➤ Indian Initiatives:

○ E-Waste Management Rules, 2016:

- The rules **aim to enable the recovery and /or reuse of useful material** from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment.

○ E-Waste Clinic:

- Aimed at **segregating, processing and disposal of waste**.

Green Hydrogen

Why in News

According to the **International Renewable Energy Agency (IRENA)**, hydrogen will make up **12% of the energy mix by 2050**.

- The agency also **suggested that about 66% of this hydrogen used must come from water instead of natural gas**.
- Recently, IRENA has released the **'World Energy Transitions Outlook' Report**.

Key Points

➤ Current Status Worldwide:

- **Less than 1% of hydrogen produced is green hydrogen**.

Hydrogen

- **Hydrogen** is one of the most abundant elements on earth for a **cleaner alternative fuel option**.
- **Type of hydrogen** depend up on the process of its formation:

- **Green hydrogen** is produced by **electrolysis of water using renewable energy (like Solar, Wind)** and has a **lower carbon footprint**.

- Electricity splits water into hydrogen and oxygen.
- **By Products:** Water, Water Vapor.

- **Brown hydrogen** is produced **using coal** where the emissions are released to the air.

- **Grey hydrogen** is produced from **natural gas** where the associated **emissions are released to the air**.

- **Blue hydrogen** is produced from natural gas, where the **emissions are captured** using carbon capture and storage.

➤ Uses:

- Hydrogen is an energy carrier, not an energy source and can **deliver or store a tremendous amount of energy**.
- It can be used in **fuel cells** to generate electricity, or power and heat.
 - Today, hydrogen is most commonly used in petroleum refining and fertilizer production, while transportation and utilities are emerging markets.
- Hydrogen and fuel cells can provide energy for use in diverse applications, including distributed or combined-heat-and-power; backup power; systems for storing and enabling renewable energy; portable power etc.
- Due to their high efficiency and **zero-or near zero-emissions operation**, hydrogen and fuel cells have the potential to **reduce greenhouse gas emission** in many applications.

- Manufacturing and **deployment of electrolyzers will have to increase** at an unprecedented rate by 2050 from the current capacity of 0.3 gigawatts to almost 5,000 gigawatts.

➤ Indian Scenario:

- **Consumption of Hydrogen:** India consumes about **six million tonnes** of hydrogen every year for the

Note:



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production of ammonia and methanol in industrial sectors, including fertilisers and refineries.

- This could **increase to 28 million tonnes by 2050**, principally due to the rising demand from the industry, but also due to the expansion of transport and power sectors.
- **Cost of Green Hydrogen:** By 2030, the cost of green hydrogen is expected to compete with that of **hydrocarbon fuels** (coal, Crude Oil, natural gas).
 - The price will decrease further as production and sales increase. It is also projected that India's hydrogen demand will increase five-fold by 2050, with 80% of it being green.
- **Exporter of Green Hydrogen:** India will become a net exporter of green hydrogen by 2030 due to its cheap renewable energy tariffs.
- **Benefits of Using Green Hydrogen for India:**
 - Green hydrogen can **drive India's transition to clean energy**, combat **climate change**.
 - Under the **Paris Climate Agreement**, India pledged to reduce the emission intensity of its economy by 33-35% from 2005 levels by 2030.
 - It will **reduce import dependency on fossil fuels**.
 - The localisation of electrolyser production and the development of green hydrogen projects can **create a new green technologies market in India worth \$18-20 billion and thousands of jobs**.
- **Potential:**
 - India has a **favourable geographic location** and **abundance of sunlight** and **wind** for the production of green hydrogen.
 - Green hydrogen technologies are **being promoted in sectors where direct electrification isn't feasible**.
 - Heavy duty, long-range transport, some industrial sectors and long-term storage in the power sector are some of these sectors.
 - The **Ministry of New and Renewable Energy (MNRE)** has circulated a draft cabinet note to **establish a hydrogen ecosystem** in the country.
 - The nascent stage of this industry allows for the **creation of regional hubs that export high-value green products** and engineering, procurement and construction services.
- **Challenges:**
 - **Economic Sustainability:** One of the biggest challenges faced by the industry for using hydrogen

commercially is the economic sustainability of extracting green hydrogen.

- For transportation fuel cells, hydrogen must be cost-competitive with conventional fuels and technologies on a per-mile basis.
- **High Costs and Lack of Supporting Infrastructure:**
 - **Fuel cells** which convert hydrogen fuel to usable energy for cars, are still expensive.
 - The hydrogen station infrastructure needed to refuel hydrogen fuel cell cars is still widely underdeveloped.
- **Step Taken:**
 - The Union Budget for 2021-22 has announced a **National Hydrogen Energy Mission (NHM)** that will draw up a road map for using hydrogen as an energy source.
 - **Indian Initiatives for Renewable Energy:**
 - **Jawaharlal Nehru National Solar Mission (JNNISM).**
 - **International Solar Alliance.**
 - **PM- KUSUM.**
 - **National Wind-Solar Hybrid Policy.**
 - **Rooftop Solar Scheme.**

High-Altitude Yak

Why in News

Recently, the **National Research Centre on Yak (NRCY)** at Dirang in Arunachal Pradesh's West Kameng district has tied up with the **National Insurance Company Ltd.** for insuring the high-altitude yak.

- **NRCY is a premier research institute exclusively engaged in research and development of yak** in India. It was **established in 1989** by the **Indian Council of Agricultural Research**.

Key Points

- **About:**
 - The Yak **belong to the Bovini tribe**, which also includes **bison, buffaloes, and cattle**. It can **tolerate temperatures as low as -40 degrees Celsius**.
 - Adapted for **living at high altitudes**, they have **long hair that hangs off their sides like a curtain**, sometimes touching the ground.

Note:



- Yaks are highly valued by Himalayan peoples. According to Tibetan legend, the first yaks were domesticated by Tibetan Buddhism founder Guru Rinpoche.
 - They are also known as the lifeline of pastoral nomads in high altitudes of the Indian Himalayan region.
- **Habitat:**
 - They are endemic to the Tibetan Plateau and the adjacent high-altitude regions.
 - Yaks are most comfortable above 14,000 feet. They climb to an elevation of 20,000 when foraging and usually don't descend any lower than 12,000 feet.
 - The yak-rearing states of India are Arunachal Pradesh, Sikkim, Uttarakhand, Himachal Pradesh and Jammu & Kashmir.
 - The countrywide population trend shows that the yak population has been decreasing at an alarming rate. The total yak population in India is about 58,000.
- **Threats:**
 - **Climate Change:**
 - The increasing trend of environmental temperature at high altitudes is resulting in heat stress in yak during warmer months of the year. This, in turn, is affecting the rhythms of physiological responses of the animal.
 - **Inbreeding:**
 - As wars and conflicts have led to the closing of borders, the yaks outside borders are thought to be suffering from inbreeding due to the lack

of availability of new yak germplasm from the original yak area.

- **Protection Status of Wild Yak (*Bos mutus*):**
 - **IUCN Red list status:** Vulnerable
 - IUCN considers the wild species of yak under *Bos mutus*, while the domestic form is considered under *Bos grunniens*.
 - **CITES:** Appendix I
 - **Indian Wildlife (Protection) Act of 1972:** Schedule I

India's First Cryptogamic Garden

Why in News

Recently, India's first cryptogamic garden was inaugurated in the Chakrata town of Dehradun, Uttarakhand.

- The garden will be housing nearly 50 species of lichens, ferns and fungi (collectively known as *Cryptogamae*).

Note:

- **Plant kingdom** can be divided into two sub-kingdoms viz. **Cryptogams and phanerogams**.
- Cryptogams consist of seedless plants and plant-like organisms whereas phanerogams consist of seed-bearing plants.
 - Phanerogams are further divided into two classes i.e. **gymnosperms and angiosperms**.

Key Points

- **Factors Responsible for Location of this Garden:**
 - This garden is at Deoban in Chakrata at a height of 9,000 ft.
 - This site is chosen because of its low pollution levels and moist conditions which are conducive for the growth of these species.
 - Further, Deoban has pristine majestic forests of Deodar and Oak which create a natural habitat for cryptogamic species.
- **Cryptogams:**
 - A cryptogam is a plant that reproduces with the help of spores.
 - The word "**Cryptogamae**" implies 'hidden reproduction', referring to the fact that they do not produce any reproductive structure, seed, or flower.

Note:



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CRYPTOGAMS VERSUS PHANEROGAMS

Cryptogams refer to a plant or plant-like organisms that produce spores	Phanerogams refer to the higher plants that produce seeds
Consist of Thallophyta, Bryophyta and Pteridophyta	Consist of gymnosperms and angiosperms
Major reproduction method is the production of spores	Major reproduction method is the production of gametes
Most lack well-differentiated stem, leaves, and roots	Plant body is well-differentiated into stem, leaves and roots
Do not have a well-developed vascular system	Have a well-developed vascular system
Contain hidden reproductive organs	Contain well-developed reproductive organs
Require external water for fertilization	Do not require external water for fertilization
Seedless plants	Seed-bearing plants
Spores germinate and produce new plants	Seeds germinate and produce new phanerogams
Less evolved plants	Comparatively well-evolved
Examples include algae, mosses, liverworts, hornworts, and ferns	Examples include conifers, Ginkgo, cycads, gnetophytes, and dicots

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- Due to this, they are called “flowerless” or “seedless plants” or ‘lower plants’.
- They **need a moist environment** to survive.
- These are **present in aquatic and terrestrial places**.
- **Algae, bryophytes, lichens, ferns and fungi are the best-known groups** of cryptogams.
- **Classification of Cryptogams:** Cryptogams are classified into 3 groups based on the various structural and functional criteria of the plant.

- **Thallophyta:** Thallophyta is a division of the plant kingdom including primitive forms of plant life showing a simple plant body. They **lack roots, stems, or leaves**.
 - It **includes algae**-like Spirogyra, Sargassum, etc.
 - They are predominantly aquatic and found both in marine as well as freshwater habitats.
- **Bryophyta:** Bryophytes comprise a limited variety of **non-vascular land plants**. They prefer moist habitats but they can survive in dry environments too. Example- hornworts, liverworts, mosses, etc.
 - They occupy an intermediate position between algae and pteridophytes.
 - Since bryophytes can survive in both water and land, they are considered as the ‘**amphibians of the plant kingdom**’.
- **Pteridophyta:** A pteridophyte is a vascular plant that disperses spores. It is the first plant to **have xylem and phloem**.
 - Ferns are the largest living group of primitive vascular plants.
- **Other Types of Cryptogams:**
 - **Liches:** Lichens are a complex life form that is a **symbiotic partnership of two separate organisms, a fungus and an algae**.
 - **Fungi:** It is a kingdom of usually **multicellular eukaryotic organisms** that are **heterotrophs**.

Post-2020 Global Biodiversity Framework

Why in News

The **United Nations Convention on Biological Diversity (CBD)** has demanded an additional \$200 billion fund flow to developing countries from various sources to manage nature through 2030.

- It is one of many demands and targets that have been set through 2030 in the official draft of a new **Global Biodiversity Framework**.

Convention on Biological Diversity (CBD)

- The **Convention on Biological Diversity (CBD)**, a **legally binding treaty** to conserve biodiversity has been in force since 1993. It has **3 main objectives**:
 - The conservation of biological diversity.

Note:



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- The sustainable use of the components of biological diversity.
- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.
- Nearly all countries have ratified it (notably, the **US has signed but not ratified**).
- The **CBD Secretariat is based in Montreal, Canada** and it **operates under the United Nations Environment Programme**.
- The Parties (Countries) under Convention of Biodiversity (CBD), meet at regular intervals and these meetings are called **Conference of Parties (COP)**.
- In 2000, a supplementary agreement to the Convention known as the **Cartagena Protocol on Biosafety** was adopted. It came into force on 11th September 2003.
 - The Protocol seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology.
- The **Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS)** was adopted in 2010 in Nagoya, Japan at COP10. It entered into force on 12th October 2014.
 - It not only applies to genetic resources that are covered by the CBD, and to the benefits arising from their utilization but also covers traditional knowledge (TK) associated with genetic resources that are covered by the CBD and the benefits arising from its utilization.
- Along with the Nagoya Protocol on Genetic Resources, the COP-10 also adopted a ten-year framework for action by all countries to save biodiversity.
- Officially known as “**Strategic Plan for Biodiversity 2011-2020**”, it provided a set of 20 ambitious yet achievable targets collectively known as the **Aichi Targets for biodiversity**.
- India **enacted Biological Diversity Act in 2002** for giving effect to the provisions of the CBD.

Key Points

- **Background:**
 - Biodiversity, and the benefits it provides, is fundamental to human well-being and a healthy planet. Despite ongoing efforts, biodiversity is deteriorating worldwide and this decline is

projected to continue or worsen under business-as-usual scenarios.

- The post-2020 global biodiversity framework builds on the **Strategic Plan for Biodiversity 2011-2020**.
 - As the **United Nations Decade on Biodiversity 2011-2020** comes to an end, **IUCN** actively supports the development of what needs to be an ambitious new global biodiversity framework.
- **Purpose:**
 - **Guiding Force:** It is a new framework that will be the **global guiding force to protect nature** and to retain its essential services for humans from 2020 to 2030.
 - **Setting Targets:** This is a global, outcome-oriented framework for the **Convention's 196 Parties** to develop **national and regional goals and targets**, to update national strategies and action plans as needed, and to facilitate regular monitoring and review of progress at the global level.
 - **Urgent and Transformative Action:** The framework **aims to spur urgent and transformative action** by Governments and all of society to contribute to the objectives of the **Convention on Biological Diversity**, its **Protocols**, and other biodiversity related multilateral agreements, processes and instruments.
 - **Capacity Building:** It aims to ensure the right capacity building of the communities / governments to take up conservation measures to meet the goals.
 - These include the contentious technology transfer to countries that don't have it currently and also a wide scientific cooperation among countries.
- **Goals and Targets:**
 - The new frameworks have **four goals to achieve by 2050**.
 - To **halt the extinction and decline of biodiversity**.
 - To **enhance and retain nature's services** to humans by conserving.
 - To **ensure fair and equitable benefits** to all from use of genetic resources.
 - To **close the gap between available financial and other means** of implementation and those necessary to achieve the 2050 Vision.

Note:



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- **2030 Action Targets:** The framework has **21 action-oriented targets** for urgent action over the decade to 2030, which includes:

- To bring at least 30% of land and sea under the world's protected areas.
- A **50% greater reduction in the rate of introduction of invasive alien species**, and controls or eradication of such species to eliminate or reduce their impacts.
- **Reducing nutrients lost to the environment by at least half**, and pesticides by at least two thirds, and **eliminating the discharge of plastic waste**.
- **Nature-based contributions to global climate change mitigation efforts** of at least 10 GtCO₂e (gigatonnes of equivalent carbon dioxide) per year, and that all mitigation and adaptation efforts avoid negative impacts on biodiversity.
- Redirecting, repurposing, reforming or eliminating incentives harmful for biodiversity, in a just and equitable way, reducing them by at least \$US 500 billion per year.

○ **Relationship with SDGs:**

- The framework is a **fundamental contribution to the implementation of the 2030 Agenda for Sustainable Development**.
- At the same time, progress towards the **Sustainable Development Goals (SDGs)** will help to create the conditions necessary to **implement the framework**.

○ **Need of Financial Support:**

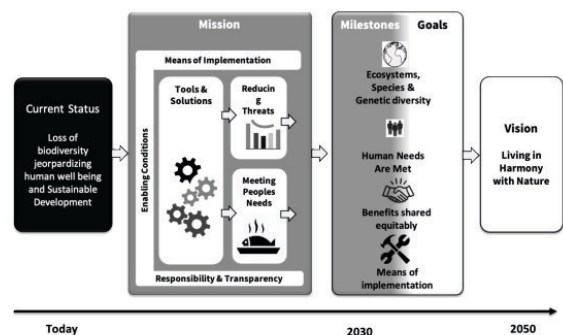
- The framework's demand for more financial support to developing countries, also the worst victims of biodiversity losses, is the most difficult one to negotiate and achieve.
- Adequate financial resources to implement the framework are available and deployed, progressively closing the financing gap up to at least \$700 billion per year by 2030.
- The financial commitment has to increase to at least \$ 200 billion per year. This includes an additional \$10 billion per year international financial flow to developing countries.

➤ **Theory of Change of the Framework:**

- The framework is built around a theory of change which recognizes that urgent policy action globally,

regionally and nationally is required to transform economic, social and financial models.

- The trends that have exacerbated biodiversity loss will stabilize in the next 10 years (by 2030) and allow for the recovery of natural ecosystems in the following 20 years, with net improvements by 2050 to achieve the Convention's vision of "living in harmony with nature by 2050".



Water Pollution by Detergents

Why in News

Water pollution caused by detergents has become a big concern in the global context.

- The **per capita (per person) detergent consumption in India** is around **2.7 kilogram per year**.
 - It is around **3.7 kg in the Philippines and Malaysia** and **10 kg in the United States of America**.

Key Points

➤ **Detergents:**

- A detergent is a **surfactant or mixture of surfactants** that has cleaning properties in dilute solution with water. A detergent is similar to soap.
- **Surfactant**, also called surface-active agent, substance such as a detergent that, **when added to a liquid, reduces its surface tension**, thereby increasing its spreading and wetting properties.
- **Surface Tension** is the property of the surface of a liquid that **allows it to resist an external force**, due to the cohesive nature of its molecules.
- They tend to be **more soluble in hard water than soap** because the sulfonate of detergent doesn't bind calcium and other ions in hard water as easily as the carboxylate in soap does.

Note:



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Water Pollution

- Water pollution occurs when harmful substances—**often chemicals or microorganisms—contaminate a stream, river, lake, ocean, aquifer, or other body of water**, degrading water quality and rendering it toxic to humans or the environment.
- Water is uniquely vulnerable to pollution. Known as a **“universal solvent,”** water is able to dissolve more substances than any other liquid on earth.
- Some of the **causes for water pollution** are sewage water, industrial Wastes, agricultural sources, thermal and radiation pollution, marine pollution, invasive species, underground water pollution etc.

Note:

- **Point Source:** When pollutants are **discharged from a specific location** such as a drain pipe carrying industrial effluents discharged directly into a water body it represents point source pollution.
- **Non-Point Source:** It includes **discharge of pollutants from diffuse sources or from a larger area** such as runoff from agricultural fields, grazing lands, construction sites, abandoned mines and pits, etc.

➤ Detergents & Pollution:

- **Bioaccumulation of Nonylphenol:**
 - **Nonylphenol**, a hazardous chemical present in detergents, is known to enter water bodies and the food chains. It **bio-accumulates** and can pose serious environmental and health risks.
 - It has been **detected in human breast milk, blood and urine**, and is associated with reproductive and developmental effects in rodents.
- **Inhibition of Biodegradation:**
 - Many laundry detergents contain approximately 35 to 75% phosphate salts. **Phosphates can cause a variety of water pollution problems.**
 - For example, phosphate tends to **inhibit the biodegradation** of organic substances. **Non-biodegradable substances cannot be eliminated by public or private wastewater treatment.**
 - **Biodegradation** is the process by which organic substances are broken down into smaller compounds by living microbial organisms.
 - Some phosphate-based detergents can also cause **eutrophication**. Phosphate-enrichment can cause the water body to become choked with algae and other plants.

