APRIL 2022

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GEOGRAPHY & ENVIRONMENT

Ice shelf collapse in Eastern Antarctica

Why in news?

Recently, an East Antarctica ice shelf disintegrated following a period of extreme heat in the region.

- Satellite images show the 1,200sq km (463sq miles) Conger Ice Shelf collapsed completely on or around March 15.
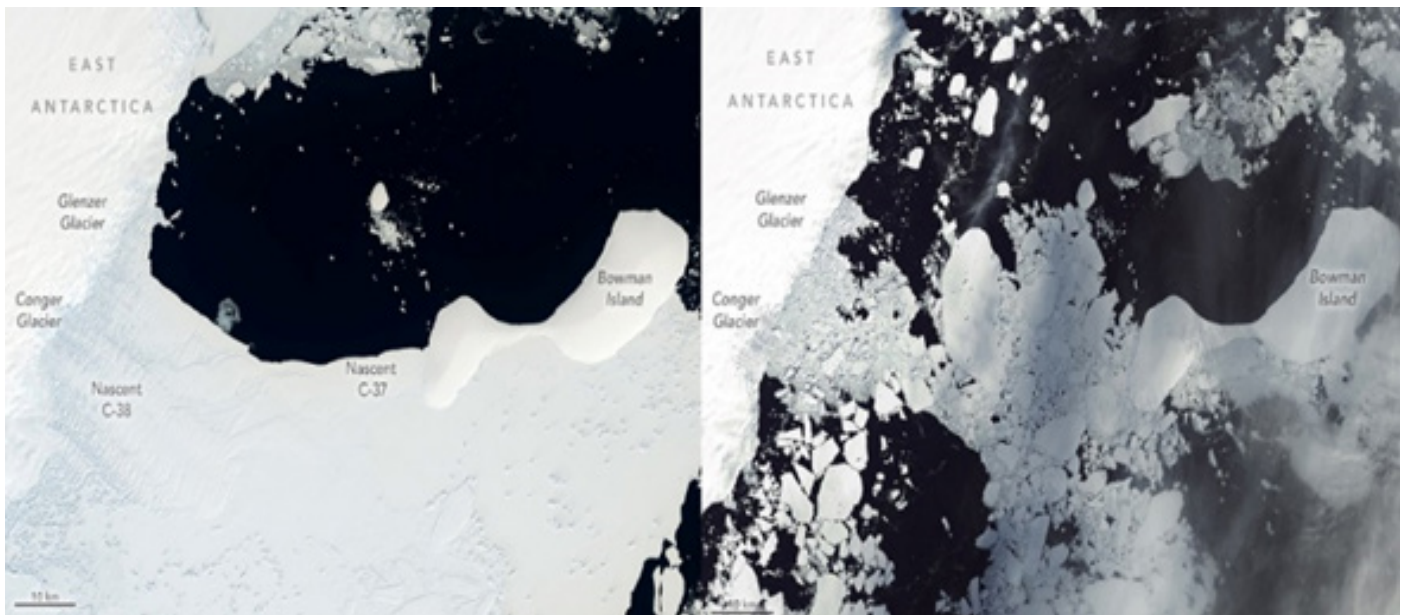
What is an Ice shelf?

- An ice shelf is a large floating platform of ice that forms where a glacier or ice sheet flows down to a coastline and onto the ocean surface.
- Ice shelves are only found in Antarctica, Greenland, Northern Canada, and the Russian Arctic.

How do ice shelves form?

- Ice shelf, formed from and fed by tongues of glaciers extending outward from the land into sheltered waters. Where there are no strong currents, the ice becomes partly grounded on the sea bottom and attaches itself to rocks and islands.

Why are ice shelves important?

- Ice shelves are permanent floating sheets of ice attached to the land.
- They take thousands of years to form and act like levees holding back snow and ice that would otherwise flow into the ocean, causing seas to rise.

What causes an ice shelf to collapse?

- Scientists think that the recent ice shelf collapses in both the Arctic and Antarctica are related to climate change. Most of the rapidly retreating ice shelves in Antarctica are located on the Antarctic Peninsula.
- The Antarctic Peninsula has warmed 2.5 degrees Celsius since 1950, making it one of the fastest-warming places on Earth.
- Warm air melts the ice shelf surface, forming ponds of meltwater. As the water trickles down through small cracks in the ice shelf, it deepens, erodes, and expands those cracks.
- Temperatures in the region usually sit at about -51C (-60F) at this time of year, but they were about -12C (-10F) earlier this month.

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About Antarctica

- Antarctica is Earth's southernmost continent.
- It is situated almost entirely south of the Antarctic Circle and surrounded by the Southern Ocean; it contains the geographic South Pole.
- Antarctica is the fifth-largest continent. Most of Antarctica is covered by ice.
- Antarctica is on average the coldest, driest, and windiest of the continents, and has the highest average elevation.
- About 70% of the world's freshwater reserves are frozen there, which if melted would raise global sea levels by almost 60 metres.
- Antarctica holds the record for the lowest measured temperature on Earth, −89.2 °C.
- Native species of animals include mites, nematodes, penguins, seals, and tardigrades.
- Here, vegetation consists of tundra.
- Antarctica is governed by about 30 countries, all of which are parties to the 1959 Antarctic Treaty System.
- According to the terms of the treaty, military activity, mining, nuclear explosions, and nuclear waste disposal are all prohibited.

Madurai Malli

Why in news?

Madurai has emerged as a major market for the Madurai Malli (jasmine), a Geographical Indication (GI) tag flower, and has evolved into the 'Jasmine capital of India'.

- The Madurai Malli is analogous to Madurai's Meenakshi temple.
- It became the first flower in Tamil Nadu to receive a GI-tag certification in 2013.

About Madurai Malli

- Madurai's unique link with the jasmine probably dates back to 300 BC or earlier.
- There are extensive references to the flower in Sangam literature — the Tamil poems of the period 300 BC to AD 300, which are believed to have been composed or written at the Sangam or assembly of Tamil scholars, regularly held in Madurai during that period.
- Jasmines (Jasminum Officinale) are among the world's most popular flowers, known for its engrossing fragrance.
- The Madurai Malli gets its name from its place of origin, the Madurai city.

Madurai Malli
#AatmaNirbharBharat

GI Tagged Madurai Malli is a traditional jasmine flower (Malligai) comprises the local varieties and cultivars of Jasminum sambac in Madurai, Virudhunagar, Theni, Dindigul and Sivagangai districts of Tamil Nadu state. It is commonly known as Arabic jasmine & 'Gundu Malli'.

Floriculture exports from India

- Responsible body for export promotion and development of floriculture in India: Agricultural and Processed Food Products Export Development Authority (APEDA).
- India is bestowed with several agro-climatic zones conducive for production of sensitive and delicate floriculture products.
- The area under floriculture production during 2019-20 in India was 305 thousand hectares with a production of 2301 thousand tonnes of loose flowers and 762 thousand tonnes of cut flowers.
- **Floriculture is commercially cultivated in several states.**
  - Andhra Pradesh (19.1%),
  - Tamil Nadu (16.6%),
  - Madhya Pradesh (11.9%)
  - other producing states like Karnataka, West Bengal, Mizoram, Gujarat, Orissa, Jharkhand, Haryana, Assam and Chhattisgarh.

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- Floriculture industry in India comprises Rose, Tuberose, Glads, Anthurium, Carnations, Marigold, etc.
- India has also been exporting fruits and vegetable seeds and exports during 2020-21 stood at Rs. 808.36 crores.
  - ➢ Major markets of India's fruits and vegetable seeds: USA, Netherland, Bangladesh, UAE and Japan

Production of Bees Wax

Why in news?

A National Conclave on "Production of Bees Wax" was organized by National Dairy Development Board (NDDB), Gujarat in collaboration with the National Bee Board (NBB), Ministry of Agriculture, and Farmers Welfare.

- The conclave was supported by the National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED) & Tribal Co-Operative Marketing Development Federation of India Limited (TRIFED).

Objective

- To create awareness about the production of other high-value beekeeping products viz. Bees Wax, Bee pollen, Royal Jelly, Propolis, bee venom, etc.

What is Beeswax?

- Beeswax is a naturally occurring wax produced in the bee's hives by honeybees A. mellifera. Glands under the abdomen of the bees secrete this wax and it is used to build the honeycomb.
- Chemically, beeswax consists mainly of esters of fatty acids and various long-chain alcohols.

About Beeswax
- A product made from the honeycomb of the honeybee and other bees.
- It might help lower cholesterol levels, prevent infections, and help protect the stomach from ulcers caused by non-steroidal anti-inflammatory drugs (NSAIDs).
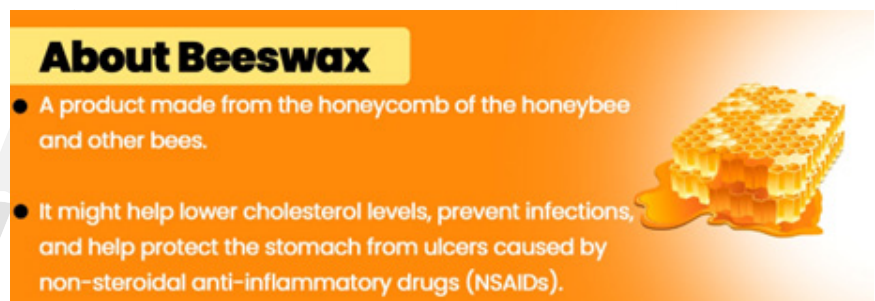
National Beekeeping and Honey Mission (NBHM)

- It was announced by the Union Government as part of the Atma Nirbhar Bharat package in 2020.
- It is a central sector scheme.
- Implementation: By the National Bee Board (NBB).
- The scheme is aimed at the overall development and promotion of scientific beekeeping in India to achieve the objectives of the Sweet Revolution.
- It is under the Ministry of Agriculture and Farmers' Welfare.
- The scheme will work in tandem with the various other schemes related to beekeeping such as KVIC's Honey Mission, Mission for Integrated Development of Horticulture (MIDH), and the ministries of rural development, MSME, AYUSH, commerce and industry, tribal affairs, etc.

Apiculture

Beekeeping (or apiculture) is the maintenance of bee colonies, commonly in man-made hives, by humans.

National Dairy Development Board

- The NDDB is a statutory board setup by an Act of the Parliament of India.
- It is under the ownership of the Ministry of Fisheries, Animal Husbandry and Dairying.
- It was created to finance and support producer-owned and controlled organisations.
- Its programmes and activities seek to strengthen farmer cooperatives and support national policies that are favourable to the growth of such institutions.
- The NDDB was founded by Dr. Verghese Kurien in 1965.

National Bee Board (2000) [HQs: New Delhi]

- It was constituted by the Small Farmers' Agri-business Consortium (SFAC) with the objective to develop beekeeping in India and improve it.
- It was registered as a 'society' following the guidelines of the Societies Registration Act, 1860.

- ➢ It was reconstituted in June 2006.
- The board is currently engaged in the implementation of the Horticulture Mission for North East and Himalayan State (HMNEM) and the National Horticulture Mission (NHM).

Mission Integrated Bio-refineries

Why in news?

"Mission Integrated Bio-refineries" comes in the wake of the soft launch in November 2021 at (Conference of Parties) COP26 side event at the Mission Innovation Annual Gathering.

- It is a futuristic PPP mode initiative for clean energy with the goal of replacing 10% of fossil-based fuels, chemicals, and materials with bio-based alternatives by 2030.

