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INDEX

1. INDIAN SOCIETY & POLITY

1. Public Safety Act	04
2. No Need to Audit PM CARES: SC	05
3. Common Voters List	06

2. GOVERNANCE

1. MoES-Knowledge Resource Centre Network (KRCNet)	08
2. Production Linked Incentive (PLI) Scheme	09
3. Khadi Agarbatti Aatmanirbhar Mission	10
4. Programmes launched under the Gramodyog Vikas Yojana	11
5. SKOCH Gold Award	12
6. Can two police forces investigate the same case?	12
7. National Handloom Day	14
8. Pradhan Mantri Awas Yojana	15
9. Organic Food for Health and Nutrition	15
10. Empowering Tribals, Transforming India	17
11. PM Announced expansion of NCC	18
12. Drone Based Surveillance System for Railway Security	19
13. Dhanwantari Rath to bring Ayurveda at Doorsteps	20
14. Domicile – based Job Quota	21
15. National Recruitment Agency to Conduct CET	23
16. Trifood Project	24
17. Survey on Use of Mobile Phones for Learning	25
18. Harit Path APP	26
19. Larger Questions over Contempt of Court	27
20. Directions to include Disabled Persons Under NFSA 2013	29
21. World URDU Conference	31

3. SCIENCE & TECHNOLOGY

1. Prevention of cataract	32
2. Electronic Vaccine Intelligence Network (eVIN)	33
3. Scientists map black Swan Genome	33

4. Fluorosis	34
5. Plasmodium vivax	35
6. Mega lab	36
7. Light combat helicopters	38
8. Naval Innovation and Indigenisation Organisation (NIIO)	39
9. Naval Innovation and Indigenisation Organisation (NIIO)	40
10. Swadeshi Microprocessor Challenge	41
11. Tuberculosis & Chikungunya inhibiting Flavonoid Molecules	42
12. Asteroid 2018VP1	43
13. Glanders disease	44

4. ECONOMY

1. India's Gold Demand	45
2. Digital India Land Records Modernization Programme	46
3. Opening up of city Gas Distribution	48
4. Innovation and Agripreneurship under Rashtriya Krishi Vikas Yojana	50
5. Insolvency and Bankruptcy Board amends Liquidation Process Regulations	52
6. RBI Bi-Monthly Policy	53
7. Debt Restructuring	54
8. India Development Update 2020	55
9. Ethanol as a fuel	56
10. National Strategy for Financial Education	56
11. Portal for Registration and Renewal of Jewelers	57
12. RBI Contingency Fund	58
13. Export Preparedness Index 2020	61

5. GEOGRAPHY & ENVIRONMENT

1. Reports on the Coastal Flooding	63
2. Kumaon Himalaya	66
3. Himalayan Geothermal Springs	67
4. Antibiotic Disposal in India's Waterways	68
5. Leopard Poaching in India	69
6. Conflict over Bhadbhut project in Gujarat	70
7. Compensatory Afforestation: 70% data with ministry incorrect	72
8. India recycles only 1% of its construction and demolition waste	73

6. INTERNATIONAL RELATIONS

1. Commonwealth countries lagging behind on modern slavery	75
2. New Supreme Court Building of Mauritius	78
3. India–Myanmar–Thailand Trilateral Highway (IMTTH)	79
4. Australian Citizenship	79
5. 1947 Gurkha Pact	80
6. Gulf countries back extending UN arms embargo on Iran	81
7. Cuba at Human Rights Council	82
8. India-Canada IC-IMPACTS	83
9. Abraham Accord	84
10. India-Bangladesh Teesta River Issue	86

7. INTERNAL SECURITY & DISASTER MANAGEMENT

1. Landslide in Idukki	89
2. Table top Runways	91
3. First all-weather route to Ladakh	94
4. Exercise Kavkaz	95



1. INDIAN SOCIETY & POLITY

1. Public Safety Act

Why in News?

- The Jammu & Kashmir Public Safety Act, 1978 is a preventive detention law, under which a person is taken into custody to prevent him or her from acting in any manner that is prejudicial to “the security of the state or the maintenance of the public order”.

Public Safety Act:

- It is very similar to the National Security Act that is used by other state governments for preventive detention.
- It comes into force by an administrative order passed either by Divisional Commissioner or the District Magistrate, and not by an detention order by police based on specific allegations or for specific violation of laws.
- The PSA allows for detention of a person without a formal charge and without trial. It can be slapped on a person already in police custody; on someone immediately after being granted bail by a court; or even on a person acquitted by the court. Detention can be up to two years. A person who is detained under the PSA need not be produced before a magistrate within 24 hours of the detention. The detained person does not have the right to move a bail application before a criminal court, and cannot engage any lawyer to represent him or her before the detaining authority.
- Within four weeks of passing the detention order, the government has to refer the case to an Advisory Board. This Advisory Board will have to give its recommendations within eight weeks of the order. If the Board thinks that there is cause for preventive detention, the government can hold the person up to two years.
- The person detained has limited rights. Usually when a person is arrested, they have the right to legal representation and can challenge the arrest. But, when a person is arrested under the PSA, they do not have these rights before the Advisory Board unless sufficient grounds can be established that the detention is illegal. There have been cases where the High Court has interfered and quashed the detention.
- According to Section 13(2), the detaining authority need not even inform the detained individual as to the reason for the action, if it decides that it goes against public interest.
- The District Magistrate who has passed the detention order has protection under the Act, which states that the order is considered “done in good faith”. Therefore, there can be no prosecution or any legal proceeding against the official who has passed the order.

- After an amendment last year by the Governor, persons detained under the PSA in Jammu & Kashmir can now be detained in jails outside the state.

Safeguards:

- The only way this administrative preventive detention order can be challenged is through a habeas corpus petition filed by relatives of the detained person.
- The High Court and the Supreme Court have the jurisdiction to hear such petitions and pass a final order seeking quashing of the PSA.
- However, if the order is quashed, there is no bar on the government passing another detention order under the PSA and detaining the Person Again.

2. No Need to audit PM CARES: SC

Why in News?

- The Supreme Court recently endorsed the PM CARES Fund as a “public charitable trust” to which Donors Contribute Voluntarily.

Highlights:

- NGO Centre for Public Interest Litigation, represented by advocate Prashant Bhushan, had Argued that the PM-CARES Fund
 - ✓ Was not subject to CAG audit.
 - ✓ It was not under “public scrutiny”.
 - ✓ Contributions to it were “100% tax-free”.
 - ✓ It is alleged that PM CARES was constituted to “circumvent” the National Disaster Response Fund (NDRF).
- NDRF is a statutory fund already in existence under the Disaster Management Act of 2005 to receive contributions to finance the fight against a calamity.
- The need for a fresh national disaster management plan to take on the COVID-19 challenge was also presented.

Observations Made by SC:

- **No need for CAG Audit:**
 - ✓ There is “no occasion” for the Comptroller and Auditor General (CAG) to audit a public charitable trust Independent of Budgetary support or Government Money.
- **The Need of Hour:**
 - ✓ The SC said that it is “not open” for a PIL petitioner to question the “wisdom” that created the Fund in an Hour of Need.

- ✓ Therefore, no exception can be taken to the constitution of a public charitable trust, namely, PM CARES Fund.
- The SC dismissed the idea that the PM CARES was constituted to “circumvent” the National Disaster Response Fund (NDRF).
- It reasoned that the outbreak of COVID-19 in India, as well as worldwide, required immediate enhancement in the infrastructure of medical health and the creation of a fund to contain COVID-19. The SC Bench refused to direct the transfer of funds from the PM CARES Fund to the NDRF.
- ✓ Any contribution of any individual or institution is not prohibited to be credited into the NDRF.
- **No Need for a Fresh Plan:**
- The SC rejected the need for a fresh national disaster management plan to take on the COVID-19 challenges.
- The national plan and guidelines are by its very nature prior to the occurrence of any disaster. It is a measure of preparedness.
- Therefore, it is not conceivable that a national plan would be framed after the disaster has occurred. The SC bench also found no reason to interfere with the “minimum standards of relief” the government should provide in relief camps during the pandemic.
- The Disaster Management Act lists these “minimum requirements” under Section 12 as shelter, food, drinking water, medical cover, and sanitation, among other things. These guidelines for minimum standards are in place even before COVID-19, the said guidelines for minimum standards hold good even for those who are affected by COVID-19.

3. Common Voters List

Why in News?

- In a move that ties in with the Idea of Simultaneous Elections in the Country, the Prime Minister’s Office (PMO), earlier this month, held a meeting to discuss the possibility of preparing a common voters’ list for elections to all local bodies, state assemblies and Lok Sabha.

Common Voters List:

- Common Voters list means single electoral roll for all elections in the country
- Articles 243K and 243ZA deal with elections to panchayats and municipalities in the states. These give the power of superintendence, direction and control of preparation of electoral rolls and the conduct of these elections to the State Election Commission (SEC).

- Article 324(1) of the Constitution empowers the EC to supervise, direct, and control the preparation and revision of electoral rolls for all the elections to Parliament and state legislatures.
- State Election Commission are free to prepare their own electoral rolls for local body elections, and this exercise does not have to be coordinated with the EC.
- Currently, a majority of the states use the EC's voters list, instead of their own, to elect their municipalities and panchayats. However, Uttar Pradesh, Uttarakhand, Odisha, Assam, Madhya Pradesh, Kerala, Odisha, Assam, Arunachal Pradesh, Nagaland and the Union Territory of Jammu and Kashmir have their own electoral rolls for local body polls.

Issues with Multiple Voters List:

- The Law Commission recommended single voters list in its 255th report in 2015. The EC too adopted a similar stance in 1999 and 2004. It had noted that the non-conformity of preparation of electoral rolls by the EC and the SECs causes duplication of the same task between two different agencies.
- Further, the EC pointed out that it adds to the confusion among voters, since they may find their names present in one roll, but absent in another.

Benefits:

- The incumbent government has pitched a common electoral roll and simultaneous elections as a way to save an enormous amount of effort and expenditure. A common Electoral Roll would save the Exchequer money and the election conducting agencies effort.

Challenges:

- First, a constitutional amendment to Articles 243K and 243ZA that would make it mandatory to have a single electoral roll for all elections in the country.
- Second, to persuade the state governments to tweak their respective laws and adopt the Election Commission's (EC) voters list for municipal and panchayat polls. However, the change would require a massive consensus-building exercise, which may not be easy given the suspicion between the states and the centre.
- Having a common electoral roll doesn't end with convincing the state governments to adopt EC's voters list. The boundaries of the EC's polling station may not necessarily match that of the wards. So the EC's voters list has to be fashioned in a way to fit the SEC's wards.

2. GOVERNANCE

1. MoES-Knowledge Resource Centre Network (KRCNet)

Why in News?

- Under the Digital India initiative of Government of India, Ministry of Earth Sciences (MoES) aims to develop a World-Class Knowledge Resource Centre Network (KRCNet).

Knowledge Resource Centres:

- Keeping in mind the spectacular developments in information technology, the traditional libraries of the MoES system will be upgraded into a top-notch Knowledge Resource Centres (KRC).
- KRCs will be connected with each other and integrated into the KRCNet portal. It will be a single point entry to the intellectual world of Ministry of Earth Sciences (MoES).
- The resources and services of MoES system will be accessible 24X7 through a one point dynamic, updated and integrated KRCNet portal. A pilot project has been developed at MoES headquarters which will be integrated with other MoES institutes.

Objectives:

- Establish a Total Quality Management (TQM) system by securing ISO certification for documenting MoES knowledge resources, its maintenance, easy retrieval and dissemination.
- Collect, collate, analyze, index, store and disseminate the intellectual resources, products and project outputs available in MoES headquarter and its institutes.
- Develop and maintain an up-to-date meta-data of the print & digital resources available in MoES headquarter and MoES institutes, including MoES services.
- Provide 24X7 access to the subscribed knowledge contents through the KRCNet portal.
- Application of information analytical tools & techniques like bibliometrics, scientometrics, big-data analytics, social media analytics etc., for policy formulation, report preparation and information dissemination.
- Periodically organize training workshops to popularize usage of electronic journals, databases, digital products, data analytics etc.

2. Production Linked Incentive (PLI) Scheme

Why in News?

- The Electronics and Information Technology Ministry had notified the Production Linked Incentive Scheme (PLI) for Large Scale Electronics Manufacturing in April 2020.

PLI Scheme:

- The scheme offers a production linked incentive to boost domestic manufacturing and attract large investments in mobile phone manufacturing and specified electronic components, including Assembly, Testing, Marking and Packaging (ATMP) units.
- The scheme shall extend an incentive of 4% to 6% on incremental sales (over base year) of goods manufactured in India and covered under target segments, to eligible companies, for a period of five years subsequent to the base year as defined.
- The Scheme will be implemented through a Nodal Agency which shall act as a Project Management Agency (PMA) and be responsible for providing secretarial, managerial and implementation support and carrying out other responsibilities as assigned by the Ministry from time to time.
- The target segments include mobile phones and other electronic components such as transistors, diodes, thyristors, resistors, capacitors and nano-electronic components such as micro electromechanical systems.
- According to the scheme, companies that make mobile phones which sell for Rs 15,000 or more will get an incentive of up to 6 per cent on incremental sales of all such mobile phones made in India.
- In the same category, companies which are owned by Indian nationals and make such mobile phones, the incentive has been kept at Rs 200 crore for the next four years.
- The scheme will attract big foreign investment in the sector, while also encouraging domestic mobile phone makers to expand their units and presence in India.

Eligibility:

- All electronic manufacturing companies which are either Indian or have a registered unit in India will be eligible to apply for the scheme.
- These companies can either create a new unit or seek incentives for their existing units from one or more locations in India.
- There has been Considerable Interest Expressed in this Scheme by the Industry.

3. Khadi Agarbatti Aatmanirbhar Mission

Why in News?

- Union Minister for MSME approves the Khadi Agarbatti Aatmanirbhar Mission.

Khadi Agarbatti Aatmanirbhar Mission:

- This is an employment generation programme proposed by the Khadi and Village Industries Commission (KVIC).
- The idea is to make India Aatmanirbhar (self-reliant) in agarbatti production.
- **Objective of the Mission:**
 - ✓ The Mission Aims at Creating Employment for unemployed and migrant workers in different parts of the country while increasing domestic Agarbatti production substantially.
- The scheme will operate on a PPP model.
- Under the scheme, KVIC will provide Automatic Agarbatti making machines and powder mixing machines to the artisans through successful private Agarbatti manufacturers who will sign the agreement as business partners.
- KVIC has decided to procure only locally made machines by Indian manufacturers which also aims at encouraging local production.
- KVIC will provide a 25% subsidy on the cost of the machines and will recover the remaining 75% of the cost from the artisans in easy installments every month.
- The business partner will provide the raw material to the artisans for making Agarbatti and will pay them wages on a job work basis.
- The cost of artisans' training will be shared between KVIC and the private business partner wherein KVIC will bear 75% of the cost while 25% will be paid by the business partner.
- Each automatic Agarbatti making machine makes approximately 80 kg Agarbatti per day which will provide direct employment to 4 persons. One powder mixing machine, to be given on a set on 5 Agarbatti making machines, will provide employment to 2 persons.
- The supply of raw material to the artisans, logistics, quality control and marketing of the final product will be the sole responsibility of the business partner.
- The programme aims at handholding artisans and supporting the local Agarbatti industry. The current consumption of Agarbatti in the country is approximately 1490 MT per day; however, India's per day production of Agarbatti is just 760 MT. There is a huge gap between the demand and the supply and hence, immense scope for Job Creation.

4. Programmes launched under the Gramodyog Vikas Yojana

Why in News?

- Recently, the Ministry of Micro Small and Medium Enterprises (MSME) approved a programme for the benefit of artisans involved in the manufacturing of Agarbatti and to Develop Village Industry under 'Gramodyog Vikas Yojana'.

Highlights:

- As per the programme, initially, four Pilot Projects will be started, including one in the North Eastern part of the country.
- Each targeted cluster of artisans will be supported with about 50 Automatic Agarbatti making machines and 10 Mixing machines. Accordingly, a total of 200 Automatic Agarbatti making machines and 40 Mixing machines will be provided to the artisans.

Role of KVIC:

- Khadi and Village Industries Commission (KVIC), one of the statutory organizations, working under the MSME, will Provide Training, and Assist artisans working in this area, with Agarbatti manufacturing machines.
- KVIC will tie-up with Khadi institutions / Agarbatti manufacturers in the country, having a good track record, to provide work and raw material to 'Agarbatti Making Artisans'.

Expected Benefits:

- Act as a catalyst in reviving Agarbatti manufacturing in the villages and small towns.
- Generate a minimum of about 500 additional jobs.
- Boost domestic Agarbatti Industry.
- Reduce imports of Agarbatti.

Gramodyog Vikas Yojana:

- Along with Khadi Vikas Yojana, Gramodyog Vikas Yojana are the two Umbrella Schemes of formed after merging of 8 different schemes of Khadi & Village Industries.
- Gramodyog Vikas Yojana aims to promote and develop the Village Industries through common Facilities, Technological Modernization, Training etc.

Components of Gramodyog Vikas Yojana:

- **Research & Development and Product Innovation:** R&D support would be given to the institutions that intend to carry product development, new innovations, design development, product Diversification Processes etc.

- **Activities of Existing Dedicated Verticals of Village Industries:** This includes Agro-Based & Food Processing Industry, Mineral-Based Industry, Handmade Paper, Leather & Plastic Industry among others.
- **Capacity Building:** Under the Human Resource Development and Skill Training components, exclusive capacity building of staff as well as the artisans.
- **Marketing & Publicity:** The village institutions will be provided market support by way of preparation of product catalogue, Industry Directory, Market Research, new Marketing Techniques, buyer-seller meet, Arranging Exhibitions etc.

5. SKOCH Gold Award

Why in News?

- Ministry of Tribal Affairs (MoTA) has received the SKOCH Gold Award for its Empowerment of Tribals through IT-enabled Scholarship Schemes project.
- Under the project, MoTA has integrated all 5 Scholarship Schemes with Direct Benefit Transfer (DBT) Portal under the DBT Mission.

SKOCH Award:

- Skoch Award Instituted in 2003.
- It is the highest civilian honour in the country conferred by an independent organisation.
- The awards recognise leadership and excellence in accelerating socio-economic changes.
- Conferred to people, projects and institutions.
- Awardees are selected based on the nomination, jury evaluation, presentation of shortlisted nominees, focus group discussions, interactions and peer evaluation.
- The 66th SKOCH 2020 Competition was entitled India Responds to COVID Through Digital Governance.

6. Can Two Police Forces Investigate the Same Case?

Why in News?

- Sushant Singh Rajput's body was found at his residence in Mumbai. But the Bihar Police, too, is probing his death. This arises the question whether two police forces can investigate the same Case.

Accidental Death Report (ADR):

- After actor Sushant Singh Rajput's dead body was found in Mumbai, the local police registered an Accidental Death Report (ADR) in the Matter.

- As per Section 174 of the Code of Criminal Procedure, an ADR is taken when an accidental death, suicidal death or unnatural death comes to light. The officer in charge of a police station receives information that a person has committed suicide, he/she shall proceed to the place where the body of such deceased person is, and there, draw up a report of the apparent cause of death.
- The officer then records statements of those who can shed light behind the cause of death. If no one makes any allegations and the post mortem report does not indicate murder, an ACP rank officer then ends the report at ADR stage.

What happens if the family makes an allegation or some foul play comes to light?

- Generally, the post mortem report points out if a person died of suicide or was killed.
- There have been cases where an ADR was later turned into a murder case, under Section 302 of the Indian Penal Code (Punishment for murder), after the post mortem report indicated a person was murdered.
- Apart from this, if the family members allege someone drove the person to die by suicide, or if a suicide note is found, the police can register an abetment to suicide case under Section 306 of IPC.

What cases have the Mumbai Police and Bihar Police Registered?

- Since the family members of Rajput did not make any allegations and the post mortem reports did not indicate any foul play, the matter is still as an ADR at Mumbai police station. However, Bihar Police registered an FIR based on the allegations made by Rajput's father. It is as part of this FIR that a police team from Bihar came to the Mumbai, resulting in a tussle between the two forces.

Can Two Police Forces Investigate the same Case?