- **Eutrophication:** When a water body becomes overly enriched with minerals and nutrients which induce excessive growth of algae or algal bloom. It **deprives the water of available oxygen, causing the death of other organisms.**
- In Belgium, **phosphates have been restricted for use in household detergents since 2003.**

○ Oxygen-Reducing Substances:

- Detergents also contain **oxygen-reducing substances** (ie, a chemical compound that readily transfers oxygen atoms) that may cause **severe damage to the fishes and other marine animals.**

○ Destruction of Mucus:

- Detergents are capable of destroying the **external mucus layers that protect the fish from bacteria and parasites**, causing severe damage to the gills.
 - Mostly fish die when detergent concentrations are near 15 parts per million (ppm); however, detergent concentrations as low as 5 ppm will kill fish eggs.

○ Makes Water Turbid:

- A few more harmful components of detergents which are **anthropogenic components such as herbicides, pesticides and heavy metal concentrations** (like **zinc, cadmium and lead**) can cause the water to grow dark. This **blocks out light and disrupts the growth of plants.**
- Turbidity also **clogs the respiratory system** of some species of fishes. Pathogens from these toxic water bodies cause diseases, some fatal, in human or animal hosts diseases.

○ Hazardous for Humans:

- The detergents contain suspected **carcinogens**, and ingredients that do not fully biodegrade.
 - A **carcinogen** is an agent with the capacity to cause cancer in humans.

➤ Indian Initiative:

- **ECOMARK Scheme:** The Government has instituted this scheme on **labeling of Environment Friendly Products.**
- The scheme is **operating on a national basis and provides accreditation and labeling for household and other consumer products which meet certain environmental criteria** along with quality requirements of the Indian Standards for that product.

Note:



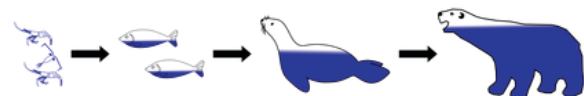
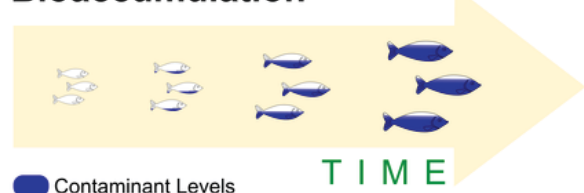
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- The Ecomark Scheme covers various product categories like **Soaps and Detergents, paints, food items etc.**

Bioaccumulation vs Biomagnification

- **Bioaccumulation** is when the **concentration of chemicals increases within an organism or species**. This can occur when toxic substances are ingested. These toxic substances are very difficult for organisms to excrete, therefore, **accumulate in their tissues**.
- **Biomagnification** is the process by which toxic chemicals build up within predators. This **typically occurs across an entire food chain** and affects all of the organisms but animals higher up in the chain are more impacted.

Bioaccumulation



Biomagnification

SOP for Environmental Violations: MoEFCC

Why in News

Recently, the **Ministry of Environment, Forests and Climate Change (MoEFCC)** issued the Standard Operating Procedure (SOP) to deal with environmental violations.

- The SOP is a result of orders from the **National Green Tribunal**, which earlier in 2021 directed the ministry to **put in place penalties and an SOP for green violations**.

Key Points

- **Categories of Green Violation as per the SOP:**
 - **Projects Without Clearance:**
 - Violations' involving cases where construction work, including expansion of an existing project, has begun **without the project proponent having acquired environmental clearance**.

- Projects that are not permissible for environmental clearance.
- The permissibility of the project shall be examined from the perspective of whether such activity/project was at all eligible for grant of prior environment clearance.

- **For Example:** If a Red Industry (Industrial Sectors having **Pollution Index (PI)** score of 60 and above) is functioning in a **Coastal Regulation Zone (CRZ)-I area**, which means it was not permitted at the time of commencement of the project. Therefore, the activity shall be closed.

- PI of any industrial sector is a **number from 0 to 100** and the **increasing value of PI denotes the increasing degree of pollution** load from the industrial sector. It is developed by the Ministry of Environment, Forest and Climate Change (MoEFCC) and used for categorization of industrial sectors in **red, orange, green and white categories**.

Non-Compliant Projects:

- Projects in which **prior environmental clearance has been accorded, but it is in violation of norms** prescribed in the approval.
- Projects which are permissible according to environmental law but which have not acquired the requisite clearance.
- In cases of expansion of a project, including increase in volume of production, if environmental clearance has not been received, then the **government agency can force the project proponent to revert to the level of construction/manufacturing before the expansion**.

Fines:

- In cases where operations have commenced **without the required environmental clearance, 1% of the total project cost** and in addition **0.25 % of the total turnover** during the period of violation will be levied.
- In **violation cases**, where operations have not commenced, **1% of the total project cost incurred up to the date** of filing of the application (for instance a fine of Rs 1 lakh for a project worth Rs 1 crore) will be levied.

Concerns Raised by Environmentalists:

Note:

- The SOP normalises **post facto regularisation of violations** in which violations are first committed and then the project proponent files for clearance by which they “are let off by paying a penalty”.
- It is the **institutionalising of violations on the basis of the polluter pays norm**.
- **Other Related Initiatives of MOEFCC:**
 - Earlier MoEFCC has published the draft **Environment Impact Assessment (EIA) Notification 2020**, with the intention of replacing the existing EIA Notification, 2006 under the **Environment (Protection) Act, 1986**.
 - In 2017, the ministry had initiated a **six-month amnesty scheme on penalising green violations**, which was later extended.

Environmental Impact Assessment

- **About:**
 - The **United Nations Environment Programme (UNEP)** defines EIA as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making.
 - It aims to **predict environmental impacts** at an early stage in project planning and design, **find ways and means to reduce adverse impacts**, shape projects to suit the local environment and **present the predictions and options to decision-makers**.
 - The Environment Impact Assessment in India is **statutorily backed by the Environment Protection Act, 1986**.
- **Importance:**
 - Provides a **cost effective method to eliminate or minimize the adverse impact of developmental projects**.
 - **Enables the decision makers to analyse the effect of developmental activities on the environment** well before the developmental project is implemented.
 - Encourages the adaptation of mitigation strategies in the developmental plan.
 - Makes sure that the **developmental plan is environmentally sound and within the limits of the capacity of assimilation and regeneration of the ecosystem**.

National Green Tribunal

- It is a **specialised body set up under the National Green Tribunal Act (2010)** for effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources.
- With the establishment of the NGT, **India became the third country in the world to set up a specialised environmental tribunal**, only after Australia and New Zealand, and the first developing country to do so.
- NGT is **mandated to make disposal of applications or appeals finally within 6 months of filing the same**.
- The NGT has **five places of sittings**, **New Delhi is the Principal place** of sitting and Bhopal, Pune, Kolkata and Chennai are the other four.

Tiger Corridor in Rajasthan

Why in News

The Rajasthan government will develop a **tiger corridor connecting** the newly proposed **‘Ramgarh Tiger Reserve’, Ranthambore Tiger Reserve and Mukundra Hills Tiger Reserve**.

- **Sariska Tiger Reserve** is another Tiger reserve in Rajasthan.

Key Points

- **About the Animal Corridor:**
 - **Wildlife or animal corridors** are meant to ensure safe passage for animals between two isolated habitats.



Note:

- In wildlife parlance, corridors are mainly of two types: **functional and structural**.
 - **Functional corridors** are defined in terms of functionality from the perspective of the animal (basically areas where there has been recorded movement of wildlife).
 - **Structural corridors** are contiguous strips of forested areas and structurally connect the otherwise fragmented blocks of the landscape.
- When structural corridors are affected by human anthropogenic activities, functional corridors automatically widen because of animal use.
- In 2019, the **National Tiger Conservation Authority** in collaboration with the **Wildlife Institute of India** published a document, mapping out **32 major corridors across the country**, management interventions for which are operationalised through a Tiger Conservation Plan.
 - The states are required to **submit a Tiger Conservation Plan** under section **38V of the Wildlife (Protection) Act, 1972**.
- **Other Protected Areas in Rajasthan:**
 - **Desert National Park**, Jaisalmer
 - Keoladeo National Park, Bharatpur
 - **Sajjargarh wildlife sanctuary**, Udaipur
 - National Chambal Sanctuary (on tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh).

Project Tiger

- Project Tiger is a **Centrally Sponsored Scheme** of the **Ministry of Environment, Forests and Climate Change** launched in 1973 to provide central assistance to the tiger States for tiger conservation in designated tiger reserves in India.
- The project is administered by the **National Tiger Conservation Authority (NTCA)**.

National Tiger Conservation Authority (NTCA)

- It is a statutory body under the **Ministry of Environment, Forests and Climate Change**.
- It was established in 2005 following the recommendations of the Tiger Task Force.
- It was constituted under enabling provisions of the **Wildlife (Protection) Act, 1972**, as amended in 2006, for strengthening tiger conservation, as per powers and functions assigned to it.

Protection Status of Tiger:

- **Indian Wildlife (Protection) Act, 1972**: Schedule I
- **International Union for Conservation of Nature (IUCN)** Red List: Endangered.
- **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**: Appendix I.

Lemru Elephant Reserve: Chhattisgarh

Why in News

Recently, the Chhattisgarh government has **proposed to reduce the area of Lemru Elephant Reserve** from 1,995 sq km to 450 sq km.

- The Centre gave its approval in 2007 for the creation of the 450 sq km Lemru Elephant Reserve and in 2019, the state government decided to increase the area to 1,995 sq km.

Key Points

- **About:**
 - The reserve is located in the **Cobra district** of Chhattisgarh.
 - The reserve is **aiming at reducing human-animal conflict** and destruction of property in addition to providing a permanent habitat to the elephants.
 - Earlier, the state government notified the reserve (Conservation Reserve) in October 2020 under **Section 36A of the Wild Life (Protection) Act, 1972** (WLPA).
 - Section 36A has a special provision that gives the Union government a say in the process of notification in case the land to be notified as **conservation reserve** has areas belonging to the Centre.
 - Elephant reserves are not recognised under the WLPA.
- **Reason for Reducing Size:**
 - The area proposed under the reserve is **part of the Hasdeo Aranya forests**, a very diverse biozone that is also rich in coal deposits.
 - Of 22 coal blocks in the area, 7 have already been allotted with mines running in three, and in the process of being established in the other four.

Note:

- The biggest challenge in increasing the reserve area was that **several coal mines would become unusable**.
- **Significance of Reserve:**
 - North Chhattisgarh alone is home to over 240 elephants. **More than 150 elephants have died in the state over the last 20 years**, including 16 between June and October 2020.
 - Elephants in Chhattisgarh are relatively new; they started moving into undivided Madhya Pradesh (MP) in 1990.
 - While MP had a policy of pushing back the animals coming from Jharkhand, after Chhattisgarh was formed, the lack of a formal policy allowed elephants to use as a corridor a route in the north and central parts of the state.
 - Since these animals were relatively new, human-animal conflict started once elephants started straying into inhabited areas, looking for food.
- **Other Protected Areas in Chhattisgarh:**
 - **Achanakmar Tiger Reserve.**
 - Indravati Tiger Reserve.
 - **Sitanadi-Udanti Tiger Reserve**
 - **Kanger Valley National Park**
 - **Badalkhol Tamor Pingla Elephant Reserve.**

National Parks & Sanctuaries of Chhattisgarh



Elephants

- **About:**
 - Elephants are **keystone species**.
 - There are three **subspecies of Asian elephant** – the Indian, Sumatran, and Sri Lankan.
 - The Indian elephant has the **widest range and accounts** for the majority of the remaining elephants on the continent.

- **Conservation Status of Indian Elephants:**
 - **Wildlife Protection Act, 1972:** Schedule I
 - **IUCN Red List:** Endangered
 - **CITES:** Appendix I
- **India's Initiatives for Conservation of Elephants:**
 - **Gaj Yatra:** A nationwide campaign to protect elephants, was launched on the occasion of **World Elephant Day** in 2017.
 - **Project Elephant:** It is a centrally sponsored scheme which was launched in 1992.
 - **Seed Bombs:** Recently Odisha's Athagarh Forest Division has started casting seed balls (or bombs) inside different reserve forest areas to enrich food stock for wild elephants to prevent **man-elephant conflict**.
 - **Right of Passage of the Animals:** Recently, the Supreme Court (SC) upheld the 2011 order of the Madras High Court (HC) on the Nilgiris elephant corridor, affirming the right of passage of the animals and the closure of resorts in the area.
- **International initiatives to conserve Elephants:**
 - **The Monitoring the Illegal Killing of Elephants (MIKE) programme**, launched in 2003, is an international collaboration that tracks trends in information related to the illegal killing of elephants from across Africa and Asia, to monitor effectiveness of field conservation efforts.

Human-Wildlife Conflict

Why in News

A report '**A Future for All – A Need for Human-Wildlife Coexistence**' was recently released by **World Wildlife Fund for Nature (WWF)** and **UNEP**.

- It examined **increasing human-wildlife conflict (HWC)**.
- HWC-related killing affects more than **75% of the world's wild cat species**, as well as many other **terrestrial and marine carnivore species** such as polar bears and Mediterranean monk seals, and **large herbivores** such as elephants.

Key Points

- **About:**
 - Human-wildlife conflict (HWC) refers to struggles that arise when the presence or behaviour of

Note:



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wildlife poses actual or perceived direct, recurring threats to human interests or needs, often leading to disagreements between groups of people and negative impacts on people and/or wildlife.

➤ **Causes of Human-wildlife Conflict:**

- **Lack of Protected Area:** Marine and terrestrial **protected areas** only cover **9.67% globally**. About 40% of the African lion range and 70% of the African and Asian elephant ranges fall outside protected areas.
 - In India, 35% **tiger** ranges currently lie outside protected areas.
- **Wildlife-borne Infections: Covid-19 pandemic** – sparked by a zoonotic disease is driven by the close **association of people, their livestock, and wildlife** and by the unregulated consumption of wild animals.
 - With closer and more frequent and diverse contact between animals and people, the probability of animal microbes being transferred to people increases.
- **Other Reasons:**
 - **Urbanization:** In modern times rapid urbanization and industrialisation have led to the diversion of forest land to non-forest purposes, as a result, the wildlife habitat is shrinking.
 - **Transport Network:** The expansion of road and rail network through forest ranges has resulted in animals getting killed or injured in accidents on roads or railway tracks.
 - **Increasing Human Population:** Many human settlements coming up near the peripheries of protected areas and encroachment in the forest lands by local people for cultivation and collection of food and fodder etc. therefore **increasing pressure on limited natural resources** in the forests.

➤ **Impacts:**

- **Impact on Wildlife And Ecosystems:** HWC can have detrimental and permanent impacts on ecosystems and biodiversity. People might kill animals in self-defence, or as pre-emptive or retaliatory killings, which can drive species involved in **conflict to extinction**.
- **Impact on Local Communities:** The most evident and direct negative impacts to people from wildlife are injuries and the loss of lives and of livestock, crops, or other property.

- **Impact on Equity:** The economic and psychological costs of living with wildlife disproportionately **fall to those who live near that wildlife**, while the benefits of a species' survival are distributed to other communities as well.
- **Impact on Social Dynamics:** When a HWC event affects a farmer, that farmer may blame the government for protecting the perpetrator that damages crops, while a conservation practitioner may blame industry and farmers for clearing wild habitats and creating the HWC in the first place.
- **Impact on Sustainable Development:** HWC is the theme in conservation that is strongly linked to the **SDGs** as biodiversity is primary to sustain the developments, even though it is not explicitly mentioned as one.

➤ **Solution:**

- **Moving From Conflict To Coexistence:** The goal of HWC management should be to enhance the **safety of people and wildlife** and to create mutual **benefits of coexistence**.

○ **Integrated and Holistic Practices:**

Holistic HWC management approaches allow species to survive in areas where they otherwise would have declined or become extinct.

- All species on our planet also are essential for maintaining ecosystem health and functions.
- **Participation:** The full participation of local communities can help reduce HWC and lead to coexistence between humans and wildlife.

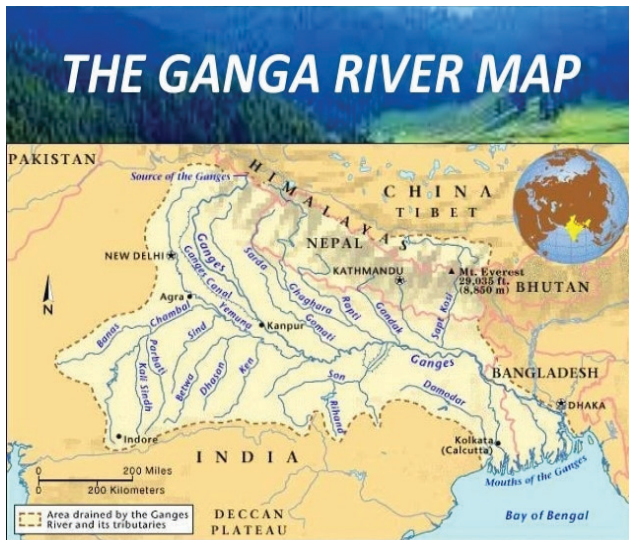


Conservation Plans for Cities along Rivers

Why in News

A policy document from **National Mission for Clean Ganga(NMCG)** has proposed that cities situated on river banks should incorporate river conservation plans when they prepare their Master Plans.

Note:



- The **recommendations** are currently for towns that are on the **main stem of the river Ganga** which are in five States — **Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, West Bengal**.
- NMCG is the implementation wing of **National Ganga Council** (set in 2016; which replaced the **National Ganga River Basin Authority (NGRBA)**). Along with its state counterpart organizations, NMCG implements the **Namami Gange Programme**.

Key Points

- **Emphasis of the Policy Document:**
 - On the need for **river-sensitive plans** that must be **practical** (as envisaged in the **National Water Policy**).
 - There should be a **systematic rehabilitation plan** to remove encroachment that emphasizes on **alternative livelihood options** along with a **proper relocation strategy**.
 - Planners should make every attempt to engage stakeholders (encroacher, land owners) in order to **develop empathetic and humane solutions**.
 - The plan must also **clarify on land ownership**. Ascertaining the land ownership in these areas is important to avoid legal complications while the Plan is being implemented.
 - A key aspect of conserving and protecting river and riverine resources involves **increasing green cover** in the vicinity of the river by **creating green buffers, removing concrete structures and employing "green infrastructure."**

➤ Significance:

- The Master Plan can **"create an environment"** for facilitating the use of **state-of-the-art technologies** for river management.
 - These include **satellite-based monitoring of water quality; artificial intelligence** for riverine biodiversity mapping; **big data** and **citizen science** for **river-health monitoring; unmanned aerial vehicles (UAV)** for floodplain mapping.
- In coming years the nature and type of technologies are expected to become more **sophisticated and effective**. Thus, the cities will be ready to embrace these seamlessly.