Other key highlights

- The Mission Integrated Bio-refineries is Co-led by India and the Netherlands.
- Mission also involved Brazil and Canada as core members, and the European Commission and the United Kingdom as supporting members.
- This is the sixth Mission launched by Mission Innovation, and joins initiatives focused on clean hydrogen, green power systems, net-zero shipping, carbon dioxide removal and urban transitions.

INTEGRATED BIOREFINERIES MISSION

The Integrated Biorefineries Mission aims to make sustainable bio-based alternatives cost-competitive to help meet the 2050 climate goals.

- India's commitment to a low-carbon future, centered on technology advancement and cooperation, zero waste bio-refinery for cost-effective production of sustainable bio-fuels with co-production of bio-based chemicals and materials, using biotechnological interventions.
- The Mission Integrated Bio-refineries unites a dynamic and results-oriented partnership of countries, international organizations, the corporate sector, academic institutions and civil society to accelerate innovation for renewable fuels, chemicals, and materials for a low-carbon future.
- Three Material Acceleration Platforms (MAP) set up by the Department of Science and Technology (DST) on Integrated Clean Energy Material Acceleration Platform on Storage, Integrated Clean Energy Material Acceleration Platform on Materials,

CARBON DIOXIDE REMOVAL MISSION

Goal: To enable Carbon Dioxide Removal technologies to achieve a net reduction of 100 million metric tons of CO_2 per year globally by 2030.

NET-ZERO INDUSTRIES MISSION

MI members recognize that heavy industries like steel, cement, and chemicals, require extremely high temperatures and use massive amounts of energy.

URBAN TRANSITIONS MISSION

Goal: By 2030, deliver at least 50 large-scale, integrated demonstration projects in urban environments around the world, providing a pathway for all cities to adopt net-zero carbon solutions as the default option.

INTEGRATED BIOREFINERIES MISSION

To meet our 2050 climate goals we will need to drastically reduce greenhouse gas emissions in our transport and chemicals sectors.

  and Integrated Clean Energy Material Acceleration Platform on Bioenergy and Hydrogen with a total cost of $ 6 Million USD were also launched.
- These platforms would leverage emerging capabilities in next-generation computing, artificial intelligence (AI) and machine learning, and robotics to accelerate the pace of materials discovery up to 10 times faster.
- 'National Funding Opportunity on Sustainable Aviation Fuels' to support and conduct RD&D (Research, Development & Demonstration) to foster technological innovations in advanced biofuels for aviation applications was also announced.

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Ganoderma lucidum

Why in news?

Ganoderma lucidum is a medicinal mushroom in use for centuries to heal diseases like diabetes, cancer, inflammation, ulcer as well as bacterial and skin infections.

- The potential of the fungus is still being explored in India.
- It is globally also known as "red reishi mushroom".

Key details

- Unlike normal mushrooms, the peculiar character of this one is that it grows on wood or wood-based substrate only.
- With time, many researchers recognised this fungus and tried to identify its constituents and properties.
- Ganoderma contains more than 400 chemical constituents, including triterpenes, polysaccharides, nucleotides, alkaloids, steroids, amino acids, fatty acids and phenols.
- These show medicinal properties such as immunomodulatory, anti-hepatitis, anti-tumour, antioxidant, antimicrobial, anti-HIV, antimalarial, hypoglycaemic and anti-inflammatory properties.
- The mushroom is shiny red-brown in colour and naturally grows on wood. It prefers broad-leaved tree species like acacia, poplar, oak, maple, melia, eucalyptus, hevea, tectona and grewia.
- The lower surface of this mushroom is porous, pale white in colour and produces red spores on maturity.
- It thrives well in warm and humid climates, and grows preferably in mixed forests of sub-tropical to temperate regions.
- The mushroom takes about a month to mature in sawdust substrate but is mostly harvested once.
- On wood log substrate, it takes about 15 days to colonise and approximately 3-4 months to mature, with about three subsequent harvests.
- Apart from medicines, Ganoderma lucidum is also used as a base material for manufacturing products such as tea, coffee, energy supplements, health boosters, beverages, baked goods and anti-ageing cosmetics. Scope in India
- India, a country where a majority of the population primarily relies on agriculture, has great potential to cultivate this mushroom.
- It can be grown indoors and is thus safe from the impacts of extreme weather conditions, man-wildlife conflicts, harsh topography, and poor soil conditions.

Prakriti: Green Mascot

Why in news?

The Union Environment Minister launched "Prakriti", a mascot that spreads greater awareness about small alterations in life that can curb single-use plastic pollution.

- India is on its way to imposing a blanket ban on single-use plastic, such as earbuds, glasses, plastic flags, cutlery, glasses, etc. are to be banned from July 2022.
- Union Minister administered 'Swachh Bharat Harit Bharat Green Pledge' to the gathering.

Other initiatives launched for plastic waste management:

- **National Dashboard on Elimination of Single-Use Plastic and Plastic Waste Management (MoEFCC)**
  - ➢ This aims to connect all stakeholders including Central Ministries/ Departments, State/UT Governments, etc. through one platform and track the status and progress made for elimination of single-use plastic & effective management of plastic waste.

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- **Extended Producer Responsibility (EPR) Portal for Plastic Packaging (CPCB)**
  - This portal will look after tasks that will help in overall operational functions like improving accountability, traceability, transparency, and facilitating ease of reporting compliance to EPR Obligations by Producers, Importers and Brand-owners.
- **Mobile App for Single-Use Plastics Grievance Redressal (CPCB)**
  - This app will allow citizens to check sale/usage/manufacturing of single-use plastic in their region and tackle the plastic menace.
- Monitoring module for single-use plastic (CPCB)
  - This will be for local bodies, State pollution control board/PCCs and CPCB, etc. to inventorize details of single-use plastic production, its sale & usage, etc. in commercial establishments at the district level, and on-ground enforcement of ban on single-use plastics.
- Industrial production of Graphene from Waste Plastic (G B Pant NIHE & NRDC) will promote more industries to come forward to up cycle plastic waste

Single-use plastic

- It means a plastic item that is intended to be used only one time for the same purpose. After that, it will either be disposed of or recycled.
- Plastic bags, straws, and paper cups are some of the examples of 'single-use plastic commodity'.

Plastic Waste Management Amendment Rules, 2021

Amendment in rules relating to 'Single-use plastic'

- **A new sub-rule (2) is inserted to rule 4 which prohibits the manufacture, stocking, distribution, import, sale, and use of the following 'single-use plastic commodities (including polystyrene and expanded polystyrene)' from 1st July 2022-**
  - Earbuds with plastic sticks,
  - Plastic flags,
  - Plastic sticks for balloons,
  - Ice-cream sticks,
  - Candy sticks,
  - Polystyrene (Thermocol) for decoration,
  - Cups,
  - Plates,
  - Cutlery like spoons, forks, straw, knives, wrapping/ packing films around sweet boxes, trays, cigarette packets, and invitation cards,
  - Glasses,
  - Plastic or PVC banners less than 100 microns,
  - Stirrers

Amendment in thickness of plastic carry bags

- **With a view to stopover, the thickness of the plastic carry bags is increased in the following manner:**
  - Firstly, from 50 microns to 75 microns with effect from 30th September 2021; and
  - Thereafter, from 75 microns to 120 microns with effect from 31st December 2021.

Indian tent turtle

Why in news?

There are no reports to indicate that the Indian tent turtle is on the verge of extinction due to illegal mining in the Narmada River.

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- The Zoological Survey has not conducted any survey in the Narmada River on the impact of illegal mining on Indian tent turtles and its effect on the river ecosystem.

Indian Tent Turtle

- The Indian tent turtle (Pangshura tentoria) is a species of turtle in the family Geoemydidae.
- Indian tent turtles, listed in Schedule I of the Wild Life (Protection) Act, 1972 are provided the highest degree of protection in India.
- They are native to India, Nepal, and Bangladesh and are similar to the Indian roofed turtle.
- Mainly herbivorous, these turtles, known as natural cleaners, survive by eating moss and algae, etc., and increase the amount of oxygen in the water.
- Due to the attractive appearance of the species, they are illegally traded in the pet market.

Conservation Status

- **IUCN:** Least concern
- **IWPA:** Schedule I
- **CITES:** Appendix II

Government Initiatives

The Government has taken several steps to protect wildlife and its habitats including for Indian tent turtle species. Important steps are taken in this regard include:

- Protected Areas, viz., National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves have been created in the country covering important habitats to provide better protection to wildlife, including threatened species and their habitat.
- Financial assistance is provided to the State/Union Territory Governments under the Centrally Sponsored Scheme of 'Integrated Development of Wildlife Habitats', for providing better protection to wildlife and improvement of habitat.
- The Wild Life (Protection) Act, 1972 provides for stringent punishment for violation of its provisions. The Act also provides for forfeiture of any equipment, vehicle or weapon that is used for committing wildlife offence(s).
- The local communities are involved in conservation measures through eco-development activities which help the forest departments in protection of wildlife.
- The Wildlife Crime Control Bureau (WCCB) coordinates with State/UTs and other enforcement agencies to gather intelligence about poaching and unlawful trade in wild animals and animal articles.

Wildlife (Protection) Act, 1972

- It is enacted for protection of plants and animal species. The Act provides for the protection of wild animals, birds and plants; and for matters connected therewith or ancillary or incidental thereto. It extends to the whole of India.
- It has six schedules which give varying degrees of protection.
- Schedule I and part II of Schedule II provide absolute protection - offences under these are prescribed the highest penalties.
- Species listed in Schedule III and Schedule IV are also protected, but the penalties are much lower.
- Animals under Schedule V, e.g., common crows, fruit bats, rats and mice, are legally considered vermin and may be hunted freely.
- The specified endemic plants in Schedule VI are prohibited from cultivation and planting.

India's solar capacity

Why in news?

According to a report by JMK Research and the Institute for Energy Economics and Financial Analysis (IEEFA), India is likely to miss the mark by 27 percent of its 2022 target of installing 100 gigawatts (GW) of solar power capacity, largely due to inadequate uptake of rooftop solar.

- As of December 2021, India's cumulative installed solar capacity was 55GW, with grid-connected utility-scale projects contributing 77% and the rest from grid-connected rooftop solar (20%) and mini or micro off-grid projects (3%).

Solar Power

- Solar power is the conversion of renewable energy from sunlight into electricity, either directly using photovoltaics, indirectly using concentrated solar power, or a combination. Photovoltaic cells convert light into an electric current using the photovoltaic effect.

Why go solar?

- Every KW of rooftop solar generates about 100-120 units of electricity every month
- Cost of the system can be recovered within 3.5-4 years
- Surplus energy can be sold to the discom. The latter will pay the consumer for the surplus energy generated over and above the consumer's own consumption
- If you opt for RESCO model, you don't have to incur any upfront capital expenditure. It is borne by the vendor
- As part of the Solar PV Rooftop Scheme under MNRE's Phase-II guidelines, a residential consumer can get a capital subsidy of up to 40% depending on the solar load

Key findings

- With just eight months of 2022 remaining, only about 50% of the 100GW target, consisting of 60GW of utility-scale and 40GW of rooftop solar capacity, has been met.
- Approximately 19 GW of solar capacity is expected to be added in 2022 — 15.8GW from utility-scale and 3.5GW from rooftop solar.
- Even with this capacity addition, about 27% of India's 100GW solar target would be unmet.
- The analysis projects a 25GW shortfall in the 40GW rooftop solar target, compared to just 1.8GW in the utility-scale solar target by December 2022.