- A case can be formally transferred to another agency like the CBI, but two agencies cannot probe the same FIR simultaneously.
- In cases where a money laundering aspect emerges, the Enforcement Directorate registers an Enforcement Case Information Report (ECIR) and restricts its probe to the money laundering aspect of it.
- Even in the Sushant Singh Rajput case, after his father alleged to Bihar Police that money had been transferred to unidentified accounts from Rajput's bank account, the ED registered an ECIR under the Prevention of Money Laundering Act (PMLA).
- However, under regular crimes, if an offence has taken place in Mumbai and the family is in Bihar, they can go to the nearest police station in Bihar and register a Zero FIR.

What is Zero FIR?

- In order to ensure that a citizen does not have to run from one police station to another to register an FIR, the law has allowed any police station across the country to register an FIR as soon a cognisable offence is disclosed to them.
- Hence, a zero FIR is registered by a police station when an offence reported to it has been committed in the area under the jurisdiction of a different police station.
- As per Section 154 of the Criminal Procedure Code, a police officer is duty bound to register the Zero FIR Irrespective of Territorial Jurisdiction.

Controversy in the Sushant Singh Rajput Case?

- In the current case, after registering the FIR, the Bihar Police themselves came to Mumbai to investigate the case instead of transferring the case to the local police.
- There is also a demand from former Maharashtra CM that the case be transferred to the CBI. The Supreme Court will take a final call on who will investigate the matter.

7. National Handloom Day

Why in News?

- On the occasion of the 6th National Handloom Day on 07th August 2020, the Ministry of Textiles is Organizing a Function through Virtual Platform.

Highlights:

- Handloom clusters across India, NIFT campuses, all the 28 Weaver Service Centres (WSCs), National Handloom Development Corporation (NHDC), Handloom Export Promotion Council (HEPC) will be connected online. By taking a step towards realizing “Atmanirbhar Bharat”, Handloom Export Promotion Council is organizing a Virtual Fair.

National Handloom Day:

- The First National Handloom Day was held on 7th August 2015 by Indian PM in Chennai.
- 7th August was chosen as the National Handloom Day to commemorate the Swadeshi Movement which was launched on the same date in the year 1905.
- **Objective:** To generate awareness about the Handloom Industry amongst public at large and its contribution to socio-economic development.

Significance of India's Handloom Sector:

- Handloom Sector is a symbol of the country's glorious cultural heritage and an important source of livelihood in the country.

- The sector is key to women empowerment as over 70% of handloom weavers and allied workers are women.
- The Government endeavours to ensure sustainable development of the handloom sector thereby empowering our handloom weavers and workers financially and instilling pride in their Exquisite Craftsmanship.

8. Pradhan Mantri Awas Yojana

Why in News?

- In the recently held Central Sanctioning and Monitoring Committee (CSMC) Under Pradhan Mantri Awas Yojana (Urban) proposals from participating States were approved for the construction of nearly 10.28 Lakh houses.
- These houses are proposed to be constructed across Beneficiary Led Construction and Affordable Housing in Partnership Verticals.

Pradhan Mantri Awas Yojana (Urban)-PMAY (U):

- Launched in 2015, the scheme intends to provide housing for all in urban areas by year 2022.
- The Mission provides Central Assistance to the implementing agencies through States/Union Territories (UTs) and Central Nodal Agencies (CNAs) for providing houses to all eligible families/ beneficiaries against the validated demand for houses for about 1.12 cr.
- As per PMAY(U) guidelines, the size of a house for the Economically Weaker Section (EWS) could be upto 30 sq. mt. carpet area, however States/UTs have the flexibility to enhance the size of houses in consultation and approval of the Ministry.
- Unlike earlier schemes, in efforts towards empowerment of women from EWS and LIG, PMAY (U) has made a mandatory provision for the female head of the family to be the owner or co-owner of the house under this Mission.

9. Organic Food for Health and Nutrition

Why in News?

- India ranks first in number of organic farmers and ninth in terms of area under organic Farming.

Initiatives for Organic farming:

- Sikkim became the first State in the world to become Fully Organic.

- North East India has traditionally been organic with very less Consumption of Chemicals.
- Two dedicated programs- Mission Organic Value Chain Development for North East Region (MOVCD) and Paramparagat Krishi Vikas Yojana (PKVY) were launched in 2015 to encourage chemical free farming.
- It was aimed for assisting farmers to adopt organic farming and improve remunerations due to premium prices.
- Both PKVY and MOVCD are promoting certification under Participatory Guarantee System (PGS) and National Program for Organic Production (NPOP) respectively to target domestic and exports markets.

Major Organic Exports from India:

- The major organic exports from India are flax seeds, sesame, soybean, tea, medicinal plants, Rice and Pulses.
- They were instrumental in driving an increase of nearly 50% in organic exports in 2018-19, touching Rs 5151 crore.

Mission Organic Value Chain Development for North East Region (MOVCD):

- It is a Central Sector Scheme, launched by the Ministry of Agriculture and Farmers Welfare.
- It is a sub-mission under National Mission for Sustainable Agriculture (NMSA).
- It aims to development of certified organic production in a value chain mode (VCM).
- VCM aims to link growers with consumers and to support the development of entire value chain.
- It is implemented in all 8 North-Eastern states (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura).

Paramparagat Krishi Vikas Yojana:

- PKVY is an extended component of Soil Health Management under Centrally Sponsored National Mission on Sustainable Agriculture (NMSA).
- Launched in 2015, it aims at supporting and promoting organic farming for improvement of soil health.
- **Objective:**
 - ✓ Promote organic farming among rural youth/ Farmers/ Consumers/ Traders.
 - ✓ Disseminate latest technologies in Organic Farming.
 - ✓ Utilize the services of experts from Public Agricultural Research System in India.
 - ✓ Organize a Minimum of one cluster demonstration in a village.

Major Features of the Scheme:

- The cluster chosen for Organic Farming shall be 20 ha or 50 acres in extent and in as contiguous a form as possible.
- Of the total number of farmers in a cluster, a minimum of 65% farmers should be allocated to small and marginal category, to be fulfilled at cluster level as far as practicable.
- **Components:**
 - ✓ Adoption of Participatory Guarantee System (PGS) certification through cluster approach.
 - ✓ Adoption of organic village for manure management and biological nitrogen harvesting through Cluster Approach.
- **Financial Assistance:**
 - ✓ Maximum assistance of Rs. 10 lakhs per cluster subject to a maximum of Rs. 50,000 per farmer per ha under Manure Management and Biological Nitrogen Harvesting.
 - ✓ At least 30% of the budget allocations need to be earmarked for women beneficiaries/farmers.

Jaivik Kheti Portal:

- Jaivik Kheti portal is an initiative of the Ministry of Agriculture to promote organic farming globally.
- Buyer can now avail organic products at their doorstep through the portal at much lower prices.
- This portal links various Stakeholders like regional councils, local groups, individual farmers, buyers, government agencies and input suppliers.
- It provides various price discovery mechanisms to help Farmers get the best prices for their products through forward auction, price-quantity bidding, book building and reverse Auction Mechanisms.

10. Empowering Tribals, Transforming India

Why in News?

- The Online Performance Dashboard Empowering Tribals, Transforming India of the Ministry of Tribal Affairs was Launched Recently.

Highlights:

- The Dashboard is part of Digital India Initiative to work towards empowering Scheduled Tribes.

- It is aimed to bring Efficiency and Transparency in the System.
- It has been developed by Centre of Excellence of Data Analytics (CEDA), organization under National Informatics Centre (NIC).

Key Features:

- The Performance Dashboard is an interactive and dynamic online platform.
- It showcases updated & real-time details of 11 schemes / initiatives of the Ministry for achieving Sustainable Development Goals (SDGs).
- It captures performance of 5 Scholarship Schemes of Ministry wherein every year about 30 lakh underprivileged ST beneficiaries reap benefit to the tune of INR 2500 crores.
- Dynamic Dashboard captures details of tribal students from one State to different States and to different countries.
- It displays the details of functional schools under Eklavya Model Residential Schools (EMRS) scheme, schools under construction and district wise details of students in various EMRS schools.
- It maps district wise NGO details, funds given to NGO and beneficiaries' details.

11. PM Announced expansion of NCC

Why in News?

- PM Modi spoke about expansion of the National Cadet Corps (NCC) in coastal and border Districts of India.

Highlights:

- NCC is the World's Largest Voluntary Uniformed Youth Organisation.
- He announced that from 173 coastal and border districts, one lakh cadets will be trained, a third of them will be girls.
- In border areas, the Army will Train the Cadets.
- In the coastal area, the Navy will Train the Cadets.
- And where there are air bases, Air Force will Undertake training activities.

National Cadet Corps (NCC):

- National Cadet Corps (NCC) was formed in 1948.
- It has its roots to British era uniformed youth entities like University Corps or University Officer Training Corps.
- Currently NCC has a strength of around 14 lakh cadets from Army, Navy and Air Force wings.

- It enrolls cadets at high school and college level and also awards certificates on completion of Various Phases.
- It is headed by a Director General of three-star military rank, and falls under the purview of Ministry of Defence.
- It is led by serving officers from the Armed forces at various hierarchical positions.
- The NCC cadets receive basic military training at various levels and also have academic curriculum basics related to Armed forces and their functioning.
- Various training camps, adventure activities and military training camps are an important aspect of NCC Training.
- NCC has a dual funding model where both the Centre and States or Union Territories provide Budgetary Support.

Significance:

- NCC cadets have played an important role over the years in relief efforts during various Emergency Situations.
- During the Ongoing Pandemic, over 60,000 NCC cadets have been deployed for voluntary relief work in Coordination with district and state authorities across the country.
- The border and coastal areas will get trained manpower to fight with disasters.
- Youth will Acquire Required Skills for Careers in Armed Forces.

12. Drone based surveillance system for Railway Security

Why in News?

- Indian Railways introduces drone-based surveillance system for Railway Security.

Highlights:

- The Mumbai Division of Central Railway in Indian Railways has recently procured two Ninja UAVs for better security and surveillance in railway areas like station premises, railway track sections, yards, workshops, etc.
- A team of four staff of the Railway Protection Force (RPF), Mumbai has been trained for drone flying, surveillance and maintenance.
- These drones are capable of Real-Time Tracking, Video Streaming and may be operated on Automatic Fail Safe Mode.
- So far, nine drones have been procured by the RPF and there are plans for buying 17 more in the Future.

Uses of the Drones:

- The purpose of the drone deployment is to provide a force multiplier and aid to the effectiveness of the security personnel deployed.
- It can help in the inspection of railway assets and safety of yards, workshops, car sheds, etc.
- It can be used to launch surveillance on criminal and anti-social activities like gambling, throwing of garbage, hawking, etc. in the railway premises.
- It may be deployed for data collection. Analysis of such data collected may prove to be extremely useful in vulnerable sections for safe operations of trains.
- The drones may also be pressed in service at disaster sites for helping in rescue, recovery and restoration and coordination of efforts of various agencies.
- They are very useful while undertaking mapping of railway assets to assess the encroachments on railway property.
- During large scale crowd management efforts, it may give vital inputs like crowd magnitude, probable time of arrival and dispersal based on which crowd regulation efforts may be planned and executed.
- A drone camera can cover a large area that requires 8-10 RPF personnel. Thus, it may lead to substantial improvement in utilization of scarce manpower.

13. Dhanwantari Rath to bring Ayurveda at Doorsteps

Why in News?

- A MoU was signed between the All India Institute of Ayurveda and the Delhi Police Recently for extending Ayurvedic mode of Preventive and Promotive Health Services.

Highlights:

- The MoU is aimed to extend the Ayurveda Preventive and Promotive health services in the residential colonies of Delhi Police.
- These services are to be provided through a mobile unit named Dhanwantari Rath and Police Wellness Centres catered by AIIA and supported by the Ministry of AYUSH.

Dhanwantari Rath:

- Dhanwantari Rath – is a Mobile unit of Ayurveda health care services.
- It would consist a team of Doctors who would be visiting Delhi Police colonies regularly.
- These Ayurveda Health care services are expected to reduce the incidence/prevalence of Various Diseases.

- They also aim to Reduce the number of referrals to hospitals thereby reducing cost to healthcare system as well as patient.

AYURAKSHA:

- AYURAKSHA is a joint venture of AIIA and Delhi Police aims for maintaining the health of frontline COVID warriors like Delhi police.
- The joint programme ‘Corona Se Jung- Delhi Police Ke Sang’ aims to fight against corona through simple and time tested Ayurveda immunity boosting measures.
- Under the programme, AYURAKSHA kits have been distributed to nearly 80,000 police personnel for over a period of two months.
- In continuation of the project, Ayurveda Preventive and Promotive health care are now planned to be extended to the families of Delhi Police personnel.

14. Domicile-based Job quota

Why in News?

- Madhya Pradesh state government has decided to reserve all government jobs for children of the state.

Highlights:

- Although the details of the proposal are not yet outlined, the reservation solely based on place of birth would raise questions relating to the fundamental Right to Equality.
- **Article 16:**
 - ✓ Article 16: Guarantees equal treatment under law in matters of public employment.
 - ✓ It prohibits the state from discriminating on grounds of place of birth or residence.
- **Article 16(2):**
 - ✓ No citizen shall, on grounds only of religion, race, caste, sex, descent, place of birth, residence or any of them, be ineligible for, or discriminated against in respect or, any employment or office under the State.
- **Article 16(3):**
 - ✓ Provides an exception that Parliament may make a law prescribing a requirement of residence for jobs in a particular state. This power vests solely in the Parliament, not in the state legislatures.

Why does Constitution Prohibit Reservation Based on Domicile?

- India has common citizenship, which gives citizens the liberty to move around freely in any part of the Country.

- So, the requirement of a place of birth or residence cannot be qualifications for granting public employment in any state.

Reservations Granted on Grounds of Caste:

- Equality enshrined in the Constitution is not mathematical equality and does not mean all citizens will be treated alike without any distinction.
- To this Effect, the Constitution Underlines two distinct aspects of the equality law:
 - ✓ Non-discrimination among equals.
 - ✓ Affirmative action to equalise the unequal's.
 - ✓ SC's stand on reserving jobs for locals:
- **The Supreme Court has Ruled against Reservation Based on Place of Birth or Residence.**

1. Dr. Pradeep Jain v Union of India (1984):

- ✓ Despite Article 16(2) some of the States are adopting 'sons of the soil' policies prescribing reservation or preference based on domicile or residence requirement for employment or appointment.
- ✓ Prima facie this would seem to be Constitutionally Impermissible.

2. Sunanda Reddy v State of Andhra Pradesh (1995):

- ✓ The SC Supreme Court affirmed to strike down a state government policy that gave 5% extra weightage to candidates who had studied with Telugu as the medium of instruction.

3. Other Rulings:

- ✓ In 2002, the SC invalidated appointment of government teachers in Rajasthan in which the state selection board gave preference to applicants belonging to district or rural areas of the district concerned.
- ✓ In 2019, the Allahabad High Court struck down a recruitment notification by the UP Subordinate Service Selection Commission which prescribed preference for women who are original residents of UP alone.

How do Some States have laws that Reserve Jobs for Locals?

- Under Article 16(3), Parliament enacted the Public Employment (Requirement as to Residence) Act, aimed at abolishing all existing residence requirements in the states and enacting exceptions only in the case of the special instances of Andhra Pradesh, Manipur, Tripura and Himachal Pradesh.
- Some other states also have special Protections under Article 371.

- Andhra Pradesh under Section 371(d) has powers to have direct recruitment of local cadre in specified areas.
- In Uttarakhand, class III and class IV jobs are reserved for locals.
- Some states have gone around the mandate of Article 16(2) by using language.
- States that conduct official business in their regional languages prescribe knowledge of the language as a criterion.
- This Ensures that local citizens are preferred for jobs.
- **For Example:** States including Maharashtra, West Bengal and Tamil Nadu require a Language Test.

15. National Recruitment Agency to conduct CET

Why in News?

- The Union Cabinet recently approved the creation of a National Recruitment Agency for conducting a Common Eligibility Test for Various Government Jobs.

Common Eligibility Test:

- The preliminary exam named common eligibility test (CET) will be conducted for recruitment of Group B and C (non -technical) staff in the Central government.
- The online test will be conducted to screen/shortlist candidates at the first level for vacancies, which are presently filled through different exams conducted by Staff Selection Commission (SSC), Railways Recruitment Board (RRB) and Institute of Banking Personnel Selection (IBPS).
- Based on screening done at the CET score level, final selection for recruitment shall be made through separate specialised Tiers (II, III etc.) of examination, which shall be conducted by the respective recruitment agencies.
- The CET score of the candidate shall be valid for three years from the date of declaration of the result.
- The best of the valid scores shall be deemed to be the current score of the candidate.
- There shall be no restriction on the number of attempts to be taken by a candidate to appear in the CET subject to the upper age limit.
- There will be Examination Centres in every District of the country which would greatly enhance access to the candidates located in far-flung areas.

National Recruitment Agency (NRA):

- A multi-agency body called National Recruitment Agency (NRA) will conduct a Common Eligibility Test (CET) to screen/shortlist candidates for Group B and C (non-technical) posts.
- NRA will have representatives of Ministry of Railways, Ministry of Finance/Department of Financial Services, the SSC, RRB & IBPS.
- NRA would be a specialist body bringing the state-of-the-art technology and best practices to the field of Central Government recruitment.
- The Union Cabinet has approved an amount of Rs 1517.57 crore for the NRA, for a period of 3 years.
- The money will be used for setting up of NRA, and examination centres in the aspirational districts.

16. Trifood Project

Why in News?

- Union Tribal Affairs Minister launches TRIFED's Trifood Project.

Trifood Project:

- TRIFOOD aims to enhance the income of tribals through better utilization of and value addition to the MFPs (minor forest produce) collected by the tribal forest gatherers.
- To achieve this, as a start, two Minor Forest Produce (MFP) processing units will be set up – one in Raigad (Maharashtra) and the other in Jagdalpur (Chhattisgarh).
- The project will be implemented by TRIFED of the Tribal Affairs Ministry along with the Ministry of Food Processing.
- The units that will be set up will procure the raw material from the Van Dhan Kendras in the state.
- The fully processed products will be sold across the country in Tribes India outlets, and franchisee stores.
- Also, TRIFED plans to identify and train tribal entrepreneurs who can also sell the products.
- The ultimate aim of the project is to Transform Tribal lives and Livelihoods and Secure Incomes.

17. Survey on Use of Mobile Phones for Learning

Why in News?

- A survey was conducted by the National Council of Educational Research and Training (NCERT) on the use of Mobiles for Learning.

Highlights:

- The survey was done using a sample of 18,188 students from Classes 8-12 from Kendriya Vidyalayas, Navodaya Vidyalaya Samitis and schools affiliated to the Central Board of Secondary Education.
- More than 16,000 Parents, Teachers and Principals also took part.

Findings of the Survey:

- School education on Mobile phones: School education in the time of COVID-19 is heavily dependent on mobile phones. Around 80-90% of older students in Central government schools use mobiles more than laptops to access digital schooling.
- In Kendriya Vidyalayas, 84% of students used mobiles, while 19% used laptops for learning, similar to the ratio in CBSE schools.
- In the Navodaya Vidyalayas, less than 10% of learners used laptops, while 88% were dependent on mobile phones and less than 6% used TV or radio.
- Situation is likely to be far grimmer at state-funded schools and the poorer private schools where the majority of students study.
- Hindrances in learning: Almost 30% faced hindered learning due to absent or intermittent electricity connections. Almost half the students also did not even have access to their textbooks.
- Online Learning : According to the NCERT survey, most of 40% of students in CBSE schools said they found online learning difficult or burdensome, compared to 28% at NVS schools.
- Poor Internet connectivity and the difficulty of using mobile phones to share and access content were some of the hindrances.
- 27% did not have either laptops or smartphones. Half the surveyed students did not have textbook access, and 28% faced electricity problems.
- Paucity of devices among teachers and their unfamiliarity with the devices and online teaching methods also created roadblocks.

Impact:

- Unless the Unique Requirements of every learner are taken care of, and the same learning experiences are provided to the have-digital-device and have-not-digital-device learners, along with tracking and monitoring of each learner's progress, the pandemic may result in the beginning of a vast learning gap/divide in such learners

Solutions:

- Community volunteer Shiksha teams may be drafted to deliver worksheets at students' homes or set up peer learning groups among students without devices
- It is very important to complete mapping of the devices available to students – smartphone, basic mobile, radio, TV, personal or community computer as only four States have completed the exercise so that there is a clear picture on the efficiency and practicality of Online Classes

18. Harit Path App

Why in News?