Key Features of National Water Policy, 2012

- **Integrated Water Resources Management:** It laid down the concept of an Integrated Water Resources Management approach that took the river basin/sub-basin as a unit for planning, development, and management of water resources.
 - Integrated Water Resources Management (IWRM) is a process that **promotes the co-ordinated development and management of water, land and related resources** in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.
- **Minimum Water Flow:** To maintain the minimum flow of a portion of a river to meet ecological needs.
 - In 2018, such an approach led the government to require minimum water levels to be maintained in the **Ganga** throughout the year by refraining from hoarding water beyond a point.
 - Emphasis was also made to make a minimum quantity of potable water available to citizens for maintaining essential health and hygiene.
- **Inter-basin Transfers:** To meet basic human needs and achieve equity and social justice, inter-basin transfers of water need to be considered **on the basis of the merits of each case** after evaluating the environmental, economic and social impacts of such transfers.
- Other reasons such as decreasing spring sets in Himalayas, budgeting and restructuring of water subsidies, irrigation, etc. demanded the prioritization of water usage.

Note:



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Deaths Due to Hazardous Chemical

Why in News

According to latest estimates by the **World Health Organization (WHO)**, deaths due to exposure to hazardous chemicals worldwide rose 29% in 2019 from what they were in 2016.

- **Two million people died** due to exposure to hazardous chemicals in **2019**, compared to **1.56 million in 2016**. Between **4,270 and 5,400 people died every day** due to unintentional exposure to chemicals.
- The estimates were released by WHO Director-General, during the Ministerial Dialogue held at the Berlin Forum on **Chemicals and Sustainability: Ambition and Action towards 2030**.

Key Points

- **Hazardous Chemical:**
 - A hazardous chemical is a chemical that has **properties with the potential to do harm** to human or animal health, the environment, or capable of damaging property.
 - They are frequently used in the **workplace as raw materials, solvents, cleaning agents, catalysts**, and for a number of other functions.
 - These are normally classified according to the risk they pose to health and property. Hazardous chemicals are categorized as follows:
 - **Flammable or explosive** (e.g. petroleum, TNT, plastic explosives)
 - **Irritating or corrosive to skin, lungs, and eyes** (e.g. acids, alkali, paints, fumes)
 - **Toxic chemicals** (e.g. carbon monoxide, hydrogen sulfide, cyanide, **heavy metals**)
 - These are present in **the air, in consumer products, at the workplace, in water, or in the soil**.
 - They **can cause several diseases** including mental, behavioural and neurological disorders, cataracts, or asthma.
- **Chemicals Causing Most Deaths:**
 - **Lead Poisoning:**
 - It was responsible for **nearly half of the deaths in 2019**.

- Lead exposure causes **cardiovascular diseases (CVD)**, **chronic kidney diseases** and **idiopathic intellectual disability**.
- Lead is **added to paints** for various reasons, including enhancing the colour, reducing corrosion and decreasing the drying time.
- Just 41% of countries including India, have legally binding controls on the production, import, sale and use of lead paints.
- In 2020, **UNICEF** too had raised concerns on the impact of lead pollution on the health of children.
 - Approximately 800 million globally have blood lead levels at or above the permissible quantity (5 micrograms per decilitre (µg/dL)).

○ Particulates and Carcinogens:

- **Chronic obstructive pulmonary disease (COPD)** from occupational exposure to **particulates (dust, fumes and gas)** and **cancers** from occupational exposure to **carcinogens (arsenic, asbestos and benzene)**, too accounted for a substantial share of the preventable deaths.

➤ Disability-adjusted Life-years Lost

- In 2019, **53 million disability-adjusted life-years were lost**. This is an increase by over 19% since 2016.
- There has been a 56% increase in disability-adjusted life-years lost due to exposure to lead since 2016.
- **Disability-Adjusted Life Years (DALYs)** is the sum of the number of years of life lost due to premature death and a weighted measure of the years lived with disability due to a disease or injury.
- The use of DALYs to track disease burden is recommended by India's **National Health Policy of 2017**.

Steps Taken

There are many international chemical conventions restricting or even banning the production, use, and trade of certain hazardous chemicals.

- **Stockholm Convention on Persistent Organic Pollutants (POPs):** To protect human health and the environment from the harmful effects of POPs (i.e. toxic chemicals).
 - **India has ratified and acceded** to the convention.
- **Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.**

Note:

- **India ratified** the Convention in 2005.
- **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.**
 - **India** ratified the Convention.
- **The Chemical Weapons Convention (CWC)** is an arms control treaty prohibiting the development, production, acquisition, stockpiling, retention, transfer or use of chemical weapons by States Parties.
 - **India is a signatory and party** to the Convention.
- **The Minamata Convention on Mercury** is a global treaty to protect human health and the environment from the adverse effects of mercury and its compounds.
 - More than 140 countries including India have ratified the Convention.
- **The United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances** provides comprehensive measures against drug trafficking, including provisions against money laundering and the diversion of precursor chemicals.
 - **India** is one among the signatories.
- **The Chemicals Convention concerning Safety in the use of Chemicals at Work** was promulgated by the International Labor Organization (ILO) in 1990 and entered into force on 4th Nov 1993.
- **The Strategic Approach to International Chemicals Management (SAICM)** is a policy framework to promote chemical safety around the world.
 - The first Conference and the process to develop the strategic approach were co-convened by the **United Nations Environment Programme (UN Environment)** along with other stakeholders.

Anti-Methanogenic Feed Supplement: Harit Dhara

Why in News

Indian Council of Agricultural Research (ICAR) has developed an **anti-methanogenic feed** supplement '**Harit Dhara**' (HD), which can cut down cattle methane emissions by 17-20% and can also result in higher milk production.

Key Points

- **About:**
 - HD **decreases the population of protozoa microbes in the rumen**, responsible for hydrogen production

and making it available to the archaea (structure similar to bacteria) for reduction of CO₂ to methane.

- It has been **made from tannin-rich plant-based sources**. Tropical plants containing **tannins, bitter and astringent chemical compounds**, are known to suppress or remove protozoa from the rumen.
- Fermentation after using HD will help produce **more propionic acid**, which provides more energy for **lactose (milk sugar) production** and **body weight gain**.
 - This leads to **economic benefits for farmers**.
- **Methane Production in Cattle:**
 - **Rumen, the first of the four stomachs** where they eat plant material, cellulose, fibre, starch and sugars. These get fermented or broken down by microorganisms prior to further digestion and nutrient absorption.
 - Carbohydrate fermentation leads to production of CO₂ and hydrogen. These are used by microbes (Archaea) present in the rumen to produce methane.
- **Methane Emissions from Cattle:**
 - Belching cattle, buffaloes, sheep and goats in India **emit an estimated 9.25 million tonnes (mt) to 14.2 mt of methane annually**, out of a global total of 90 mt-plus from livestock.
 - The **2019 Livestock Census** showed India's cattle population at 193.46 million, along with 109.85 million buffaloes, 148.88 million goats and 74.26 million sheep.
 - Being **largely fed on agricultural residues** – wheat/paddy straw and maize, sorghum or bajra stover – **ruminants in India tend to produce 50-100% higher methane than their industrialised country counterparts** that are given more easily fermentable/digestible concentrates, silages and green fodder.
 - **Methane's global warming potential** – 25 times of carbon dioxide (CO₂) over 100 years, makes it a more potent greenhouse gas.

Melting of Arctic's 'Last Ice Area'

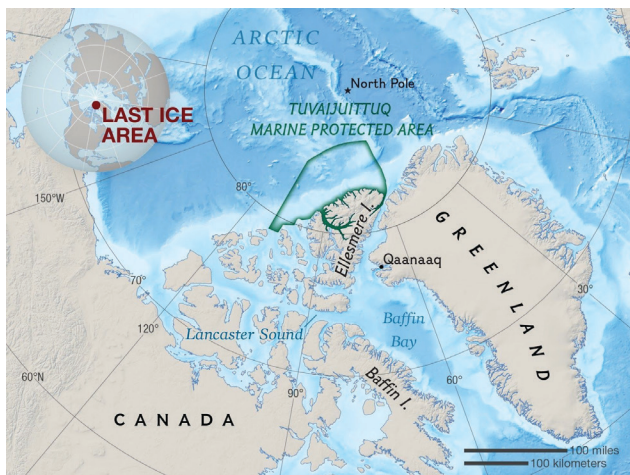
Why in News

The '**Last Ice Area**' (LIA), located in the **Arctic's Ice north of Greenland**, has started melting earlier than what the scientists had expected.

Note:



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Key Points

➤ Last Ice Area:

- This region is located **north of Greenland and Ellesmere Island** in the Canadian territory of Nunavut.
- This area was believed to be **strong enough to withstand global warming**.
 - The **total disappearance of summer ice** in the Arctic was estimated by the **year 2040**, however the 'Last Ice Area' was the exception.
- **World Wildlife Fund (WWF)-Canada** was believed to be the **first** to call this area the 'Last Ice Area'.

➤ Importance:

- It was thought to be able to **help ice-dependent species** as ice in the surrounding areas melted away.
- It is used by **polar bears to hunt for seals** who use ice to build dens for their offspring. **Walrus**es too, use the surface of the ice for **foraging** (to search for food).
- Sea ice is a **highway for Inuit**, who use it to travel and hunt.
 - The **term Inuit** refers broadly to the **Arctic indigenous population of Alaska, Canada, and Greenland**.

➤ Reasons for Melting:

- About **80% of thinning** can be attributed to **weather-related factors** such as winds that break up and move the ice around.
- The remaining **20%** can be attributed to **longer-term thinning of the ice** due to **global warming**.

➤ About Arctic:

- The Arctic is a **polar region** located at the **northernmost part of Earth**.
- The Arctic **consists of** the Arctic Ocean, adjacent seas, and parts of Alaska (United States), Canada, Finland, Greenland (Denmark), Iceland, Norway, Russia, and Sweden.
- Land within the Arctic region has seasonally varying snow and ice cover.
- Since 2013, **India has had observer status in the Arctic Council**, which is the predominant inter-governmental forum for cooperation on the environmental and development aspects of the Arctic.

➤ Impact of Melting Arctic Ice:

- **Global Climate:** The **Arctic and Antarctic** act like the world's refrigerator. Since they are covered in white snow and ice that reflect heat back into space (**Albedo effect**), they balance out other parts of the world that absorb heat.
- **Coastal Communities:** Global average sea level has risen by about **7-8 inches since 1900**, and it's getting worse. **Rising seas endanger coastal cities and small island nations** by exacerbating coastal flooding and storm surge.
- **Food Security:** **Polar vortices**, increased **heat waves**, and **unpredictability of weather** caused by ice loss are already causing significant damage to crops on which global food systems depend.
- **Permafrost & Global Warming:** **Permafrost in the Arctic region** (ground that is permanently frozen) stores large amounts of **methane**, which is a **greenhouse gas** that contributes to **climate change**.
- **Biodiversity Threat:** Melting of the Arctic ice puts the Arctic region's vibrant **biodiversity** under serious threat.

➤ India's interests in Arctic:

- Recently, **India participated in the 3rd Arctic Science Ministerial (ASM)** and shared plans for research and long-term cooperation in the Arctic Region.

Conservation of Vultures

Why in News

Recently, **150 vultures were seen in the Valmiki Tiger Reserve (VTR), Bihar**, which has prompted a vulture conservation plan in the protected region of VTR.

Note:

Key Points

➤ About Vultures:

- It is **one of the 22 species of large carrion-eating birds** that live predominantly in the **tropics and subtropics**.
- They act an important function as **nature's garbage collectors** and help to keep the environment clean of waste.
 - Vultures **also play a valuable role in keeping wildlife diseases in check**.
- India is home to **9 species of Vulture** namely the **Oriental white-backed, Long-billed, Slender-billed, Himalayan, Red-headed, Egyptian, Bearded, Cinereous and the Eurasian Griffon**.
 - Most of these 9 species face danger of extinction.
 - Bearded, Long-billed, Slender-billed, Oriental white-backed are protected in the **Schedule-1 of the Wildlife Protection Act 1972**. Rest are protected under '**Schedule IV**'.

➤ Threats:

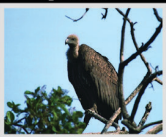
- Poisoning from diclofenac that is used as a medicine for livestock.
- Loss of Natural Habitats due to anthropogenic activities.
- Food Dearth and Contaminated Food.
- Electrocution by Power lines.

➤ Conservation Efforts:

- Recently, the Ministry for Environment, Forests and Climate Change launched a **Vulture Action Plan 2020-25** for the conservation of vultures in the country.
 - It will ensure minimum use of Diclofenac and prevent the poisoning of the principal food of vultures, the cattle carcasses.
 - The Vulture Safe Zone programme is being implemented at eight different places in the country where there were extant populations of vultures, including two in Uttar Pradesh.
 - To upscaling conservation **four rescue centres will be opened** like Pinjore in the north, Bhopal in central India, Guwahati in Northeast and Hyderabad in South India.
 - The ministry has now also launched **conservation plans for the red-headed and Egyptian vultures**, with breeding programmes for both.

- To study the cause of deaths of vultures in India, a **Vulture Care Centre (VCC)** was set up at Pinjore, Haryana in 2001.
- Later in 2004, the VCC was upgraded to being the first **Vulture Conservation and Breeding Centre (VCBC)** in India.
 - At present, there are nine Vulture Conservation and Breeding Centres (VCBC) in India, of which three are directly administered by the Bombay Natural History Society (BNHS).

➤ IUCN status:

Sr. No.	Name of the Vulture Species	IUCN status	Pictorial Representation
1.	Oriental White-backed Vulture (Gyps Bengalensis)	Critically Endangered	
2.	Slender-billed Vulture (Gyps Tenuirostris)	Critically Endangered	
3.	Long-billed Vulture (Gyps Indicus)	Critically Endangered	
4.	Egyptian Vulture (Neophron Percnopterus)	Endangered	
5.	Red-Headed Vulture (Sarcogyps Calvus)	Critically Endangered	
6.	Indian Griffon Vulture (Gyps Fulvus)	Least Concerned	
7.	Himalayan Griffon (Gyps Himalayensis)	Near Threatened	
8.	Cinereous Vulture (Aegypius Monachus)	Near Threatened	
9.	Bearded Vulture or Lammergeier (Gypaetus Barbatus)	Near Threatened	

Note:

Valmiki Tiger Reserve

➤ Location:

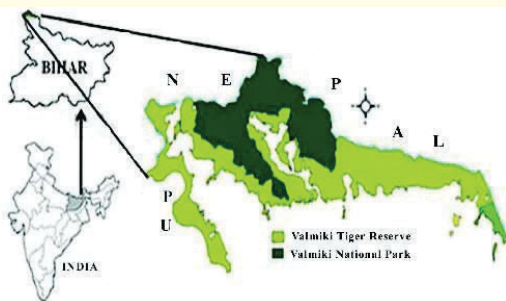
- located at the **India-Nepal border** in the **West Champaran district of Bihar**.
- It **forms the easternmost limits of the Himalayan Terai forests** in India.
- Situated in the **Gangetic Plains bio-geographic zone** of the country, the forest has a combination of bhabar and terai tracts.

➤ Establishment:

- This was established in **March 1994** under **Project Tiger**.

➤ Biodiversity:

- The wildlife found in the forest of National Park are the Bengal tiger, Indian rhinoceros, black bear, Indian sloth bear, otter, Indian leopard, wild dog, buffalo, and boar.
- Also Indian flying foxes can be sighted here.
- The Reserve has rich avifauna diversity. Over 250 species of birds have been reported.
- **Tharu', a scheduled tribe**, is the dominant community in the landscape of the Valmiki National Park.



➤ Other Protected Areas in Bihar:

- Bhimbandh Sanctuary.
- Rajgir Sanctuary.
- Kaimur Sanctuary.
- Kanwar Jheel Bird Sanctuary.
- Vikramshila **Gangetic Dolphin**.
- Gautambudha Sanctuary.

Marine Plastic: Problem, And Solution

Why in News

According to the **Central Pollution Control Board's**

(CPCB) Annual Report on Implementing the **Plastic Waste Management Rules, 2016**, the plastic waste generated in 2018-19 was 3.3 million tonnes per year (roughly **9,200 tonnes per day**).

Key Points

➤ About:

- Plastic is a **synthetic organic polymer** made from petroleum with properties ideally suited for a wide variety of applications, including packaging, building and construction, household and sports equipment, vehicles, electronics and agriculture. Plastic is cheap, lightweight, strong and malleable.
- Over **300 million tons of plastic** are produced every year, half of which is used to design **single-use items** such as shopping bags, cups and straws.
- Only **9% of plastic waste is recycled**. Approximately 12% is burnt, while 79% has accumulated in landfills.
- According to the **International Union for Conservation of Nature (IUCN)**, at least **8 million tons of plastic end up in the oceans every year**.

➤ Sources of Marine Plastic:

- The main sources of marine plastic are **land-based**, from urban and storm runoff, sewer overflows, beach visitors, inadequate waste disposal and management, industrial activities, construction and illegal dumping.
- **Ocean-based plastic** originates mainly from the **fishing industry, nautical activities and aquaculture**.
- Under the influence of **solar UV radiation**, wind, currents and other natural factors, plastic fragments into small particles, termed **microplastics** (particles smaller than 5 mm) or **nanoplastics** (particles smaller than 100 nm).
 - In addition, **microbeads**, a type of microplastic, are very tiny pieces of manufactured polyethylene plastic that are added as exfoliants in health and beauty products, such as cleansers and toothpastes. These tiny particles easily pass through water filtration systems and end up in the ocean and lakes.

➤ Concerns of Marine Plastic Waste:

- Plastic waste **blocks our sewers, threatening marine life** and generating health risks for residents in landfills or the natural environment.
- The **financial costs of marine plastic pollution** are significant as well.