Call for concerted efforts

- Utility-scale solar capacity addition is on track. India is set to achieve nearly 97% of its 60GW target.
- Solar capacity is a major prong of India's commitment to addressing global warming according to the terms of the Paris Agreement, as well as achieving net-zero, or no net carbon emissions, by 2070.
- At the United Nations Conference of Parties meeting in Glasgow, India would be reaching a non-fossil fuel energy capacity of 500 GW by 2030 and meet half its energy requirements via renewable energy by 2030.
- On the current trajectory, the report finds, India's solar target of 300GW by 2030 will be off the mark by about 86GW, or nearly a third.

Recommendations

The report proposes short and long-term measures to get India back on track to meet solar targets.

- Short-term measures include uniform policies to be applied nationally for at least the next five years, consistent regulations for net metering and banking facilities, and revocation of restrictions on the banking of renewable energy at least until rooftop and open-access state targets are achieved.
- Long-term measures include stricter enforcement of the renewable purchase obligation; improved financial health; the potential privatization of distribution companies; reduced cross-subsidy surcharges for commercial and industrial consumers; and a capital subsidy for battery energy storage systems.

Seaweed Park

Why in news?

For the first time in the country, a seaweed park will be set up in Tamil Nadu to improve the livelihood of fishermen.

Key details

- This project would be implemented under the Prime Minister's Matsya Sampada Yojana to increase fish stocks in Rameswaram and Mandapam areas.
- A certain amount is to be invested in Tamil Nadu for fisheries projects such as cold storage, setting up fish processing plant, and deep-sea aquaculture.

What is seaweed?

- Seaweed is the common name for countless species of marine plants and algae that grow in the ocean as well as in rivers, lakes, and other water bodies.

- Seaweeds are a power pack of nutrients like iron, zinc, magnesium, riboflavin, thiamin, vitamin A, B, C & K etc.
- Some seaweeds are microscopic, such as the phytoplankton that live suspended in the water column and provide the base for most marine food chains.
- Some are enormous, like the giant kelp that grow in abundant "forests" and tower-like underwater redwoods from their roots at the bottom of the sea.
- Most seaweeds are medium-sized, come in colors of red, green, brown, and black, and randomly wash up on beaches and shorelines just about everywhere.

Advantages of Seaweeds

- The high number of antioxidants present in seaweed protects the body from damages caused by free radicals and protect cells from their impact.
  - ➤ Too much production of free radicals contributes to health problems such as cardiovascular diseases and diabetes.
- Seaweed is low in calorie content while being high in Omega 3 fats and fibre.
- Seaweed is high in fibre content, which is a boon for gut health.
- Hormones released by the thyroid glands are responsible for growth, energy production and repairing of damaged cells. They depend on iodine for hormones production.
  - ➤ Seaweed absorbs a large amount of iodine from the salt content underwater and one dried sheet can contain 25 to 1682% of recommended daily intake (RDI) of iodine.
- Seaweed can help in managing diabetes by balancing the sugar levels in the blood.
- **Other advantages:**

Seaweed is chock-full of vitamins, minerals, and fiber, and can be tasty. For at least 1,500 years, the Japanese have enrobed a mixture of raw fish, sticky rice, and other ingredients in a seaweed called nori. The delectable result is a sushi roll.

Many seaweeds contain anti-inflammatory and anti-microbial agents. Their known medicinal effects have been legion for thousands of years; the ancient Romans *used them to* treat wounds, burns, and rashes. Anecdotal evidence also suggests that the ancient Egyptians may have used them as a treatment for breast cancer.

Certain seaweeds do, in fact, possess powerful cancer-fighting agents that researchers hope will eventually prove effective in the treatment of malignant tumors and leukemia in people. While dietary soy was long credited for the low rate of cancer in Japan, this indicator of robust health is now attributed to dietary seaweed.

These versatile marine plants and algae have also contributed to economic growth. Among their many uses in manufacturing, they are effective binding agents (emulsifiers) in such commercial goods as toothpaste and fruit jelly, and popular softeners (emollients) in organic cosmetics and skin-care products.

Seaweed Farming

- Seaweed farming is the practice of cultivating and harvesting seaweed.
- In its most advanced form, it consists of fully controlling the life cycle of the algae.
- The largest seaweed-producing countries are China, Indonesia, and the Philippines.
- Seaweed farming has frequently been developed as an alternative to improve economic conditions and to reduce fishing pressure and overexploited fisheries.

Aquaculture

Aquaculture is breeding, raising, and harvesting fish, shellfish, and aquatic plants. Basically, it's farming in water.

Seaweed in India

- Seaweeds are abundant along the Tamil Nadu and Gujarat coasts and around Lakshadweep and Andaman & Nicobar Islands. Rich seaweed beds occur around Mumbai, Ratnagiri, Goa, Karwar, Varkala, Vizhinjam and Pulicat in Tamil Nadu, Andhra Pradesh and Chilika in Orissa.
- Around 844 species of seaweeds have been reported from Indian seas.
- Out of the 844 seaweed species, India possesses around 434 species of Red Algae, 194 species of Brown Algae, and 216 species of Green Algae.

Way ahead

- India is aiming to increase seaweed production in the country to 11.5 lakh tonnes from the current production levels of 2,500 tonnes in the next five years.
- This can be achieved by using just 1 percent of its 8,000-kilometre-long coastline.
- Globally, seaweed production is $12-15 and is expected to grow to $26 billion by 2025.

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Computerized Registration of pesticide (CROP) & Plant Quarantine Management System (PQMS)

Why in news?

Union Minister for Agriculture and Farmers' Welfare launched two portals, one for the Computerized Registration of pesticide (CROP) and the other for Plant Quarantine Management System (PQMS).

- These two portals would help in taking forward digital Agriculture and Ease of doing Business and will benefit farmers, exporters as well as industrialists.

Computerized Registration of Pesticides (CROP)

- CROP is a web-based application for Registration of Pesticides developed for the Central Insecticides Board and Registration Committee.
- The application is supposed to automate the entire registration procedure.

Features

- Online filing of applications & documents and e-payment
- Automation of approval process
- Deficiency reporting including notification for alerts
- Online submission of deficiency clarifications and grievances
- Checking of application and grievances status
- Creation of company, product label, leaflet and certificate data
- Issuance of registration certificate & MIS reports

Plant Quarantine Management System

- The objective of PQMS is to provide an efficient and effective service to importers, exporters, individuals and the Government.
- It facilitates Importers to apply online for Import Permit, Import Release Order and Exporters to apply online for Phyto-sanitary Certificate.
- Exporters and Importers can view the status of their application online and access history of his application during entire life cycle of the application.
- This will help in brining transparency in functioning.

Features

- Web-based Intranet workflow system for Quarantine services (import/ export inspection) from scrutiny of application, inspection & treatment of consignment, approval and issuance of PSC, IP and IRO.
- Online filing of application and tracking of status by traders
- Automatic fees calculation & receiving through e-payment
- Generation of certificate on preprinted stationary
- National level database creation & MIS reports
- Dissemination of information & delivery of services to beneficiaries

Karewas

Why in news?

Kashmir's highly fertile alluvial soil deposits called 'karewas' are being destroyed in the name of development.

- karewa, the plateau-like landforms are 13,000-18,000-metre-thick deposits of alluvial soil and sediments like sandstone and mudstone.
- This makes them ideal for cultivation of saffron, almonds, apples and several other cash crops.

Key details

- Kashmir saffron, which received a Geographical Indication (GI) tag in 2020 for its longer and thicker stigmas, deep-red colour, high aroma and bitter flavour, is grown on these karewas.
- Despite its agricultural and archaeological importance, karewas are now being excavated to be used in construction.

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- Between 1995 and 2005, massive portions of karewas in Pulwama, Budgam and Baramulla districts were razed to the ground for clay for the 125-km-long Qazigund-Baramulla rail line.
- The Srinagar airport is built on the Damodar karewa in Budgam.
- Two other karewas—in Pulwama and Budgam districts—are also being excavated for the 58-km-long project.

Formation of Karewas

- When formed during the Pleistocene period (2.6 million years to 11,700 years ago), the Pir Panjal range blocked the natural drainage in the region and formed a lake spanning 5,000 sq km (roughly three times the size of Delhi).
- Over the next few centuries, the water receded, making way for the valley and the formation of the karewas between the mountains.
- Today, the karewa sediments not only hold fossils and remnants of many human civilisations and habitations, but are also the most fertile spots in the valley.
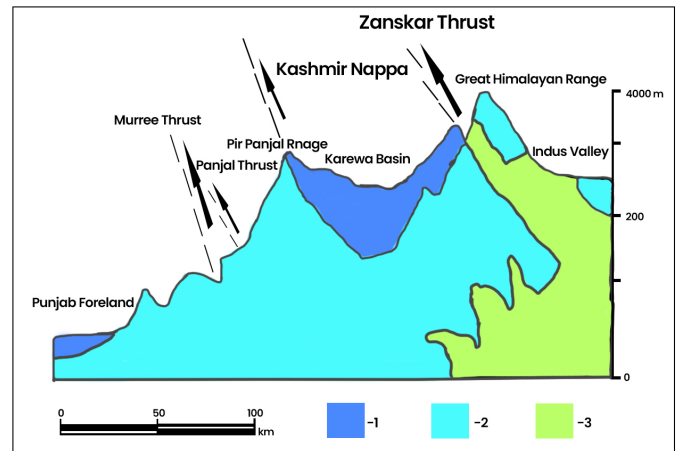
Mariupol steel mill

Why in news?

The Russian President is claiming control over Ukraine's port city of Mariupol even as its defenders are still holding out at a giant seaside steel mill.

- Capturing the city would allow the establishment of a land corridor from Russia's border to Ukraine's the Crimean Peninsula which Moscow annexed in 2014.

Mariupol

- It is a part of the industrial region in **eastern Ukraine** known as the **Donbas region.**
- It is located on the **north coast of the Sea of Azov** at the mouth of the Kalmius river, in the Pryazovia region.
- While **internationally recognized as in Ukraine**, the city is under the de facto administration of the **Donetsk People's Republic (DPR).**
  - ➢ DPR is a **breakaway state located in Ukraine**, formed in **2014** by **pro-Russian separatists** following the Ukrainian Revolution of Dignity.