- The National Highways Authority of India has developed a mobile App called Harit Path recently.

Aim:

- To monitor location, growth, species details, maintenance activities, targets and achievements for each and every plant under all plantation projects.

Harit Path App:

- The app will monitor the plantations through geo-tagging and web-based GIS enabled Monitoring Tools. It emphasizes on strict monitoring of plantation and transplantation of trees. The Ministry of Road Transport & Highways suggested that specialised persons/agencies should be hired for plantation of trees along the highways.
- It plans to involve NGOs, Self-help groups and Horticulture and Forest department for the purpose.
- This will be done to achieve the goal of 100% plantation on highways upto March 2022.
- The photographs along with data of the plants captured using Harit Path App shall be uploaded every 3 months on NHAI's AI powered Big Data Analytics platform – Data Lake.

Harit Bharat Sankalp:

- To commemorate 25 years of its service, NHAI has recently undertaken Harit Bharat Sankalp.

- It is a nation-wide plantation drive in line with its Commitment to Promote Environment protection and Sustainability.
- Under this Initiative, NHAI planted over 25 lakh plants in 25 days along the stretches of the National Highways between 21st July to 15th August 2020.
- The drive takes total cumulative number of plantations done during the current year to 35.22 lakh.

19. Larger Questions over Contempt of Court

Why in News?

- Recently, the Supreme Court deferred the hearing in a 2009 contempt-of-court case against advocate Prashant Bhushan, and reserved its verdict on the quantum of sentencing in the Contempt case Initiated this Year.

Highlights:

- The three-judge Bench of SC led by Justice Arun Mishra directed that the case records of 2009 be placed before the Chief Justice of India, who can list it before an appropriate Bench.
- The Bench deferred the hearing as the case involved “larger” questions.
- Also in the recent case, Bhushan has refused to apologise and has stood his ground that the tweets reflected his “bonafide beliefs”, even as the Supreme Court gave him time to rethink and tender an unconditional apology or Withdraw his Statement.

Background:

- The 2009 case against Prashant Bhushan was filed in connection with an interview published in Tehelka magazine, in which he made allegations of corruption in the judiciary.
- In 2010, a three-judge SC Bench headed by Justice Altamas Kabir had issued notices to Bhushan but the case only came up for hearing when the SC recently initiated a fresh contempt case against Bhushan.

Contempt of Court:

- **Constitutional Background:**
 - ✓ **Article 129:** Grants Supreme Court the power to punish for contempt of itself.
 - ✓ **Article 142(2):** Enables the Supreme Court to investigate and punish any person for its contempt.
 - ✓ **Article 215:** Grants every High Court the power to punish for Contempt of itself.

- **Contempt under the Indian law:**

- ✓ In India, the Contempt of Courts Act, 1971, divides contempt into civil contempt and criminal contempt.
- ✓ **Civil Contempt:** It is a 'wilful disobedience to any judgment, decree, direction, order, writ or other processes of a Court or wilful breach of an undertaking given to the court'.
- ✓ **Criminal Contempt:** It is the publication (whether by words, spoken or written, or by signs, or by visible representation, or otherwise) of any matter or the doing of any other act whatsoever which:
 - ✓ Scandalises or tends to scandalise, or lowers or tends to lower the authority of, any court.
 - ✓ Prejudices, or interferes or tends to interfere with the due course of any judicial proceeding.
 - ✓ Interferes or tends to interfere with, or obstructs or tends to obstruct, the administration of justice in any other manner.

Punishments for Contempt of Court:

- The Supreme Court in 1991, ruled that it has the power to punish for contempt not only of itself but also of high courts, subordinate courts and tribunals functioning in the entire country.
- The High Courts have been given special powers to punish contempt of subordinate courts, as per Section 10 of The Contempt of Courts Act of 1971.
- This means only the supreme court and high courts have the power to punish for contempt of court, either with simple imprisonment for a term up to six months or with fine up to 2,000 or with both.
- **Criticism Allowed or Not:**
 - ✓ The Contempt of Courts Act, 1971, very clearly states that fair criticism of any case which has been heard and decided is not contempt.
- **Contempt of Courts (Amendment) Act, 2006:**
 - ✓ The statute of 1971 has been amended by the Contempt of Courts (Amendment) Act, 2006 to include the defense of truth under Section 13 of the original legislation.
 - ✓ **Section 13:** Restrict the powers of the court in that they were not to hold anyone in contempt unless it would substantially interfere with the due process of justice.
 - ✓ The amendment further states that the court must permit 'justification by truth as a valid defense if it is satisfied that it is in the public interest and the request for invoking the said defense is Bona Fide.'

Recommendations:

- The Law Commission of India in its 274th report to the Ministry of Law and Justice has suggested that Articles 129 and 215 of the Constitution vest the Supreme Court and High Courts powers to investigate and punish the contemnor even in absence of any legislation outlining their Procedural Powers.

20. Directions to Include Disabled Persons under NFSA 2013

Why in News?

- The Department of Food and Public Distribution under Ministry of Consumer Affairs, Food & Public Distribution has sent letters to States Governments/UTs to include all eligible disabled persons under the National Food Security Act 2013.

Highlights:

- Section 38 of the NFSA Act, 2013 mandates that the Central Government may from time to time give directions to the State Governments for effective implementation if the provisions of the Act. The Department advised all States/UTs to ensure that all disabled persons, who are eligible as per identification criteria of beneficiaries under NFSA, are covered under the National Food Security Act 2013.

National Food Security Act 2013:

- The National Food Security Act, 2013 aimed to provide for food and nutritional security by ensuring access to adequate quantity of quality food at affordable prices.
- The eligible persons will be entitled to receive 5 Kgs of food grains per person per month at subsidised prices of Rs. 3/2/1 per Kg for rice/wheat/coarse grains.

Salient features of NFSA:

- 1. Coverage and Entitlement under Targeted Public Distribution System (TPDS):**
 - ✓ Up to 75% of the rural population and 50% of the urban population covered under TPDS, with uniform entitlement of 5 kg per person per month.
 - ✓ The existing Antyodaya Anna Yojana (AAY) households, which constitute the poorest of the poor, will continue to receive 35 Kgs of food grains per household per month.
- 2. State-wise Coverage:**
 - ✓ State-wise coverage will be determined by the Central Government.
 - ✓ Planning Commission has determined the State-wise coverage by using the NSS Household Consumption Survey data for 2011-12 and also provided the State-wise Inclusion Ratios.

3. Subsidised Prices under TPDS and their Revision:

- ✓ Food grains made available at subsidised prices of Rs. 3/2/1 per kg for rice, wheat and coarse grains for a period of three years from the date of commencement of the Act (2013).
- ✓ Thereafter prices will be suitably linked to Minimum Support Price (MSP).
- ✓ Existing prices for APL households i.e. Rs. 6.10 per kg for wheat and Rs 8.30 per kg for rice has been Determined.

4. Identification of Households:

- ✓ For coverage under TPDS determined for each State, the work of identification of eligible households is to be done by States/UTs.

5. Nutritional Support to Women and Children:

- ✓ Pregnant women and lactating mothers and children in age group of 6 months to 14 years will be entitled to meals as per prescribed nutritional norms under Integrated Child Development Services (ICDS) and Mid-Day Meal (MDM) schemes.
- ✓ Higher nutritional norms have been prescribed for malnourished children up to 6 years of age.

6. Maternity Benefit:

- ✓ Pregnant women and lactating mothers will also be entitled to receive maternity benefit of not less than Rs. 6,000.

7. Women Empowerment:

- ✓ The Eldest Woman of the Household of age 18 years or above to be the head of the household for the purpose of Issuing of Ration Cards.

8. Grievance Redressal Mechanism:

- ✓ Grievance redressal mechanism at the District and State levels.
- ✓ States will have the flexibility to use the existing machinery or set up separate Mechanism.

9. Cost of intra-State transportation & handling of food grains and FPS Dealers' Margin:

- ✓ Central Govt will provide assistance to States in meeting the expenditure incurred by them on transportation of food grains within the State, its handling and FPS dealers' margin as per norms to be Devised for this Purpose.

10. Transparency and Accountability:

- ✓ Provisions made for disclosure of records relating to PDS, social audits and setting up of Vigilance Committees to ensure Transparency and Accountability.

11. Food Security Allowance:

- ✓ Provision for food security allowance to entitled beneficiaries in case of non-supply of entitled food grains or meals.

12. Penalty:

- ✓ Provision for penalty on public servant or authority, to be imposed by the State Food Commission, in case of failure to comply with the relief recommended by the District Grievance Redressal Officer.

21. World Urdu Conference

Why in News?

- The two days World Urdu Conference was organised by the National Council for Promotion of Urdu Language (NCPUL) in New Delhi.

National Council for Promotion of Urdu Language (NCPUL):

- It was set up in 1996 to promote, develop and propagate the Urdu language.
- It is an Autonomous body under the Ministry of Education (formerly Ministry of Human Resource Development).
- It is the principal coordinating and monitoring authority for promotion of Urdu language and Urdu Education in India.

Functions:

- To undertake the production of literature in the Urdu language
- To collect and evolve technical terms relating to various disciplines of knowledge in order to enrich the Urdu language.
- To undertake and provide for publication, sale and exhibition of journals.
- To help in development of computerization with a view to develop the Urdu language to meet the advanced technological requirements of the age.
- To formulate/implement schemes for the teaching of Urdu language through mediums of English and Hindi and other Modern Indian Languages.
- To provide Financial assistance to NGOs for propagation of Urdu language.

3. SCIENCE & TECHNOLOGY

1. Prevention of Cataract

Why in News?

- INST Scientists develop simple economical nonsurgical prevention of cataracts.

Cataract:

- A cataract is a dense, cloudy area that forms in the lens of the eye.
- A cataract begins when proteins in the eye form clumps that prevent the lens from sending clear images to the retina. The retina works by converting the light that comes through the lens into signals.
- A cataract is a form of blindness that occurs when the structure of crystallin proteins that make up the lens in our eyes deteriorates, causing damaged or disorganised proteins to aggregate and form a milky blue or brown layer, which ultimately affects lens transparency.
- Thus, prevention of the formation of these aggregates as well as their destruction in the early stage of Disease Progression is a major Treatment Strategy for cataracts.

Study:

- A team of scientists from the Institute of Nano Science & Technology (INST), an autonomous institute under the DST, has developed nanorods from the nonsteroidal anti-inflammatory drug (NSAID) Aspirin and found it to be an effective non-invasive small molecule-based nanotherapeutics against cataract.
- The team has used the anti-aggregation ability of self-build aspirin nanorods for this purpose.
- Aspirin nanorods prevent the aggregation of crystallin protein and various peptides derived from its fragmentation, which play a crucial role in cataract formation.
- These were found to prevent cataract formation by inhibiting aggregation of crystallin, and crystallin derived peptide aggregates.
- The targeted disaggregation of the accumulated alpha-crystallin protein and crystallin derived peptide aggregates in aged and cataractous human lenses are considered as a viable therapeutic strategy for the prevention of cataract formation.
- The aspirin nanorods are produced using the process of molecular self-assembly, which is a low cost and high-yield technique to generate the aspirin nanorods as compared to the high cost and laborious physical methods generally used for the synthesis of Nanoparticles.

2. Electronic Vaccine Intelligence Network (eVIN)

Why in News?

- The Electronic Vaccine Intelligence Network (eVIN) India is helping the State/UT Governments Monitor the Supply Chain of COVID Response Material, as a part of the Government of India's efforts to combat COVID-19.

Highlights:

- Many states are using the eVIN application with 100% herence rate to track State specific COVID-19 material supplies, ensure availability and raise alerts in case of shortage of essential drugs and equipment.
- This strong platform has the potential to be leveraged for any new vaccine including COVID-19 vaccine, as and when available.

eVIN:

- eVIN is an innovative technological solution aimed at strengthening immunization supply chain systems across the country.
- This is being implemented under National Health Mission (NHM) by Ministry of Health and Family Welfare.
- eVIN aims to provide real-time information on vaccine stocks and flows, and storage temperatures across all cold chain points in the country.
- This robust system has been used with the requisite customization during the COVID pandemic for ensuring continuation of the essential immunization services and protecting children and pregnant mothers against vaccine preventable diseases.
- eVIN combines state-of-the-art technology, a strong IT infrastructure and trained human resource to enable real time monitoring of stock and storage temperature of the vaccines kept in multiple locations across the country.
- eVIN has reached 32 States and Union Territories (UTs) and will soon be rolled-out in the remaining States and UTs of Andaman & Nicobar Islands, Chandigarh, Ladakh and Sikkim.

3. Scientists Map Black Swan Genome

Why in News?

- Scientists from the University of Queensland, Australia have mapped the black swan Genome to better Understand the Immune Response.

- The Black Swan is Highly Susceptible to the Avian Flu Virus.
- The researchers wanted to understand as to why black swans were so susceptible to Highly Pathogenic Avian Influenza (HPAI).



Highly Pathogenic Avian Influenza (HPAI):

- The Highly Pathogenic Avian Influenza (HPAI) usually occurs in birds and can sometimes spill over to humans.
- The United Nations Food and Agriculture Organization considers six countries to be endemic for the HPAI virus in poultry as of 2011, namely Bangladesh, China, Egypt, India, Indonesia and Vietnam.
- More than 50 per cent of the 800 people infected globally by HPAI since 2003 have not survived.

Black Swan:

- The black swan is a large Waterbird.
- Mainly found in the southeast and southwest regions of Australia.
- **IUCN Status: Least Concerned**

4. Fluorosis

Why in News?

- Scientists from the Institute of Nano Science and Technology (INST), an autonomous institute of the DST, have developed an equipment-free paper-strip based naked eye fluoride ion detection and quantification kit in drinking water.
- It can be Operated by non-experts for household use to evade Fluorosis-based disorders.

Fluorosis:

- Fluorosis is a crippling disease resulting from the deposition of fluorides in the hard and soft tissues of the body due to excess intake of fluoride through drinking water/food products/industrial pollutants over a long period.
- It results in dental fluorosis, skeletal fluorosis, and non-skeletal fluorosis.
- Dental fluorosis affects children and discolours and disfigures the teeth.
- Skeletal fluorosis affects the bones and major joints of the body like neck, backbone, shoulder, hip and knee joints resulting in severe pain, rigidity or stiffness in joints.
- Severe forms of skeletal fluorosis result in Marked Disability.

- Non-skeletal forms of fluorosis are earlier manifestations, which develop long before the onset of typical changes in teeth and skeletal bones these are seen as gastrointestinal symptoms and may overlap with other diseases leading to misdiagnosis.
- It affects men, women and children of all age groups.
- Easy detection of fluorides in water can help prevent public health hazards.
- There is no treatment for severe cases of skeletal fluorosis, only efforts can be made towards reducing the disability which has occurred.
- However, the disease is easily preventable if diagnosed early and steps are taken to prevent intake of excess fluoride through the provision of safe drinking water, promote nutrition and avoid foods with high fluoride content.
- Dental and skeletal fluorosis is irreversible and no treatment exists, the only remedy is prevention by keeping fluoride intake within Safe Limits.

5. Plasmodium vivax

Why in News?

- The parasite Plasmodium vivax, responsible for 7.5 million malaria cases worldwide, remains understudied. An international team has developed a system to breed parasites Plasmodium vivax in the lab and then infect cultured human liver cells with it. This can help Establish a robust liver stage assay in P. vivax-endemic regions such as India.

Plasmodium Vivax:

- Malaria is a significant global health problem with a substantial disease burden worldwide. In 2017 there were approximately 219 million cases of malaria responsible for about 435000 deaths, the majority on the African continent (WHO World Malaria Report 2018).
- Malaria results from infection with single-celled parasites belonging to the Plasmodium genus. Five species of Plasmodium are known to cause disease in humans: P. falciparum, P. vivax, P. ovale, P. malariae, and P. knowlesi.
- Globally, Plasmodium falciparum and Plasmodium vivax account for the majority of cases of malaria. While Plasmodium falciparum is responsible for more deaths, Plasmodium vivax is the most widespread of all of the malaria species, can cause severe, even fatal infections and results in significant global morbidity and mortality.

New Method:

- An improved method for breeding Anopheles stephensi mosquitoes in the lab was developed.

- The females were fed with blood collected from Indian patients with the *P. vivax* infection.
- Two weeks later, the mature sporozoites were taken from the mosquitoes' salivary glands, added to cultured liver cells (multiple human hepatocyte platforms) and studied.
- This approach can be used to further study the liver stage.

How do Mosquitoes Inject the Parasite?

- Mosquitoes inject the sporozoite (spore-like) stage of the parasite into the skin when they bite, and the sporozoites travel to the liver.
- Some 50 parasites enter our liver and each infect one liver cell or hepatocyte and multiply enormously to 10,000 or more.
- These can then move out and infect blood cells.
- Not much is known about its dormant stage in the liver. The study can help establish a robust liver stage assay in *P. vivax*-endemic regions such as India.
- As the number is very low in the liver, our immune system barely notices it. This was believed to be a silent stage.
- The parasite can remain in the liver in a dormant stage and relapse later. So there is an urgent need to find drugs for *P. vivax* which will kill both the blood and liver stages

Drug Resistant Malaria Parasites:

- Certain malaria-endemic countries have abandoned chloroquine for *P. vivax* treatment. Fortunately chloroquine is still effective in India.
- But the currently used anti-relapse drug, Primaquine, has many undesirable side-effects, especially in patients with a genetic defect called G6PD deficiency. Moreover, it takes 14 days to administer this drug for radical cure
- Hence there is an urgent need for development of a new class of drugs. The researchers add that this assay could also be used to test if a specific anti-malarial drug would work for an individual, thus paving the way for individualised treatment for patients.

6. Mega lab

Why in News?

- The Council of Scientific and Industrial Research (CSIR) is working on developing “mega labs” to ramp up testing for COVID-19 as well as improve the accuracy rate.

Highlights:

- Mega labs are the labs where large machines, called Next Generation Sequencing machines (NGS), which are also used for sequencing human genomes, will be repurposed to

sequence 1,500-3,000 viral genomes at a go for detecting the SARS-CoV-2 novel coronavirus.

- The CSIR has partnered with the U.S.-based Illumina, a company that specialises in the manufacture of NGS machines. Five such sequencers, costing ₹4 crore each, are currently available in India.

Next Generation Sequencing Machines:

- The Next Generation Sequencing machines (NGS) are normally used for sequencing Human Genomes.
- These machines can substantially detect the presence of the virus even in several instances where the traditional RT-PCR (reverse transcription polymerase chain reaction) tests fail when used optimally and with appropriate modifications.
- It can read a bigger chunk of virus genome and thereby provide more certainty that the virus in question is indeed the particular coronavirus of interest.
- It can also trace the evolutionary history of the virus and track mutations more reliably.
- The NGS only needs custom reagents for operationalising the test on a mass scale early on in the Pandemic.

Uses of NGS:

- NGS technology has fundamentally changed the kinds of questions scientists can ask and answer. Innovative sample preparation and data analysis options enable a broad range of Applications. For example, NGS allows Researchers to:

Rapidly Sequence Whole Genomes:

- Zoom in to deeply sequence target regions
- Utilize RNA sequencing (RNA-Seq) to discover novel RNA variants and splice sites, or quantify mRNAs for gene expression analysis
- Analyze epigenetic factors such as genome-wide DNA methylation and DNA-protein Interactions
- Sequence cancer samples to study rare somatic variants, tumor subclones, and more
- Study the Human Microbiome and Discover Novel Pathogens

Technology:

- Illumina sequencing utilizes a fundamentally different approach from the classic Sanger chain-termination method.
- It leverages sequencing by synthesis (SBS) technology – tracking the addition of labeled Nucleotides as the DNA chain is copied – in a massively Parallel Fashion.

- Next-generation sequencing generates masses of DNA sequencing data, and is both less expensive and less time-consuming than traditional Sanger sequencing.
- Illumina sequencing systems can deliver data output ranging from 300 kilobases up to multiple Terabases in a single run, Depending on Instrument type and Configuration.