Note:



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- According to a forecast made in March 2020, the **direct harm to the blue economy** of the **Association of Southeast Asian Nations** will be USD 2.1 billion per year.
- **Enormous social costs** accompany these economic costs. Residents of coastal regions suffer from the **harmful health impacts of plastic pollution** and waste brought in by the tides.
- Boats may become entangled in abandoned or discarded fishing nets or their engines may become blocked with plastic debris.
 - It can create problems for industries such as **Shipping, fisheries and aquaculture and maritime tourism** which affect livelihood of the coastal community.
- **Steps Taken So Far:**
 - **GloLitter Partnerships Project:**
 - It is launched by the **International Maritime Organization (IMO)** and the **Food and Agriculture Organization of the United Nations (FAO)** and . initial funding from the **Government of Norway**.
 - **Aim:** To prevent and **reduce marine plastic litter** from shipping and fisheries.
 - It will also **assist developing countries in reducing marine litter**, including plastic litter, from within the maritime transport and fisheries sectors, and to decrease the use of plastics in these industries.
 - Also assist in identifying opportunities to **reuse and recycle plastics**.
 - **30 countries including India** have joined this global initiative to tackle marine litter.
 - **World Environment Day, 2018** hosted in India, the world leaders vowed to **"Beat Plastic Pollution" & eliminate its use completely**.
 - **Specific to India:**
 - **Plastic Waste Management Rules, 2016** state that every local body has to be responsible for setting up infrastructure for segregation, collection, processing, and disposal of plastic waste.
 - **Plastic Waste Management (Amendment) Rules 2018** introduced the concept of Extended Producer Responsibility (EPR).
 - **Ban on Single-Use Plastics** in a bid to free India of single-use plastics by 2022.
- **Solutions:**
 - **Designing a product:** Identifying plastic items that can be replaced with non-plastic, recyclable, or biodegradable materials is the first step.
 - Countries must embrace **circular and sustainable economic practices** throughout the plastics value chain to accomplish this.
 - **Pricing:** Plastics are inexpensive which provide **fewer economic incentives** to employ recycled plastics. Balancing price structure with environmental health should be a priority.
 - **Technologies and Innovation:** Developing tools and technology to assist governments in measuring and monitoring plastic garbage in cities.
 - India should start projects like the '**Closing the loop**' project of the **United Nations Economic and Social Commission for Asia and the Pacific** which assists cities in developing more inventive policy solutions to tackle the problem.
 - **Promoting a plastic-free workplace:** All single-use goods can be replaced with reusable items or more sustainable single-use alternatives.
 - **Producer responsibility:** **Extended responsibility** can be applied in the retail (packaging) sector, where producers are responsible for collecting and recycling products that they launch into the market.

The Central Pollution Control Board

- CPCB is a **statutory organisation** which was constituted in September, 1974 under the **Water (Prevention and Control of Pollution) Act, 1974**.
- It was entrusted with the powers and functions under the **Air (Prevention and Control of Pollution) Act, 1981**.
- It also provides technical services to the Ministry of Environment and Forest and Climate Change of the provisions of the **Environment (Protection) Act, 1986**.
- Principal Functions of the CPCB, as spelt out in the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981:
 - to promote cleanliness of streams and wells in different areas of the States by prevention, control and abatement of water pollution.
 - to improve the quality of air and to prevent, control or abate air pollution in the country.

Note:

- **Municipal and community actions:** Beach and river clean-ups, public awareness campaigns and disposable plastic bag bans and levies.
- **Multi-stakeholder collaboration:** Government ministries at the national and local levels must collaborate in the development, implementation and oversight of policies related to plastic waste management.

Guindy National Park: Tamil Nadu

Why in News

The **Guindy National Park** provides a number of **ecosystem services** to the people of **Chennai, Tamil Nadu**.

- Ecosystem services are the **direct and indirect contributions of ecosystems to human well-being**.



Key Points

- **About:**
 - It is India's **eighth-smallest national park** and one of the very few national parks located inside a city. It is located in the heart of **Chennai's metropolitan area**.
 - It is one of the last remnants of the **tropical dry evergreen forests of the Coromandel Coast**.
 - About 22 acres of the Guindy National Park has been carved out into a park known as the **Children's Park for ex-situ conservation**.
 - **Guindy Snake Park is next to Guindy National Park**. It gained statutory recognition as a medium zoo from the **Central Zoo Authority (CZA)** in 1995.

- In **1978** the small area, popularly known as **Guindy Deer Park**, was **declared as a national park**.
- **Flora and Fauna:**
 - It contains more than 30 species of trees and a number of century old gigantic **Banyan Trees**.
 - It has a **significant population of black bucks, spotted deers, jackals, varieties of snakes**, over 100 species of birds and over 60 species of butterflies.
- **Other National Parks in Tamil Nadu:**
 - Gulf of Mannar Marine National Park (21 Islands), Dhanushkodi.
 - Indira Gandhi National Park **previously Known as Anamalai Wildlife Sanctuary**, Tiruppur.
 - **Mukurthi National Park**, Ooty.
 - Mudumalai National Park, Madumalai.

Ex-situ and In-situ Conservation Methods

- **Ex situ conservation** is the conservation and maintenance of samples of living organisms outside their natural habitat.
 - Maintenance of **Gene Banks, Seed Banks etc.** comes under this method of conservation.
- **In situ conservation** is conservation of species in their natural habitats.
 - Maintenance of natural habitats in the form of **wildlife sanctuaries, national parks etc.** comes under this method of conservation.

LEAF Coalition

Why in News

LEAF (Lowering Emissions by Accelerating Forest Finance) Coalition was announced at the **Leaders Summit on Climate, 2021**.

- LEAF coalition will be one of the largest ever **public-private efforts to protect tropical forests** and intend to mobilize at least **USD 1 billion in financing** to countries committed to protecting their tropical forests.

Key Points

- **About LEAF Coalition:**
 - It is a **collective of the governments of the USA, United Kingdom and Norway**.
 - As it is a public-private effort, thus **also supported by transnational corporations (TNCs)** like Unilever plc, Amazon.com, Nestle, Airbnb etc.

Note:

- A country willing to participate would need to fulfil certain predetermined conditions laid down by the Coalition.
- **Financial Support:**
 - The **results-based financing model** will be used in LEAF.
 - The model **weighs on work by the Environmental Defense Fund** over two decades, in collaboration with Indigenous communities, forest peoples, Brazilian and US NGOs, and other partners, to protect the Amazon and tropical forests globally.
 - Performance will be measured against the **TREES Standard (The REDD+ Environmental Excellence Standard)**
- **Significance:**
 - **Platform for Private Leadership:** The goal of **net zero emissions** cannot be reached without bold leadership from the private sector and commitment to leverage its scale, investment capacity and political power to build a more sustainable, resilient and equitable future.
 - **Increases Carbon Sink:** Tropical forests are massive carbon sinks and by investing in their protection, public and private players are likely to stock up on their **carbon credits**.

Reducing Emissions from Deforestation and Forest Degradation

- REDD+ aims to achieve climate change mitigation by incentivizing forest conservation.
 - It monetises the value of carbon locked up in the tropical forests of most developing countries, thereby propelling these countries to help mitigate climate change.
- REDD+ was created by the **United Nations Framework Convention on Climate Change (UNFCCC)**.

Tropical Forest

- Tropical forests are **closed canopy forests growing within 28 degrees north or south of the equator**.
- They are **very wet places**, receiving **more than 200 cm rainfall** per year, either seasonally or throughout the year.
- **Temperatures are uniformly high** - between 20°C and 35°C.
- Such forests are **found in Asia, Australia, Africa, South America, Central America, Mexico** and on many of the Pacific Islands.

- It will help in achieving **Nationally Determined Contributions (NDCs)** under the **Paris Agreement**.
- **Achieve REDD+ Objectives:** It is a step towards concretising the aims and objectives of the **Reducing Emissions from Deforestation and Forest Degradation (REDD+)** mechanism.
- **Solve Development versus Ecological Commitment:** Such a financial impetus is crucial as it incentivises developing countries **to capture extensive deforestation and provide livelihood opportunities** to forest-dependent populations.
- **Complements Other Global Goals:** Ending tropical and subtropical forest loss by 2030 is vital to achieving global climate, **biodiversity** and **sustainable development goals** as well as sustaining the well-being and cultures of Indigenous peoples and other forest communities.

Black Panther Spotted in Navegaon – Nagzira Tiger Reserve

Why in News

Recently, a rare **Melanistic Leopard** (commonly known as **Black Panther**) has been recorded in **Navegaon-Nagzira Tiger Reserve (NNTR)** of Maharashtra.

Key Points

- **Melanistic Leopard/Black Panther:**
 - **About:**
 - **Leopards (*Panthera Pardus*)** are either light colored (pale yellow to deep gold or tawny) with black rosettes or with black fur.
 - The **melanistic leopards, which are either all-black or very dark in coloration**, are known as



Note:

black panthers. It is a **color variant of spotted Indian leopards**, reported from densely forested areas of south India.

- Black coat coloration is **attributed to the expression of recessive alleles** in leopards and dominant alleles in jaguars. In each species, a certain combination of alleles stimulates the **production of large amounts of the dark pigment melanin (Melanism)** in the animal's fur and skin.
 - The appearance of a black coat **may be influenced by other factors**, such as the **angle of incident light** and the animal's life stage.
- It is as shy as a normal leopard and very **difficult to detect**.

○ **Habitat:**

- They are mainly in **Southwestern China, Burma, Nepal, Southern India, Indonesia**, and the southern part of **Malaysia**.
- In India they can be spotted in the states of **Karnataka, Tamil Nadu, Kerala, Maharashtra etc.**

○ **Threats:**

- Habitat loss.
- Collision with vehicles.
- Diseases.
- Human encroachment.
- Poaching.

○ **Protection Status:**

- **IUCN Red List:** Vulnerable.
- **CITES:** Appendix I.
- **Wildlife (Protection) Act, 1972:** Schedule I.

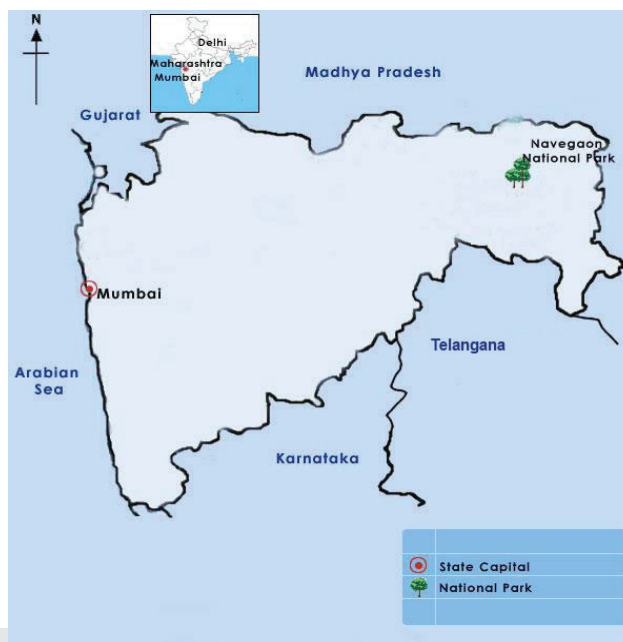
➤ **Navegaon-Nagzira Tiger Reserve:**

○ **About:**

- It is situated in **Gondia and Bhandara districts of Maharashtra**.
- Strategically, the **Tiger Reserve is located in the heart of central Indian Tiger landscape** which contributes almost one sixth of the total tiger population of the country.

○ **Formation:**

- It was designated as the **46th Tiger Reserve of India** in December 2013.
- It comprises the notified area of Navegaon National Park, Navegaon Wildlife Sanctuary, Nagzira Wildlife Sanctuary, New Nagzira Wildlife Sanctuary and Koka Wildlife Sanctuary.



○ **Connectivity:**

- NNTR has connectivity with the major tiger reserves in Central India like,
 - **Kanha** and **Pench** tiger reserve in Madhya Pradesh,
 - **Tadoba-Andhari Tiger reserve** in Maharashtra,
 - Indravati Tiger Reserve in Chhattisgarh,
 - Indirectly with the **Kawal** and **Nagarjuna Sagar** in Telangana and Andhra Pradesh and, Achanakmar Tiger reserve in Chhattisgarh.
- It is also connected to important tiger bearing areas like **Umred-Karhandla sanctuary** and Brahampuri Division (Maharashtra).

○ **Flora:**

- The major forest type is **"Southern Tropical Dry Deciduous Forest"**.
- Few thorny plants are also found and Bamboo occurs in abundance.

○ **Fauna:**

- **Carnivores** such as leopards and smaller carnivores like wild dogs, wolf jackals, jungle cats and also the good population of **sloth bears** are seen.
- **Herbivore** includes Cheetal, Sambar, Nilgai, Chousingha, Barking deer, Wild pig, **Indian gaur** and Mouse deer.
- More than **300 species of birds** have been reported from the area.

Note:

○ **Other Protected Areas in Maharashtra:**

- Sahyadri Tiger Reserve.
- **Melghat Tiger reserve.**
- Great Indian Bustard Sanctuary.
- Karnala Bird Sanctuary.
- Sanjay Gandhi National Park.
- Pench National Park.

King Cobra in Tillari Reserve

Why in News

Recently, a **king cobra** (*Ophiophagus hannah*), was sighted in the **recently declared conservation reserve, Tillari**, in Sindhudurg district, Maharashtra.



Key Points

➤ **King Cobra:**

○ **About:**

- They are **one of the most venomous snakes on the planet and the longest of all venomous snakes.**
- Their venom is not the most potent among venomous snakes, but **the amount of neurotoxin they can deliver in a single bite**—up to two-tenths of a fluid ounce—is **enough to kill 20 people, or even an elephant.**
- They are **the only snakes in the world that build nests** for their eggs, which they guard ferociously until the hatchlings emerge.

○ **Habitat:**

- They live mainly in the **rain forests and plains of India, southern China, and Southeast Asia.**

- They are comfortable in a variety of habitats, including **forests, bamboo thickets, mangrove swamps, high-altitude grasslands, and in rivers.**

○ **Threats:**

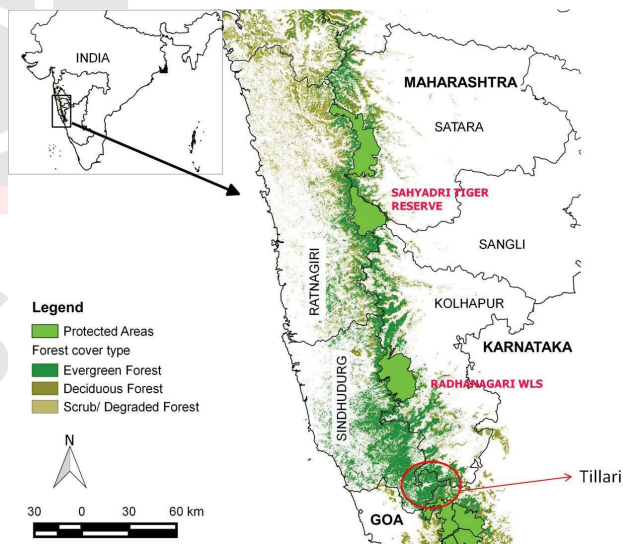
- They face a variety of **threats stemming from human activities such as:**
 - **Deforestation.**
 - **International pet trade.**
 - **Persecution by humans.**
 - **Used for skin, food, and medicinal purposes.**

○ **Protection Status:**

- **IUCN Red List:** Vulnerable.
- **CITES:** Appendix II.
- **Wildlife (Protection) Act, 1972:** Schedule II.

➤ **Tillari Conservation Reserve:**

- Tillari is the **seventh wildlife corridor in the state to be declared as a 'conservation reserve'.**
- Tillari is a reserve in **western ghats.**



- The area **covering nine villages in the forest range** is known to serve as a corridor and even as a **habitat for the population of tigers and elephants** moving between the three states of Goa, Karnataka and Maharashtra.
- It connects **Mhadei sanctuary in Goa** and Bhimgad in Karnataka.
- It has **semi-evergreen forest, tropical moist deciduous forests**, and a number of unique trees, butterflies, and flowers.

Note:

History

Highlights

- *Indian Soldiers in Italy: World War II*

- *Swami Vivekananda*

Indian Soldiers in Italy: World War II

Why in News

The Indian Chief of Army Staff (COAS) will inaugurate an **Indian Army Memorial** in the **Cassino town of Italy** during an official visit to the U.K. and Italy.

- The memorial commemorates over **3,100 Commonwealth servicemen** who took part in the effort to **liberate Italy in World War II (1939-1945)**.
- **900 Indian soldiers were also commemorated** on this memorial.

Key Points

- **Indian Army in Italy:**
 - Three infantry divisions of the Indian Army took part in the Italian campaign. These were the **4th, 8th and 10th Indian Divisions**.
 - The **first one to land in the country was the 8 Indian Infantry Division** that saw action in Iraq and Iran when the British invaded these countries in 1941.
 - The **second one arrived was the 4 Indian Division that came to Italy from North Africa in December 1943**. In 1944, it was deployed in Cassino.
 - The **third, which is the 10 Indian Division, was formed in 1941 in Ahmednagar** and moved to Italy in 1944.
 - Men from the **Punjab, and Indian plains, coped with the extremely hostile conditions experienced in Italy**.
 - Even the **Gurkhas from Nepal struggled with the heavy and persistent rain, and freezing nights** in the Italian mountains.
 - All three Divisions performed well in the Italian Campaign and were **highly respected by the Allied and Axis commanders alike**.

➤ Indian Troops in WWII:

- The **Indian Army was the largest volunteer force during WWII**, with over **2.5 million (more than 20 lakh) Indians participating**.
- These troops **fought the Axis powers (Germany, Italy and Japan) as part of the Allies**. They came from different source organizations such as:
 - **Indian Army:**
 - In the first half of the 1940s, **India was still under the British rule and the Indian Army fought in both world wars**. It comprised both Indian and European soldiers.
 - **East India Company Army and the British Army:**
 - Apart from the Indian army there was the **East India Company Army that also recruited both Indian and European soldiers** and the **British Army, which was also present in India**.

World War II

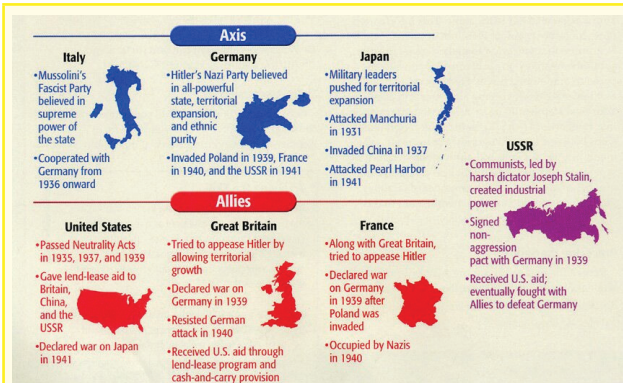
➤ About:

- It was a conflict that **involved virtually every part of the world** during the years 1939–45.
- It **ended six years and one day after Germany's invasion of Poland on 1st September, 1939**, sparked the 20th century's second global conflict.
- By the time it concluded on the deck of an American warship on 2nd September, 1945, **WW II had claimed the lives of an estimated 60-80 million people, approximately 3% of the world's population**.
- The **vast majority of those who died were civilians**, including **6 million Jews killed in Nazi concentration camps** during the Holocaust.

➤ Principal Belligerents:

- **Axis powers**—Germany, Italy, and Japan.
- **Allies**—France, Great Britain, the United States, the Soviet Union, and, to a lesser extent, China.