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SEA OF AZOV — © WorldAtlas.com
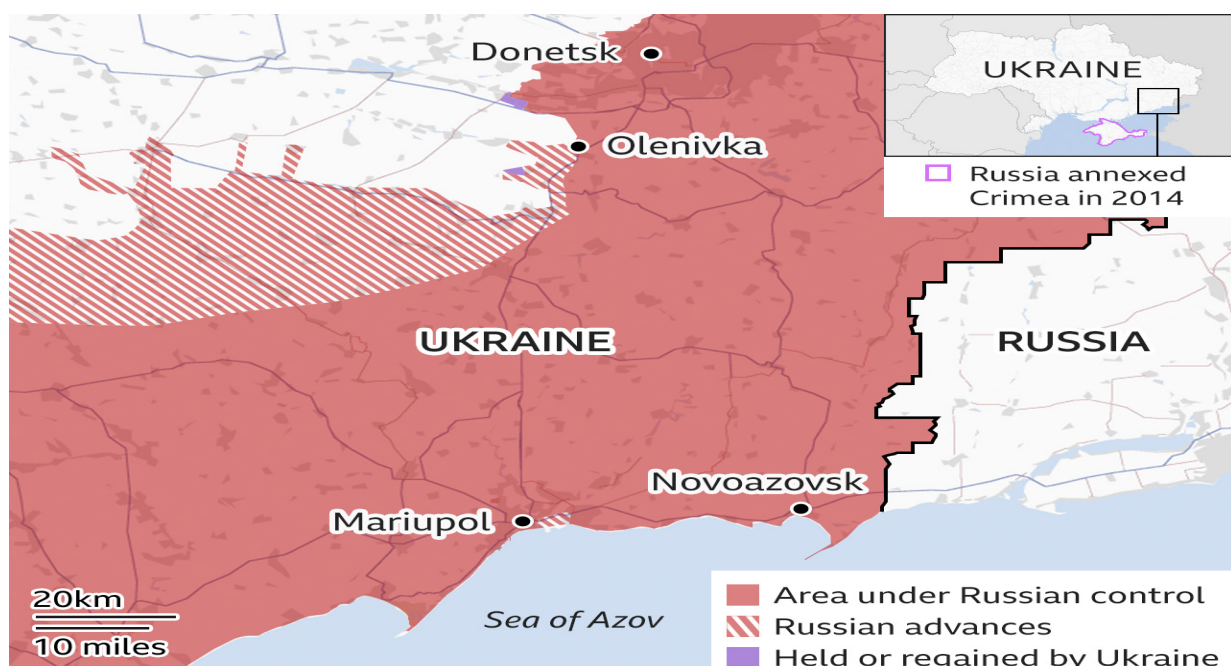
The Sea of Azov

- The Sea of Azov is a small body of water surrounded by **Russia and Ukraine** connected to the **Black Sea by the Kerch Strait.**
- It is a shallow body of water and has proven to be strategically important for centuries.
- The Sea of Azov is vital for Ukraine's economic and military wellbeing.
- The Sea of Azov is important for Russia's continued occupation of Crimea for logistical reasons.

GO 111

Why in news?

Environmentalists and activists are criticising the Telangana government for withdrawing an over 25-year-old government order (GO) protecting the historic Osman Sagar and Himayat Sagar reservoirs in Hyderabad, which they say will destroy the fragile surrounding ecosystem.

About 'Government Order (GO) 111'

- On March 8, 1996, the government of erstwhile (undivided) Andhra Pradesh had issued 'Government Order (GO) 111' prohibiting development or construction works in the catchment area of the Osman Sagar and Himayat Sagar lakes up to a radius of 10 km.
- The aim of the restrictions was to protect the catchment area, and to keep the reservoirs pollution-free.
- The lakes had been supplying water to Hyderabad for nearly 70 years, and were the main source of drinking water for the city at the time.

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When and why were these reservoirs constructed?

- The reservoirs were created by building dams on the Musi (also known as Moosa or Muchkunda) river, a major tributary of the Krishna, to protect Hyderabad from floods.
- The proposal to build the dams came after a major flood during the reign of the sixth nizam Mahbub Ali Khan (1869-1911) in 1908, in which more than 15,000 people were killed.
- The lakes came into being during the reign of the last nizam Osman Ali Khan (1911-48).
- Osman Sagar was completed in 1921, and Himayat Sagar in 1927.
- The nizam's guesthouse at Osman Sagar is now a heritage building.

THE CHRONOLOGY

1996
GO 111 issued on March 8, 1996 prohibiting various works in 10 km radius of Himayatsagar and Osmansagar

1999
SC upholds PCB decision to not allow Surana Oils to set up unit in buffer zone

2016
Thakur Rajkumar Singh approaches NGT with details of 12,500 violations of GO 111 along with details of 400 illegal layouts

2017
Government in its counter argument decides to form an expert committee

2019
Expert panel sits on report. NGT orders no construction can be done in protected area

2020
MP Revanth Reddy approaches NGT on illegal construction of a farmhouse in protected area

Why has the government withdrawn protection?

- Chief Minister said that the city no longer depends on these two reservoirs for water supply, and there was no need to continue with the restrictions on development in the catchment radius.
- Hyderabad's drinking water requirement has increased to more than 600 million gallons per day (MGD), which is being drawn from other sources including the Krishna River; water from the two reservoirs amounts to just about 1 percent of the daily requirement.
- The government would continue to take measures to ensure that the water flowing into the reservoirs is not polluted, and would not allow unauthorized development or construction.

Vaquita porpoise

Why in news?

According to the United States Commission for Environmental Cooperation (CEC), Vaquita porpoise, found in the **Gulf of California** in Mexico, is nearing extinction and immediate measures are needed to save the remaining population.

- According to CEC, the population of the species declined 98 per cent in two decades. Around 570 animals were recorded in 1999 and this fell to 10 animals in 2019.

BAJA PENINSULA

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About Vaquita Porpoise

- The vaquita porpoise is the world's smallest cetacean and the most endangered marine mammal.
- It has the smallest range of any whale, dolphin or porpoise, and only lives in a small 1,500 square-mile area in Mexico's upper Gulf of California, near the town of San Felipe.
- It has a rounded head and black patches around its mouth and eyes.
- It only measures up to five feet in size.
- **IUCN status:** CR

Commission for Environmental Cooperation (CEC)

CEC is a collaborative body working for the environmental, economic and social linkages between Canada, Mexico and the United States to conserve, protect and enhance the North American environment.

The body has recommended developing a factual record to explore factors contributing to the near-extinction of the species.

New Eel species

Why in news?

Indian scientists have discovered a new species of eel from among specimens collected from the Kalamukku and Digha Mohana fishing harbours in Kerala and West Bengal respectively.

About New Eel Species

- The newly discovered eel belongs to the Congrid eels group and has been named Ariosoma indicum.
- The term Indicum means that it was found in India

Eels

- Eels are ray-finned fish belonging to the order Anguilliformes, which consists of eight suborders, 19 families, 111 genera, and about 800 species.
- Eels undergo considerable development from the early larval stage to the eventual adult stage, and most are predators.
- The term "eel" is also used for some other eel-shaped fish, such as electric eels (genus Electrophorus), spiny eels (family Mastacembelidae), swamp eels (family Synbranchidae), and deep-sea spiny eels (family Notacanthidae).

- Scientists from the Indian Council of Agriculture Research-National Bureau of Fish Genetic Resources (ICAR-NBFGR), Lucknow and the Estuarine Biology Regional Centre, Zoological Survey of India, Gopalpur-on-Sea, Odisha, confirmed Ariosoma indicum as a new species after two years of through research, taxonomic studies and molecular analysis.
- The new eel species is not listed as 'Threatened' or 'Endangered' by the International Union for Conservation of Nature's Red List or the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

National Bureau of Fish Genetic Resources (1983)

- It is a dedicated research center in fishery science under the Indian Council of Agricultural Research of Government of India.
- It is located in Lucknow, Uttar Pradesh.
- NBFGR is working on India's fish genetic resources for intellectual property protection and sustainable utilisation.

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POLITY & GOVERNANCE

Fast and Secured Transmission of Electronic Records (FASTER)

Why in news?

Chief Justice of India launched 'Fast and Secured Transmission of Electronic Records' (FASTER), a software to transmit court orders swiftly, and securely through electronic mode.

About FASTER

- The purpose of FASTER is that orders passed by the Supreme Court or any Courts have to be transmitted safely without any interference.
- Aim: To avoid situations where the release of prisoners gets delayed even after SC grants them bail, solely on grounds of delay in jail authorities getting certified hard copies of release orders.

Its significance

- FASTER will communicate bail orders and it will have the digital signature of SC officers for authentication.
- Communication is restricted to the email id holders which ensures privacy, safety, and security.
- This will save time and effort and will ensure that there are no delays in the implementation of the orders passed by the Supreme Court.

The Indian Antarctic Bill, 2022

Why in news?

Nearly 40 years after India first signed the Antarctic Treaty, the government has brought in a draft Indian Antarctic Bill, 2020.

Why "Indian Antarctic Bill"?

- The Bill seeks to give effect to the Antarctic Treaty, the Convention on the Conservation of Antarctic Marine Living Resources, and the Protocol on Environmental Protection to the Antarctic Treaty.
- It also seeks to protect the Antarctic environment and regulate activities in the region.
- Already 27 countries have domestic legislations on Antarctica: Argentina, Australia, Belarus, Belgium, Canada, Chile, Columbia, Finland, France, Germany, Italy, Japan, Republic of Korea, the Netherlands, New Zealand, Norway, Peru, Russian Federation, South Africa, Spain, Sweden, Turkey, Ukraine, United Kingdom, United States of America, Uruguay and Venezuela.
- While India has been sending expeditions to Antarctica for the past 40 years, these expeditions have been circumscribed by international law.
  - ➤ Bill now puts into place a comprehensive list of regulations related to Antarctica, for such scientific expeditions, as well as for individuals, companies and tourists.
- A domestic legislation will further provide more validity to the Antarctic Treaty, and subsequent protocols, of which India is a signatory.
- Bill extends the jurisdiction of Indian courts to Antarctica, for crimes on the continent by Indian citizens, or foreign citizens who are a part of Indian expeditions.
  - ➤ So far there was no recourse for crimes committed during an expedition, including crimes against the environment.

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Antarctica Treaty

➢ Signed in 1959 by 12 countries — Argentina, Australia, Belgium, Chile, French Republic, Japan, New Zealand, Norway, Union of South Africa, USSR, the UK of Great Britain and Northern Ireland and the US of America, and came into force in 1961.

➢ The Treaty covers the area south of 60°S latitude.

➢ Objective: To demilitarize Antarctica and establish it as a zone used for peaceful research activities and to set aside any disputes regarding territorial sovereignty, thereby ensuring international cooperation.

➢ Currently, 54 nations are signatories to the Antarctic Treaty, but only 29 nations have a right to vote at the Antarctic Treaty Consultative Meetings – this includes India.

➢ India signed the Antarctic Treaty in 1983 and received consultative status the same year.

Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR) [1980]

➢ For the protection and preservation of the Antarctic environment and, in particular, for the preservation and conservation of marine living resources in Antarctica.

Protocol on Environmental Protection to the Antarctic Treaty

➢ Signed in 1991 and came into force in 1998.

➢ It designates Antarctica as a "natural reserve, devoted to peace and science".

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Main provisions of the Bill

- **A permit system:** For any expedition or individual who wishes to visit the continent. These permits will be issued by a Committee that will be set up by the government.
  - ➤ Committee will comprise of the Secretary Earth Sciences ministry and will also have officials from Defence, Ministry of External Affairs, Finance, Fisheries, Legal Affairs, Science and Technology, Shipping, Tourism, Environment, Communication and Space ministries along with a member from the National Centre for Polar and Ocean Research and National Security Council Secretariat and experts on Antarctica.
  - ➤ The permits can be cancelled by the Committee if deficiencies are found or activities in contravention of the law are detected.
- **Commercial fishing:** While India does not carry out commercial fishing in the area, since every country has an allotted quota, the Bill now provides for this activity. However, strict guidelines are in place in accordance with international law.
- Tour operators: The enables Indian tour operators to operate in Antarctica, although, this is circumscribed by strict regulations.
- The Bill further enlists elaborate standards for environmental protection as well as waste management.
- **Prohibitions:**
  - ➤ Bill prohibits drilling, dredging, excavation or collection of mineral resources or even doing anything to identify where such mineral deposits occur.
  - ➤ Only exception is for scientific research with a granted permit.
  - ➤ Damaging of native plants, flying or landing helicopters or operating vessels that could disturb birds and seals, using firearms that could disturb the birds and animals, remove soil or any biological material native to Antarctica, engage in any activity that could adversely change the habitat of birds and animals, kill, injure or capture any bird or animal have been strictly prohibited.
  - ➤ Introduction of animals, birds, plants or microscopic organisms that are not native to Antarctica are also prohibited.
  - ➤ Extraction of species for scientific research needs to be done through a permit. The central government can also appoint an officer to carry out inspections.
- **Penalty system:** Bill proposes the setting up of a separate designated court to try crimes committed in Antarctica.