Issues with RT- PCR:

- The RT-PCR needs primers and probes which is a key hurdle in operationalising such tests on a mass scale early on in the pandemic.
- The RTPCR is only 70%-80% accurate which means that there is a sizeable population that is Falsely Negative.

Success of the NGS method:

- In the pilot tests it was found that 99% of confirmed RT-PCR positive samples were identified so by the NGS method.
- Nearly half of the samples that the RT-PCR termed 'inconclusive' were identified as either positive and negative.
- With these test results the NGS method can also be used as a confirmatory test.

Significance:

- The NGS method will help in scale-up testing to at least a million per day.
- It would also serve a larger purpose of continuous surveillance. Regular surveillance of a large pool like industrial hubs, commercial establishments or places can be easily conducted where an Outbreak is Likely.

7. Light Combat Helicopters

Why in News?

- India has deployed two of its new indigenous light combat helicopters, apart from the heavy-duty Apache attack and Chinook heavy-lift choppers acquired from the US, in Ladakh amidst the ongoing military confrontation with China there.

Highlights:

- The deployment of the twin-engine LCHs, which are not fully weaponized yet, in the high-altitude region is a show of support for the indigenous choppers ahead of their proposed Induction into the Armed Forces.

Light Combat Helicopter:

- It is the Lightest Attack Helicopter in the world.

- It is Designed and developed by HAL to meet the specific and Unique Requirements of the Indian Armed Forces.
- The LCH is “a potent weapon platform” because of its state-of-the-art systems and highly accurate weapons that are capable of hitting any type of target by day or night
- It has capability to carry an adequate weapon load at high-altitudes under varied conditions
- The special features of LCH include sleek and narrow fuselage, tri-cycle crashworthy landing gear, crashworthy and self-sealing fuel tanks, armor protection and low visibility features to make it “lethal, agile and survivable”.
- It reflects the crucial role of HAL in ‘Atmanirbhar Bharat’.
- Such LCHs figure in the negative arms import list announced by the defence ministry, under which acquisition of 101 weapon systems and platforms from abroad will be progressively banned from December 2020 to December 2025, in a bid to bolster the fledgling domestic defence production sector.

8. Naval Innovation and Indigenisation Organisation (NIIO)

Why in News?

- Defence Minister Rajnath Singh has recently launched the Indian Naval Innovation and Indigenisation Organisation (NIIO)

Highlights:

- The launch of NIIO is in consonance with the Draft Defence Acquisition Policy 2020 (DAP 20) which envisages the Service Headquarters establishing an Innovation and Indigenisation Organisation within existing resources.

Naval Innovation and Indigenisation Organisation (NIIO):

- NIIO puts in place dedicated structures for the end users to interact with academia and industry towards fostering innovation and indigenisation for self-reliance in defence in keeping with the vision of Atmanirbhar Bharat
- The NIIO is a three-tiered organisation.
- Naval Technology Acceleration Council (N-TAC) will bring together the twin aspects of innovation and indigenisation and provide apex level directives,
- A working group under the N-TAC will implement the projects,
- A Technology Development Acceleration Cell (TDAC) has also been created for induction of emerging disruptive technology in an Accelerated Time Frame.

- The NIIO will help in fostering innovation and indigenisation for self-reliance in defence in keeping with the vision of Atmanirbhar Bharat.

Other Initiatives:

- The Navy has also signed Memorandums Of Understanding (MoUs) with Uttar Pradesh Expressway Industrial Development Authority (UPEIDA), Raksha Shakti University (RSU), Gujarat, Maker Village, Kochi and Society of Indian Defence Manufacturers (SIDM).
- Maker Village is a unique incubator which provides everything necessary for a hardware startup to innovate, design, and build a product.
- The SIDM is the apex body of the Indian defence industry with a role as an advocate, catalyst, and facilitator for the growth and capability building of the defence industry in India.
- A compendium of Indian Navy's Indigenisation perspective plans titled 'SWAVLAMBAN' was also released.

9. Naval Innovation and Indigenisation Organisation (NIIO)

Why in News?

- The 4th Session of the BRICS Anti-Drug Working Group was held recently.

Highlights:

- This year's session held over video conference on August 12, 2020, was chaired by Russia.
- There were exchange of opinions concerning drug situation in BRICS states, international and regional trends of illegal trafficking in narcotic drugs, psychotropic substances and their precursors.
- The Discussions highlighted need for real time information sharing among the member states and Need to curb increased drug trafficking through maritime routes.
- Misuse of darknet and other advanced technologies for drug trafficking was one of the key Focal Areas of the Meeting.

BRICS:

- BRICS stands for Brazil, Russia, India, China, and South Africa.
- It is an association of five major emerging national economies established in 2009.
- It together represents about 42% of the world population, 23% of GDP, 30% of the territory and 18% of the Global Trade.

- The acronym BRIC was first used in 2001 by Goldman Sachs in their Global Economics Paper, projecting that economies of Brazil, Russia, India and China would individually and collectively be amongst the world's largest economies in the next 50 years or so.
- South Africa joined this informal group in 2011 and BRIC became BRICS.
- The first formal summit was held in Yekaterinburg, Russia.
- The BRICS members are all developing or newly industrialised countries.
- All five BRICS nations are G-20 members.

10. Swadeshi Microprocessor Challenge

Why in News?

- Swadeshi Microprocessor Challenge launched by the Union Minister for Electronics & Information Technology.

Swadeshi Microprocessor Challenge:

- The 'Swadeshi Microprocessor Challenge – Innovate Solutions for #Aatmanirbhar Bharat' has been launched to provide an impetus to the ecosystem of start-up, innovation and research in India.
- The challenge invites innovators, start-ups and students to use two microprocessors (developed by IIT Madras and Centre for Development of Advanced Computing (CDAC)) to develop various technology products.
- **The Two Microprocessors are:**
 1. SHAKTI (32 bit)
 2. VEGA (64 bit)
- The microprocessors were developed using Open Source Architecture under the aegis of the Ministry of Electronics and IT.
- This initiative is aimed at not only meeting India's future requirements of strategic and industrial sectors but also to potentially mitigate the issues of security, licensing, technology obsolescence and most crucially cutting dependency on imports.
- The challenge will be spread over ten months and the finalists can win financial and incubation support for their ideas.

11. Tuberculosis & Chikungunya inhibiting Flavonoid Molecules

Why in News?

- The First Synthetic Path for tuberculosis & chikungunya inhibiting flavonoid molecules Deciphered.

Highlights:

- Flavonoid molecules, like rugosaflavonoids, podocarflavone, and isoflavone, found to inhibit tuberculosis and chikungunya, have so far been isolated from plants.
- A team of scientists from the Agharkar Research Institute (ARI), Pune, an autonomous institute of the DST, have discovered the route to synthesize these molecules in the lab.
- This discovery is the first synthetic route for producing Flavonoid Molecules related to the Treatment of Tuberculosis and Chikungunya.

Significance of the Discovery:

- Flavonoids are Normally Isolated from Plants.
- However, inconsistency in natural products can occur in different seasons, places, and Species.
- Along with these hurdles, over-exploitation of medicinal plants puts an extra burden on the environment.
- To overcome these problems, such products can be developed by synthetic protocols in the laboratory by simple and cost-effective Methods.
- The synthetic natural products Possess a Structure and medicinal properties similar to the Natural Product.

What are Flavonoids?

- Flavonoids are a group of phytonutrients present in almost all vegetables and fruits.
- They, along with carotenoids, are responsible for the varied colours of fruits and vegetables.
- There are more than 6000 types of flavonoids.
- They are associated with health benefits being good antioxidants, having anti-inflammatory properties and also offer benefits for the immune system.
- Most ayurvedic products are rich in flavonoids. Flavonoids are mostly present in tomato, onion, lettuce, grape, apple, strawberry, peach, and other vegetables.
- A diet rich in flavonoids protects from diseases related to heart, liver, kidney, brain, and other Infectious Diseases.

12. Asteroid 2018VP1

Why in News?

- An asteroid '2018VP1' or 'Election Day Asteroid' would come very close to Earth, a day before the US will vote in its presidential elections (3 November 2020).

Asteroid 2018VP1:

- Asteroid 2018VP1 has a diameter of 2 metres.
- The asteroid has a two-year orbital period and it would be as close as 4,700 miles in 2020.
- It would likely burn up into an impressive fireball after entering the Earth's atmosphere before reaching the ground.
- As per NASA, there is a 0.41%, or 1 in 240 chance that 2018VP1 would impact the Earth.

Highlights:

- There are estimated to be around 1 billion asteroids having a diameter greater than 1 metre. Objects that can cause significant damage upon impact are larger than 30 metres.
- The asteroids that are 140 metres or larger are of the greatest concern due to the level of devastation their impact is capable of causing.
- The Chicxulub impactor, the celestial object that caused sudden extinction of most dinosaur species 66 million years ago, had a diameter of over 10 kilometres.

Deflecting Asteroids:

- Scientists have suggested ways like- to blow up the asteroid before it reaches Earth, or deflecting it off its Earth-bound course by hitting it with a spacecraft.
- The most drastic measure undertaken so far is the Asteroid Impact and Deflection Assessment (AIDA), which includes NASA's Double Asteroid Redirection Test (DART) mission and the European Space Agency's (ESA) Hera.
- The mission's target is Didymos, a binary near-Earth asteroid, that could pose the most likely significant threat to Earth.

Double Asteroid Redirection Test:

- In 2018, NASA announced it had started the construction of DART, scheduled to launch in 2021.
- **Aim:** To slam into the smaller asteroid of Didymos binary system at around 6 km per second in 2022.

Hera:

- Hera scheduled to launch in 2024, will arrive at the Didymos system in 2027.

- **Aim:** To measure the impact crater produced by the DART collision and study the change in the asteroid's Orbital Trajectory.

13. Glanders Disease

Why in News?

- The Delhi High Court has sought response of Delhi government on plea of PETA to prevent Spread of Glanders Disease.

Highlights:

- People for the Ethical Treatment of Animals (PETA) has sought the HC to implement the Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009.
- PETA has sought implementation of the National Action Plan for Control and Eradication of Glanders.
- It is Aimer to prevent spread of Glanders disease among Horses, Mules, Ponies and Donkeys.

Glanders Disease:

- Glanders is a contagious zoonotic disease that occurs primarily in horses, mules, and donkeys.
- The infectious disease that is caused by the bacterium *Burkholderia mallei*, usually by ingestion of Contaminated Feed or water.
- *B. mallei* is able to infect humans, so is classed as a zoonotic agent.
- Transmission occurs by direct contact with Infected Animals and entry is through skin abrasions, nasal and oral mucosal surfaces, or by Inhalation.

Prevalence:

- Glanders is endemic in Africa, Asia, the Middle East, and Central and South America.
- It has been eradicated from North America, Australia, and most of Europe through surveillance and destruction of affected animals, and import restrictions.
- Signs of glanders include the formation of nodular lesions in the lungs and ulceration of the mucous membranes in the upper respiratory tract.
- Bacterium *Burkholderia mallei* is considered as potential bio-weapon and categorized under 'Tier 1 Select Agent'.

4. ECONOMY

1. India's Gold Demand

Why in News?

- India's gold demand declined by a staggering 70 per cent in the three months to June, hitting the lowest quarterly figure in 11 years due to the closure of retail shops and factories following the Covid-induced nationwide lockdown during most of the period.

WGC (World Gold Council) Report:

- A sharp increase in the price of the metal fuelled the downtrend. Gold prices have risen by 60% since January 2019 and 20% since January 2020; income growth or expectation have not kept pace with this.
- Lockdown effects: The quarter was defined by lockdowns and high prices, both of which acted in combination to keep India's gold demand at a record low.
- Demand for jewellery dropped by 74% to 44 tonnes, in an atmosphere of fear and uncertainty where weddings were postponed or just turned out to be uncharacteristically quiet and private.
- Investment demand fared relatively better, with demand dropping lower at 56% to 19.8 tonnes, as gold's safe haven attributes and perhaps some price increase anticipation attracted high net worth individuals (HNIs) and investors.
- Total gold recycled was 13.8 tonnes, down by 64% year on year.
- Total gold imports during the quarter was 11.6 tonnes, down by 95% compared with 247.4 tonnes year-on-year.

World Gold Council:

- It is the market development organisation for the gold industry.
- Their purpose is to stimulate and sustain demand for gold, provide industry leadership, and be the global authority on the gold market.
- The World Gold Council's 26 Members are some of the world's most forward-thinking gold mining companies. They are headquartered across the world and have mining operations in over 45 countries.
- The Head Office of Organisation is at London.

2. Digital India Land Records Modernization Programme

Why in News?

- The Union Ministry of Rural Development and Panchayati Raj has released a booklet on “Best Practices in Digital India Land Records Modernization Programme (DILRMP)”.



Highlights:

- This publication lists various ‘good practices’ followed in Land Records Modernisation Across National Policy Framework and in nine study states Namely Karnataka, Andhra Pradesh, Gujarat, etc.
- It also covers the gaps in implementation of different processes (such as registration, Mutation, Survey, Settlement, Land Acquisition), Technological Initiatives and Legal and Institutional Aspects.

DILRMP:

- **Background:** In 2008, the Cabinet approved merger of two Centrally Sponsored Schemes (Computerisation of Land Records (CLR) & Strengthening of Revenue Administration and Updating of Land Records) into a modified Scheme named Digital India Land Records Modernization Programme (DILRMP).
- The DILRMP is an initiative of the Department of Land Resources (DoLR), Ministry of Rural Development.
- **Aim:**
- The Main Aims of DILRMP are to Usher in a system of
 - ✓ Updated Land Records,
 - ✓ Automated and Automatic Mutation,
 - ✓ Integration between textual and Spatial Records,
 - ✓ Inter-connectivity between Revenue and Registration,

- ✓ To replace the present deeds Registration and Presumptive title system with that of conclusive titling with title guarantee.
- ✓ Components: The DILRMP has 3 major components
- ✓ Computerization of land record
- ✓ Survey/re-survey
- ✓ Computerization of Registration.
- **Programme Implementation:**
 - ✓ The State Governments/UT Administrations will implement the programme with financial and technical support from the Dept. of Land Resources, Government of India.
 - ✓ The district will be taken as the unit of implementation, where all activities under the programme will converge.
- **Benefits to Citizens:**
 - ✓ Real-time land ownership records will be available to the citizen
 - ✓ Property owners will have free access to their records without any compromise in regard to confidentiality of the information
 - ✓ Free accessibility to the records will reduce interface between the citizen and the Government functionaries, thereby reducing rent seeking and harassment.
 - ✓ This method will permit e-linkages to credit facilities.
 - ✓ Market value information will be available on the website to the citizen.
 - ✓ Certificates based on land data (e.g., domicile, caste, income, etc.) will be available to the citizen through computers.
 - ✓ Information on eligibility for Government programs will be available, based on the data.

Achievements made by DILRMP since its inception:

- Computerization of Land Records has been completed (more than 90%) in 23 States/ UTs and substantial progress has been achieved in 11 States/ UTs.
- Digitization of Cadastral Maps has been completed (more than 90%) in 19 States/ UTs and substantial progress has been achieved in 9 States/ UTs.
- **Computerization of Registration (SRO)** has been completed (more than 90%) in 22 States/ UTs and substantial progress has been achieved in 8 States/ UTs.
- **Integration of SRO** with the Revenue Office has been completed (more than 90%) in 16 States/ UTs and substantial progress has been achieved in 8 States/ UTs.

- **Other Govt. Initiatives:** The SWAMITVA (Survey of Villages and Mapping with Improvised Technology in Village Areas) yojana has been launched by the Centre to “map rural inhabited lands using drones and latest survey methods” with a move towards “streamlined planning, revenue collection and provide clarity over property rights in rural areas.”
- **Significance:** A Good Land Records System is a necessity for any harmonious and progressive society. The book would ultimately lead to an improved land governance system, reduction in land disputes, prevention of benami transactions and a comprehensive Integrated Land Information Management System in the country, by sharing best practices.

3. Opening up of City Gas Distribution

Why in News?

- City Gas Distribution companies may soon face competition from third parties, with the Petroleum and Natural Gas Regulatory Board (PNGRB) set to notify regulations to allow competition for these Companies.



City Gas Distribution (CGD) Sector:

- Under the Petroleum and Natural Gas Regulatory Board (PNGRB) Act 2006, PNGRB grants the authorization to the entities for developing a City Gas Distribution (CGD) network (including PNG network) in a specified Geographical Area of India.
- CGD sector has four distinct segments – Compressed Natural Gas (CNG) used as auto-fuel, and Piped Natural Gas (PNG) used in domestic, commercial and Industrial segments.
- Regulations pertaining to authorization/bidding of CGD networks were amended in 2018, which helped in attracting wider participation from public and private sector in CGD sector. This led to expand the coverage of CGD with potential to cover about 53% of the country’s area and 70% of country’s population.
- To promote the development of CGD network, the Government has accorded the priority in domestic gas allocation to PNG (Domestic) and CNG (Transport) segments, as they are cheaper than Imported Gas.
- In FY 2018-19, the total gas consumption in India was 148 MMSCMD (Million standard cubic feet per day). In this, CGD accounts for 25.27 MMSCMD which is 17% of total gas consumption in India.

What is the Current Scenario?

- City gas distribution companies currently have exclusive right to lay, operate and expand gas distribution infrastructure in their respective geographies as well as market both Compressed Natural Gas (CNG) and Piped Natural Gas (PNG) in these areas.
- The government had decided to grant exclusivity to gas distribution companies to incentivise them to invest in infrastructure to deliver PNG and CNG widely across cities.
- These companies supply PNG to household, industrial and commercial use and CNG for vehicles through retail sites of state-owned oil Marketing Companies.

What is the Proposed Change?

- Under new proposal by the PNGRB, distribution companies would have to provide access to third-party companies to pay to use their infrastructure to market CNG and PNG based on a transportation tariff set by the incumbent players but regulated by the PNGRB in case of Disputes.

What is the Likely Impact?

- The end of marketing exclusivity may lead to some competition and lower prices for CNG.
- OMCs, which currently receive a commission on the sale of CNG sold through their retail points, may seek to take some market share in the CNG distribution business by using the distribution network of CGD companies to retail CNG directly to customers.
- However, OMCs may not seek to take up the opportunity that arises from the end of the exclusivity period immediately as they are currently enjoying risk-free commissions on the sale of CNG at their retail sites.
- Also, CGD companies and OMCs might decide to increase the commissions provided to OMCs once gas Distribution Companies lose marketing and Infrastructure Exclusivity.

Impact on the CGD Companies:

- The profitability of city Gas Distribution companies would be Affected Significantly if their market share is taken up by competitors and it may even reduce their ability to invest further in Expanding Gas Distribution Infrastructure.

PNGRB:

- PNGRB was constituted under The Petroleum and Natural Gas Regulatory Board Act, 2006.
- It has been mandated to regulate the Refining, Processing, Storage, Transportation, Distribution, Marketing and sale of Petroleum and Natural Gas excluding Production of crude oil and Natural Gas.

- It also protects the Interests of Consumers and Entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to promote competitive markets.
- **Composition of PNGRB:** It consists of Chairperson, a Member (Legal) and three other members nominated by chairperson which decides on disputes arising among downstream companies or with outsiders.

National Gas Grid:

- National Gas Grid would connect all major demand and supply gas centre in India.
- **Objectives:**
 - ✓ To remove regional imbalance within the country with regard to access for natural gas and provide clean and green fuel throughout the country.
 - ✓ To connect gas sources to major demand centres and ensure availability of gas to consumers in various sectors.
 - ✓ Development of City Gas Distribution Networks in various cities for the supply of CNG and PNG.
 - ✓ Significance:
 - ✓ The National Gas Grid together with providing gas connections to households will provide better infrastructure for automobiles using gas.
 - ✓ The National Gas Grid will also aid in renewing of the fertilizer sector and also give a boost to the Power and Automotive sector.

4. Innovation and Agripreneurship under Rashtriya Krishi Vikas Yojana

Why in News?

- The Ministry of Agriculture and Farmer`s Welfare is having launched the Innovation and Agri-entrepreneurship Development programme component under Rashtriya Krishi Vikas Yojana.
- The component seeks to promote innovation and agripreneurship by providing financial support and nurturing the Incubation Ecosystem.