Note:



Causes of War:

- The impact of the Treaty of Versailles following **World War I (1914-18)**.
- The worldwide economic depression.
- The rise of militarism in Germany and Japan.
- The failure of the **League of Nations**.

Italy in World War II

- Under Benito Mussolini, Italy had joined Nazi Germany in 1936 and in 1940 it entered WWII against the Allies.
- In 1943, Mussolini was overthrown and instead, Italy declared war on Germany.
- The invasion of Italy by the Allies coincided with an armistice that was made with the Italians.
- For two years during WWII, Italy became one of the war's most "exhausting campaigns" because they were facing a skilled and resolute enemy.

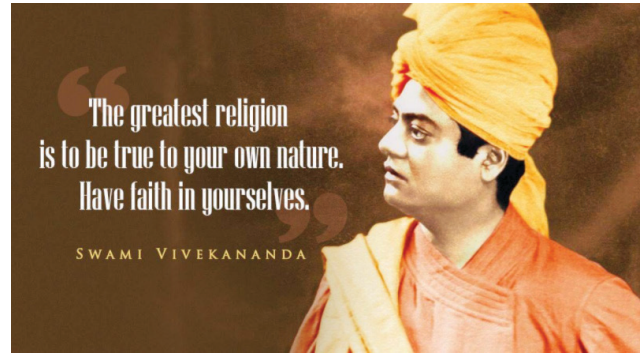
Swami Vivekananda

Why in News

Every year, 4th July is observed as the death anniversary of **Swami Vivekananda**, who is regarded as a one of the finest spiritual leaders and intellects India has produced.

Key Points

- **Birth:** He was born as **Narendranath Datta** on **12th January, 1863**.
 - **National Youth Day** is held every year to observe the birth anniversary of Swami Vivekananda.



- In 1893, upon the request of **Maharaja Ajit Singh of the Khetri State**, he took the name '**Vivekananda**.'
- **Contributions:**
 - Introduced the world to the Indian philosophies of **Vedanta and Yoga**.
 - He **preached 'neo-Vedanta'**, an interpretation of Hinduism through a Western lens, and believed in combining spirituality with material progress.
 - Laid the greatest emphasis on **education** for the **regeneration of our motherland**. Advocated a **man-making character-building education**.
 - Best known for his **speech at the World Parliament of Religion in Chicago** in 1893.
 - Spelt out the **four pathways of attaining moksha** from the worldly pleasure and attachment in his **books** - Raja-yoga, Karma-yoga, Jnana-yoga and Bhakti-yoga.
 - **Netaji Subhas Chandra Bose** had called **Vivekananda** the "**maker of modern India**."
- **Associated Organisations:**
 - He was the **chief disciple of the 19th-century mystic Ramakrishna Paramhansa** and established the **Ramakrishna Mission in 1897**.
 - Ramakrishna Mission is an organization which works in the area of value-based education, culture, health, women's empowerment, youth and tribal welfare and relief and rehabilitation.
 - In 1899, he **established the Belur Math**, which became his permanent abode.
- **Death:** He **died at Belur Math in 1902**. Belur Math, located in **West Bengal**, is the headquarters of Ramakrishna Math & Ramakrishna Mission.



Note:



drishti

Geography

Highlights

- Heat Dome
- Taal Volcano: Philippines
- Vembanad Lake: Kerala
- Incidents of Lightning

Heat Dome

Why in News

Recently, the Pacific Northwest and some parts of Canada recorded temperatures around 47 degrees, causing a "historic" heat wave.

- This is a result of a phenomenon referred to as a "heat dome".

Key Points

- **About:**
 - The phenomenon begins when there is a **strong change (or gradient) in ocean temperatures**. In the process **known as convection**, the gradient causes more warm air, heated by the ocean surface, to rise over the ocean surface.
 - As prevailing **winds move the hot air east**, the **northern shifts of the jet stream trap the air** and move it toward land, where it sinks, resulting in heat waves.
 - **Jet streams are relatively narrow bands of strong wind** in the upper levels of the atmosphere. The winds blow **from west to east in jet streams** but the flow often **shifts to the north and south**.
 - This **strong change in ocean temperature from the west to the east** is the reason for the **heat dome (HD)**.
 - The **western Pacific ocean's temperatures** have increased in the past few decades and are **relatively more than the temperature in the eastern Pacific**.
 - HD also prevents clouds from forming, allowing for more radiation from the sun to hit the ground.
 - A heat dome is **effectively what it sounds like** - an area of high pressure that parks over a region

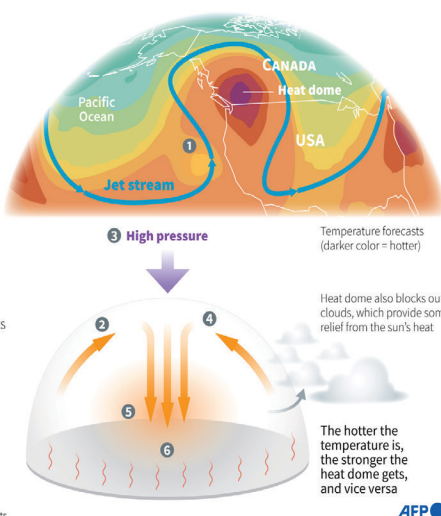
like a lid on a pot, trapping heat. They are more likely to form during **La Niña** years like 2021, when waters are cool in the eastern Pacific and warm in the western Pacific.

The 'heat dome'

Occurs when the atmosphere traps hot ocean air like a lid or cap

- 1 In summer, the **jet stream** (which moves the air) shifts northward
- 2 Hot and stagnant air expands upwards
- 3 Strong and **high-pressure** atmospheric conditions combine with influences from La Niña act like a dome or cap
- 4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down
- 5 Under the dome, the air sinks and **compresses**, releasing more heat
- 6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**

Source: NOAA/US/Canada medias, experts



➤ Heat Wave:

- A heat wave is a **period of abnormally high temperatures**, more than the normal maximum temperature that lasts for more than two days.
- Heat waves **typically occur between March and June**, and in some rare cases even extend till July.
- Heat waves can occur with or without high humidity and have the potential to cover a large area, "**exposing a high number of people to hazardous heat.**"

➤ Impact on Humans (Wet-bulb temperature):

- As long as the body is producing sweat, which is then able to evaporate quickly, the **body will be able to remain cool even under high temperatures**.
- Wet-bulb temperature (WBT) is a **limit that considers heat and humidity beyond which humans can not tolerate high temperatures**.

Note:

- Temperatures beyond WBT can cause heat related illnesses including heat stroke, heat exhaustion, sunburn and heat rashes. Sometimes these can prove fatal.

➤ Effects of Heat Dome:

- Those living without an air conditioner see the temperatures of their homes rising to unbearably high, leading to sudden fatalities.
- The trapping of heat can also damage crops, dry out vegetation and result in droughts.
- The sweltering heat wave will also lead to rise in energy demand, especially electricity, leading to pushing up rates.
- The heat domes can also act as fuel to wildfires, which destroys a lot of land area in the US every year.

➤ Climate change and heat domes:

- The weather scientists have been highlighting the effects of climate change on more extreme heat waves.
 - According to a 2017 NOAA (National Oceanic and Atmospheric Administration) survey, average US temperatures have increased since the late 19th century.
- However, Scientists are usually wary of linking climate change to any contemporary event mainly because of the difficulty in completely ruling out the possibility of the event having been caused by some other reason, or being a result of natural variability.

Taal Volcano: Philippines

Why in News

Recently, the Philippines increased the alert level on **Taal Volcano** to **level 3 on a five-level scale** after a **Phreatomagmatic Eruption (PE)** occurred that generated a dark grayish plume, one kilometer high.

- **Alert Level 3** means there is magmatic unrest, or movement of magma that may further drive succeeding eruptions.

Key Points

➤ Location:

- Situated on the island of Luzon, 50 km from Manila, Philippines.



➤ Susceptibility:

- The Philippines is situated at the boundaries of two tectonic plates - the **Philippines Sea Plate** and the **Eurasian plate** - thus susceptible to earthquakes and volcanism.
- Taal is one of the most active volcanoes in the Philippines due to its location on the Pacific **"Ring of Fire"** – a zone of intense seismic activity.

- **Phreatomagmatic Eruption:** An eruption resulting from the interaction of new magma or lava with water and can be very explosive. The water can be from groundwater, hydrothermal systems, surface runoff, a lake or the sea.

- Other **Types of Eruptions** are: Icelandic, Hawaiian, Strombolian, Vulcanian, Pelean and Plinian.

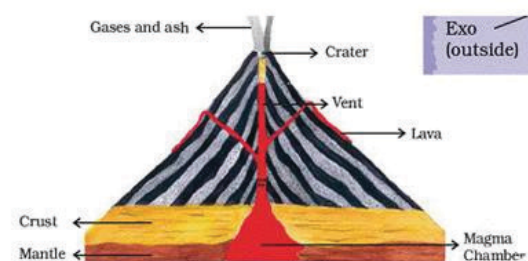
➤ Dangers:

- Possible hazards of **pyroclastic density currents** (clouds of hot gas, ash, and other volcanic debris) and **volcanic tsunami**.

- **Complex Volcano:** It is classified as a **"complex" volcano** by the Philippine Institute of Volcanology and Seismology (PHIVOLCS).

Volcano

A volcano is a **vent (opening)** in the earth's crust through which **molten material** erupts suddenly.



Note:

- A complex volcano, **also called a compound volcano**, is defined as one that doesn't have just one main vent or cone but several eruption points. Another such **example is Mount Vesuvius on the west coast of Italy.**
- **Unpredictable:** Taal has erupted more than 30 times in the last few centuries, the most **recent was in 2020.**

Vembanad Lake: Kerala

Why in News

Kerala houseboats in Vembanad Lake are about to begin soon amid a robust vaccination drive.

- This is the **largest lake in Kerala and the longest Lake in India.**

Key Points

- Vembanad Lake is **also known as** Vembanad Kayal, Vembanad Kol, Punnamada Lake (in Kuttanad) and Kochi Lake (in Kochi).
- Spanning several districts of Kerala and covering a territory of more than 2033.02 km².
- The lake has its **source in four rivers**, Meenachil, Achankovil, Pampa and Manimala.
- It is **separated from the Arabian Sea by a narrow barrier island** and is a **popular backwater stretch** in Kerala.
- **Vallam Kali (i.e. Nehru Trophy Boat Race) is a Snake Boat Race** held every year in the month of August in Vembanad Lake.
- In 2002, it was **included in the list of wetlands of international importance**, as defined by the **Ramsar Convention**.
 - It is the **second-largest Ramsar site in India** only after the **Sundarbans** in West Bengal.
- The Government of India has identified the Vembanad wetland under the **National Wetlands Conservation Programme.**



- The **Kumarakom Bird Sanctuary** is located on the east coast of the lake.
- In 2019, **Willingdon Island**, a seaport located in the city of Kochi, was carved out of Vembanad Lake.
- One of the most outstanding features of this lake is the 1252 m long **saltwater barrier, Thanneermukkom**, which was built to stop saltwater intrusion into Kuttanad.

Incidents of Lightning

Why in News

Recently, thirty people were killed in separate incidents of **lightning** in various parts of the country.

- Lightning is the **biggest contributor to accidental deaths due to natural causes.**

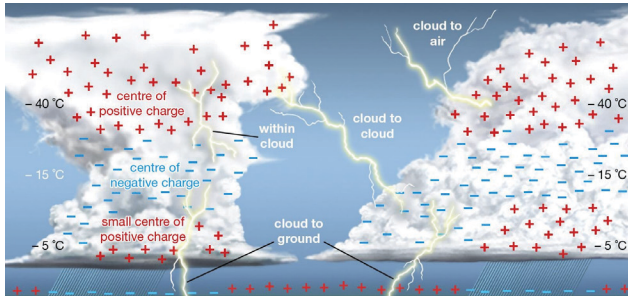
Key Points

- **About:**
 - It is a very **rapid and massive discharge of electricity in the atmosphere**. It is the process of **occurrence of a natural 'electrical discharge of very short duration and high voltage** between a cloud and the ground or within a cloud', accompanied by a bright flash and sound, and sometimes thunderstorms.
 - **Inter cloud or intra cloud (IC) lightning** are **visible and harmless.**
 - **Cloud to ground (CG) lightning** is **harmful as the 'high electric voltage and electric current'** leads to electrocution.
- **Process:**
 - It is a result of the **difference in electrical charge between the top and bottom of a cloud.**
 - The lightning-generating clouds are typically about **10-12 km in height, with their base about 1-2 km from the Earth's surface**. The temperatures at the top range from **-35°C to -45°C.**
 - As **water vapour moves upwards in the cloud**, it condenses into water due to decreasing temperatures. A huge amount of **heat is generated** in the process, **pushing the water molecules further up.**
 - As they move to **temperatures below zero**, droplets change into small ice crystals. As they continue

Note:

upwards, they gather mass, until they **become so heavy that they start descending.**

- It leads to a system where smaller ice crystals move upwards while larger ones come down. The **resulting collisions trigger release of electrons**, in a process very **similar to the generation of electric sparks**. The moving free electrons cause more collisions and more electrons leading to a chain reaction.
- The process results in a situation in which the **top layer of the cloud gets positively charged** while the **middle layer is negatively charged**.



- In little time, a huge current, of the order of lakhs to millions of amperes, starts to flow between the layers.
 - It **produces heat**, leading to the heating of the air column between the two layers of cloud.
 - It is because of this heat that the **air column looks red during lightning**.
 - The heated air column expands and produces shock waves that result in **thunder sounds**.

➤ **Strikes Earth's Surface:**

- The **Earth is a good conductor of electricity**. While electrically neutral, it is relatively positively charged compared to the middle layer of the cloud. As a result, an estimated **20-25% of the current flow is directed towards the Earth**.
 - It is this current flow that results in damage to life and property.
- Lightning has a **greater probability of striking raised objects on the ground**, such as trees or buildings.
 - **Lightning Conductor** is a device used to protect buildings from the effect of lightning. A metallic rod, taller than the building, is installed in the walls of the building during its construction.

- The most lightning activity on Earth is seen on the shore of **Lake Maracaibo in Venezuela**.
 - At the place where the Catatumbo river falls into Lake Maracaibo, an average 260 storm days occur **every year**, and **October sees 28 lightning flashes every minute** - a phenomenon referred to as the **Beacon of Maracaibo or the Everlasting Storm**.

➤ **Climate Change & Lightning:**

- An **increase of one degree Celsius would increase the frequency of lightning strikes by 12%**, warned California University in a study published 2015.
- A study published in Geophysical Research Letters in March 2021, too, has **established links between climate change and rising incidences of lightning in the Arctic region**.
 - The number of lightning strikes recorded during the summer months between 2010 and 2020 shot up from around 18,000 at the start of the decade to more than 1,50,000 by 2020.
- Therefore even the **Indian Institute of Tropical Management (IITM)** concludes that the **increase in lightning incidents may be directly related to the climate crisis**, and the **availability of more moisture over land** due to global warming.
 - IITM in Pune is the only institution in India that works full-time on thunderstorms and lightning.

➤ **Increased Lightning Strikes in India:**

- As many as **18.5 million lightning strikes were recorded in India between April 2020 and March 2021**, according to India's second annual report on lightning released by **Lightning Resilient India Campaign (LRIC)** recently.
 - LRIC is a joint initiative of **Climate Resilient Observing-Systems Promotion Council (CROPC)**, **National Disaster Management Authority**, **India Meteorological Department (IMD)**, Union Ministry of Earth Science, World Vision India, **UNICEF** among others.
 - The campaign aims to reduce the number of deaths to less than 1,200 a year by 2022.
- This is an **increase of 34% compared to previous year**; at least **13.8 million strikes were recorded between April 2019 and March 2020**.



Note:

Social Issues

Highlights

- Drop in Open Defecation: Wash Report
- Delay in Aadhaar Enrolment due to Incomplete NRC: Assam
- 'Joint Communication' for Tribal Communities
- Draft Anti-Trafficking Bill
- Gender Self Identification
- Trafficking in Persons Report
- Tele-Law
- Child Soldier Recruiter List
- ICDS Survey in Jharkhand
- World Population Day

Drop in Open Defecation: Wash Report

Why in News

According to a new report by the Wash Institute (a global non-profit organisation), India was responsible for the largest drop in open defecation since 2015, in terms of absolute numbers.

- Universal access to **water, sanitation and hygiene (WASH)** to achieve the **United Nations-mandated Sustainable Development Goal (SDG) 6** was also emphasised.

WASH

- WASH is an acronym that stands for the interrelated areas of **Water, Sanitation and Hygiene**.
- The **World Health Organisation (WHO) WASH Strategy 2018-25** has been developed in response to Member State Resolution (WHA 64.4) and the **2030 Agenda for Sustainable Development (SDG 3: Good Health and Well Being, SDG 6: Clean Water And Sanitation)**.
- It is a component of **WHO's 13th General Programme of Work 2019–2023** which aims to contribute to the health of three billion through multisectoral actions like better emergency preparedness and response; and one billion with **Universal Health Coverage (UHC)**.
- It also takes on board the need for progressive realization of the human rights to safe drinking-water and sanitation, adopted by the **UN General Assembly** in July 2010.

Key Points

- **Findings of the Report:**
 - **On Open Defecation:**
 - Within India, open defecation had been highly variable regionally since at least 2006 but **by 2016** open defecation had **decreased in all states**, with the largest drops seen in **Himachal Pradesh and Haryana**.
 - Progress in curbing open defecation in **sub-Saharan Africa** was slow.
 - **On SDG 6:**
 - **Between 2016 and 2020**, the **global population** with access to safely managed drinking water at home increased to **74%, from 70%**.
 - There is an improvement in **at-source water resources** and **onsite sanitation systems**.
 - **At-source water resources** include piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater and packaged or delivered water.
 - **Onsite sanitation system** is a system in which excreta and wastewater are collected, stored and/or treated on the plot where they are generated.
 - There was an **increase in safely managed sanitation services to 54%, from 47%** between 2016 and 2020.
- **Challenges:**
 - In order to ensure **long-term sustainability of both centralised and decentralised sanitation**, **proper funding and investment** was required.

Note:

- The Report also talked about **hygiene**, especially in the context of the **novel coronavirus disease (Covid-19)**.
 - In June 2020, the **World Health Organization** and **Unicef** jointly launched the '**Hand Hygiene for All**' initiative, which aims to improve access to handwashing infrastructure as well as stimulating changes in handwashing practices where facilities are available.
 - **Handwashing facilities with soap and water** increased to **71%, from 67%**.
- However, **3 in 10 people worldwide could not wash their hands with soap and water at home during the Covid-19 pandemic** due to lack of water resources.

➤ **Open Defecation:**

- It refers to the practise whereby people go out in fields, bushes, forests, open bodies of water, or other open spaces rather than using the toilet to defecate.
- It poses a serious threat to the health of children in India.
- It exposes women to the danger of physical attacks and encounters such as snake bites.
- Poor sanitation also cripples national development, by diverting people's hard-earned money towards out of pocket expenditure on health (leading cause of dragging people into poverty), rather than productive investment like education.