Conclusion

- The proposed law will forward to provide a harmonious policy framework for India's Antarctic activities through a well-established legal mechanism; facilitate activities of the Indian Antarctic programme, including management of Antarctic tourism and sustainable development of fisheries.

J-form

Why in news?

The Punjab Mandi Board has decided to send a 'digital form J' on the WhatsApp number of farmers from this Rabi procurement season.

- The move aimed at bringing transparency as well as empowering farmers.
- Punjab became the first state in the country to provide digitised form J in real-time.

What is the 'J form'?

- 'J form' is the sale receipt of a farmer's agricultural produce in mandis (grain market).
- These forms were earlier issued manually by arthiyas (commission agents) because in Punjab, a majority of farmers sell their crops through such agents only.
- This form is an income proof for a farmer who sells his crop.

Benefits of J-form digitisation to farmers

- By getting digitised J form, farmers will now have a clear record of the crop sold and income received in lieu of that and it will save their time as well, ensuring that they do not need to run to arhtiyas to get copies of their sale.
  - ➤ Before digitisation of the J form, several arhtiyas had the habit of keeping these forms with themselves, instead of providing it to the farmers, which was their right. Hence, many farmers ended up having no record of their income after selling their crops.

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- If any farmer changes his/her WhatsApp number, then they can see the J forms in their digilocker, which are legally at par with original physical documents under Rule 9A of the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016 notified in 2017.
- 'J form' can be used for raising finance from financial institutions, IT waivers, subsidy claims, farmer's insurance.
- 'J form' can also help farmers get admission for their wards in educational institutes abroad.

Denotified and Nomadic Tribes

Why in news?

A parliamentary standing committee has expressed dismay at the government's delay in categorising denotified and nomadic tribes as Dalits or tribals or backwards, which will enable them to avail of reservation and other affirmative action benefits meant for underprivileged communities.

- An ethnographic survey is under way to study the social details of 269 denotified, nomadic and semi-nomadic tribes (DNTs).

What are Denotified, Nomadic, and Semi-Nomadic Communities (DNCs)?

- These are communities who are the most vulnerable and deprived.
- Denotified tribes (DNTs) are communities that were 'notified' as being 'born criminal' during the British regime under a series of laws starting with the Criminal Tribes Act of 1871.
- Nomadic and semi-nomadic communities are defined as those who move from one place to another rather than living in one place all the time.

De-notified Tribes

- The term 'De-notified Tribes' stands for all those communities which were once notified under the Criminal Tribes Acts, enforced by the British Raj between l87l and I947.
- These Acts were repealed by the Independent Indian Government in l952, and these communities were "De-Notified". A few of these communities which were listed as de-notified were also nomadic.

Idate Commission

- The Commission was constituted in January 2015 for the three-year temporary team, which is chaired by Bhiku Ramji Idate.
- Commission had to submit a report identifying these communities state-wise, assessing their development status, and recommending ways to uplift them.
- Idate commission said such a permanent commission should have a prominent community leader as its chairperson, and a senior union government bureaucrat, an anthropologist, and a sociologist as members.
- The commission has studied the earlier report of Renke Commission.
- The report has called DNTs and Semi-Nomadic Tribes the poorest of the poor, most marginalised and most downtrodden communities.
- The commission has recommended giving protection to these under the Atrocties Act.
- The commission recommeded constitutional amendments so that these can be added as IIIrd category after SCs and STs.

National Commission for De-notified, Nomadic and Semi-Nomadic Tribes

- A National Commission for De-notified, Nomadic and Semi-Nomadic Tribes (NCDNT) was constituted in 2006 by the then government.
- It was headed by Balkrishna Sidram Renke and submitted its report in June 2008.
- The Renke commission estimated their population at around 10.74 crore based on Census 2001.

Development and Welfare Board for De-notified, Nomadic and Semi-Nomadic Communities (DWBDNC)

- It was set up the DWBDNCs under the Societies Registration Act, 1860 under the aegis of Ministry of Social Justice and Empowerment for the purpose of implementing welfare programmes.
- The DWBDNC was constituted in 2019 under the chairmanship of Bhiku Ramji Idate.

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Ethnographic study

- Ethnography is a branch of anthropology and the systematic study of individual cultures.
- Ethnography involves observing people in their own environment to understand their experiences, perspectives, and everyday practices.

The Chartered Accountants, the Cost and Works Accountants, and the Company Secretaries (Amendment) Bill, 2021

Why in news?

Rajya Sabha passed the Chartered Accountants, the Cost and Works Accountants, and the Company Secretaries (Amendment) Bill, 2022 by a voice vote after negating all amendments moved by the Opposition.

Highlights of the Bill

- The Bill amends the Chartered Accountants Act, 1949, the Cost and Works Accountants Act, 1959, and the Company Secretaries Act, 1980.
- It changes the disciplinary mechanism under the three Acts and specifies timelines for disciplinary proceedings.
- It also provides more external representation on the Board of Discipline and Disciplinary Committee.
- The Bill creates a Coordination Committee headed by the Secretary of the Ministry of Corporate Affairs. The Committee will have representation from the three Institutes formed under the Acts.

What is Voice Vote?

Real Time Voting

- The voice vote is used in the Lok Sabha, the Rajya Sabha, and state assemblies to vote for certain resolutions.
- This method is called voting by 'voice vote' and votes are not recorded.
- The voice vote is considered the simplest and quickest of voting methods used by deliberative assemblies.
- Voice votes have an inherent disadvantage as the volume of the voices is typically only estimated and not actually measured with sound level meters.

- The Secretary to each Council will be designated as chief executive with the President as the head of the Council. The President will be responsible for ensuring the implementation of decisions of the Council.
- Firms must now register with the Institutes. The Councils must maintain a register of firms containing details including pendency of any actionable complaint or imposition of penalty.
- The Bill increases certain fines under the three Acts. If a partner or owner of a firm is repeatedly found guilty of misconduct during the last five years, disciplinary action can be taken against the firm.

Key Issues and Analysis

- The Bill proposes to change the composition of the two disciplinary entities to allow for more external representation. However, these external members will be selected from a panel of persons prepared by the three Councils.
- This may be against the objective of resolving conflict of interest between the disciplinary and administrative functions of the three professional Councils.
- The mandate of the proposed Coordination Committee may overlap with certain functions of the three Institutes. Further, being chaired by the Secretary of the Ministry of Corporate Affairs, it may impinge on the independence of the three Institutes.
- The Bill provides for disclosure of pending complaints or actionable information against members and firms. Disclosing details of pending complaints before finding guilt may tarnish their professional reputation.
- Though the President will have a non-executive role, he will be held responsible for the implementation of decisions of the Councils.

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The Delhi Municipal Corporation (Amendment) Bill, 2022

Why in news?

The Rajya Sabha passed the Delhi Municipal Corporation (Amendment) Bill, 2022 which is aimed at unifying the three Municipal Corporations of Delhi to ensure a robust setup for synergised and strategic planning and optimal utilisation of resources.

- The Bill seeks to amend the Delhi Municipal Corporation Act, 1957 passed by the Parliament.
- **The Act was amended in 2011 by Delhi Legislative Assembly to trifurcate the erstwhile Municipal Corporation of Delhi into:**
  - ➤ North Delhi Municipal Corporation
  - ➤ South Delhi Municipal Corporation
  - ➤ East Delhi Municipal Corporation.
- The Bill seeks to unify the three corporations.

Rationale behind this bill

- Trifurcation of the erstwhile Municipal Corporation of Delhi was uneven in terms of territorial divisions and revenue generating potential. As a result, there was huge gap in the resources available to the three corporations compared to their obligations.
- The increased financial difficulties of the three corporations in Delhi, has left them incapacitated to make timely payment of salaries and retirement benefits to their employees.
- Delay in the payment of salaries and retirement benefits have resulted in frequent strikes by the municipal employees.
- Financial constraints on the part of the three municipal corporations have resulted in inordinate delay in the fulfilment of their contractual and statutory obligations and create serious impediments in maintaining civic services in Delhi.
- The bill seeks to ensure a robust mechanism for synergised and strategic planning and optimal utilisation of resources and bring about greater transparency, improved governance and more efficient delivery of civic service for the people of Delhi.

74th Amendment Act of 1992

- This Act has added a new Part IX-A to the Constitution of India. This part is entitled as 'The Municipalities' and consists of provisions from Articles 243-P to 243-ZG.
- The act has also added a new Twelfth Schedule to the Constitution. This schedule contains eighteen functional items of municipalities. It deals with Article 243-W.
- **The act gave constitutional status to the municipalities. It has brought them under the purview of justiciable part of the Constitution.**
  - ➤ State governments are under constitutional obligation to adopt the new system of municipalities in accordance with the provisions of the act.
- **The act provides for the constitution of the following three types of municipalities in every state.**
  - ➤ A nagar panchayat (by whatever name called) for a transitional area.
  - ➤ A municipal council for a smaller urban area.
  - ➤ A municipal corporation for a larger urban area

Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill

Why in news?

Recently, the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022 has been unanimously passed in Lok Sabha.

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Key Details of the Bill

- Aim of the Bill: To amend The Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005, to provide against the financing of proliferation of weapons of mass destruction and their delivery systems in line with India's international obligations.
- The 2005 Act prohibited the manufacturing, transport, and transfer of weapons of mass destruction, and their means of delivery.
- Rationale behind the Bill: In recent times, regulations relating to proliferation of weapons of mass destruction and their delivery systems by international organisations have expanded, and the United Nations Security Council's targeted financial sanctions and the recommendations of the Financial Action Task Force have mandated against financing of proliferation of weapons of mass destruction and their delivery systems.

What are 'Weapons of Mass Destruction (WMD)'?

- The expression WMD entered the vocabularies of people and countries around the world in the early 2000s after the US under President George W Bush and the UK under Prime Minister Tony Blair justified the invasion of Iraq on the grounds that the government of Saddam Hussain was hiding these weapons in the country. No WMDs were ever found.
- NBC weapons: While there is no single, authoritative definition of a WMD in international law, the expression is usually understood to cover nuclear, biological, and chemical (NBC) weapons.
- **India's 2005 WMD Act defines:**
  - ➢ "Biological weapons" as "microbial or other biological agents, or toxins of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes; and weapons, equipment or delivery systems specially designed to use such agents or toxins for hostile purposes or in armed conflict"; and
  - ➢ "Chemical weapons" as "toxic chemicals and their precursors" except where used for peaceful, protective, and certain specified military and law enforcement purposes; "munitions and devices specifically designed to cause death or other harm through the toxic properties of those toxic chemicals"; and any equipment specifically designed for use in connection with the employment of these munitions and devices.