Components:

- Agripreneurship Orientation – 2 months duration with a monthly stipend of Rs. 10,000/- per month. Mentorship is provided on financial, technical, IP issues etc.
- Seed Stage Funding of R-ABI Incubatees – Funding up to Rs. 25 lakhs (85% grant & 15% contribution from the Incubatee).

- Idea/Pre-Seed Stage Funding of Agripreneurs – Funding up to Rs. 5 lakhs (90% grant and 10% contribution from the Incubatee).

Knowledge Partners:

- Selected by the Department of Agriculture, Cooperation and Farmers Welfare these are:
- National Institute of Agricultural Extension Management (MANAGE), Hyderabad,
- National Institute of Agricultural Marketing (NIAM) Jaipur,
- Indian Agricultural Research Institute (IARI) PUSA, New Delhi,
- University of Agriculture Science, Dharwad, Karnataka and
- Assam Agriculture University, Jorhat, Assam

Services provided by the Institutes:

- The institutes' issue calls for application for their programmes and based on a rigorous process of selection through various stages and training of two months, the final list of start-ups that are to be funded through grants-in-aid are finalised.
- Training on technical, finance, intellectual property, statutory compliance issues etc. is provided.
- Mentoring of start-ups through monitoring of milestones and timelines is part of the programme.

Rashtriya Krishi Vikas Yojana: Remunerative Approaches for Agriculture and Allied sector Rejuvenation (RKVY-RAFTAAR):

- RKVY-RAFTAAR is a Centrally Sponsored Scheme of Ministry of Agriculture and Farmers' Welfare.
- It is aimed at strengthening infrastructure in Agriculture and Allied sectors to promote Agribusiness by facilitating financial aid.
- Centre for Innovation and Agripreneurship (CIA) (which is a National Institute of Agricultural Extension Management (MANAGE)), is a Knowledge Partner for Implementation of this Scheme.

Objectives:

- Creation of required pre and postharvest agri-infrastructure.
- To provide autonomy, flexibility to States to plan and execute schemes as per local/Farmers needs.
- To promote value chain addition linked production models that will help farmers increase their Income.

- To Mitigate the risk of farmers with a focus on additional income generation activities—like integrated farming, mushroom cultivation etc.
- To attend national priorities through several sub-schemes.
- To empower youth through skill development and Agri entrepreneurship based agribusiness models that attract them to agriculture.

Funding:

- 60: 40 (Government of India and State Share).
- 90 (Centre):10 (the Hilly States and North-eastern States)
- For UTs the grant is 100% as Central share.

Background:

- Rashtriya Krishi Vikas Yojana was initiated in 2007.
- It is an umbrella scheme for ensuring holistic development of agriculture and allied sectors by allowing states to choose their agriculture and allied sector development activities.
- RKVY guidelines were revamped as RKVY – RAFTAAR to increase the inclusiveness of the programme for the remaining period of the Fourteenth Finance Commission.

5. Insolvency and Bankruptcy Board amends Liquidation Process Regulations

Why in News?

- Recently, the Insolvency and Bankruptcy Board of India (IBBI) amended the Insolvency and Bankruptcy Board of India (Liquidation Process) Regulations, 2016
- These Regulations Pertain to the Liquidation Process.

Highlights:

- The regulations require the Committee of Creditors (CoC) to fix the fee payable to the Liquidator.
- Where the fee has not been fixed by the CoC, the regulations provide for a fee as a percentage of the amount realised and of the amount Distributed by the Liquidator.

IBBI:

- The Insolvency and Bankruptcy Board of India (IBBI) was established on October 1, 2016, under the provisions of the Insolvency and Bankruptcy Code, 2016.
- It functions under the Ministry of Commerce.
- **Members:**

- ✓ It has a Chairman and 10 Members.
- ✓ One Chairperson; three members from Central Government officers not below the rank of Joint Secretary or equivalent; One nominated member from the RBI; Five members nominated by the Central Government; of these, three shall be whole-time members; More than half of the directors of its board shall be Independent Directors.

- **Functions:**

- ✓ It provides a market-determined and time-bound mechanism for an orderly resolution of insolvency and orderly exit, wherever required.
- ✓ It writes and enforces rules for transactions, namely, corporate insolvency resolution, corporate liquidation, individual insolvency resolution and individual bankruptcy under the Code.
- ✓ It seeks to consolidate and amend laws relating to reorganization as well as insolvency resolution of corporate persons, partnership firms and individuals in a time-bound manner.
- ✓ It has been set up to regulate professionals, information utilities (IUs) and agencies engaged in the resolution of insolvencies of companies.
- ✓ IBC handles cases under it using tribunals' namely National Company Law Tribunal (NCLT) and Debt Recovery Tribunal (DRT).

6. RBI Bi-Monthly Policy

Why in News?

- The Reserve Bank of India kept interest rates on hold, seeking to contain a rise in retail Inflation Even as Growth remains a Concern.

Highlights:

- The RBI has slashed policy rates by 115 basis points since February this year, and pumped close to Rs 10 Lakh Crore liquidity into the financial system.
- In its bi-monthly monetary policy review, it has also given the green signal to a loan Restructuring Scheme to bail out Stressed Borrowers.

Why did the Monetary Policy Committee not slash Interest Rates?

- Due to uncertainty surrounding the inflation outlook and the weak state of the economy amid the pandemic, the policy panel has decided to keep the policy rate on hold, while remaining watchful for a durable reduction in inflation to use the Available Space to Support a Revival of the Economy.

Why is RBI Worried about Inflation?

- The Headline Retail Inflation Prints of April-May 2020 require more clarity.
- The inflation objective is further obscured by the spike in food prices because of floods in eastern India, lockdown-related disruptions and cost-push pressures in the form of high taxes on petroleum products, hikes in telecom charges, and rising raw material costs reflected in rise in steel prices and gold prices on safe haven demand
- There are supply chain disruptions on account of Covid-19 which persists, with implications for both food and non-food prices.
- Protein-based food items could also emerge as a pressure point, given the tight demand-supply balance in the case of pulses.

What is the RBI Assessment of the Economy?

- According to RBI the economic activity had started to recover from the lows of April-May following the uneven reopening of some parts of the country in June.
- However, fresh Covid-19 infections have forced renewed lockdowns in several cities and states, and several high-frequency indicators have levelled off.
- The RBI has states that the recovery in the rural economy is expected to be robust, buoyed by the progress in kharif Sowing.

7. Debt Restructuring

Why in News?

- Reserve Bank of India (RBI) has extended the one- time debt Restructuring for Small Businesses.

Highlights:

- In view of the continued need to support viable MSME entities on account of the fallout of COVID-19, the Reserve Bank of India (RBI) has extended the one-time debt restructuring for small businesses by another three months to March 2021.

Debt Restructuring:

- Debt restructuring is a process used by companies facing cash flow problems or financial distress to avoid the risk of default.
- It can be carried out by reducing the interest rates on loans or by extending the payment term.
- It can also include a debt for equity swap which means that company's creditors may agree to cancel some or all of the debt in exchange for equity in the company.

- It can also involve a bond haircut where the company may negotiate to write off certain portion of interest or capital.
- Restructuring debt can be a win-win for both entities as the company avoids bankruptcy and the lenders typically receive more than what they would through a bankruptcy Proceeding.

Significance of the Move:

- The restructuring will enable borrowers to reschedule their loan payment, or get a limited loan repayment holiday, or lower interest rates on their existing loans depending on the agreement they reach with their bank(s).
- RBI has also relaxed some existing provisions for availing of this scheme by micro, small and Medium Enterprises (MSMEs).

8. India Development Update 2020

Why in News?

- The World Bank has Projected a Steeper Contraction in India's economy than the 3.2% it had Forecasted for the Current Financial Year 2020-21.

Highlights:

- In May, the World Bank had projected Indian economy to contract by 3.2% in FY 2020-21, and predicted rebound slowly in the next fiscal.
- It noted that although a rebound is expected in FY 2021-22, it will take place very slowly.
- It reflected the impact of the crisis not only on India's current growth but also on potential output, which is expected to return to trend only over the next several quarters.
- As per the report, countries that invest in sectoral reforms – infrastructure, labour and land, human capital – and ensure that their national systems are connected to the global value chains, are more likely to respond to uncertainties and are better placed to take advantage of any global shifts.
- The disinvestment plans of Indian government in the given unprecedented financial market volatility are expected to proceed more slowly in the near-term.
- As a result, the fiscal deficit and debt of the central government are likely to increase sharply over the Next Two Years.

9. Ethanol as a Fuel

Why in News?

- Utilization of excess Sugarcane for Ethanol production to Improve the Viability of the sugar Industry.

Highlights:

- The government has taken various measures to improve the viability of the sugar industry, thereby enabling sugar mills to make timely payment of cane dues of farmers.
- Diversion of excess sugarcane and sugar is the long-term solution for addressing the problem of excess stock and improving viability of the sugar industry.
- Ethanol is a green fuel & its blending with petrol also saves the country's foreign exchange.
- To encourage sugar mills to divert excess sugarcane to produce ethanol for blending with petrol, the government has allowed production of ethanol from B-Heavy Molasses, sugarcane juice, sugar syrup and sugar; and has also fixed the remunerative ex-mill price of ethanol derived from these feed-stocks.
- The state-wise targets for ethanol manufacture have also been fixed.
- Sugar mills/distilleries have been advised to utilize at least 85 % of their existing installed capacity to produce ethanol.
- Sugar mills having distillation capacity have been advised to divert B-heavy molasses and sugar syrup for producing ethanol to utilize their capacity to maximum extent; and those sugar mills which do not have distillation capacity should produce B-Heavy molasses and should tie up with distilleries which can produce ethanol from B-Heavy molasses.
- States have also been Requested to Ensure Smooth Movement of Molasses & Ethanol.

10. National Strategy for Financial Education

Why in News?

- The Reserve Bank of India has released the National Strategy for Financial Education 2020-25.

Highlights:

- NSFE: 2020-25 has recommended adoption of a '5 C' – Content, Capacity, Community, Communication and Collaboration – approach to achieve financial well-being of all Indians.
- It is put together by National Centre for Financial Education (NCFE) in consultation with Reserve Bank of India, Securities and Exchange Board of India, Insurance Regulatory and

Development Authority of India and Pension Fund Regulatory and Development Authority.

Recommendations:

- Financial literacy content for school children (including curriculum and co-scholastic), teachers, young adults, women, new entrants at workplace/ entrepreneurs (MSMEs), senior citizens, persons with disabilities, illiterate people, etc.
- Capacity development of various intermediaries, who can be involved in providing financial literacy, and development of a 'Code of Conduct' for financial education providers.
- Community-led approaches for disseminating financial literacy in a sustainable manner.
- Communication approach, use of technology, mass media channels for dissemination of financial education messages.
- Integrating financial education in the school curriculum, various professional and vocational courses (undertaken by the Ministry of Skill Development and Entrepreneurship) through their Sector Skilling Missions and B.Ed./M.Ed. programmes.

NSFE Strategic Objectives:

- To inculcate financial literacy concepts through financial education, to make it an important life skill.
- To encourage active savings behaviour and participation in financial markets to meet financial goals and objectives.
- To develop credit discipline and encourage availing of credit from formal financial institutions as per requirement.
- To improve usage of digital financial services in a safe and secure manner.
- Risk Management through relevant and suitable insurance cover and plan for old age and retirement through coverage of suitable pension products.
- To Disseminate Knowledge about Rights, Duties and Avenues for Grievance Redressal.

11. Portal for Registration and Renewal of Jewellers

Why in News?

- The Ministry for Consumer Affairs, Food and Public Distribution launched online system of Registration and Renewal of Jewellers and for recognition and renewal of Assaying and Hallmarking Centres.

Purpose:

- These online modules will bring about ease of doing business for both jewellers and entrepreneurs who have established Assaying and Hallmarking Centres.
- Hallmarking of precious metals will be mandatory from 1st June 2021.
- The online system of audit will facilitate expeditious disposal of complaints regarding Malpractices in the Hallmarking of Jewellery Items.

What is Hallmarking?

- Hallmarking is the accurate determination and official recording of proportionate content of precious metal in precious metal articles.
- Hallmarks are thus official marks used in many countries as a guarantee of purity or fineness of precious metal articles.
- Objective: To protect public against adulteration and obligate manufacturers to maintain legal standards of fineness.
- Registration is granted to the jewellers by BIS under Hallmarking Scheme.
- The BIS certified jewellers can get their jewellery hallmarked from any of the BIS recognized Assaying and Hallmarking Centres.

Bureau of Indian Standards:

- BIS is established as the National Standards Body of India under the BIS Act, 2016.
- It is under the aegis of Ministry of Consumer Affairs, Food and Public Distribution.
- Objective: Harmonious development of activities of Standardisation, marking and quality certification of goods.
- The standards and certification scheme support various public policies especially in areas of providing safe reliable quality goods; minimizing health hazards to consumers; promoting exports and imports substitute; control over proliferation of varieties etc. through Standardization, Certification and Testing.

12. RBI Contingency Fund

Why in News?

- The Reserve Bank of India (RBI), the government's banker, has retained a whopping amount of Rs 73,615 crore within the RBI by transferring it to the Contingency Fund (CF) of the central bank, thus leading to a sharp fall in the transfer of surplus to the government in the current year. The central bank's main risk provision accounts – Contingency Fund, Currency and Gold Revaluation Account (CGRA), Investment Revaluation Account

Foreign Securities (IRA-FS) and Investment Revaluation Account-Rupee Securities (IRA-RS) – together now amount to Rs 13.88 lakh crore.

Contingency Fund (CF):

- This is a Specific Provision meant for Meeting Unexpected and Unforeseen Contingencies, including depreciation in the value of securities, risks arising out of monetary/exchange rate policy operations, systemic risks and any risk arising on account of the special responsibilities enjoined upon the Reserve Bank.
- This amount is retained within the RBI. With a higher provision of Rs 73,615 crore towards CF, the balance in CF as of June 2020 was Rs 264,034 crore as compared to Rs 196,344 crore in June 2019 and Rs 232,108 crore in June 2018. Last year, it withdrew Rs 52,637 crore from CF to pay a higher Surplus to the Government.

What did the Government get as Surplus this Year?

- The Central Board of the RBI recently approved the transfer of Rs 57,128 crore as surplus – or dividend – to the Central government for the accounting year 2019-20, sharply lower by 67.5 per cent from Rs 1.76 lakh crore that it paid to the government last year.
- While the RBI's transfer this year is as per the economic capital framework (ECF) adopted by the RBI board last year, last year's transfer included Rs 123,414 crore of dividends due from the previous financial year 2018-19 and Rs 52,637 crore taken out from CF as per the revised ECF.
- As per Section 47 of the RBI Act, profits or surplus of the RBI are to be transferred to the government, after making various contingency provisions, public policy mandate of the RBI, including financial stability considerations.

Why did Surplus Transfer Rise Last Year?

- The government, which was looking for funds to bridge the deficit, sought higher surplus from the RBI pointing out the high reserves/ surplus retained by the RBI.
- It was initially resisted by the RBI which was then headed by Urjit Patel.
- The RBI relented later appointed the Bimal Jalan committee to work out the modalities of the transfer.
- Last year, the RBI said as the central bank's financial resilience was within the desired range, the excess risk provision amounting to Rs 52,637 crore was written back from Contingency Fund to income, facilitating the transfer of Rs 1.76 lakh crore surplus to the Government.

What's the CGRA Account?

- The Currency and Gold Revaluation Account (CGRA) is maintained by the Reserve Bank to take care of currency risk, interest rate risk and movement in gold prices.
- Unrealised gains or losses on valuation of foreign currency assets (FCA) and gold are not taken to the income account but instead accounted for in the CGRA. Net balance in CGRA, therefore, varies with the size of the asset base, its valuation and movement in the exchange rate and price of gold.
- CGRA provides a buffer against exchange rate/ gold price fluctuations. It can come under pressure if there is an appreciation of the rupee vis-à-vis major currencies or a fall in the price of gold.
- When CGRA is not sufficient to fully meet exchange losses, it is replenished from the CF. During 2019-20, the balance in CGRA increased from Rs 664,480 crore as on June 30, 2019 to Rs 977,141 crore as on June 30, 2020 mainly due to Depreciation of Rupee and the rise in the International Price of Gold.

Why did RBI's Income Decline this Year?

- The RBI's income declined by 29 per cent to Rs 149,672 crore as of June 2020 when compared to Rs 193,036 crore in 2018-19.
- This is because the previous year's income included a write-back from Contingency Fund amounting to Rs 52,637 crore which was then transferred to the government.
- A comparison excluding the same from previous year's income, shows a marginal increase in the income for 2019-20.
- The expenditure of the Reserve Bank for the year 2019-20 is Rs 92,540 crore which includes a risk provision of Rs 73,615 crore towards Contingency Fund as compared to an expenditure of Rs 17,045 crore in 2018-19.
- The year ended with an overall surplus of Rs 57,128 crore which will be transferred to the government this year.

What are IRA-FS and IRA-RS Accounts?

- The unrealised gains or losses on revaluation in foreign dated securities are recorded in the Investment Revaluation Account Foreign Securities (IRA-FS). The balance in IRA-FS increased from Rs 15,735 crore as on June 30, 2019 to Rs 53,834 crore as on June 30, 2020.
- Similarly, the unrealised gains or losses on revaluation is accounted for in Investment Revaluation Account-Rupee Securities (IRA-RS). The balance in IRA-RS increased from

Rs 49,476 crore as on June 30, 2019 to Rs 93,415 crore as on June 30, 2020 due to increase in portfolio of rupee securities and decline in yields on government of India securities held by the Reserve Bank during the year.

13. Export Preparedness Index 2020

Why in News?

- Export Preparedness Index 2020 was released recently by government think-tank NITI Aayog.

Highlights:

- Niti Aayog in partnership with the Institute of Competitiveness has released the first Export Preparedness Index (EPI) 2020.
- The EPI intends to identify challenges and opportunities and encourage a facilitative regulatory framework.
- The index ranked states on four key parameters – policy; business ecosystem; export ecosystem; export performance.
- The index also took into consideration 11 sub-pillars – export promotion policy; institutional framework; business environment; infrastructure; transport connectivity; access to finance; export infrastructure; trade support; R&D infrastructure; export diversification; and growth orientation.

States Performance:

- Gujarat has topped the index followed by Maharashtra and Tamil Nadu.
- The other States that have made it to the top 10 include Rajasthan, Odisha, Telangana, Haryana, Chhattisgarh, Karnataka and Kerala.
- Himalayan states: Uttarakhand topped the chart, followed by Tripura and Himachal Pradesh.
- **Union Territories:** Delhi has performed the best, followed by Goa and Chandigarh.
- **Landlocked States:** Rajasthan performed the best, followed by Telangana and Haryana.
- Coastal States emerged as the best performers, with six out of eight coastal States featuring in the top 10 rankings.

Concerns Raised:

- Report highlighted India's inability to take advantage of China's falling export capacity during 2014-16, and losing out to nations like Vietnam due to delayed action.

-
- This “vital period” had served as an opening for other developing economies to enter and subsume lines of production from where China had either been weakened or its influence toned down.
 - “India did bring in reforms in late 2017 to ensure that the export sector remained competitive and attracts potential investors. However, Bangladesh and Vietnam had made the most of the situation before India and enhanced their export competitiveness by targeting their strengths,” it stated.