Delay in Aadhaar Enrolment due to Incomplete NRC: Assam

Why in News

The **Aadhaar** enrolment of more than 27 lakh people in Assam has become uncertain/delayed because of the delay in completing the process of the **National Register of Citizens (NRC)**.

- The **biometrics of these people were frozen after the publication of the NRC in August 2019**.
- The **Centre had earlier been asked to unfreeze the biometrics** since the NRC was yet to be recognised as a document for citizenship.

Key Points

➤ **National Register of Citizens:**

- NRC is a **register prepared in respect of each village**, showing the houses or holdings in a serial order and indicating against each house or holding the number and names of persons staying therein.
- The **register was first prepared after the 1951 Census of India** and since then it has not been updated until recently.
- It **has been updated in Assam only** for now and the **government plans to update it nationally** as well.
- Its **purpose** is to **separate "illegal" immigrants from "legitimate" residents**.
- Registrar General and Census Commissioner India is the Nodal Agency for NRC.

➤ **NRC Issue in Assam (Background):**

- The issue of its update assumed importance as **Assam witnessed large-scale illegal migration from erstwhile East Pakistan and, after 1971, from present-day Bangladesh**.
- This led to the **six-year-long Assam movement from 1979 to 1985**, for deporting illegal migrants.
- The movement culminated in the signing of the **Assam Accord in 1985**. It set **25th March, 1971**, as the cut-off date for the deportation of illegal migrants.
 - Since the **cut-off date prescribed under articles 5 and 6 of the Constitution was 19th July, 1949** - to give force to the new date, an amendment was made to the **Citizenship Act, 1955**, and a new section was introduced. It was made **applicable only to Assam**.
 - The **Assam Accord** was signed between the **All Assam Students Union (AASU)**, the **All Assam Gana Sangram Parishad** and the **Central Government**.
- A petition was filed in the **Supreme Court (SC)** in **2009** by an **Non-governmental Organization (NGO)** called Assam Public Works demanding the identification and deportation of illegal Bangladeshis in Assam.
- In December **2014**, a division bench of the **SC** ordered that the NRC be updated in a time-bound manner.
- In **2018**, the **SC** mentioned the prospect of sample re-verification in an order, saying that it could

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consider re-verifying 10% of the names included in the NRC.

- In July 2019, the state government gave an affidavit in the SC seeking a re-verification of 20% included names in the districts bordering Bangladesh and 10% in the rest of the districts.
 - However, it was dismissed after the erstwhile coordinator of the NRC submitted that re-verification was already done.
- The Assam government is firm on its demand of 10-20% re-verification of the nationality claims made by some of the people included in the final NRC, published in 2019.

➤ **Current Scenario:**

- The state government of Assam has provided the latest data regarding 'foreigner' detection in the state.
- There is a need for re-verification because people of Assam want a correct NRC.
- Also, there has been a delay in issuing the rejection slips to the over 19 lakh excluded people so that they can move court to claim nationality.
 - Officials have cited the Covid-19 pandemic and the floods in the state as reasons for the delay.
 - The rejection slips would carry the reason of rejection, which would differ from person to person and based on the reason they would be able to challenge their exclusion in the Foreigners' Tribunals.
 - Every individual, whose name does not figure in the final NRC, can represent his/her case in front of the Foreigners Tribunals.

'Joint Communication' for Tribal Communities

Why in News

A joint communication was signed by the Ministry of Tribal Affairs and the Ministry of Environment, Forest, and Climate Change which is aimed at giving more power to the tribal communities in managing the forest resources.

Key Points

➤ **Joint Communication:**

- It pertains to more effective implementation of the Forest Rights Act (FRA), 2006 and for harnessing the potential for livelihood improvement of the Forest Dwelling Scheduled Tribes (FDSTs) and other Traditional Forest Dwellers (OTFDs).
- State forest departments will carry out verification of claims for forest rights, mapping of forest lands involved and provision of necessary evidence as required, authentication of records, joint field inspections, awareness generation etc.
 - The lack of recognition of forest rights has left tribal and forest dwelling communities across the country insecure of tenure and fear of eviction from their lands.
- State forest departments are to undertake projects for value chain addition including capacity building of primary collectors, new harvesting methods, storage, processing and marketing of Non-Timber Forest Products (NTFP).
- A nodal agency to be designated for specific non-timber forest products as supply chain platforms in collaboration with TRIFED, Ministry of Ayush, MFP (Minor Forest Produce) Federations, Van Dhan Kendras etc.

➤ **Forest Dwellers and MFP:**

- Tribals and other forest dwellers can contribute significantly in efforts towards climate change through preservation of biodiversity, environmental conservation and enhancing forest cover.
- Forest dwellers are dependent on forests, not only for their livelihood but their traditions are also intertwined with forests.
- **Non-Timber Forest Products or Minor Forest Produce (MFP):**
 - MFP includes all non-timber forest produce of plant origin and includes bamboo, canes, fodder, leaves, gums, waxes, dyes, resins and many forms of food including nuts, wild fruits, honey, lac, tusser etc.
 - It provides both subsistence and cash income for people who live in or near forests.
 - They also form a major portion of their food, fruits, medicines and other consumption items and also provide cash income through sales.
 - NTFP are also known as MFP or Non-Wood Forest Produce (NWFP).

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- The NTFP can be further categorized into Medicinal And Aromatic Plants (MAP), oil seeds, fiber and floss, resins, edible plants, bamboo, reeds and grasses.

Draft Anti-Trafficking Bill

Why in News

Recently the **Ministry of Women and Child Development** released **Draft anti-trafficking Bill**, the **Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021**.

- The bill once finalised will need the Cabinet approval and assent from both the houses of Parliament to become a Law.
- A **previous draft** had been introduced in 2018 but that **could not be introduced in Rajya Sabha** amid stiff opposition from Parliamentarians and experts.

Key Points

- **Criticism to the Old Bill:**
 - According to the **United Nations'** human rights experts, it was **not in accordance with the international human rights laws**.
 - The Bill seemed to **combine sex work and migration with trafficking**.
 - The Bill was criticised for **addressing trafficking through a criminal law perspective instead of complementing it** with a human-rights based and victim-centred approach.
 - It was also criticised for promoting "rescue raids" by the police as well as **institutionalisation of victims in the name of rehabilitation**.
 - It was pointed out that **certain vague provisions would lead to blanket criminalisation of activities** that do not necessarily relate to trafficking.
- **Provisions in the New Bill:**
 - It **extends to all citizens inside as well as outside India**,
 - **Persons on any ship or aircraft registered in India** wherever it may be or carrying Indian citizens wherever they may be,
 - **A foreign national or a stateless person** who has his or her residence in India at the time of commission of offence under this Act, and

- The law will apply to every offence of **trafficking in persons with cross-border implications**.
- **Victims Covered:**
 - It **extends beyond the protection of women and children as victims to now include transgenders as well as any person** who may be a victim of trafficking.
 - It also does away with the provision that a victim necessarily needs to be transported from one place to another to be defined as a victim.
- **Defines 'Exploitation':**
 - The exploitation of the prostitution of others or other forms of sexual exploitation including pornography, any act of physical exploitation, forced labour or services, slavery or practices similar to slavery, servitude or forced removal of organs, illegal clinical drug trials or illegal bio-medical research.
- **Government Officers as Offenders:**
 - Offenders **will also include defence personnel** and government servants, doctors and paramedical staff or anyone in a position of authority.
- **Penalty:**
 - A minimum of seven years which can go up to an imprisonment of 10 years and a fine of Rs 5 lakh in most cases of child trafficking.
 - In case of the trafficking of more than one child, the **penalty is now life imprisonment**.
- **Similarity to Money laundering Act:**
 - Property bought via **such income as well as used for trafficking can now be forfeited** with provisions set in place, similar to that of the **money laundering Act**.
- **Investigation Agency:**
 - The **National Investigation Agency (NIA)** shall act as the national investigating and coordinating agency responsible for prevention and combating of trafficking in persons.
- **National Anti-Human Trafficking Committee:**
 - Once the law is enacted, the Centre will notify and establish a National Anti-Human Trafficking Committee, for ensuring overall effective implementation of the provisions of this law.
 - This committee will have representation from various ministries with the home secretary as

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the chairperson and secretary of the women and child development ministry as co-chair.

- **State and district level anti-human trafficking committees** will also be constituted.

➤ **Significance:**

- The transgender community, and any other person, has been included which will automatically **bring under its scope activity such as organ harvesting**.
- Also, **cases such as forced labour**, in which people lured with jobs end up in other countries where their passports and documentation is taken away and they are made to work, will also be covered by this new law.

➤ **Legislations in India that Prohibits Human Trafficking:**

- **Article 23 (1)** in the constitution of India prohibits trafficking in human beings and forced labour.
- The **Immoral Traffic (Prevention) Act, 1956 (ITPA)** penalizes trafficking for commercial sexual exploitation.
- India also **prohibits bonded and forced labour** through the Bonded Labour System (Abolition) Act 1976, Child Labour (Prohibition and Abolition) Act 1986, and Juvenile Justice Act.
- **Sections 366(A) and 372 of the Indian Penal Code**, prohibits kidnapping and selling minors into prostitution respectively.
- Apart from this, **the Factories Act, 1948** guaranteed the protection of rights of workers.

➤ **International Conventions, Protocols and Campaigns:**

- **Protocol to Prevent, Suppress and Punish Trafficking in Persons**, especially Women and Children in 2000 as a part of the **UN Convention Against Transnational Organised Crime**. The **United Nations Office on Drugs and Crime (UNODC)** is responsible for implementing the protocol. It offers practical help to states with drafting laws, creating comprehensive national anti-trafficking strategies, and assisting with resources to implement them.
- **Protocol against the Smuggling of Migrants by Land, Sea and Air**. It entered into force on 28th January 2004. This also supplements the UN Convention Against Transnational Organised Crime. The Protocol is aimed at the protection of rights of migrants and the reduction of the power and influence of organized criminal groups that abuse migrants.
- **Universal Declaration of Human Rights (1948)** is a **non-binding declaration** that establishes

the right of every human to live with dignity and prohibits slavery.

- **Blue Heart Campaign:** The Blue Heart Campaign is an international anti-trafficking program started by the UNODC.

- **Sustainable Development Goals:** Various SDGs aim to end trafficking by targeting its roots and means viz. **Goal 5** (Achieve gender equality and empower all women and girls), **Goal 8** (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) and **Goal 16** (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels).

Gender Self Identification

Why in News

Recently, the **Spanish government approved a draft bill that would allow anyone over the age of 14 to legally change gender** without a medical diagnosis or hormone therapy.

- **Currently**, for someone to change their gender in official records, the law first **requires two years of hormone therapy and a psychological evaluation**.
- **'Self-Identification'** has been a **long held demand of trans-right groups** around the world, **including in India**, as prejudice against trans people remains rampant.

Key Points

- **Gender Self-Identification (Concept):**
 - A person should be allowed to legally identify with the gender of their choice by simply declaring so, and without facing any medical tests.
- **Arguments in Favour:**
 - The **current processes for declaring one's desired gender are lengthy, expensive and degrading**.
 - **Trans people face daily discrimination** and it is vital that steps are taken to tackle discrimination and **provide the services and support people need**.
 - **Gender identity is considered to be an inherent part of a person** which may or may not need surgical or hormonal treatment or

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therapy and all persons must be empowered to make their decisions affecting their own bodily integrity and physical autonomy.

- **Arguments Against:**

- Gender self-identification goes far beyond respecting people's right to believe what they want; to dress or act or express their identity as they want.
- This is a political and social demand that affects everybody, but in particular women, gay people and transsexuals.
- The medicalization of gender identity has allowed for vital legal recognition and transition-related healthcare for some members of the trans community.

- **Countries where Self-ID is Legal:**

- 15 countries around the world recognise self-ID, including Denmark, Portugal, Norway, Malta, Argentina, Ireland, Luxembourg, Greece, Costa Rica, Mexico (only in Mexico City), Brazil, Colombia, Ecuador and Uruguay.
- In Hungary, a newly adopted law effectively bans all content about homosexuality and gender change from school curriculum and television shows for children under the age of 18.

- **Rules in India:**

- In India, the rights of transgender persons are governed by the **Transgender Persons (Protection of Rights) Act, 2019** and the **Transgender Persons (Protection of Rights) Rules, 2020**.
 - Under the Rules, an application to declare gender is to be made to the District Magistrate. Parents can also make an application on behalf of their child.
 - There will be no medical or physical examination for procedures for issue of certificate of identity/change of gender.
- In **National Legal Services Authority (NALSA) v. Union of India, 2014** case, the Supreme Court declared transgender people to be a 'third gender'.
 - The Court interpreted 'dignity' under **Article 21 of the Constitution** to include diversity in self-expression, which allowed a person to lead a dignified life. It placed one's gender identity within the framework of the fundamental right to dignity under Article 21.

- Further, it noted that the **right to equality (Article 14 of the Constitution)** and **freedom of expression (Article 19(1)(a))** was framed in gender-neutral terms ("all persons").

- In 2018, the SC also **decriminalised same-sex relationships** (Read down the **Provisions of Section 377** of the Indian Penal Code).

Features of Transgender Persons Act, 2019

- **Definition of a Transgender Person:** The Act defines a transgender person as one whose gender does not match the gender assigned at birth. It includes transmen and trans-women, persons with intersex variations, gender-queers, and persons with socio-cultural identities, such as kinnar and hijra.
- **Certificate of Identity:** The Act states that a transgender person shall have the right to self-perceived gender identity.
 - A certificate of identity can be obtained at the District Magistrate's office and a revised certificate is to be obtained if sex is changed.
- The Act has a provision that **provides transgender the right of residence with parents** and immediate family members.
- The Act **prohibits discrimination against a transgender person** in various sectors such as education, employment, and healthcare etc.
- Seeks to establish **National Council for Transgender persons**.
- **Punishment:** It states that the offences against transgender persons will attract imprisonment between six months and two years, in addition to a fine.

Trafficking in Persons Report

Why in News

According to the **Trafficking in Persons report 2021**, released by the US State Department, the **Covid-19 pandemic** has resulted in an **increase in vulnerability to human trafficking** and **interrupted existing anti-traffic efforts**.

- Human trafficking, also called trafficking in persons, **form of modern-day slavery** involving the illegal transport of individuals by force or deception for the **purpose of labour, sexual exploitation, or activities in which others benefit financially**.

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Key Points

➤ Findings of the Report:

- While India did not meet the minimum standards to eliminate trafficking, the government was **making significant efforts**, although these were inadequate, especially when it came to **bonded labour**.
- Chinese government engaged in **widespread forced labour**, including through the continued mass arbitrary detention of more than one million **Uyghurs**, ethnic Kazakhs, ethnic Kyrgyz, and other Muslims.

➤ Reasons for Increased Trafficking:

- The concurrence of the **increased number of individuals at risk**, **traffickers' ability to capitalise on competing crises**, and the **diversion of resources to pandemic response efforts** has resulted in an ideal environment for human trafficking to flourish and evolve.

➤ Categorisation of Countries:

- The categorisation is based not on the magnitude of a country's trafficking problem but **on efforts to meet minimum standards** for the elimination of human trafficking.
- The countries are designated on the **three-tier system**:
 - **Tier 1 countries** are those countries whose governments **fully comply with the Trafficking Victims Protection Act (TVPA - US's law on human trafficking)** minimum standards.
 - USA, UK, Australia, Bahrain and South Korea are some of the countries in tier 1.
 - **Tier 2 countries** are those countries whose governments **do not fully comply with TVPA's minimum standards** but are making significant efforts to bring themselves into compliance with those standards.
 - **Tier 2 watchlist countries** are those where the absolute number of victims of severe forms of trafficking is significant or is significantly increasing.
 - **India is placed in Tier 2 category.**
 - **Tier 3 countries** whose governments **do not fully comply** with the minimum standards and are not making significant efforts to do so.
 - Afghanistan, Burma, China, Cuba, Eritrea, North Korea, Iran, Russia, South Sudan, Syria and Turkmenistan are under this tier.

- There are also a few **"Special Cases"** such as **Yemen**, where the civil conflict and humanitarian crisis make gaining information difficult.

Tele-Law

Why in News

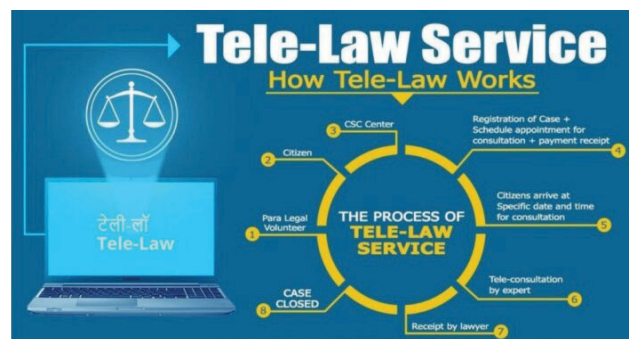
Recently, the Justice Department commemorated the **milestone of crossing 9 lakh beneficiaries** under its **Tele-Law programme** through **Common Service Centres**.

- **Common Services Centre (CSC) programme** is an initiative of the **Ministry of Electronics & IT (MeitY)**, that serves as the **access points for delivery of various electronic services to villages in India**, thereby contributing to a digitally and financially inclusive society.

Key Points

➤ About:

- It was **launched by the Ministry of Law and Justice in collaboration with the Ministry of Electronics and Information Technology (MeitY) in 2017** to address cases at the pre-litigation stage.
- It is presently operating in **633 districts** (including 115 **Aspirational Districts**) across 34 States/UTs through a network of **50,000 CSCs**.
- Under this programme, **smart technology of video conferencing, telephone/instant calling facilities available** at the vast network of Common Service Centres at the Panchayat level are used to connect the indigent, down-trodden, vulnerable, unreached groups and communities with the Panel Lawyers for seeking timely and valuable legal advice.
- Even though the Tele-law programme is technology driven, its success is dependent on the working of field functionaries comprising **Village Level Entrepreneurs (VLEs), Para Legal Volunteers (PLVs), State Coordinators and Panel Lawyers**.



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➤ **Benefits:**

- It enables anyone **to seek legal advice without wasting precious time and money**. The service is free for those who are eligible for free legal Aid as mentioned under **Section 12 of the Legal Services Authority Act, 1987**. For all others a nominal fee is charged.
- According to a recent report titled '**Quality of Legal Representation: An Empirical Analysis of Free Legal Aid Services in India**', the majority of the people who are entitled to the free legal aid system see the service as an option only when they cannot afford a private lawyer.

➤ **Supports SDGs:**

- It can be noted that this initiative is in line with **Sustainable Development Goal-16**, which seeks to "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels".