Control over use of WMDs

- Geneva Protocol, 1925: It banned the use of chemical and biological weapons.
- **Biological Weapons Convention, 1972, and Chemical Weapons Convention, 1992: These put comprehensive bans on the biological and chemical weapons respectively.**
  - ➢ India has signed and ratified both the 1972 and 1992 treaties.
  - ➢ There are very few non-signatory countries to these treaties, even though several countries have been accused of non-compliance.
- Nuclear Non-Proliferation Treaty (NPT) and the Comprehensive Test Ban Treaty (CTBT): These regulate the use and proliferation of nuclear weapons.

Lingaraj Temple Ordinance

Why in news?

Odisha cabinet approved the proposed ordinance in December 2020 to bring Lingaraj Temple in Bhubaneswar and 8 other associated temples, under the control of the Lingaraj Temple Managing Committee.

- Central government opposes the Odisha's ordinance, as it is in conflict with the rules laid down under the Ancient Monuments and Archaeological Sites and Remains Act, 1958 (AMASR Act).

Lingaraj Temple (Odisha)

- Lingaraja, literally means the king of Lingam, the iconic form of Shiva.
- The temple represents the quintessence of the Kalinga architecture and culminates the medieval stages of the architectural tradition at Bhubaneswar.
- The temple is believed to be built by the kings from the Somavamsi dynasty, with later additions from the Ganga rulers.

- The temple is built in the Deula style that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), natamandira (festival hall) and bhoga-mandapa (hall of offerings), each increasing in the height to its predecessor.
    - ➢ Bhubaneswar is called the Ekamra Kshetra as the deity of Lingaraja was originally under a mango tree (Ekamra) as noted in Ekamra Purana, a 13th-century Sanskrit treatise.
- The temple has images of Vishnu, possibly because of the rising prominence of Jagannath sect emanating from the Ganga rulers who built the Jagannath Temple in Puri in the 12th century.
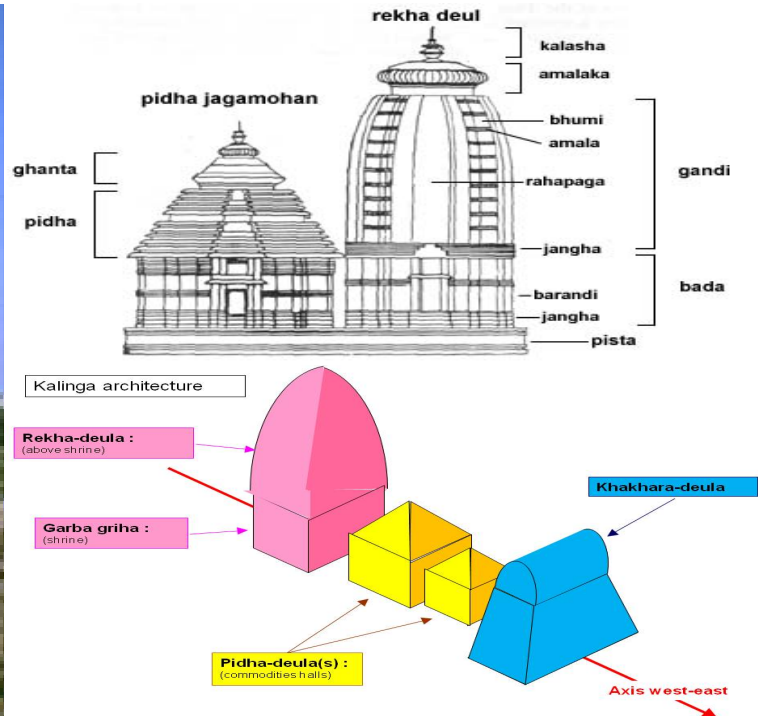
What is the Lingaraj Temple Ordinance, 2020?

- The Lingaraj Temple Ordinance of 2020 was introduced to manage the rituals and other activities of the temple and eight other associated temples.
- This was intended to be on similar lines of the special Act which manages the affairs of the Jagannath temple in Puri, one of the four dhams in India.
- At present, the Lingaraj temple is being governed under the Odisha Hindu Religious Endowment Act.
- The ordinance proposed the formation of Lingaraj Temple Managing Committee with a full-time administrator looking after day-to-day affairs of the shrine.
- Under the Act, a fund creation was proposed to deposit income derived from immovable and movable properties of the temple.
- The temple has around 1,500 acres in various parts of the state and the land in most of the places are under encroachment.
- The ordinance was passed by the state cabinet on December 15, 2020.
- The ordinance vested the management of the temple in a 15-member committee that will administer the temple and its properties including temples outside the premises and mathas.
- Since the Assembly was not in session, the new law was proposed to be enacted through an ordinance.

Why has the Centre opposed the ordinance?

- **The Ministry of Home Affairs has said several sections of the proposed ordinance were in conflict with the Ancient Monuments and Archaeological Sites and Remains (AMASR) Act.**
    - ➢ The AMASR Act provides for the preservation of ancient and historical monuments and archaeological sites and remains of national importance.
- The ministry contended that since the ordinance covers 12 centrally protected monuments including the Lingaraj temple and three tanks, it was outside the legislative competence of the state legislature as it violates the provisions of the AMASR Act, 1958.

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- The ministry pointed out that clause 15(2) of the Odisha ordinance has a provision for retail shops for the sale of commodities inside or outside of the temples. But as per AMASR Act, a monument should not be used for any other purposes not consistent with its character.
- As per clause 17(3) of the Odisha ordinance, the managing committee will oversee the lease or sale of movable or immovable property attached to the Lingaraj temple. But the ministry contended that movable property may include archaeological or artistic objects (meaning antiques) and in that case, it will be in conflict with the AMASR Act, 1958.
- Under clause 22(2d) of the ordinance which provides for certain powers to the temple committee to undertake repairs, for which the Archaeological Survey of India is responsible. Therefore, this clause is also in contradiction with the provision of the AMASR Act, 1958.
- Another clause that facilitates special darshan on payment of a fee was also found in violation of the existing agreement between ASI and temple management; which clearly stipulates the public would have free access to the monument.
- The ordinance also provides for repair and construction of new buildings while the centre contended that constructions can only be allowed by the National Monuments Authority.

AMASR Act, 1958

- The Ancient Monuments and Archaeological Sites and Remains Act is an act of the Parliament of India that provides for the preservation of ancient and historical monuments and archaeological sites and remains of national importance, for the regulation of archaeological excavations and for the protection of sculptures, carvings and other like objects.
- The Archaeological Survey of India functions under the provisions of this act.
- The rules stipulate that area in the vicinity of the monument, within 100 metres is prohibited area.
- The area within 200 meters of the monument is a regulated category.
- Any repair or modifications of buildings in this area requires prior permission.

Indian Presidential election

Why in news?

- The tenure of the current President of India Ram Nath Kovind is set to end in July this year, which is also when the 16th Indian Presidential election will be held to elect his successor.

Constitutional Provisions

- **Article 58 of the constitution sets the qualifications one must meet to be eligible to the office of the president. A president must be:**
  - a citizen of India
  - of 35 years of age or above
  - qualified to become a member of the Lok Sabha

Term of the President's office

- Once President is elected, he holds office for five years.
- He sits in the office even after the completion of five years given no new election has taken place or no new President has been elected till then.
- He can also be re-elected and there is no cap on his re-election.

Conditions of the President's office

- The President shall not be a member of either House of Parliament or of a House of the Legislature of any State, and if a member of either House of Parliament or of a House of the Legislature of any State be elected President, he shall be deemed to have vacated his seat in that House on the date on which he enters upon his office as President.
- The President shall not hold any other office of profit.
- The President shall be entitled without payment of rent to the use of his official residences and shall be also entitled to such emoluments, allowances and privileges as may be determined by Parliament by law and, until provision in that behalf is so made, such emoluments, allowances and privileges as are specified in the Second Schedule.

- The emoluments and allowances of the President shall not be diminished during his term of office.

How is the President elected?

- The President of India is elected through an electoral college system, wherein the votes are cast by national and State-level lawmakers.
- The electoral college is made up of all the elected members of the Upper and Lower Houses of Parliament (Rajya Sabha and Lok Sabha MPs), and the elected members of the Legislative Assemblies of States and Union Territories (MLAs).
- Before the voting, comes the nomination stage, where the candidate intending to stand in the election, files the nomination along with a signed list of 50 proposers and 50 seconders.
- These proposers and seconders can be anyone from the total members of the electoral college from the State and national level.

What is the value of each vote and how is it calculated?

- A vote cast by each MP or MLA is not calculated as one vote. There is a larger vote value attached to it.
- The fixed value of each vote by an MP of the Rajya Sabha and the Lok Sabha is 708.
- Meanwhile, the vote value of each MLA differs from State to State based on a calculation that factors in its population vis-a-vis the number of members in its legislative Assembly.
- As per the Constitution (Eighty-fourth Amendment) Act 2001, currently, the population of States is taken from the figures of the 1971 Census. This will change when the figures of the Census taken after the year 2026 are published.
- The value of each MLA's vote is determined by dividing the population of the State by the number of MLAs in its legislative Assembly, and the quotient achieved is further divided by 1000.

Explained: How is the President of India elected

VALUE OF VOTES

Venue?

Parliament House in New Delhi. | State Legislative Assembly Secretariats.

WHO ELECTS PRESIDENT OF INDIA?

- Members of Lok Sabha and Rajya Sabha.
- Members of State Assemblies.
- Legislatures from NCT of Delhi and Union Territory of Puducherry.

HOW IS PRESIDENT ELECTED?

VOTING
- Secret paper ballot system.
- In 2017, the ballot papers will be printed in two colours:

Green For MPs | **Pink** For MLAs

For MLAs

Are equivalent to multiples of 1000 in the quotient obtained by dividing the population of the state (as per 1971 census) by the total members of the Assembly. | If the remainder is not less than 500, then the vote of each member will be increased by one.

For MPs

Are obtained by dividing the total number of votes assigned to MLAs by total number of MPs. | If in any case the fraction exceeds one-half then it will be counted as one.

Qualification for election as President?

MUST BE CITIZEN OF INDIA

- Must be above 35-years-old
- Must not hold any office of profit
- Must have qualified for election as a member of Lok Sabha
- Must be registered as an elector in India
- The nomination paper of a candidate must be signed by at least 50 eligible voters

What is required to secure a victory?

- A nominated candidate does not secure victory based on a simple majority but through a system of bagging a specific quota of votes.
- While counting, the EC totals up all the valid votes cast by the electoral college through paper ballots and to win, the candidate must secure 50% of the total votes cast + 1.
- The voters of the electoral college write the names of candidates on the ballot paper in the order of preference.

Procedure for impeachment of a President

- When a President is to be impeached for violation of the Constitution, the charge shall be preferred by either House of Parliament.

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- **No such charge shall be preferred unless-**
  - ➤ the proposal to prefer such charge is contained in a resolution which has been moved after at least fourteen days' notice in writing signed by not less than one-fourth of the total number of members of the House has been given of their intention to move the resolution, and
  - ➤ such resolution has been passed by a majority of not less than two-thirds of the total membership of the House.
- When a charge has been so preferred by either House of Parliament, the other House shall investigate the charge or cause the charge to be investigated and the President shall have the right to appear and to be represented as such investigation.
- If as a result of the investigation a resolution is passed by a majority of not less than two-thirds of the total membership of the House by which the charge was investigated or cause to be investigated, declaring that the charge preferred against the President has been sustained, such resolution shall have the effect of removing the President from his office as from the date on which the resolution is so passed.

Quota in Promotions

Why in news?