Solutions:

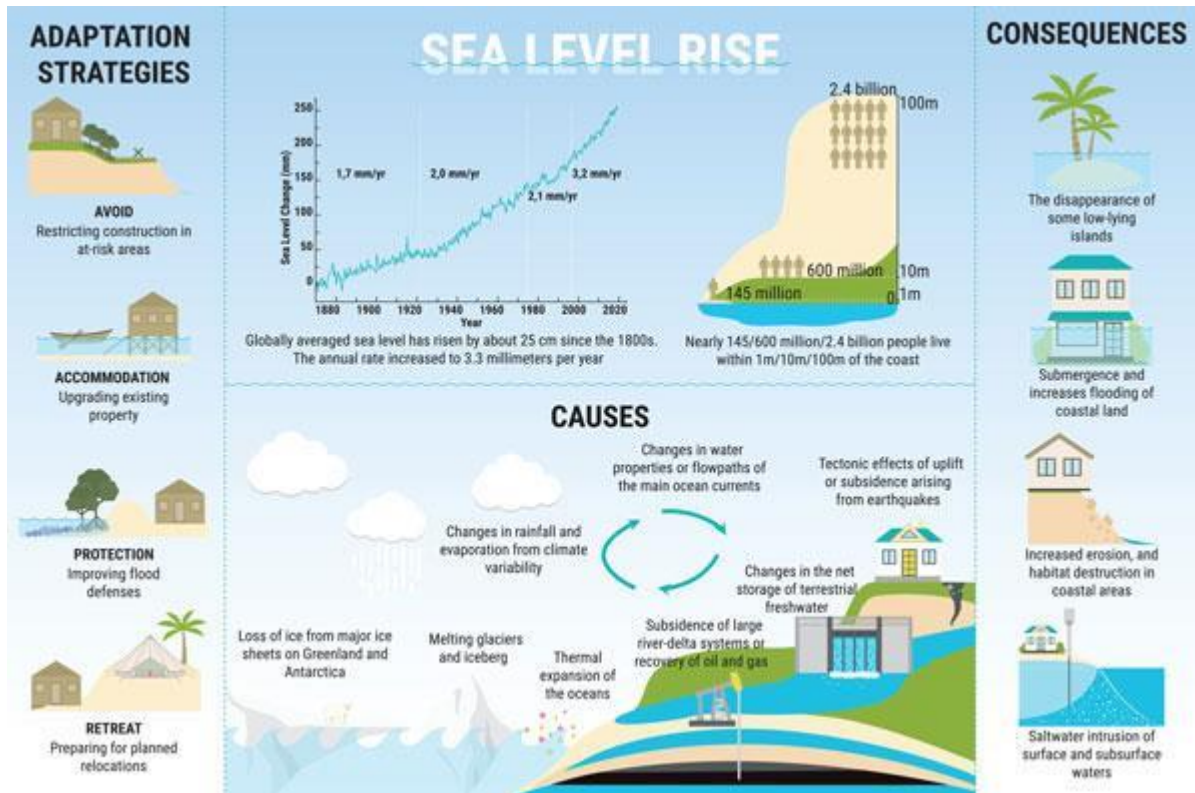
- Short-term solutions to these “significant” bottlenecks, ranges from facilitating joint development of export infrastructure to collaborating with academic institutions.
- By creating convergence for building export infrastructure, facilitating robust industry-academia-government linkages to build trade-support networks, promoting state-level engagements for economic diplomacy, and an emphasized focus on designs and standards, India would be able to develop some of the key learnings of this analysis.”
- Report signifies that States will not only have to focus on increasing and diversifying exports but also need to focus on ensuring forward and backward integration to global value chains, which would allow the states to export higher value-added Goods and Services.

5. GEOGRAPHY & ENVIRONMENT

1. Reports on the coastal flooding

Why in News?

- A New Research was Recently published in Scientific Reports on the Coastal Flooding.



What is Sea Level Rise?

- Sea level rise is an increase in the level of the world's oceans due to the effects of global warming.
- The change in sea levels is linked to three primary factors, all induced by global climate change:
 - ✓ **Thermal expansion**: When water heats up, it expands. About half of the sea-level rise over the past 25 years is attributable to warmer oceans simply occupying more space.
 - ✓ **Melting glaciers**: Recently, higher temperatures caused by global warming have led to greater-than-average summer mountain glaciers melting as well as diminished snowfall due to later winters and earlier springs.
 - ✓ That creates an imbalance between runoff and ocean evaporation, causing sea levels to rise.
 - ✓ **Loss of Greenland and Antarctica's ice sheets**: Increased heat is causing the massive ice sheets that cover Greenland and Antarctica to melt more quickly.

- ✓ Meltwater from above and seawater from below is seeping beneath Greenland's ice sheets, lubricating ice streams and causing them to move more quickly into the sea.
- ✓ There is already melting in West Antarctica, and glaciers in East Antarctica are also showing signs of destabilizing.

Consequences:

- **Effects:** Devastating effects on coastal habitats farther inland, destructive erosion, wetland flooding, aquifer and agricultural soil contamination with salt, and lost habitat for fish, birds, and plants.
- Higher sea levels are also coinciding with hurricanes, contributing to more powerful storm surges.
- Between 1963-2012, almost half of all deaths from Atlantic hurricanes were caused by storm surges.
- Already, flooding in low-lying coastal areas is forcing people to migrate to higher ground.
- The higher coastal water levels threaten basic services such as Internet access, since much of the underlying communications infrastructure lies in the path of rising sea.

Regional SLR:

- Sea level rise is not uniform across the world. For instance, the gravitational pull of the polar ice sheets has different effects on sea levels in different parts of the world, which means regional SLR can be higher or lower than the global SLR.
- Also, regional SLR can be higher or lower. For instance, SLR in places such as Scotland and Alaska could be significantly less than the regional SLR for eastern US.

Highlights of the Study:

- By 2100, the global population exposed to episodic coastal flooding will increase from 128-171 million to 176-287 million.
- The value of global assets exposed to these episodes is between \$6,000-\$9,000 billion, or 12-20 % of global GDP.
- By 2100, flooding incidents that are typically associated with a 1 in a 100-year event could occur as frequently as 1 in 10 years due to sea level rise.
- 0.5-0.7 % of the world's land area is at a risk of episodic coastal flooding by 2100, impacting 2.5-4.1 % of the population, assuming there are no coastal defenses measures in place.
- Globally, of the 68% area that is prone to coastal flooding, over 32% can be attributed to regional SLR. This will Significantly Increase Coastal Flooding by 2100.

How much of a threat is Sea level Rise?

- As per Intergovernmental Panel on Climate Change (IPCC), oceans will rise between 26 to 77 centimetres by 2100 with temperatures warming 1.5 °C.
- In September 2019, Indonesia announced that its capital would be relocated from Jakarta to the province of East Kalimantan on the lesser populated island of Borneo.
- The relocation was meant to reduce the burden on Jakarta, from poor quality air and traffic gridlocks, and is particularly prone to flooding. The combination of climate change and heavy congestion makes Jakarta, the world's fastest-sinking city, by about 25 cm into the ground every year.
- As per some projections, climate change is expected to inundate sections of Mumbai by 2050.
- Other cities that regularly feature in the lists endangered by climate change include Guangzhou (China), Jakarta, Miami (USA), and Manila (Philippines).

Global Efforts Against Sea Level Rise:

- Giant Sea Wall: Indonesia's government launched a coastal development project called a Giant Sea Wall or "Giant Garuda" (Garuda is the name of a bird from Hindu mythology and is Indonesia's national symbol) in 2014 meant to protect the city from floods.
- Northern European Enclosure Dam: Researchers proposed an extraordinary measure to protect 25 million people, and important economic regions of 15 Northern European countries from rising seas as a result of climate change. They suggested a Northern European Enclosure Dam (NEED), enclosing all of the North Sea by constructing two dams to protect Northern Europe against SLR.
- NASA Missions: NASA continuously measures the weight of glaciers and ice sheets – with the twin GRACE satellites from 2002 to 2017, and with the GRACE-Follow On satellites since 2018.

Suggestions:

- Well-designed coastal protection could both reduce expected damages and be cost efficient for urban and densely populated area.
- Building Seawalls and Planting Mangroves or other Vegetation to Absorb Water.

2. Kumaon Himalaya

Why in News?

- Research by the Scientists from Wadia Institute of Himalayan Geology, Dehradun an autonomous institute under the Department of Science and Technology (DST), Govt. of India was published in the Scientific journal ‘Lithos’,
- The study sought for understanding the geodynamic scenario of Kumaon Himalayas. The study would provide an important link towards an understanding of the seismic and Geomorphic Characteristics of Himalayas.

Highlights:

- Inverted metamorphism (a condition in which higher-grade metamorphic rocks lie on top of lower-grade rocks), leading to partial melting of the Himalayan crust in two short spans of 27 to 32 and 22 to 26 million years.
- Partial melting means only a portion of a solid is melted.
- Unlike other parts of the western Himalaya, in Kumaun, partial melting of the crust is caused by activation of a tabular to sheet-like, planar or curvi-planar zone composed of rocks that are more strained than rocks adjacent to the zone (major shear zones), instead of a continuous zone of mid-crustal partial melts.
- The study also suggested that brittle deformation of these shear zones/ thrust planes may still control exhumation [means the process by which a parcel of rock (that was formerly buried), approaches Earth’s surface] and seismicity in this region of the Himalaya.

Kumaon Himalayas:

- Kumaon Himalayas extending to 320 km lie in the west-central section of the Himalayas in northern India.
- It lies largely within the state of Uttarakhand and northwest of Nepal.
- The range includes the Siwalik Range in the south and part of the Great Himalayas in the north.
- Lies between Sutlej River in the east and the Kali River in the west.
- Nanda Devi, the range’s highest peak.
- Glaciers and snowmelt feed the headstreams of the Ganga River.
- Deodar, cedar forests are found here.
- Challenges include deforestation, land Degradation and Erosion.

3. Himalayan Geothermal Springs

Why in News?

- As per the Wadia Institute of Himalayan Geology Himalaya hosts about 600 geothermal springs having varied temperature and chemical conditions and release huge amount of Carbon Dioxide in the Atmosphere.

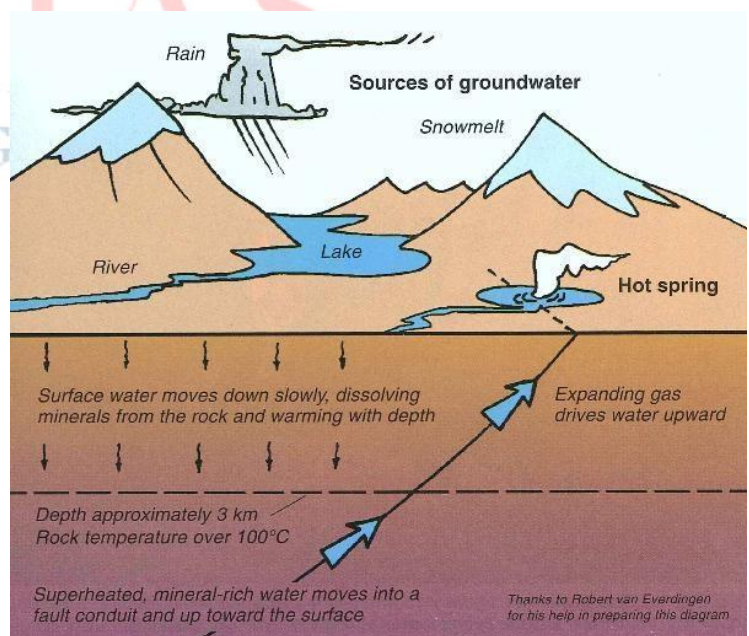


Highlights:

- Carbon outflux from Earth's interior to the exosphere through Volcanic Eruptions, Fault Zones, and Geothermal Systems contribute to the Global Carbon Cycle.
- This effect short and long term climate of the Earth.
- The Himalayan geothermal springs which cover about 10,000 square km in the Garhwal region of Himalaya, show a significant discharge of Carbon dioxide (CO₂) rich water.
- The estimated carbon dioxide Degassing (removal of dissolved gases from liquids) flux is nearly 7.2×10^6 mol/year to the Atmosphere.

Outcome:

- The study suggested that CO₂ in these thermal springs are sourced from metamorphic decarbonation of carbonate rocks present deep in the Himalayan core along with magmatism and oxidation of graphite.
- Most of the geothermal water is dominated by evaporation followed by weathering of silicate rocks.
- Such CO₂ degassing should be taken into account to assess global carbon outflux in the earth's atmosphere.



Hot Spring:

- Hot spring or a thermal spring is a spring with water at temperatures substantially higher than the Air Temperature of the Surrounding Region.

- Most hot Springs Discharge Groundwater that is heated by shallow intrusions of magma (molten rock) in Volcanic Areas.
- Some thermal springs are not Related to Volcanic Activity.
- In such cases, the water is heated by convective circulation.
- This means that the groundwater percolating downward reaches depths of a kilometer or more where the temperature of rocks is high because of the normal temperature gradient of the Earth's crust—about 30 °C (54 °F) per kilometer in the first 10 km (6 miles).

Major Hot Springs in India:

- Panamik in Nubra valley, Ladakh.
- Kheer Ganga hot water spring, Himachal Pradesh
- Gaurikund, Kedarnath, Uttarakhand.

4. Antibiotic Disposal in India's Waterways

Why in News?

- A research programme led by experts from the University of Birmingham and the Indian Institute of Technology (IIT) Hyderabad has received 1.2 million pounds of UK and Indian funding to explore the role played by India's rivers is increasing antimicrobial resistance (AMR).

Highlights:

- The new project is part of a GBP 8-million package of UK-India government-backed research aimed at deepening existing scientific research collaboration with five new programmes to tackle anti-microbial resistance (AMR) that could lead to important advances in the global fight against antibiotic-resistant bacteria and genes.
- The project is supported by the UK Research and Innovation's (UKRI) Fund for International Collaboration (FIC) as well as the UK's Natural Environment Research Council (NERC) and India's Department of Biotechnology (DBT) along with researchers from Newcastle University, the James Hutton Institute in Scotland, IIT Gandhinagar and IIT Madras.
- The researchers will sample and model two contrasting river networks in India – the Musi river in Hyderabad, which has high concentrations of antibiotics released from production facilities, and the less polluted Adyar river in Chennai.

Expected Benefits:

- Learn how antibiotics and resistant bacteria flow through river networks and how far they can be transported in rivers, from where they can spread onto fields and into communities during floods.
- Make a quantitative risk assessment to help create environmental standards for safe concentrations of antibiotics in water bodies.
- Compare the effectiveness of different interventions such as separate treatment of waste streams from the manufacturing of antibiotics, decentralised sewage treatment or containment reservoirs.
- Will help bring down the levels of resistance in the environment
- An estimated 58,000 babies die in India every year from superbug infections passed on from their mothers.
- River Musi is Considered to be a Factory for Superbugs.

5. Leopard Poaching in India

Why in News?

- A paper titled 'SPOTTED' in Illegal Wildlife Trade: A Peek into Ongoing Poaching and Illegal Trade of Leopards in India' by TRAFFIC India was published in the latest edition of TRAFFIC India's Newsletter.

Highlights:

- Of the total of 747 leopard deaths between 2015-2019 in India, 596 were linked to illegal wildlife trade and activities related to poaching.
- Highest numbers of poaching incidents were reported from the States of Uttarakhand and Maharashtra.
- Skin accounted for 69% of all seizures, while derivatives like claws, teeth and bones were also traded.
- Another concern raised in the paper is the incidence of live animal trade involving leopard cubs in seizures in Chennai and Maharashtra.
- Lured by high profits and low risk of detection.

Leopard Census:

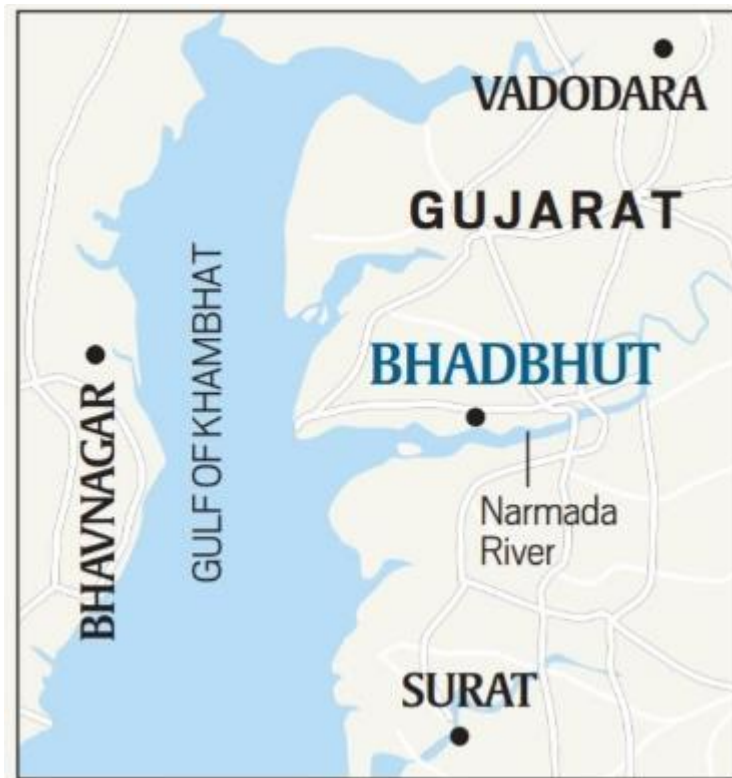
- The last Formal Census on India's leopards was conducted in 2014, which estimated the population between 12,000 and 14,000.
- Indian Leopards suffered 75% to 90% Population Decline.

- **Causes:**
 - ✓ Habitat destruction
 - ✓ Human-wildlife conflict
- **Conservation Status:**
 - ✓ IUCN Status: Vulnerable.
 - ✓ Schedule I under the Wildlife (Protection) Act, 1972.

6. Conflict over Bhadbhut project in Gujarat

Why in News?

- The Gujarat government announced the construction of the Bhadbhut project whose foundation stone was laid in 2017.



Highlights:

- The Rs 4,167-crore Bhadbhut project in Bharuch, Gujarat aims to solve freshwater problems in this Region of Gujarat.

Bhabbhut Project:

- It is planned to be a 1.7-km causeway-cum-weir barrage across river Narmada.
- It is constructed at a place 25 km from mouth of the river, where it flows into the Gulf of Khambhat (Cambay).

- The Barrage will stop most of excess water flowing out of Sardar Sarovar Dam from Reaching the Sea.
- It will thus create a sweet water lake of 600 Mcm (million cubic metres) on the river.
- It also Aims to prevent flooding in years when rainfall is higher than normal.
- The project has faced protests from local fishermen for its likely impact on fishing patterns, notably of hilsa fish.

Need of the project:

- The main purpose of project is to prevent salinity ingress (the process of salt water invading areas which previously contained only fresh water).
- An estimated 16.30 million acre feet (MAF) of water used to be released from the Sardar Sarovar dam.
- By 2017, when height of the dam rose, flow into the Narmada river reduced to 4.7 MAF.
- Due to reduced flow of fresh water, saline seawater gushes into Narmada estuary during high tide, thus increasing salinity along the banks.
- The project is part of larger Kalpasar Project (which entails construction of a 30-km dam across Gulf of Khambhat between Bharuch and Bhavnagar districts, meant to tap waters of the Narmada, Mahisagar and Sabarmati.)

Why are Fishermen Upset?

- The barrage is expected to interfere with the migration and breeding cycle of hilsa.
- Hilsa is a marine fish that migrates upstream and arrives in the brackish water of Narmada estuary near Bharuch for spawning usually during monsoon (July and August) and continue doing so till November.
- Once the barrage is built, it is expected to block their natural entry.
- The fish production from Narmada estuary has fallen from 15,889 tonnes in 2006-07 to just 1,618 tonnes in 2014-15.
- The reduced outflow of water from the dam, industrial effluents flowing into the river and salinity ingress are believed to be the major causes of this decline.
- Part of Aliya Bet, and island in delta of Narmada, known for shrimp farming, is likely to get submerged due to the accumulation of water in Bhadbhut reservoir.

Narmada River:

- It is a major river in peninsular India which flows in east-west direction, along with two other rivers Tapti and Mahi.
- The Narmada or Reva originates in the Amarkantak hills in Madhya Pradesh.

- It is the fifth largest river in the country, largest west flowing river and largest river in Gujarat.
- It flows towards the west in a rift valley between Satpura range in the South and the Vindhyan range in the North formed due to faulting.
- It is known as life Line of Gujarat and Madhya Pradesh.
- After flowing a distance of about 1,312 km, it meets Arabian sea south of Bharuch, Gujarat forming a broad 27 km long estuary.
- **Four important tributaries: Hallon, Banjar, Tawa and Barna.**
 - ✓ This river traverses through Madhya Pradesh, Maharashtra and Gujarat.
 - ✓ Narmada Bachao Andolan (NBA) is social movement spearheaded by native tribals, farmers, environmentalists and human rights activists against a number of large dam projects across river Narmada, particularly Sardar Sarovar Project.

7. Compensatory Afforestation: 70% Data with Ministry Incorrect

Why in News?

- A letter sent to Principal Secretaries for Forests of all States and UTs Complained that about 70% data on compensatory afforestation in the country was incorrect or incomplete.
- It asked the states to ensure units responsible for updating the compensatory afforestation data are strengthened and a system of robust Scrutiny is created.