Legal Services Authorities (LSA) Act

- **In 1987, the Legal Services Authorities (LSA) Act was enacted to give free and competent legal services to the poor** and paved the way for the constitution of **National Legal Service Authority (NALSA)** and other legal service institutions at the State, district and taluka level.
- NALSA along with other Legal Services Institutions conducts **Lok Adalats**. Lok Adalat is one of the alternative dispute redressal mechanisms, it is a forum where disputes/cases pending in the court of law or at pre-litigation stage are settled/compromised amicably.
- Free legal services under LSA Act are available to a person belonging to **Schedule Tribe** and **Schedule Caste**, woman, child, victim of human trafficking, differently abled person, industrial workman, and person in custody in a protective home and the poor.

Related Constitutional Provisions

- **Article 39A** of the Constitution provides for **free legal aid to poor and weaker sections of the society**, to promote justice on the basis of equal opportunity.
- **Articles 14 and 22(1)** also make it **obligatory for the State to ensure equality before the law**.

Child Soldier Recruiter List

Why in News

The **US has added Pakistan and 14 other countries to a Child Soldier Recruiter List** that identifies foreign governments having government-supported armed groups that **recruit or use child soldiers**.

- **Child Soldier** refers to **any person below 18 years of age who has been, recruited or used by an armed force or armed group in any capacity**.
 - It **includes but is not limited to children, boys and girls** who are used as fighters, cooks, porters, spies or for sexual purposes (Paris Principles on the Involvement of Children in Armed Conflict 2007).

Key Points

➤ **About Child Soldier Recruiter List:**

- The US Child Soldiers Prevention Act -2008 (CSPA) requires the publication in the annual **Trafficking in Persons (TIP) report** a list of foreign governments that have recruited or used child soldiers.
- Some of the **countries which have been added to the list** are Pakistan, Turkey, Afghanistan, Myanmar, Iran, Iraq, Nigeria, Yemen etc.
 - The **United Nations (UN)** verified that over 7,000 children had been recruited and used as soldiers in 2019 alone.
- The CSPA **prohibits the US government from providing military assistance**, including money, military education and training, or direct sales of military equipment, **to countries that recruit and use child soldiers**.

➤ **Related Global Conventions:**

- The **recruitment or use of children below the age of 15 as soldiers is prohibited** by both the **UN Convention on the Rights of the Child (CRC)** and the **additional protocols to the Geneva Conventions**.
 - The **CRC** says childhood is separate from adulthood, and lasts until 18; it is a special, protected time, in which children must be allowed to grow, learn, play, develop and flourish with dignity.
 - The **Geneva Conventions and their Additional Protocols** form the core of international humanitarian law, which regulates the conduct

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of armed conflict and seeks to limit its effects. They protect people not taking part in hostilities and those who are no longer doing so.

- The **Optional Protocol to the CRC** on the involvement of children in armed conflict **further prohibits kids under the age 18** from being compulsorily recruited into state or non-state armed forces or **directly engaging in hostilities**.
 - Optional Protocols to human rights treaties are treaties in their own right, and are open to signature, accession or ratification by countries who are party to the main treaty.
- Recruiting Child Soldiers is also considered a **war crime under the Rome Statute of the International Criminal Court (ICC)**.
- Also, the **United Nations** has identified the **recruitment and use of child soldiers** as among six **"grave violations"**. Other Five violations are:
 - Killing and maiming of children;
 - Sexual violence against children;
 - Abduction of children;
 - Attacks against schools or hospitals;
 - Denial of humanitarian access for children.

➤ Issues with the CRC:

- These treaties are **limited in scope and nature**, and they tend to be idealistic rather than practicable.
- The UN's mechanisms **only bind state parties** that ratify the treaties. It therefore has **no authority over countries** that are not parties to the convention or are non-state entities, such as rebel militias recruiting child soldiers.
- It also **relies on the signatories themselves** to implement its doctrines and prevent human rights abuses around the world.
 - Therefore, most of the responsibility in preventing such abuses lies with the individual countries themselves.
- While the UN views its treaties and conventions as binding on state parties, it has **no police power mechanism to enforce its decisions**.
- The CRC and its Optional Protocol are limited by the signatories' willingness to comply. Somalia, for example, is a **signatory but it hasn't ratified the convention**.

➤ Indian Scenario:

- Though not very common in India, child soldiers are seen among **non-state forces** such as **insurgent organizations in the NorthEast region** (mainly in Assam, Manipur, Nagaland) and militant factions in the Kashmir region.
- Also, they are hired in **maoist affected areas** of Andhra Pradesh, Chhattisgarh, Jharkhand, Karnataka, Maharashtra.
- Some global human rights organisations allege Indian security forces of using **children as spies and messengers**, although the Indian government denies this allegation.
- **National Cadet Corps (NCC)** which is run by the Ministry of Defence, **aims to motivate youth from age 13 to take up a career in the armed forces** (Army, Navy and Air Force) and Territorial Army.
 - They can not be equated with the child soldiers.
- **Steps Taken by Indian Government:**
 - India is **party to the Convention on the Rights of the Child (CRC)** and **acceded to Optional Protocol** in November 2005.
 - The **Constitution encompasses most rights included in the CRC** as **Fundamental Rights** and **Directive Principles of State Policy**.
 - **Article 39 (f)** states that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment.
 - The **Indian Penal Code criminalises the recruitment or use in hostilities of persons under-18 years** by state armed forces or non-state armed groups.
 - Adults of age over 18 years are recruited in the **Central Armed Police Forces (CAPF)**.

ICDS Survey in Jharkhand

Why in News

According to a recent survey, **more than 55% did not receive Supplementary Nutrition** under **Integrated Child Development Scheme (ICDS)** in **Jharkhand** even once in the first six months of 2021.

Key Points

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➤ **Vulnerability of Jharkhand:**

- As per **National Family Health Survey-4** data, **every second child in the state is stunted and underweight** and every third child is affected by stunting and **every 10th child** is affected from **severe wasting** and around **70% children** are anemic.

➤ **ICDS:**

○ **About:**

- The **Umbrella Integrated Child Development Services (ICDS)** is a **centrally sponsored scheme** implemented by the **Ministry of Women and Child Development**. It was **launched in 1975**.

○ **Six Schemes under Umbrella ICDS:**

● **Anganwadi Services Scheme:**

- It is a unique programme **for early childhood care and development**.
- The **beneficiaries** under the Scheme are **children in the age group of 0-6 years, pregnant women and lactating mothers**.
- It provides a **package of six services** namely **supplementary nutrition, pre-school non-formal education, nutrition & health education, immunization, health check-up and referral services**.
- **Supplementary Nutrition** includes Take Home Ration (THR), Hot Cooked Meal and morning snacks and holds importance for many vulnerable households as it impacts the nutritional outcome of the children.

● **Pradhan Mantri Matru Vandana Yojana:**

- It provides **cash incentive amounting to Rs.5,000/- in three installments** directly to the Bank/Post Office Account of Pregnant Women and Lactating Mother (PW&LM) in **DBT (Direct Benefit Transfer) Mode** during pregnancy and lactation in response to individual fulfilling specific conditions.

● **National Creche Scheme:**

- It provides **day care facilities to children of age group of 6 months to 6 years of working women**.
- The facilities are provided for **seven and half hours a day for 26 days in a month**.
- Children are provided with supplementary nutrition, early childcare education, and health and sleeping facilities.

● **Scheme for Adolescent Girls:**

- It aims at **out of school girls in the age group 11-14**, to empower and improve their social status through nutrition, life skills and home skills.
- The scheme has **nutritional and non nutritional components** which include nutrition; iron and folic acid supplementation; health check up and referral service; nutrition and health education; mainstreaming out of school girls to join formal schooling bridge course/ skill training; life skill education, home management etc.; counselling/ guidance on accessing public services.

● **Child Protection Scheme:**

- It aims to **contribute to the improvement and well-being of children in difficult circumstances**, as well as, reduction of vulnerabilities to situations and actions that lead to abuse, neglect, exploitation, abandonment and separation of children from parents.

● **POSHAN Abhiyaan:**

- It targets to **reduce the level of stunting, under-nutrition, anemia and low birth weight babies** by reducing mal-nutrition/ undernutrition, anemia among **young children** as also, **focus on adolescent girls, pregnant women and lactating mothers**.

➤ **Objectives of ICDS:**

- To improve the **nutritional and health status of children** in the age-group **0-6 years**.
- To lay the foundation for **proper psychological, physical and social development** of the child.
- To reduce the **incidence of mortality, morbidity, malnutrition and school dropout**.
- To achieve **effective coordination of policy and implementation** amongst the various departments to promote child development.
- To enhance the **capability of the mother to look after the normal health and nutritional needs of the child**.
- To **facilitate, educate and empower Adolescent Girls (AGs)** so as to enable them to become self-reliant and aware citizens.

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World Population Day

Why in News

Recently, **Uttar Pradesh (UP)** unveiled its **New Population Policy 2021-30**, on the occasion of **World Population Day (11th July)**.

Key Points

➤ About:

- In 1989, the **United Nations Development Programme (UNDP)** recommended that **11th July be observed by the international community as World Population Day**, a day to focus attention on the urgency and importance of population issues.
- UNDP was inspired by the public interest and awareness that was created by “**Five Billion Day**” on **11th July 1987** when the world’s population reached 5 billion.
- A resolution to the effect was passed, and the day was first marked on **11th July, 1990**.
- The **United Nations Population Fund (UNFPA)** was created in 1969, the same year the United Nations General Assembly declared “parents have the exclusive right to determine freely and responsibly the number and spacing of their children.
- **Theme 2021: Rights and Choices are the Answer:** Whether baby boom or bust, the solution to shifting fertility rates lies in prioritising all people’s reproductive health and rights.

➤ U.P.’s New Population Policy:

- The policy **proposes five key targets:** population control; ending curable maternal mortality and illnesses; ending curable infant mortality and ensuring betterment in their nutrition status; betterment of sexual and reproductive health-related information and facilities among the youth; and care of elders.
- The UP government’s law commission has also **prepared a population control bill, under which a two-child norm will be implemented and promoted**.
- As per the draft, **violation of the policy is penalised** with measures such as barring for elections and **abidance is rewarded** with measures such as promotion in jobs, subsidy etc.

Future planning | The Uttar Pradesh Population Policy 2021-2030 was launched to reduce maternal and infant deaths in a time-bound manner. The policy aims to:



Baby steps: Yogi Adityanath encouraging a newly married couple to opt for family planning in Lucknow on Sunday. • PTI

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Decrease the total fertility rate (number of children per woman) from 2.7 to 2.1 by 2026 and 1.7 by 2030 ▪ Increase modern contraceptive prevalence rate from 31.7% to 45% by 2026 and 52% by 2030 ▪ Increase male methods of contraception use from 10.8% to 15.1% by 2026 | <ul style="list-style-type: none"> ▪ Decrease maternal mortality rate (per 1,00,000 live births) from 197 to 150 by 2026 and 98 by 2030 ▪ Decrease infant mortality rate (per 1,000 live births) from 43 to 32 by 2026 and 22 by 2030 ▪ Decrease under 5 mortality rate (per 1,000 live births) from 47 to 35 by 2016 and 25 by 2030 |
|---|--|

Awareness and extensive programmes would be held among those communities, cadres and geographical areas that have a higher fertility rate
U.P. POPULATION POLICY

We should not forget that the increase in population contributes to poverty in society. Hence, until all sections are made comprehensively aware, there will be a delay in fulfilling various goals
YOGI ADITYANATH, UTTAR PRADESH CM

Population Trends & Issues

➤ India’s Population Related Issues:

- **Large Size:**
 - India has just **2% of the world’s landmass and 16% of the global population**.
 - It has been reported that **India will soon surpass China’s population** (Country with largest population).
- **Fast Growth:**
 - Mismatch in birth and death rate resulted in **faster growth of population in the past few decades**.
 - However, **India’s Total Fertility Rate (TFR)** is declining. **It is now 2.2 per woman**, nearing the replacement rate of 2.1, according to the latest government data.
 - **TFR** indicates the average number of children expected to be born to a woman during her reproductive span of 15-49 years.
- **Education and Population Growth:**
 - **Poverty and illiteracy contribute immensely to the population explosion**.
 - Recent data shows that the **overall literacy rate in the country is about 77.7%**.
 - At the all-India level, the **male literacy rate is higher at 84.7% compared to 70.3% among women**.
 - **Children in rural areas are considered as assets**, who will take care of parents at old age, also more children mean more earnings.

Note:

- The level of **female education has a direct impact on fertility**, as it is evidenced that the fertility rate of illiterate women tends to be higher than those who are literate.
- **Lack of education prevents women from having full knowledge about the use of contraceptives**, of the consequences of frequent childbirth.
- **Unemployment:**
 - High youth **unemployment in India is turning**

demographic dividend into a demographic disaster for India.

- This youth potential is often referred to as the 'demographic dividend' which means that **if the youth available in the country are equipped with quality education and skills training, then they will not only get suitable employment** but can also contribute effectively towards the economic development of the country.



Note:

Art & Culture

Highlights

- Silambam
- Kalbeliya Dance

- Kuvempu Award 2020

Silambam

Why in News

Recently, an Indian named Ganesan Sandhirakasan has won the top prize in a government-initiated competition for migrant workers in Singapore for his performance of Silambam.

Key Points

➤ About:

- Silambam is an **ancient weapon-based martial art** that emerged in **Tamilakam, which is now Tamil Nadu region of India**. It is **one of the oldest martial arts in the world**.
- The term Silambam contains a meaning which itself reveals about the sport, **silam stands for a 'mountain'** and **bam stands for bamboo** which is the main weapon used in this form of martial arts.
 - It is closely linked to the Kerala martial art **kalaripayattu**.
- **Foot movement** are key elements to silambam and kutta varisai (empty hand version). There are **sixteen movements needed to master the movement of the foot** to keep pace with the movement of the stick.



- The main **goal of the training is to defend the user against several armed opposition**.

➤ Weapons Used:

- **Bamboo staff** - It is the main weapon and the length of the bamboo staff depends on the height of the practitioner.
- **Maru** - a thrusting weapon which is made from horns of deer.
- **Aruva** (sickle), **Savuku** (a whip), **Vaal** (curved sword), **Kuttu Katai** (spiked knuckle duster), **Katti** (knife), **Sedikuchi** (cudgel or short stick).

➤ Origin:

- It is believed to have **originated somewhere around 1000 BC** and it was brought by the sage **Agastya Munivar**.
- **Sillappadikkaram** and many other works of **Sangam literature** mentions about the practice and it dates back to **2nd century BC** whereas oral **folk tales traces it back even further around 7000 years**.
 - But according to recent surveys and archaeological excavations, **it has been confirmed that Silambam was practiced from at least 10,000 BC**.

➤ Ban and Evolution:

- It was employed in warfare by most rulers of south India. The soldiers of the **Tamil ruler Veerapandiya Kattabomman used silambam** to wage war against the British colonists, there was a **ban on it by the end of the 18th century**.
- The **ban, coupled with the introduction of firearms**, did affect the combative nature of silambam greatly and due to which it has transformed into a **performance art**.

Other Martial Arts of India

- **Gatka** – Punjab
- **Paika** – Odisha
- **Thag Ta** – Manipur

Note:

- **Kalaripayattu** – Kerala
- **Choliya** – Uttarakhand
- **Pang Lhabsol** – Sikkim
- **Musti Yudha** – Uttar Pradesh
- **Mardani Khel** – Maharashtra
- **Pari Khanda** – Bihar

Kalbeliya Dance

Why in News

Recently, due to **Covid-19-Pandemic** an app called **chendavia** is gaining popularity among the students of kalbeliya dance.



Key Points

- **About:**
 - Kalbeliya dances are an expression of the Kalbelia community's traditional way of life.

- It is associated with a **Rajasthani tribe of the same name.**
- It was included in the **United Nations Educational, Scientific and Cultural Organizations (UNESCO)** list of **Intangible Cultural Heritage (ICH)** in 2010.
- **UNESCO's List of Intangible Cultural Heritage** is made up of those **intangible heritage elements** that help **demonstrate diversity of cultural heritage** and raise awareness about its importance.
- It was **established in 2008** when the **Convention for Safeguarding** of the Intangible Cultural Heritage came into effect.
- The dance form consists of **swirling; graceful movements that make this dance a treat to behold.**
- The movements associated with the Kalbelia also make it **one of the most sensuous forms of folk dance in India.**
- It is generally performed for any joyous celebration and is considered to be an **integral part of the Kalbeliya culture.**
- Another unique aspect of the Kalbelia dance is that **it is only performed by women while the men play the instruments and provide the music.**
- **Instruments & Dress:**
 - Women in flowing **black skirts dance and swirl, replicating the movements of a serpent**, while men accompany them on the "**khanjari**" instrument and the "**poongi**", a woodwind instrument traditionally played to capture snakes.
 - The **dancers wear traditional tattoo designs, jewellery and garments** richly embroidered with small mirrors and silver thread.

13 ICH traditions recognised by UNESCO

1.	Tradition of Vedic chanting, 2008	8.	Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir, India, 2012
2.	Ramlila, the traditional performance of the Ramayana, 2008	9.	Sankirtana, ritual singing, drumming and dancing of Manipur, 2013
3.	Kutiyattam, Sanskrit theatre, 2008	10.	Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab, India, 2014
4.	Ramman, religious festival and ritual theatre of the Garhwal Himalayas, India, 2009	11.	Yoga, 2016
5.	Mudiyettu, ritual theatre and dance drama of Kerala, 2010	12.	Nowruz, 2016
6.	Kalbelia folk songs and dances of Rajasthan, 2010	13.	Kumbh Mela, 2017
7.	Chhau dance, 2010		

Note:

- **Kalbeliya Songs:**
 - They disseminate mythological knowledge through stories.
 - They also demonstrate the poetic acumen of the Kalbeliya, who are reputed to compose lyrics spontaneously and improvise songs during performances.
 - Transmitted from generation to generation, the songs and dances form part of an oral tradition for which no texts or training manuals exist.
- **Kalbeliya Tribe:**
 - Kalbeliya tribe people were once professional snake handlers, today they evoke their former occupation in music and dance that is evolving in new and creative ways.
 - They live a nomadic life and belong to the scheduled tribes.
 - The largest number of the population of Kalbeliyas is in Pali district, then Ajmer, Chittorgarh and Udaipur district (Rajasthan).
- **Other Traditional Folk Dances of Rajasthan:** Gair, Kachchhi Ghodi, Ghoomar, Bhavai, etc.

Kuvempu Award 2020

Why in News

Recently, Odia poet Dr. Rajendra Kishore Panda has been selected for the Kuvempu Rashtriya Puraskar (award) 2020.

- Dr. Panda is a poet and novelist from Odisha. He has published 16 poetry collections and a novel.
- He was presented the Gangadhar National Award in 2010, and the Sahitya Akademi Award in 1985.

Key Points

- **About:**
 - It is a national award instituted in memory of the late poet laureate Kuvempu.
 - The award is given annually to a writer who has contributed in any of the languages recognised by the Constitution of India.
 - The award carries a cash award of Rs. 5 lakh, a silver medal and a citation.