The Union government has asked all departments to collect data on the inadequacy of representation of Scheduled Castes (SCs) and Scheduled Tribes (STs) before implementing the policy of reservation in promotions for employees.

Background

- **The Department of Personnel and Training (DoPT) said that following a January 28, 2022 Supreme Court judgment, the Attorney General has opined that three conditions are to be met while implementing the policy of reservation in promotions:**
  - ➤ Collection of quantifiable data regarding the inadequacy of representation of Scheduled Castes and Scheduled Tribes;
  - ➤ Application of this data to each cadre separately; and
  - ➤ If a roster exists, the unit for operation of the roster would be the cadre, or which the quantifiable data would have to be collected and applied in regard to the filling up of the vacancies in the roster.
- The order said that all the ministries and departments are required to ensure that the conditions are complied with before implementing the policy of reservation in promotions and carrying out any promotions based thereon.

Significance of the move

- The move is likely to benefit Central Secretariat Service (CSS) officials who have not been promoted for the past six years.
- The CSS comprises middle to senior management rank officials in various Union government ministries.

Promotion due

- According to CSS Forum, there are 6,210 officers in the rank of section officer, undersecretary, deputy secretary, director, and joint secretaries in central government offices.
- Of this total strength, as many as 1,839 positions are vacant as officials have not been promoted.
- The CSS Forum is an association of officers of the CSS, whose members form the backbone of the central secretariat's working.

Years-long logjam close to end?

WHAT'S HAPPENING?
Union government is set to start the process of collecting data on SC/ST representation at all levels of government, according to a DoPT order seen by HT

NEED FOR QUANTIFIABLE DATA
For 18 years, the Supreme Court has insisted that data on inadequacy of representation of social groups is a prerequisite condition for providing quotas in promotion. The latest of these verdicts came on Jan 28

RESERVATION IN PROMOTION for SC/STs has been stalled for years due to a lack of quantifiable data on SC/ST employees, leading to repeated protests and simmering resentment among the numerically significant communities that view government jobs as a key avenue for social and economic mobility

WHY IS THIS IMPORTANT?
The DoPT order is the first on-ground action in six years where the govt has initiated the process of giving reservation in promotion. It will assuage communities angry at the years-long delay in clearing promotions

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The policy of the government on reservations for SCs, STs, and OBCs

- Reservation to the SCs, STs, and OBCs in case of direct recruitment on all India basis by open competition is given at the rate of 15%, 7.5% and 27% respectively.
- In case of direct recruitment on all India basis otherwise than by open competition, reservations for SCs, STs and OBCs in 16.66%, 7.5%, and 25.84% respectively.
- In the case of direct recruitment to Group C and D posts which normally attract candidates from a locality or a region, the percentage of reservation for SCs/STs is generally fixed in proportion to the population of SCs and STs in the respective state/ UTs.
- For OBCs it is fixed keeping in view the proportion of their population in the concerned state/UT and the fact that total reservation for SCs/STs/OBCs remains within the limit of 50% and reservation for OBCs remains within the limit of 27%.

Way ahead

- There is a need for a new comprehensive law to end the ambiguity and vagueness in the promotion process in view of the unique nature of discrimination and the disadvantage SC/STs face.
- Government should find a stable equilibrium between justice to the backward, equity for the forwards, and efficiency for the entire system.

Reservation for women in Urban Local Bodies (ULB)

Why in news?

The government of Nagaland informed the apex court that it was ready to implement a 33% reservation for women in the civic body polls.

- The Supreme court said there were no longer any obstructions in holding elections to the Urban Local Bodies (ULB), and asked the Nagaland Election Commission to schedule dates.
- If implemented, ULB elections, a contentious subject in Nagaland, will be held in the state after more than a decade.

Urban Local Bodies (ULBs)

- ULBs are basically small local public bodies that administer or rule a city or town with a specific population.
- Urban Local Bodies are vested with a long list of functions delegated to them by the state governments.

Why have ULB polls been a subject of controversy in Nagaland?

- The civic body elections were first held in the state in 2004, in accordance with the Nagaland Municipal Act of 2001.
- In 2006, the Nagaland Municipal Act of 2001 was amended to include a 33% reservation for women in line with the 1992 Constitutional amendment.
- Since then, there has been widespread opposition to the amendment.
- Naga groups contend that the reservations are in contravention with Naga customary laws as enshrined in Article 371(A) of the Constitution — which accords the state special status and protects its traditional way of life.

There are eight types of urban local government in India-

1. Municipal Corporation
2. Municipality
3. Noifies Area Committee
4. Town Area Committee
5. Cantonment board
6. Township
7. Port Turst and
8. Speical Purpose Agency

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Article 371A - Special provision with respect to the State of Nagaland. It was inserted into the Part XXI of the Indian Constitution in the year 1962.

In favor of the decision

- Women's groups like the Naga Mothers' Association (NMA) argue that reservations do not infringe upon Article 371(A) of the Constitution.
- The Naga Hoho, the apex tribal body of the state, said that there was no more "opposition".

Pros of ULB gender reservation

- It is evident that local gender reservations have drawn out hundreds of women from the kitchen and in every five-yearly election and catapulted them into the arena of local politics.
- This has definitely been a shot in the arm for women's empowerment and gender equality.
- A study of the women councillors of Jaipur Municipal Corporation revealed that many independent-minded women have emerged and made politics a career and have shown abilities that match those of the male councillors.
- A study conducted in the Kolkata Municipal Corporation found that women councillors fared very well in programme implementation, and they had advanced community services and interests.
- In general, women are more likely to pursue inclusive policies and respond to constituent concerns.
- Occupying positions such as mayor or chairpersons of statutory municipal committees equip women with skills needed for higher levels of political office.
- These also have a multiplying effect and encourage other young women and girls to aspire for positions of leadership.

Draft Protection and Enforcement of Interests in Aircraft Objects Bill, 2022

Why in news?

The Ministry of Civil Aviation has proposed a new law that will help international aircraft leasing companies to repossess and transfer planes out of India in case of a financial dispute with an Indian airline at a time many regional airlines have been refused planes on rent.

Key highlights of the bill

- The Bill implements the provisions of the Convention on International Interests in Mobile Equipment and Protocol on Matters Specific to Aircraft Equipment which was adopted at a conference in Cape Town in 2001.
- India acceded to the two instruments in 2008. These provide default remedies for the creditor and create a legal regime for disputes.

Four protocols to the convention are specific to four types of movable equipment:

1. Aircraft Equipment (aircraft and aircraft engines; signed in 2001).
2. Space assets (signed in 2012).
3. Railway rolling stock (signed in 2007).
4. Mining Agricultural and Construction Equipment (signed in 2019).

- The proposed law provides remedies such as repossession of an aircraft object, or its sale or lease or collection of income from its use as well as de-registration and export of planes.
- It also suggests remedies pending final adjudication of a claim as well as safeguards a debtor's claim during insolvency proceedings against its Indian buyer.

The necessity of the bill

- The draft legislation is necessary because several Indian laws such as the Companies Act, 2013 and the Insolvency and Bankruptcy Code, 2016 are in conflict with the Cape Town Convention and Protocol.
- It says that Indian entities have also suffered as international financial institutions demand implementing legislation.

Importance of this legislation

- Many smaller airlines are finding it challenging to get leased aircraft as lessors see a lot of exposure because the cost of recovery of assets is exorbitant and time-consuming.

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Cape Town Convention and Protocol

- The 'Convention on International Interests in Mobile Equipment' was concluded in Cape Town on 16 November 2001, as was the 'Protocol on Matters Specific to Aircraft Equipment'.
- India acceded to the Convention and the Protocol on March 31, 2008 which after a waiting period of three months became effective on July 1, 2008.
- The primary aim of the Convention and the Protocol is to resolve the problem of obtaining certain and opposable rights to high-value aviation assets, namely airframes, aircraft engines and helicopters which, by their nature, have no fixed location.

National Highway Pre-cast Concrete Policy

Why in news?

In specific construction projects, it will be henceforth mandatory to use pre-cast concrete elements in at least 25 percent of the total concrete volume, other than the foundation work, sub-structures of bridges, viaducts and road over-bridges.

- The latest policy decision is aimed at reduction of pollution at construction sites, besides rapid completion of work and improved aesthetics.
- The decision will play an integral role in accelerating the growth of the MSME sector.

Concrete

- It is a construction material composed of cement which serves as a binder of water, aggregates (sand and stones), chemical admixtures, and air.

Precast Concrete

- Precast concrete is a construction product produced by casting concrete in a reusable mold or "form" which is then cured in a controlled environment, transported to the construction site and lifted into place ("tilt up").

Mandate

- The use has been mandated in construction of national highways, expressways and other centrally-sponsored road projects.

Benefits of pre-cast concrete:
1. Enabling all-weather and fast construction
2. Reliable quality
3. Enhanced performance durability
4. Better aesthetics due to uniformity in appearance
5. Less carbon emission
6. Reduced noise and air pollution
7. Fast completion of projects

- To ensure effective implementation of the decision, the ministry will make provisions in contract and concession agreement documents for inclusion of mandatory use of factory manufactured pre-fabricated concrete elements in projects within a 100 km radius of the pre-cast factory.

Key driving factors

- Government's 'Housing for all' scheme, new residential & commercial spaces, smart cities, demand for low-maintenance, and timely completion of projects are the key driving factors behind precast concrete.

Advantages of precast construction

- Precasting is good at producing large numbers of identical components.
- The construction is done on the ground rather than at height.
- It can be done inside a climate-controlled structure, eliminating problems of rain, dust, cold, or heat.

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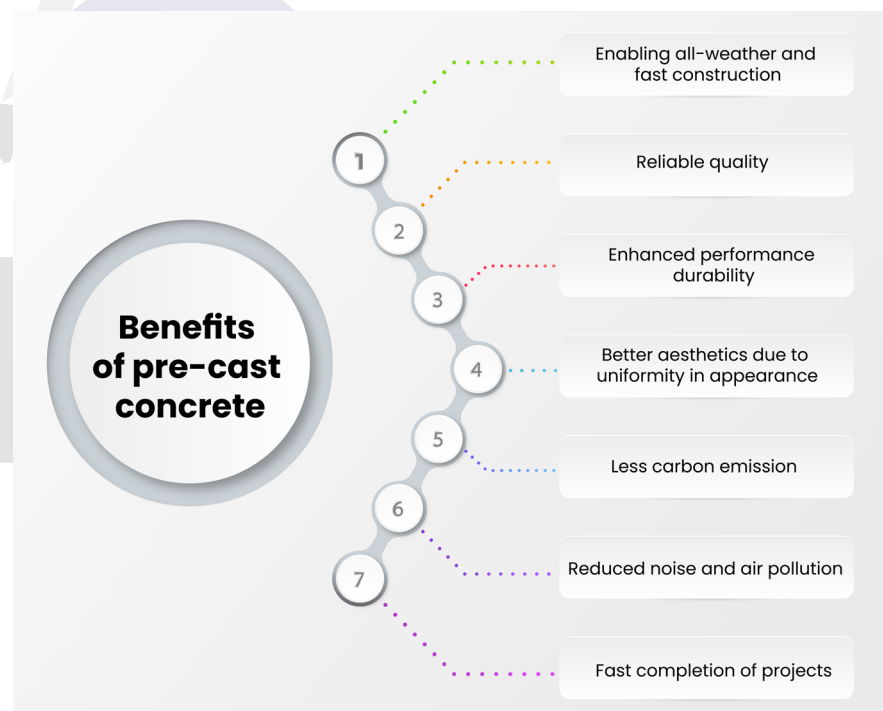
- Specialised formwork (moulds) can be built for doing many repetitions of the same component.
- Specialised equipment can be used to make, move, and pour the liquid concrete.
- Curing takes place in a controlled environment.