Compensatory Afforestation:

- Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of Degraded Forest Land.

Compensatory Afforestation Fund Act, 2016:

- The Compensatory Afforestation Fund Act was passed by the centre in 2016.
- It was enacted to manage funds collected for compensatory afforestation which till then was managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
- As per the rules, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.

Compensatory Afforestation Fund Management and Planning (CAMPA):

- Supreme Court ordered for establishment of Compensatory Afforestation Fund and Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in 2001.
- In 2009, Supreme Court permitted release of Rs.1000 crore every year to States/UTs for compensatory afforestation and other activities.
- It has provisioned that CAMPA funds shall be kept in interest bearing non-lapsable Public Account.
- The CAMPA Fund is now utilized as per the provisions of the Compensatory Afforestation Fund (CAF) Act, 2016.

Objective of CAMPA:

- To promote afforestation and regeneration activities as a way of compensating for forest land diverted to non-forest Uses.

Utilisation of Fund:

- The funds can be used for catchment area treatment, wildlife and forest management, forest fire prevention, relocation of villages from protected areas, soil and moisture conservation work in the forest, managing human-wildlife conflicts, training and awareness generation etc.
- These funds cannot be used for payment of salary, travelling allowances, making buildings and Buying Office Equipment for forest officers.

Mandate:

- Lay down broad guidelines for and assist State CAMPA.
- Make recommendations to State CAMPA based on a review of their plans and programmes.
- Provide a mechanism to State CAMPA to resolve issues of an inter-state or Centre-State Character.

8. India recycles only 1% of its construction and demolition waste

Why in News?

- As per a report by Centre for Science and Environment, India recycles just one per cent of its construction and demolition (C&D) waste.

Highlights:

- India Generates an estimated 150 Million tonnes of C&D Waste Every Year.

- But the Official Recycling capacity is a meagre 6,500 tonnes per day – just about one per cent.
- 53 cities were expected to set up recycling facilities to recover material from C&D waste by 2017 – but only 13 cities have done that by 2020.

Concerns:

- The heaps of concrete, bricks and metal waste from construction were choking waterbodies, green areas and public spaces in Indian cities.
- Toxic dust particles from the debris pollute air and add to particulate matter (PM) pollution.
- It is opposite to National Clean Air Programme where cities have to reduce their particulate pollution by 20-30 per cent by 2024.

Initiatives for Recycling C&D Waste:

- The Bureau of Indian Standards has allowed use of concrete made from recycled material and processed C&D waste.
- The Construction and Demolition Waste Rules and Regulations, 2016 have mandated reuse of recycled material.
- Swachh Bharat Mission has recognised the need for C&D waste management.
- Ranking points for C&D waste management for Swachh Survekshan 2021 have been doubled to 100 points, divided equally between management infrastructure and waste processing efficiency.
- Cities will need to have a C&D waste collection system in place; notified charges for C&D services and segregation of waste in five streams.
- Under waste processing efficiency criteria, ranking points will be awarded based on the Percentage of Collected waste that is Processed and Reused.

Significance:

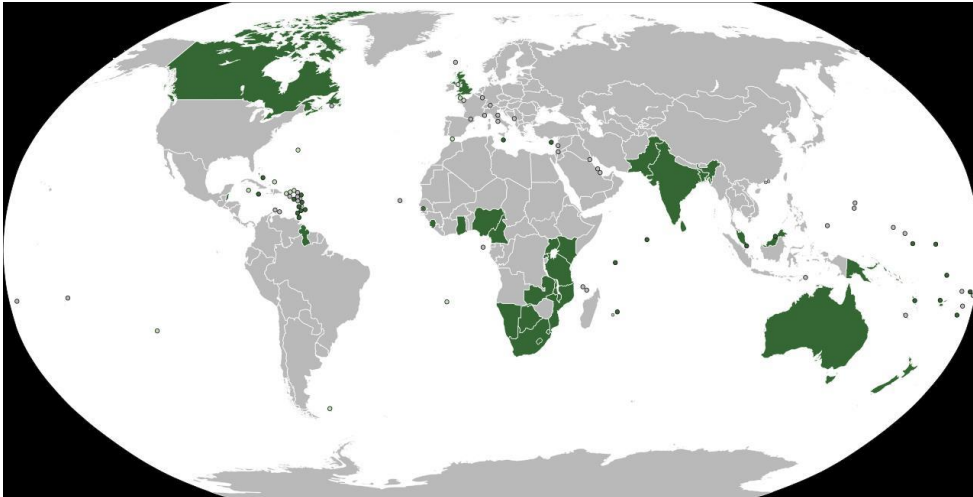
- The demand for primary building material, including minerals, stone, sand, iron ore, aluminum and timber, is growing at an unprecedented rate.
- A significant proportion of construction waste can be recycled and reused and brought back to construction to substitute naturally sourced material.
- This can help reduce energy Intensity and Environmental Footprints of buildings and Infrastructure.

6. INTERNATIONAL RELATIONS

1. Commonwealth Countries Lagging behind on Modern Slavery

Why in News?

- A report was released by the Commonwealth Human Rights Initiative (CHRI) and an international anti-slavery organisation Walk Free on the occasion of World Day Against Trafficking in Persons.



Highlights:

- The Report Assessed the progress made by Commonwealth countries on the promises made in 2018 to end modern slavery by 2030 and achieve the Sustainable Development Goal of ending forced labour, human trafficking and Child Labour.

Commonwealth Countries:

- The Commonwealth of Nations is a political association of 54 member states, nearly all former territories of the British Empire.
- The last 2 countries to join the Commonwealth – Rwanda and Mozambique – have no historical ties to the British Empire.
- The members have almost a third of the world population. The largest Commonwealth country by population is India followed by Pakistan.
- 32 members of commonwealth are classified as small states (vulnerable to climate change or developmental challenges)
- Every 2 years, member countries meet at the Commonwealth Heads of Government Meeting (CHOGM).
- All members have an equal say Regardless of size or Wealth.

Objective:

- The instrument which sets out the Commonwealth's objectives is the 1971 Singapore Declaration, which committed the Commonwealth to world peace; promotion of representative democracy and Individual liberty; the pursuit of equality; the fight against poverty, Ignorance, and disease; and Free Trade.

Background:

- The Commonwealth dates back to the first half of the 20th century with the decolonization of the British Empire through increased self-governance of its territories.
- It was originally created as the British Commonwealth of Nations through the Balfour Declaration (1926).
- The current Commonwealth of Nations was formally constituted by the London Declaration (1949).

Report:

- Commonwealth countries accounts for about 40% of people living in conditions of modern slavery in the world.
- Commonwealth countries have made little progress towards their commitment to eradicate modern slavery by 2030, despite an estimated one in every 150 people in the Commonwealth living in conditions of modern slavery.
- One-third of the Commonwealth countries had criminalised forced marriage, while 23 had not criminalised commercial sexual exploitation of children.
- Out of 54 countries, only 4 engage with business to investigate supply chains, and all countries report gaps in victim assistance programs.
- National coordination plans in all Asian Commonwealth countries were weak

India-Specific:

- India accounted for one-third of all child brides in the world.
- India had fared the worst in terms of coordination, with no national coordinating body or National Action Plan in place.
- India, like all other Commonwealth countries in Asia, had not ratified the International Labour Organisation's 2011 Domestic Workers Convention or the 2014 Forced Labour Protocol.

Recommendations to Eradicate Slavery

- **Support Survivors**

- ✓ Increase identification of modern slavery victims by providing regular training for all frontline service providers.
- ✓ Ensure the meaningful participation of survivors in the design of a modern slavery Response.
- **Strengthen Criminal Justice**
 - ✓ Criminalise all forms of modern slavery, and ensure penalties are proportionate to the seriousness of the offence.
 - ✓ Ratify and domesticate relevant international instruments, including the 2014 Forced Labour Protocol and the 2011 Domestic Workers Convention.
 - ✓ Remove barriers to victim participation in the criminal justice system
 - ✓ Ensure that victims and survivors have access to effective remedies, including compensation.
- **Improve Coordination and Accountability**
 - ✓ Improve coordination among national agencies by developing evidence-based national actions plans and establishing national referral mechanisms.
 - ✓ Improve cross-border collaboration and data-sharing to tackle modern slavery.
- **Address Risk Factors**
 - ✓ Ensure labour protections extend to all groups, including migrant workers and children by strengthening and enforcing national laws and policies This is particularly important as states rebuild economies in response to COVID-19.
 - ✓ Support regional and national level research on trends, prevalence, and the effectiveness of different approaches.
 - ✓ Address the specific vulnerabilities of women and girls of modern slavery by providing primary education to all.
- **Eradicate Exploitation from Supply Chains**
 - ✓ Identify sectors at high risk of forced labour, and work with businesses in those sectors to develop initiatives to mitigate risks of forced labour.
 - ✓ Strengthen laws applicable to public procurement and business supply chains, including by implementing mandatory transparency requirements and human rights due diligence.

2. New Supreme Court Building of Mauritius

Why in News?

- Indian PM along with his Mauritius Counterpart inaugurated the New Supreme Court Building in Mauritius through Video Conferencing.

Highlights:

- The project has been completed with an assistance of \$ 28.12 million from the Indian Government which comes without any hidden conditions for jeopardizing the sovereignty of Mauritius.
- The building equipped with the latest technology will help the Mauritius judiciary in making justice more efficient, accessible and inclusive.
- The project was completed on time at below initial level costs, signifying India's commitment towards the neighbourhood countries.
- The assistance is in line with India's vision of 'SAGAR – Security and Growth for All in the Region' and is a testimony to the enhanced closeness between the Indian Ocean countries.
- The cooperation between two neighbours is based on core values of 'Respect', 'Diversity', 'Care for the Future', and 'Sustainable Development'.

SAGAR:

- In 2015, Indian PM unveiled India's strategic vision for the Indian Ocean: Security and Growth for All in the Region (SAGAR).
- It is "consultative, democratic and equitable" in nature.
- It has both distinct and inter-related elements – such as -
 - deepening economic and security cooperation in the littorals,
 - enhancing capacities to safeguard land and maritime territories,
 - working towards sustainable regional development and blue Economy,
 - promoting collective action to deal with non-traditional threats like natural disasters, piracy, terrorism etc.
- It therefore has an inclusive vision with politico-economic-security cooperation and respect for international maritime laws at its centre.

3. India–Myanmar–Thailand Trilateral Highway (IMTTH)

Why in News?

- The Supreme Court has stayed the litigation initiated by a defaulting contractor tasked to build the IMTTH before the Manipur High Court.

India-Myanmar-Thailand Trilateral Highway:

- Total length: 1,360 km.
- Connects India with Thailand through Myanmar.
- Signed in 2016 and is to be completed in 2020.
- The road will connect Moreh in Manipur to Mae Sot in Thailand via Myanmar.
- The IMT trilateral highway project is Largely funded by the Indian government.
- Delays affected the Implementation of the Project.

Expected Benefits:

- The project will boost trade and commerce in the ASEAN–India Free Trade Area.
- Help connect with rest of the countries in Southeast Asia like Cambodia, Laos and Vietnam
- Act as a counterweight to the Strategic Influence of China in the Region.

4. Australian Citizenship

Why in News?

- Out of the over 200,000 people who became Australian citizens in 2019-2020, 38,209 were Indians, the Highest Number on Record.

Australia:

- Australia comprises of mainland of the Australian continent, the island of Tasmania, and numerous smaller islands.
- It is the largest country in Oceania and the world's sixth-largest country by total area.
- Canberra is the capital and Sydney is the largest city. Other major cities are Melbourne, Brisbane, Perth, and Adelaide.
- A megadiverse country, its size gives it a wide variety of landscapes, with deserts in the centre, tropical rainforests in the north-east, and mountain ranges in the south-east.
- Australia is a highly developed country, with the world's 14th-largest economy. It has a high-income economy, with the world's tenth-highest per capita Income.

- Natural Resources found in Australia include alumina, coal, iron ore, copper, tin, gold, silver, uranium, rare earth elements, diamonds, natural gas, petroleum. Australia is the world's largest net exporter of coal accounting for 29% of global coal exports
- Australia is a member of the United Nations, G20, Commonwealth of Nations, ANZUS, Organisation for Economic Co-operation and Development (OECD), World Trade Organization, Asia-Pacific Economic Cooperation, Pacific Islands Forum, and the ASEAN Plus Six mechanism.

5. 1947 Gurkha Pact

Why in News?

- The 1947 agreement among India, Nepal and the United Kingdom that deals with the military service of Gorkha soldiers has become “redundant,” according to Foreign Minister of Nepal Pradeep Kumar Gyawali

The ‘Gurkha Recruitment’ Pact:

- During the Anglo-Nepalese War of 1814-16, the East India Company suffered heavy casualties inflicted by Gurkha soldiers, forcing the British to acknowledge the valour of these warriors who fought with a kukri in hand — the insignia of all Gurkha Rifles regiments — and battle cry of ‘Ayo Gorkhali’ (Gurkhas are here).
- Under a Peace Treaty signed later, Gurkhas were permitted to volunteer in the East India Company's army. From these, the first Gurkha regiments were raised.
- When India became independent in 1947 there were 10 Gurkha regiments in the Indian Army.
- The three countries then signed a Tripartite Agreement which transferred four of these to the British Army; the remainder served in India.
- Later, the British Army amalgamated their four regiments into Royal Gurkha Rifles (RGR) regiment deployed in its colonies of Hong Kong, Malaysia and Singapore. The Indian Army raised a seventh Gurkha battalion post-independence.

Why Nepal wants the 1947 Agreement Reviewed?

- Nepal's fresh demand for new bilateral arrangements with the two countries comes amid strained relations between India and Nepal over the Kalapani territorial dispute.
- Nepalese foreign minister Pradeep Gyawali on Friday called the 1947 tripartite agreement “redundant” and a Legacy of the past.

- Gyawali has argued that the 1947 pact had created a lot of jobs in the past, “but in the changed context, some of its provisions are questionable”.
- Early this year, Nepal also wrote to the UK to replace the agreement with a bilateral one.
- Terms of the tripartite arrangement laid that Gurkha soldiers in both armies should serve under broadly the same terms and conditions of service, but Gurkha veterans in British Army have alleged discrimination in remuneration and perks.
- While Gurkhas in Indian Army have the same benefits as others, the British government started providing equal pay and pension to Gurkhas only in 2007.
- Gurkhas retire after 15 years of service, so the new guidelines made only those recruited after 1993 eligible for pension. But veterans have demanded compensation for the period they served without equal pay and other benefits. Gurkhas who served in the British Army before 1993 have also been deprived of both equal pay and pensions

Contribution Over the Years:

- At present, Gurkhas comprise roughly 3% of the British Army. This year alone, over 12,000 applicants from across Nepal applied to become a Gurkha in the British Army.
- At least 32,000 Nepalese Gurkhas are serving in Indian Army’s seven Gurkha Rifle regiments. The Gurkha Rifles have produced three Indian Army Chiefs – General Sam Manekshaw, General Dalbir Singh and General Bipin Rawat.

6. Gulf Countries Back Extending UN Arms Embargo on IRAN

Why in News?

- Gulf Cooperation Council endorsed an extension of a United Nations arms embargo on Iran, just two months Before it is set to expire.

Highlights:

- GCC in a letter to U.N. Security Council backed an extension of an arms embargo that’s kept Iran from purchasing foreign-made weapons like fighter jets, tanks and warships.
- The GCC alleged that Iran had not ceased or desisted from armed interventions in neighbouring countries, directly and through organizations and movements armed and trained by Iran.

Accusations on Iran:

- Iran is accused to supply arms to Yemen’s Houthi rebels.
- Iran arms Hezbollah fighters in Lebanon and Syria.

- It allegedly provides weapons to Shiite militias in Iraq and terrorist groups in Bahrain, Kuwait and Saudi Arabia.

Arms Embargo on Iran:

- The U.N. has banned Iran from buying major foreign weapon systems in 2010 amid tensions over its nuclear program.
- That blocked Iran from replacing its aging equipment, much of which had been purchased by the shah before the 1979 Islamic Revolution.
- Iran's 2015 nuclear deal saw the U.N. agree to sunset the arms embargo in October 2020.
- However, U.S. President Donald Trump unilaterally withdrew America from the deal in 2018, and Iran withdrew in 2020.

Gulf Cooperation Council (GCC):

- GCC is a political and economic alliance of six countries in Arabian Peninsula: Kuwait, Oman, Bahrain, Qatar, Saudi Arabia and UAE.

7. Cuba at Human Rights Council

Why in News?

- Cuba, which sat on the United Nations Human Rights Council in 2014-2016 and 2017-2019, has applied to fill one of the regional vacancies for 2021-2023.
- The seats are distributed geographically and are awarded for three years. Members are not eligible for immediate re-election after serving two consecutive terms.
- U.S. Secretary of State has urged UN members not to support Cuba's bid to join the council.

Highlights:

- The US accuses that Cuba's sale of medical services, which is the main source of foreign exchange for Cuba, as a form of human trafficking.
- Cuba is under a Brutal Dictatorship.

Cuba:

- Cuba is located in the northern Caribbean where the Caribbean Sea, Gulf of Mexico and the Atlantic Ocean meet.
- It is east of the Yucatán Peninsula (Mexico), south of both the U.S. state of Florida and the Bahamas, west of Haiti and north of both Jamaica and the Cayman Islands.
- Cuba is a country comprising the island of Cuba as well as Isla de la Juventud and several Minor Archipelagos.

- Havana is the largest city and capital.
- Culturally, Cuba is considered part of Latin America.
- Natural resources found here include cobalt, nickel, iron ore, copper, salt, petroleum etc.
- Its exports include skilled labour, sugar, tobacco, and coffee.
- Cuba is a founding member of the United Nations, the G77, the Non-Aligned Movement and among others.

US -Cuba Relations:

- Under the Treaty of Paris, Cuba became a U.S. protectorate from 1898–1902 and the U.S. gained a position of economic and political dominance over the island, which persisted after it became formally independent in 1902.
- The Cuban Revolution of 1959, bilateral relations deteriorated substantially. The bone of contention was the spread of Communism of Latin America and Africa carried out by Cuba. In 1961, the U.S. severed diplomatic ties with Cuba and led to the events like 1961 Bay of Pigs Invasion, the 1962 Cuban Missile Crisis and among others.
- On 17 December 2014, U.S. President Barack Obama and Cuban President Raúl Castro announced the beginning of a process of normalizing relations between Cuba and the U.S, also known as the Cuban Thaw. This process led to the lifting of some U.S. travel restrictions and among other measures.
- The current U.S President has reversed most of the decisions taken by the previous U.S President.

8. IC-IMPACTS

Why in News?

- The India-Canada IC-IMPACTS Annual Research Conference was organised virtually by the India-Canada Centre for Innovative Multidisciplinary Partnership on 6 August 2020.

Highlights:

- The Conference discussed ways of taking the cooperation between the countries to the next level.
- This is to done by strengthening existing international connects, sharing best practices in multiple areas, and initiating new collaborations in government and institutions.
- The practices in the areas of women in science, technology deployment, diversity in science, and STEM at schools could be shared between them, besides exploring new Research in Artificial Intelligence, Quantum Sciences, and Electric Mobility.

- **Aim:**
 - ✓ To Accelerate Community Transformation and Sustainability.
 - ✓ To develop community-based solutions for the most urgent needs.

IC-IMPACTS:

- IC-IMPACTS (India-Canada Centre for Innovative Multidisciplinary Partnerships to Accelerate Community Transformation and Sustainability) is the Canada-India Research Centre of Excellence.
- It was established through the Canadian Networks of Centres of Excellence (NCE) as a new Centre dedicated to the development of research collaborations between Canada and India. Department of Science and Technology has been working with IC-IMPACTS for research partnerships since 2013.

9. Abraham Accord

Why in News?

- US President Donald Trump had helped broker the accord between Israel and the United Arab Emirates, known as the Abraham Accord.
- Israel had signed peace agreements with Egypt in 1979 and Jordan in 1994.
- UAE, along with most other Arab nations, did not recognise Israel and had no formal diplomatic or economic relations with it until now.



Abraham Accord:

- According to the Abraham Accord the UAE will establish diplomatic relations with Israel in return for President Binyamin Netanyahu committing to give up a stated plan to annex the West Bank, the main territory of a state that the Palestinians want.
- The UAE becomes the third Arab nation to recognise Israel after Egypt (in 1979) and Jordan (1994).