- **Kuvempu:**
 - Kuppali Venkatappa Puttappa, popularly known by his pen name Kuvempu, was an Indian poet, playwright, novelist and critic.
 - He is widely regarded as the greatest Kannada poet of the 20th century.
 - He was the first Kannada writer to be decorated with the Jnanpith Award for his version of the Ramayana titled 'Sri Ramayana Darshanam.'

Jnanpith Award

- The Jnanpith award is the highest literary award in India and can only be conferred annually upon an Indian citizen.
- English along with other languages mentioned in Indian Constitution (8th Schedule) is considered for the Award.
- The prize carries a cash award of Rs. 11 lakhs, a citation, and a bronze replica of Vagdevi (Saraswati), the goddess of learning.
- It is sponsored by the cultural organization Bharatiya Jnanpith.

Sahitya Akademi Awards

- Sahitya Akademi award established in 1954, is a literary honour that is conferred annually by Sahitya Akademi, India's National Academy of letters.
- Akademi gives 24 awards annually to literary works in the languages it has recognized and an equal number of awards to literary translations from and into the languages of India.
- Besides the 22 languages enumerated in the Constitution of India, the Sahitya Akademi has recognised English and Rajasthani as languages in which its programme may be implemented.
- The Sahitya Akademi award is the second-highest literary honour by the Government of India, after the Jnanpith award.

Gangadhar National Award

- Gangadhar National Award For Poetry is a literary award given in the field of literature for poetry by Sambalpur University. It is named after Gangadhar Meher.
- The award carries a cash prize of Rs 50,000, a shawl and citation.



Note:

Security

Highlights

- Naga Peace Talks

Naga Peace Talks

Why in News

Recently, the Nagaland Government appealed to all Naga political groups and extremist groups to cooperate in establishing unity, reconciliation and peace in the region.

- The **peace process between the central government and two sets of the Naga extremist groups** has been delaying for more than 23 years.

Nagas

- Nagas are **a hill people who are estimated to number about 2.5 million** (1.8 million in Nagaland, 0.6 million in Manipur and 0.1 million in Arunachal states) and living in the remote and mountainous country **between the Indian state of Assam and Burma**.
- There are also Naga groups in Burma.
- The Nagas **are not a single tribe**, but an ethnic community that comprises several tribes who live in the state of Nagaland and its neighbourhood.
- Nagas **belong to the Indo-Mongoloid Family**.
- There are **nineteen major Naga tribes**, namely, Aos, Angamis, Changs, Chakesang, Kabuis, Kacharis, Khain-Mangas, Konyaks, Kukis, Lothas (Lothas), Maos, Mikirs, Phoms, Rengmas, Sangtams, Semas, Tankhuls, Yamchumgar and Zeeliang.

Key Points

- **Background of Naga Insurgency:**
 - The **Naga Hills became part of British India** in 1881.
 - The effort to bring scattered Naga tribes together resulted in the **formation of the Naga Club in 1918**.
 - The club aroused a sense of **Naga nationalism**.
 - The club **metamorphosed into the Naga National Council (NNC)** in 1946.

THE NAGA STRUGGLE

1918: Naga Club formed. Seeds of Naga nationalism sown	Agreement interpreted as offer for sovereignty by NNC
1946: Naga National Council (NNC) born under the leadership of A.Z. Phizo	1955: NNC begins armed insurgency. Delhi imposes Assam Disturbed Areas' Act
August 14, 1947: NNC declares independence	1958: AFSPA comes into force
June 1947: Haidari	1963: Nagaland born
1964: Nagaland Peace Mission created, ceasefire signed	
1975: Shillong Accord signed, calls for unconditional ceasefire, termed a 'complete sellout'	
1980: National Socialist Council of Nagalim (NSCN) formed	
1988: NSCN splits into NSCN (K) and NSCN (I-M)	
1997: NSCN (I-M) signs ceasefire	
2001: NSCN (K) signs ceasefire	
March 2015: NSCN (K) breaks ceasefire	
August 2015: Naga peace accord signed	



A.Z. Phizo

- Under the leadership of Angami Zapu Phizo, the **NNC declared Nagaland as an independent State on 14th August, 1947**, and conducted a "referendum" in May 1951 to claim that 99.9% of the Nagas supported a "sovereign Nagaland".
- Nagaland **achieved statehood in December 1963**. Nagaland was formed out of the Naga Hills district of Assam and the then North East Frontier Agency (NEFA) province (now Arunachal Pradesh).
- In **1975**, under the **Shillong Accord**, some factions of NNC and NFG (Naga Federal Government) agreed to give up arms.
- A group of about 140 members led by **Thuingaleng Muivah**, who was at that time in China, refused to accept the Shillong Accord and **formed the National Socialist Council of Nagaland (NSCN)** in 1980.

Note:

- In 1988, the NSCN split into NSCN (IM) and NSCN (K) after a violent clash.
- While the NNC began to fade away, and Phizo died in London in 1991, the NSCN (IM) came to be seen as the “mother of all insurgencies” in the region.

➤ **Demands of Naga Groups:**

- The key demand of Naga groups has been a **Greater Nagalim** (sovereign statehood) i.e redrawing of boundaries to bring all Naga-inhabited areas in the Northeast under one administrative umbrella.
 - It includes various parts of Arunachal Pradesh, Manipur, Assam and Myanmar as well.
- The demand also includes the **separate Naga Yezabo (Constitution) and Naga national flag**.



➤ **Peace Initiatives:**

- **Shillong Accord (1975):** A peace accord was signed in Shillong in which the NNC leadership agreed to give up arms.
 - However, several leaders refused to accept the agreement, which led to the split of NNC.

- **Ceasefire Agreement (1997):** The NSCN-IM signed a ceasefire agreement with the government to stop attacks on Indian armed forces. In return, the government would stop all counter-insurgency offensive operations.
- **Framework Agreement (2015):** In this agreement, the Government of India recognised the unique history, culture and position of the Nagas and their sentiments and aspirations.
- Recently, the State government decided to prepare the **Register of Indigenous Inhabitants of Nagaland** but later due to pressure from various fractions, the decision was put on hold.

➤ **Issues:**

- The 2015 agreement apparently made the peace process inclusive but it created suspicion about the central government **exploiting divisions within the Nagas on tribal and geopolitical lines**.
- The issue of integration of contiguous Naga-inhabited areas of Manipur, Assam and Arunachal Pradesh in view of the demand for territorial unification of 'Greater Nagalim' **will trigger violent clashes in the different affected states**.
- Another major hindrance to the peace process in Nagaland is the **existence of more than one organisation**, each claiming to be representative of the Nagas.

Note:

Miscellaneous

Highlights

- Malaria Free China
- Kesaria Buddha Stupa: Bihar
- Jagannath Puri Rath Yatra
- Project BOLD: KVIC
- SPARSH: System for Pension Administration Raksha

Malaria Free China

Why in News

The **World Health Organization (WHO)** has declared China as “malaria-free”.

- It is a result of a seven decade-long, **multi-pronged health strategy** that was able to entirely eliminate indigenous cases for four straight years.

Key Points

- **About Malaria Free Status:**
 - **Certification Process:** Certification of malaria elimination is the official recognition by WHO of a country’s malaria-free status.
 - WHO grants the certification when a country has demonstrated with rigorous, credible evidence that the **chain of indigenous malaria transmission by Anopheles mosquitoes has been interrupted nationwide for at least the past three consecutive years.**
 - A country must also demonstrate the capacity to prevent the re-establishment of transmission.
 - The final decision on awarding a malaria-free certification rests with the **WHO Director-General**, based on a recommendation by the independent **Malaria Elimination Certification Panel (MECP).**
 - **Western Pacific Region:** China is the first country in the WHO Western Pacific Region to be awarded a malaria-free certification in more than 3 decades.
 - **Other Countries:** In Western Pacific region the countries that have achieved this status include Australia (1981), Singapore (1982) and Brunei Darussalam (1987).

- **Global Status:** Globally, 40 countries and territories have been granted a malaria-free certification from WHO – including, most recently, El Salvador (2021), Algeria (2019), Argentina (2019), Paraguay (2018) and Uzbekistan (2018).

➤ Disease Burden (Global):

- According to the **World Malaria Report, 2020**, the **number of malaria cases worldwide in 2019 was around 229 million**, with 4,09,000 lives lost to the mosquito-borne disease.
- **Majority of cases were reported in Africa**, while **India and Southeast Asia recorded a significant drop.**

- **Cases in India fell from approximately 20 million to 6 million.**
- **India is the only high endemic country which has reported a decline of 17.6% in 2019 as compared to 2018.**

➤ China’s Malaria Strategy:

- **Started in 1950s:** The efforts began in the early 1950s, a time when China was reporting millions of cases annually, starting with a multi-pronged approach of **providing anti-malarial medicines while targeting mosquito breeding grounds and using insecticide spraying.**
- **The 523 Project:** It led to the discovery of **artemisinin** in the 1970s.
 - Artemisinin is the core compound of artemisinin-based combination therapies, the **most effective antimalarial drugs** available today.
- **Insecticide-treated Nets:** In the 1980s, China began using insecticide-treated nets widely, distributing 2.4 million nets by 1988.
- **1-3-7 Strategy:** The strategy refers to:
 - **A one-day deadline to report a malaria diagnosis,**

Note:



drishti

- **Confirming a case and determining the spread by the third day**, and
- **Measures taken to stop the spread by the seventh day**, along with continued surveillance in high-risk areas.
- **Global Fund**: With assistance from the **Global Fund to Fight AIDS, Tuberculosis and Malaria** starting in 2003, China “stepped up training, staffing, laboratory equipment, medicines and mosquito control.”

Malaria

- **Malaria** is a life threatening mosquito borne blood disease caused by plasmodium parasites.
- It is **predominantly found in** the tropical and subtropical areas of Africa, South America as well as Asia.
- The parasites **spread through the bites of infected female Anopheles mosquitoes**.
- After entering the human body, parasites initially multiply within the liver cells and then **attack the Red Blood Cells (RBCs)** resulting in their rupture.
- There are **5 parasite species** that cause malaria in humans, and 2 of these species – Plasmodium falciparum and Plasmodium vivax – pose the greatest threat.
- **Symptoms of malaria** include fever and flu-like illness, including shaking chills, headache, muscle aches, and tiredness.
- It is **preventable as well as curable**.
- The **RTS,S vaccine** trains the immune system to **attack the malaria parasite Plasmodium falciparum**, the most deadly species of the malaria parasite.

Recent Initiatives of WHO:

- The WHO has also identified 25 countries with the potential to eradicate malaria by 2025 under its **‘E-2025 Initiative’**.

Initiatives to Curb Malaria in India

- In India, malaria elimination efforts were initiated in 2015 and were intensified after the launch of the **National Framework for Malaria Elimination (NFME)** in 2016 by the Ministry of Health and Family Welfare.
 - NFME is in line with WHO’s Global Technical Strategy for Malaria, 2016-2030, which guides the WHO **Global Malaria Programme (GMP)**,

responsible for coordinating WHO’s global efforts to control and eliminate malaria.

- The **National Strategic Plan for Malaria Elimination (2017-22)** was launched in July 2017 which laid down strategies for the following five years.
 - It gives year wise elimination targets in various parts of the country depending upon the endemicity of malaria.
- Implementation of the **High Burden to High Impact (HBHI) initiative** was started in four states (West Bengal, Jharkhand, Chhattisgarh and Madhya Pradesh) in July 2019.
- **Distribution of Long Lasting Insecticidal Nets (LLINs)** to high burden areas has led to a reduction in endemicity in these otherwise very high endemic states.
- The Indian Council of Medical Research (ICMR) has established **Malaria Elimination Research Alliance-India (MERA-India)** which is a conglomeration of partners working on malaria control.

Kesaria Buddha Stupa: Bihar

Why in News

The world-famous **Kesaria Buddha stupa** in **east Champaran district of Bihar** is waterlogged following floods in some parts of the district.

- The **ASI (Archaeological Survey of India)** has declared it a protected monument of national importance.

Key Points

- **About:**
 - The stupa is said to be the **tallest and the largest Buddhist stupa** in the world.
 - It is located in Kesariya, at a distance of **110 kilometers from Patna**, in the East Champaran district of Bihar.
 - It has a circumference of almost 400 feet and stands at a height of about 104 feet.
- **History:**
 - The **first construction of the Stupa is dated to the 3rd century BCE**. The original Kesaria stupa probably dates to the time of **Ashoka (circa 250 BCE)**, as the remains of a capital of a **Pillar of Ashoka** were discovered there.

Note:



drashti



- The current stupa dates to the **Gupta Dynasty between 200 AD and 750 AD** and may have been associated with the 4th century ruler **Raja Chakravarti**.
- The **stupa mound may even have been inaugurated during the Buddha's time**, as it corresponds in many respects to the description of the stupa erected by the Licchavis of Vaishali to house the alms bowl the Buddha has given them.
 - In ancient times, **Kesaria was under the rule of the Mauryas and the Licchavis**.
- **Two great foreign travelers, Faxian (Fahien) and Xuan Zang (Hsuan Tsang)**, had visited this place in ancient times and have left interesting and informative accounts of their travels.
- The **discovery of gold coins bearing the seal of the famous emperor Kanishka of the Kushan dynasty (AD 30 to AD 375)** goes on to further establish the ancient heritage of Kesaria.
- **Exploration:**
 - The stupa's exploration **had started in the early 19th century** after its discovery led by Colonel Mackenzie in 1814.
 - Later, it was **excavated by General Cunningham in 1861-62** and in 1998 an ASI team led by archaeologist **K.K. Muhammad** had excavated the site properly.
- **Other Popular in Bihar:**
 - **Maha Bodhi Temple**
 - Nalanda Mahavihara
 - Both are **UNESCO World Heritage Sites**.
 - Rohtasgarh Fort

Jagannath Puri Rath Yatra

Why in News

Recently, the Vice President greeted the people on the eve of **Rath Yatra of Jagannath Puri** in Odisha.

Key Points

- **Jagannath Rath Yatra**
 - Rath Yatra, also called as **Chariot Festival**, is a Hindu festival **associated with Lord Jagannath held at Puri, Odisha**.
 - The festival is celebrated on the **2nd day of Shukla Paksha of Ashadh**, the third month, according to the traditional Oriya calendar.
 - It is a **9 day-long event** and **marks the return of Lord Krishna to Vrindavan** with his brother Balabhadra and sister Subhadra to Gundicha Temple via Mausai Maa Temple (maternal aunt's home) near Saradha Bali, Puri.
 - During the festival, the **three holy chariots** carrying idols of Lord Jagannath, his brother Balaram (Balabhadra) and sister Subhadra are **pulled by thousands of devotees from India and abroad**.
- **Jagannath Temple**
 - The temple is believed to have been constructed in the **12th century by King Anantavarman Chodaganga Deva** of the **Eastern Ganga Dynasty**.
 - Jagannath Puri temple is called '**Yamanika Tirtha**' where, according to the Hindu beliefs, the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.
 - This temple was called the "**White Pagoda**" and is a **part of Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram)**.
 - There are **four gates to the temple** - Eastern 'Singhdwara' which is the main gate with two



Note:

crouching lions, Southern 'Ashwadwara', Western 'Vyaghra Dwara' and Northern 'Hastidwara'.

- There is a **carving of each form at each gate**.

- In front of the entrance stands the **Aruna stambha or sun pillar**, which was originally at the **Sun Temple in Konark**.

➤ **Other Important Monuments of Odisha:**

- **Konark Sun Temple (UNESCO World Heritage Site)**
- **Lingaraj Temple**
- **Tara Tarini Temple**
- **Udaygiri and Khandagiri Caves**

Project BOLD: KVIC

Why in News

Recently, the **Khadi and Village Industries Commission (KVIC)** launched a project named **Bamboo Oasis on Lands in Drought (BOLD)** from the village **NichlaMandwa** in **Udaipur, Rajasthan**.

Khadi and Village Industries Commission (KVIC)

- It is a **statutory body** established under the **Khadi and Village Industries Commission Act, 1956**.
- It is charged with the **planning, promotion, organisation and implementation of programmes** for the development of **Khadi and other village industries** in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- It functions under the **Ministry of Micro, Small and Medium Enterprises**.

Key Points

- **About:**
 - Under the project 5000 saplings of special bamboo species – **BambusaTulda** and **BambusaPolymorpha** from Assam – have been **planted over 16 acres of vacant arid Gram Panchayat land** of village **NichlaMandwa**.
 - KVIC has thus created a **world record of planting the highest number of bamboo saplings on a single day at one location**.
 - It is the **first of its kind exercise** in India. It seeks to **create bamboo-based green patches in arid and semi-arid land zones**.

- It has been launched as part of KVIC's "**Khadi Bamboo Festival**" to celebrate 75 years of independence "**Azadi ka Amrit Mahotsav**".

➤ **Reason for Selecting Bamboo:**

- It **grows very fast** and in about three years' time, they could be harvested.
- It is also known for **conserving water and reducing evaporation** of water from the land surface, which is an important feature in arid and **drought-prone regions**.

➤ **Significance:**

- It will **reduce desertification** and **provide livelihood and multi-disciplinary rural industry support**.
- It will also act as havens of **sustainable development and food security**.

➤ **Extension:**

- KVIC is set to replicate the Project at Village **Dholera in Ahmedabad district in Gujarat** and **Leh-Ladakh region** by August this year.
 - Total 15,000 bamboo saplings will be planted before August 2021.

➤ **Other Initiatives to fight Desertification:**

- **Pradhan Mantri Fasal Bima Yojana (PMFBY)**.
- **Soil Health Card Scheme**.
- **Pradhan Mantri Krishi Sinchayee Yojna (PKSY)**.
- **National Mission for Green India**.
- India has ratified the **United Nations Convention to Combat Desertification (UNCCD)**.

SPARSH: System for Pension Administration Raksha

Why in News

Recently, the **Ministry of Defence** has implemented **SPARSH (System for Pension Administration Raksha)**.

Key Points

- **About:**
 - It is an **integrated system for automation of sanction and disbursement of defence pension**.
 - This **web-based system processes pension claims** and credits pension directly into the bank accounts of defence pensioners without relying on any external intermediary.

Note:

- A **Pensioner Portal** is available for pensioners to **view their pension related information**, access services and register complaints, if any.
- SPARSH envisages **establishment of Service Centres to provide last mile connectivity to pensioners** who may be unable to directly access the SPARSH portal.
 - The two largest banks dealing with defence

pensioners – State Bank of India (SBI) and Punjab National Bank (PNB) – have been co-opted as Service Centres.

➤ **Other Initiative Related to Defence Pensions:**

- **One Rank One Pension (OROP) scheme:** It provides the **payment of the same pension to military officers for the same rank for the same length of service**, irrespective of the date of retirement.



Note:

Key Points

Details

[illegible]

Summary

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's part of a bound notebook or folder.

Summary