- According to the White House statement, delegations from the two countries will meet to set in motion bilateral ties in investment, tourism, direct flights, security, telecommunications, tech, energy, healthcare, culture, the environment, etc.
- On priority, Israel and UAE will work together to find a treatment and a vaccine for Covid-19.

Importance:

- This move is significant because with the exception of Jordan and Egypt, Israel does not have diplomatic relations with Gulf Arab states owing to its long-standing conflict with Palestinians. Israel had signed peace agreements with Egypt in 1979 and with Jordan in 1994. However, despite the absence of official diplomatic relations, Israel has been engaging with its neighbours with regard to issues like trade.
- The agreement comes after Israel's Prime Minister Benjamin Netanyahu agreed to suspend plans to annex parts of the West Bank, one that had been bitterly criticised by these Gulf Arab states, Europe and a few other countries around the world.
- The deal promises both symbolic and tangible benefits for the UAE, positioning the country as a diplomatic leader in the region. If others follow suit in establishing formal relations with Israel, the UAE can say it was the catalyst. More immediately, it could mean an influx of Israeli tourists and money, as well as collaboration on medical and other research with a regional economic power as both countries fight the pandemic.
- The agreement will lead to full normalisation of diplomatic relations between the two states, a move that reshapes the order of West Asia politics from the Palestinian issue to Iran.
- It also firms up opposition to regional power Iran, which the UAE, Israel and the US view as the main threat in the region.

Palestinian Stand on the Issue:

- President Mahmoud Abbas of the Palestinian Authority, which seeks a two-state solution, lashed out against the deal as a “betrayal” by the UAE. He has been disengaged from the Trump administration for the last two years for its pro-Israel stand. “The Palestinian leadership rejects and denounces the UAE, Israeli and US trilateral, surprising, announcement,” a senior adviser to Abbas said. It was a “betrayal of Jerusalem, Al-Aqsa and the Palestinian cause,” he said.
- Hamas spokesman Hazem Qassem said: “This agreement does absolutely not serve the Palestinian cause, it rather serves the Zionist narrative.”

- This agreement encourages the occupation (Israel) to continue its denial of the rights of our Palestinian people, and even to continue its crimes against our people,”
- Palestinian groups, particularly members of the Palestinian Liberation Organization (PLO), took to social media platforms to criticise the agreement, and particularly express their anger at the UAE, that they believe has harmed the Palestinian cause.

India's Stand:

- India “has consistently supported peace, stability and development in West Asia which is its extended neighbourhood.” “In that context India welcomed the full normalization of ties between the UAE and Israel.
- Both nations are Strategic Partners of India

Way Forward for India:

- India should use this unexpected opportunity to give itself a bigger role in a region which is its strategic backyard.
- The first step should be to ramp up defence and security relations with UAE. Israel is already a very close defence partner. But India should restart joint exercises with UAE, and even Saudi Arabia.
- While some work has already happened, India should leverage its economy for a bigger opening in this region.
- Importantly, India can use its good offices to ensure that any future deal on a regional security framework gives adequate space to Iran, which may be weak but not so weak that it cannot be a hugely disruptive power if it so chooses. And a balance between Shia and Sunni, between Persian and Arab, is key to any sustainable peace.
- In recent years, China has indicated its willingness to play a larger role in this region, and is close to both UAE and Israel and, increasingly, Saudi Arabia. India should make its moves before this market and this extended neighbourhood come under the Chinese Sphere of Influence.

10. India-Bangladesh Teesta river issue

Why in News?

- Bangladesh is discussing an almost \$1 billion loan from China for a comprehensive management and restoration project on the Teesta river.
- The project is aimed at managing the river basin efficiently, Controlling Floods, and Tackling Water Crisis in Summers.

The Ganges-Brahmaputra Basin



Teesta River Dispute:

- Teesta river is a major source of irrigation to the paddy growing greater Rangpur region of Bangladesh.
- Bangladesh has sought an equitable distribution of Teesta waters, on the lines of Ganga Water Treaty of 1996.
- In 2011 an arrangement was finalized, which awarded India 42.5% water, Bangladesh 37.5% while remaining 20% would flow unhindered in order to maintain a minimum water flow of the river.
- This agreement could not be executed too due to opposition from Chief Minister of West Bengal (as water is the state subject).
- PM Modi visited Dhaka in June 2015 and assured fair solution on the Teesta through cooperation between central and state governments.
- However, the Teesta issue remains unresolved.

Teesta River:

- The Teesta river originates at Tso Lamo, Sikkim, Himalayas.
- It flows through two Indian States, Sikkim and West Bengal and through West Bengal enters the Rangpur division in Bangladesh.
- It is the fourth largest among 54 rivers shared by India and Bangladesh.
- In India, it flows through major cities of Rangpo, Kalimpong, Jalpaiguri and Mekhliganj.

- The flow of the Teesta is greatest during the summer (June to September), when monsoon rains are the heaviest and glaciers supply abundant meltwater.
- The Teesta is joined by the river Rangpo Chu at Rangpo settlement (which is the entrance to East-Sikkim) and then it forms a boundary between Sikkim and West Bengal.
- The main tributary of river Teesta, the Rangit river meets it just before the Teesta bridge.
- The river has two concrete bridges – the Teesta bridge and the Coronation Bridge.

India's Relationship with Bangladesh:

- India has robust relationship with Dhaka, carefully cultivated since 2008, after the advent of Sheikh Hasina government. India has benefited from its security ties with Bangladesh, which has helped the Indian government maintain peace in the eastern and Northeast states. Bangladesh is India's biggest trade partner in South Asia.
- India's exports to Bangladesh in 2018-19 stood at \$9.21 billion, and imports at \$1.04 billion. India grants 15 to 20 lakh visas every year to Bangladesh nationals for medical treatment, tourism, work, and just entertainment.

Major Irritants in Relationship:

- Proposed countrywide National Register of Citizens (NRC) and the Citizenship Amendment Act (CAA) passed in December 2019.
- Bangladesh has expressed reservations about CAA.
- Delay in the implementation of projects in Bangladesh and the river water issues.

Relations between Bangladesh and China:

- China is the biggest trading partner of Bangladesh and is the foremost source of imports.
- In 2019, the trade between the two countries was \$18 billion.
- China has declared zero duty on 97% of imports from Bangladesh.
- India has provided developmental assistance worth \$10 billion whereas China has promised around \$30 billion worth of financial assistance to Bangladesh.
- China is the biggest arms supplier to Bangladesh.
- India has become more sensitive to Chinese defence inroads into Bangladesh.

Way Ahead:

- The Teesta project is important and urgent from India's point of view, it will be difficult to address it before the West Bengal elections due next year.
- India needs to address the Standing Issues in a time-bound manner.
- Else, the latent anti-India sentiment in Bangladesh – revived after India's CAA -NRC push – threatens to damage Dhaka-New Delhi ties.

7. INTERNAL SECURITY & DISASTER MANAGEMENT

1. Landslide in Idukki

Why in News?

- At least 18 persons were killed and 52 others are missing after a series of landslips at the Nayamakkad tea estate adjacent to Eravikulam National Park in Idukki District.

Eravikulam National Park:

- It is located in the High Ranges (Kannan Devan Hills) of the Southern Western Ghats in Eravikulam Taluk of Idukki District, Kerala.
- It also has South India's highest peak, Anamudi (2695 m).
- It has special Neelakurinji flowers that bloom once every 12 years.
- A new bright reddish-orange-coloured frog named *Raorchestes resplendens* was discovered in the Eravikulam National Park.
- **Fauna:** Grasslands, Shrub Land and Shola Forests.
- **Flora:** Nilgiri Langur, Leopards, Indian Bison etc.

What are Landslides?

- Landslides are the Downslope Movement of soil, Rock and Organic Materials due to Gravitational Force.

Landslides in India:

- In India, excluding the permafrost regions in the north, about 0.42 Million km² areas of the landmass (12.6%) is landslide-prone which are spread over 19 States/UTs and are spreading over more than 65,000 villages in hilly/ Mountainous Areas.

Government's Effort:

- National Disaster Management Agency work with Geological Survey of India to designate certain areas as landslide-prone areas.
- A National Landslide Risk Mitigation Project (NLRMP) approved by the Planning Commission is being run at NDMA. Under this project a landslide site Aizawl, in Mizoram State has been selected.
- In 2019, National Disaster Management Authority (NDMA) published a comprehensive report on National Landslide Risk Management Strategy.

National Landslide Susceptibility Mapping (NLSM):

- Since 2014 – 15, Geological Survey of India (GSI) has launched a national programme on landslide susceptibility mapping – National Landslide Susceptibility Mapping (NLSM).

- It aims to cover the 0.42 million sq. km Landslide Prone Areas of the Country.
- **Objective**
 - ✓ To create a dynamic National Landslide Susceptibility Geodatabase for India.
 - ✓ To prepare GIS – based seamless Landslide Susceptibility Maps of India on 1:50,000 scale.
 - ✓ To prepare a nation-wide repository on GIS-based Landslide Inventory.
 - ✓ General landslide hazard map of India:
 - ✓ In general landslide hazard map of India, Himalayas of Northwest and Northeast India and the Western Ghats are two regions of high vulnerability and are landslide prone.
 - ✓ Majority of landslide prone areas are located in the earthquake prone seismic Zone-IV and V.
- **Challenges:**
 - ✓ Information on precise time of a landslide based on instrumentation and real time monitoring is lacking.
 - ✓ In India, safe shelter and alternate route maps for landslide hazard are often not available.
 - ✓ Another important aspect that makes early warning ineffective is the lack of public awareness.
 - ✓ Communication of warning to all concerned stake holders remains a challenge as most of the hilly area population either remains isolated, nonresponsive due to remoteness of the region.
 - ✓ The response time is poor due to difficult terrain and accessibility in mountainous regions of India.
 - ✓ Regulation and enforcement promoting monitoring of potential/ existing landslides that pose risk are weak.
 - ✓ There is no institutional framework for collection and preservation of basic landslide data. Similarly, the inventory maps of landslides are being prepared by different agencies in a scale not generally usable on the ground.
- **Suggestions:**
 - ✓ Technologies such as Equipments for emergency response, geological reconnaissance of landslide-prone areas, local monitoring services, site investigation with borings and test pits, slope stability analyses, seismic analysis of slopes, technical assistance in construction of buildings, etc can be used.

- ✓ Database on rainfall derived from satellite and Ground based observation need to be compiled to understand variability in a regional landslide.
- ✓ Wireless networking of all landslide monitoring stations and establishment of real time rainfall monitoring control room.
- ✓ A simplistic course at school level may be introduced which must elaborate do's and don'ts to prevent/ mitigate any type of landslide situation.
- ✓ Geologist and engineers related to the field of landslides must be exposed to the latest development in the domain of landslides investigations and management.
- The Unmanned Aircraft System (UAS) can be used for hazardous site inspection. Specific skill development in handling UAS shall be introduced for the scientists.
- Creation of Village Disaster Management Plans (VDMPs) through participatory risk assessment with the participation of Village Disaster Management Teams (VDMTs), locals and students.
- Provisions shall be made under MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act) scheme for undertaking small scale structural mitigation of landslides.
- A time-bound national programme for controlling all major landslides should be undertaken, for which a National Task Force committee of professionals should be constituted to study and decide management strategies for all the known problematic landslides in the country.
- Adequate funding should be provided through national landslide mitigation and management projects or by one-time funding from the Central Government.

2. Table top Runways

Why in News?

- A Boeing 737 of Air India Express (the low cost subsidiary of national carrier Air India) on a special 'Vande Bharat' repatriation flight from Dubai to Kozhikode overshot the runway.
- There were '174 passengers, 10 infants, 2 pilots and 4 cabin crew on board'. In what was its second attempt, flight IX-1344 touched down on runway 10 of Calicut International Airport at 7.40 p.m., went past the runway end and safety area, and fell into a valley.
- The fuselage split in the impact. Both pilots lost their lives; there were casualties and injuries of varying degrees among passengers. There was no fire on board.
- The Digital Flight Data Recorder and Cockpit Voice Recorder have been recovered. The accident has once again turned the spotlight on operations to what are called 'tabletop airports' in India.

What is a 'Tabletop Airport' and how Many are there in India?

- As the name suggests, it is an airport located and built on top of a plateau or hilly surface, with one or both ends of the runway overlooking a drop.
- The airports in the country which would count as “tabletops”, are namely Lengpui (Mizoram), Shimla and Kullu (Himachal Pradesh), Pakyong (Sikkim), Mangaluru (Karnataka), Kozhikode and Kannur (both Kerala).
- A retired aviation official says there is no such term as a ‘tabletop airport’ in any International Civil Aviation Organisation (ICAO) technical document. But India’s statutory aviation body, the Directorate General of Civil Aviation (DGCA), refers to these airports in this manner by way of highlighting safety measures during operations to these runways. The official adds that there are not many differences between a ‘normal’ airport and a ‘tabletop’ Airport.

Why are these Airports Drawing Attention Now?

- While there have been some aviation incidents at these airports, it was the accident in Mangaluru on May 22, 2010, that highlighted operational risks. Here, an Air India Express flight again, from Dubai to Mangaluru, overran the runway while landing on runway 24. Flight IX-812 hit an antenna and then went down a steep embankment after which there was a fire. Of the 160 passengers and 6 crew, 158 lost their lives. The case focused attention on the nature of operations to such airports, especially their shorter runways.
- Kozhikode has two runways of 2,700 metres in length. It was 2,860 metres but ‘shortened’ to accommodate a safety feature called RESA, or Runway End Safety Area (of 240 metres), which is a means “to limit the consequences when there is an aircraft overrun during landing, a rejected take-off, or even undershoots the landing area”.
- In “tabletop” airport operations, the ICAO says a RESA of 90 metres is mandatory, while 240 metres is recommendatory. The runways are Instrument Landing System (ILS) CAT 1 enabled and the airport has a range of visual aids which include simple approach lighting. In addition, all obstacles are lit. Both runways have Required Navigation Performance approach.

What were the Recommendations made After the Mangaluru Crash?

- In its report on the crash, the court of Air Marshal B.N. Gokhale, former Vice-Chief of Air Staff, Indian Air Force (and its team of aviation expert assessors) made a series of recommendations in a 191-page document of October 2010. These were addressed to the airline operator (Air India and Air India Express).

- To the Airports Authority of India, it pointed out issues like “avoidance of the downward slope in the overshoot area particularly on ‘tabletop’ runways; the need for a ground arresting system for aircraft – such a facility is maintained at almost all airfields of the Indian Air Force’; a visual reference system to alert the pilot (while landing) of the remaining distance to be covered; location of the ATC tower, approach and area radars; the role of the Rescue and Fire Fighting service, aerodrome risk assessment and, finally, recommendations for the DGCA.

Is there Any ICAO Document on Operations?

- ICAO document 9981 for airports, which also serves as a guideline for compatibility study of the operation of larger aircraft in a comparatively smaller aerodrome.
- The issue of growth versus aviation services is a worldwide issue requiring the development of small aerodromes for the use of bigger aircraft in a safe manner, especially as demand for air services grows from existing airports.
- In this document, the elements to be assessed include aerodrome infrastructure and its ground handling capabilities, and aeroplane characteristics. Each element is assessed technically to see whether these are compatible for new types of aircraft proposed to be operated in such aerodromes.
- Thereafter, a proper safety assessment is done to assess the risk associated with the operation of higher category of aircraft. Risk mitigation measures are suggested in order to bring those risks within “tolerable limits”.
- Such a compatibility study and safety assessment report will be scrutinised by the regulatory aviation authorities and if found satisfactory, the no objection certificate for operation of such Higher Category Aircraft is Issued.

Could safety Measures be Better in terms of the Ground Infrastructure?

- While RESA is in vogue, the term EMAS has been tossed up, which is mandatory at all international airports in the United States. Called Engineered Materials Arrestor/Arresting System, it is made of engineered lightweight and crushable cellular cement/concrete.
- Used at the runway ends, it acts as a safety barrier and successfully stops an aircraft overrun. Its retarding effect increases as one moves away from the runway edge. In demonstrations in the West, it ensured good aircraft safety.

- It must be noted that these are laid in easily replaceable blocks in the overrun area. The material is engineered specifically for the airport it is to be used in, says the retired official. It is said to be ideal for use in ‘tabletop’ airports. About 75m of EMAS can serve the purpose of 240m of RESA without causing any damage to the aircraft.

What is the Role of the Air Traffic Control?

- The ATC only has jurisdiction to provide the pilots with weather conditions including visibility, rain and winds. The minimum visibility is already prescribed, says the senior commander.
- The ATC will not give clearance to commence approach if visibility is below this minima, but if the visibility meets the requirements then the ATC cannot stop the pilot.
- The pilot commences approach when visibility is within minima and descends towards the runway to land.
- At a point called Decision Height, or DH (normally around 200 ft) in case of ILS, and at a point called Minimum Descent Altitude, or MDA, in case of a non precision approach, the pilot must be aware of the runway environment in order to make a safe landing. If he has not, then he has to initiate a go around, circle and return for another attempt at landing.
- Many a time, the runway cannot be seen even when reported visibility conditions meet the requirements as the conditions measurable on ground by the meteorological department are not the same as the instantaneous condition on the approach path. Only a pilot can observe this.
- If the declared visibility meets the prescribed minima, there is nothing wrong in the pilot attempting an approach. But trying to come in below DH and MDA, if the runway is still not visible is illegal, says the senior commander. No pilot does that, he Adds.

3. First all-weather Route to Ladakh

Why in News?

- India is pushing hard to complete an all-weather strategic route to Ladakh that will link Darcha in Himachal Pradesh to Nimu via Padum in Kargil’s Zaskar valley.

Darcha-Padum-Nimu Route:

- It requires upgrading the Darcha-Padum-Nimu trekking route into a metalled road and building a 4.5-kilometre tunnel under Shingo La on the Darcha-Padum route.
- The project is scheduled to be completed by the Defence Ministry within two years.
- This will be the first all-weather and the third route to connect Ladakh by road which is already connected by two Other Routes.

- The first route is via Zoji La in Jammu and Kashmir and second via Himachal's Manali-Upshi-Leh axis.
- Nimu is 35 kilometres from Leh town and headquarters of XIV Corps responsible for the defence of East Ladakh and Siachen Glacier.
- The 9.02 kilometre Atal tunnel at Rohtang La, which will reduce the distance between Manali and Leh by 46 km, is set to become operational in the last quarter of 2020.

Significance:

- It is urgently needed given Pakistan and China's interest in the Siachen Glacier and Daulat Beg Oldie (DBO).
- It will keep the supply lines open for the military guarding Siachen, Kargil and DBO sectors.
- The Darcha-Nimu route will also develop the new union territory of Ladakh to get round-the-year Supplies.

4. Exercise Kavkaz

Why in News?

- India is sending a tri-services contingent of around 200 personnel to Southern Russia in September for participating in a multi-lateral exercise, Kavkaz-2020
- India, China, Pakistan, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Mongolia, Syria, Iran, Egypt, Belarus, Turkey, Armenia, Abkhazia, South Ossetia, Azerbaijan and Turkmenistan are set to take part in Kavkaz 2020.

Highlights:

- Russian KavKaz 2020 is actually strategic command-post exercise or simply called war games.
- China and Pakistan have also received invitations to participate in KavKaz 2020 as both countries are members of the Shanghai Cooperation Organisation (SCO).
- The aim of the exercise is to “provide real-time training to counter international terrorism in the Northern and Caucasus region”, and the setting “will involve both offensive and defensive operations against international terror”
- The word Kavkaz is derived as a modern variant of Caucasus or Caucasia, a region between the Black Sea and the Caspian Sea and mainly occupied by Armenia, Azerbaijan, Georgia, and southwestern Russia.

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- The Kavkaz region is home to the Caucasus Mountains, including the Greater Caucasus mountain range, which has historically been considered a natural barrier between Eastern Europe and Western Asia.
 - For the most part, Russia's large-scale military exercises are scheduled in four major drills on a rotating basis: Vostok (East), Zapad (West), Tsentr (Center), and Kavkaz (South), which correlate to Russia's military districts. So it was Zapad 2017, Vostok 2018, Tsentr 2019, and now Kavkaz 2020.