Disadvantages of precast construction

- Since each piece is made separately, the structural frame or system is not monolithic or continuous like regular concrete construction.
- The joints between pieces create structural discontinuity.
- As the building is made of discrete components, the joints between adjacent members have to be sealed with special sealants to make them waterproof.
- Each precast component is usually large and heavy. This means that cranes are required to lift them in position.

IFSCA (Fund Management) Regulations, 2022

Why in news?

International Financial Services Centres Authority (IFSCA), has notified a comprehensive regulatory framework for Investment Funds.

The salient features of the regulations include:

- **Registering the Fund Management Entity**
  - ➢ A Fund Management Entity will be registered with IFSCA and will be able to manage different types of funds and schemes subject to meeting the eligibility criteria.
- **Green Channel**
  - ➢ Venture Capital Schemes or non-retail schemes soliciting money from accredited investors only shall qualify for a green channel i.e. the schemes filed can open for subscription by investors immediately upon filing with IFSCA. The requirements on scheme size, number of investors, permissible investments, etc. have been detailed in the regulations.
- **Exchange Traded Funds (ETFs)**
  - ➢ Considering that ETFs offer a means to gain exposure to specific markets or asset classes at a low cost, registered fund managers in IFSC shall be able to launch not just Index based ETFs but also Active ETFs and Commodity based ETFs.
- **Stressed Assets**
  - ➢ Realising the important role of IFSC in the Government initiative of addressing the issue of NPAs faced by banks, a framework has been prescribed for special situation funds to be launched by fund managers in IFSC.
- **Environment Social Governance (ESG)**
  - ➢ Growing number of investors expect fund managers to make ESG issues integral to their investment strategies. With the intent of making IFSC a hub for a host of activities related to sustainable finance, disclosures have been proposed to be mandated at the entity level and scheme level.
- **Family Office**
  - ➢ Globally, there is an increasing need for having a formal structure for managing and preserving the wealth of the High Networth Individuals (HNIs) and Ultra HNIs and their families. Accordingly, a framework to facilitate a self-managed investment fund of a family office has been provided in the regulations.
- **The regulations also provide support for various innovations in a controlled way:**
  - ➢ **Fund Lab:** The fund managers may try new strategies in a controlled manner and build a track record for their fund.
  - ➢ **Special purpose vehicle (SPV) as a co-investment structure and leverage:** FME shall be permitted to create SPVs under the main scheme to enable undertaking co-investment or leverage along with the Fund/ scheme subject to certain conditions.

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➤ **Retail participation in private markets:** There has been a growing need to facilitate investors at large to invest in private markets. Accordingly, it is proposed to facilitate retail close-ended schemes to invest in unlisted securities subject to certain conditions.

International Financial Services Centres Authority

- The IFSCA has been established in 2020 under the International Financial Services Centres Authority Act, 2019.
- It is headquartered at GIFT City, Gandhinagar in Gujarat.
- The IFSCA is a unified authority for the development and regulation of financial products, financial services and financial institutions in the International Financial Services Centre (IFSC) in India.
- Prior to the establishment of IFSCA, the domestic financial regulators, namely, RBI, SEBI, PFRDA and IRDAI regulated the business in IFSC.
- **Objective:** To develop a strong global connect and focus on the needs of the Indian economy as well as to serve as an international financial platform for the entire region and the global economy as a whole.

Phone tapping

Why in news?

IPS officer Rashmi Shukla is facing an FIR in Mumbai and is being probed for allegedly tapping the phones of Rajya Sabha MP Sanjay Raut and NCP leader Eknath Khadse in 2019, when she was heading the State Intelligence Department in Maharashtra.

How are phones tapped in India?

- In the era of fixed-line phones, mechanical exchanges would link circuits together to route the audio signal from the call.
- In digital era, tapping was done through a computer.
- Authorities make a request to the service provider, which is bound by law to record the conversations on the given number and provide these in real time through a connected computer.

Who can tap phones?
- In the states, police have the power to tap phones.
- At the Centre, 10 agencies are authorised to do so:
  - Intelligence Bureau
  - CBI
  - Enforcement Directorate
  - Narcotics Control Bureau
  - Central Board of Direct Taxes
  - Directorate of Revenue Intelligence
  - National Investigation Agency
  - R&AW
  - Directorate of Signal Intelligence
  - Delhi Police Commissioner

What laws govern this?

- Phone tapping in India is governed by The Indian Telegraph Act, 1885.
- **Section 5(2) of the Indian Telegraph Act:** "on the occurrence of any public emergency, or in the interest of the public safety", phone tapping can be done by the Centre or states if they are satisfied it is necessary in the interest of "public safety", "sovereignty and integrity of India, the security of the State, friendly relations with foreign States or public order or for preventing incitement to the commission of an offence".

Exception

- There is an exception for the press: "press messages intended to be published in India of correspondents accredited to the Central Government or a State Government shall not be intercepted or detained, unless their transmission has been prohibited under this sub-section".

Who authorises phone tapping?

- Rule 419A of the Indian Telegraph (Amendment) Rules, 2007, says phone tapping orders "shall not be issued except by an order made by the Secretary to the Government of India in the Ministry of Home Affairs in the case of Government of India and by the Secretary to the State Government in-charge of the Home Department in the case of a State Government".

What happens in an emergency?

- In unavoidable circumstances, such an order may be issued by an officer, not below the rank of a Joint Secretary to the Government of India, who has been authorised by the Union Home Secretary, or the State Home Secretary.
- In remote areas or for operational reasons, if it is not feasible to get prior directions, a call can be intercepted with the prior approval of the head or the second senior-most officer of the authorised law enforcement agency at the central level, and by authorised officers, not below the rank of Inspector General of Police, at the state level.
- The order has to be communicated within three days to the competent authority, who has to approve or disapprove it within seven working days.

Is the process transparent?

- There are multiple provisions aimed at keeping the process transparent.
- Directions for interception are to specify the name and designation of the officer or the authority to whom the intercepted call is to be disclosed, and also specify that the use of intercepted call shall be subject to provisions of Section 5(2) of the Telegraph Act.
- The directions have to be conveyed to designated officers of the service providers in writing by an officer not below the rank of SP or Additional SP or equivalent.
- The designated nodal officers of the service providers are supposed to issue acknowledgment letters to the security/law enforcement agency within two hours on receipt of an intimation.
- They are to forward every 15 days a list of interception authorisations received to the nodal officers of the security and law enforcement agencies for confirmation of authenticity.
- The service providers shall put in place adequate and effective internal checks to ensure that unauthorised interception of messages does not take place and extreme secrecy is maintained.
- It makes the service providers responsible for actions of their employees.

Olga Tellis Judgment

Why in news?

A 37-year-old Constitution Bench judgment of the Supreme Court which held that pavement dwellers are different from trespassers may become a game-changer in the Jahangirpuri case.

- The apex court ruled that pavement dwellers live on "filthy footpaths out of sheer helplessness" and not with the object of offending, insulting, intimidating or annoying anyone. They live and earn on footpaths because they have "small jobs to nurse in the city and there is nowhere else to live."

Concept of Urban Poor

- Urban poor are driven to cities because they have no means of livelihood in their villages. And many have lived decades in impermanent housing, even on pavements, or alongside railway lines, because even if they found work, they could not find a place to live.

Jahangirpuri settlements

- Jahangirpuri was designated to resettle people pushed out from the heart of Delhi in efforts by the Indira Gandhi government to "beautify" the national capital.
- The people who were settled in Jahangirpuri in the 1970s were given small plots on which they were expected to construct their shelters.
- These people had originally come to Delhi from UP, Bihar, Rajasthan and West Bengal.
- Over time, as with most other similar settlements, tin and tarpaulin were replaced with brick and mortar, and pucca houses coexisted with temporary structures – all under the benign eye of the authorities.

How the drive unfolded

10am, Tuesday: Delhi BJP chief Adesh Gupta writes to north MCD commissioner and mayor, urging them to demolish 'illegal encroachments' done by those accused of Jahangirpuri violence

Noon, Tuesday: A letter from asst commissioner of Civil Lines zone to DCP North West is sent, stating a special joint encroachment removal action programme is to be fixed in Jahangirpuri; police asked to provide 400 personnel on April 19, 20 and 21

Drive scheduled to begin 2pm Tuesday, but nothing is done

10pm, Tuesday: Adesh Gupta tweets his morning letter

Tuesday night: North MCD mayor says drive isn't carried out as they didn't get police permission

10.15AM, WEDNESDAY: Drive begins in heavy police presence

11am: SC halts drive, authorities told to maintain 'status-quo'

Between 11am-12.40pm: Drive continues, officials say they haven't received the SC order

12.40pm: Drive halted; 50 structures demolished

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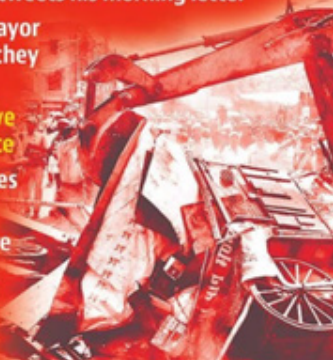
About Olga Tellis judgment

- The judgment, Olga Tellis vs Bombay Municipal Corporation, in 1985 led by then Chief Justice of India Y.V. Chandrachud agrees that pavement dwellers do occupy public spaces unauthorised.
- However, the court maintained they should be given a chance to be heard and a reasonable opportunity to depart "before force is used to expel them."
- The Supreme Court reasoned that eviction using unreasonable force, without giving them a chance to explain is unconstitutional. Pavement dwellers, too, have a right to life and dignity. The right to life included the right to livelihood.

Article 21 of the Indian Constitution

- The Article mandates that "no person shall be deprived of his life or personal liberty except according to procedure established by law."
- **Article 21 uses three crucial expressions, which are listed below:**
  - ➤ Right to life
  - ➤ Right to personal liberty
  - ➤ Procedure established by law
- Right to Life includes: Right to livelihood, Right to privacy, Right to shelter, Right to health, Right to free legal aid, Right to speedy trial, Right to travel abroad, Right against boded labour, Right to fair trial, Right to information.

What was the State government's defence?

- The State government and the corporation countered that pavement dwellers should be estopped from contending that the shacks constructed by them on the pavements cannot be demolished because of their right to livelihood.
- They cannot claim any fundamental right to encroach and put-up huts on pavements or public roads over which the public has a 'right of way.'
- Estoppel: Estoppel is a judicial device whereby a court may prevent or "estop" a person from making assertions. Estoppel may prevent someone from bringing a particular claim.

How did Supreme Court rule?

- **No estoppel**
  - ➤ The Bench threw out the government's argument of estoppel, saying "there can be no estoppel against the Constitution."
  - ➤ The court held that the right to life of pavement dwellers were at stake here.
  - ➤ The right to livelihood was an "integral component" of the right to life.
  - ➤ They can come to court to assert their right.
- **Not the 'general rule'**
  - ➤ On the question whether provisions in law allowing statutory authorities to remove encroachments without prior notice was arbitrary, the court held that such powers are designed to operate as an "exception" and not the "general rule."
- **Pavement dwellers as trespassers**
  - ➤ The court objected to authorities treating pavement dwellers as mere trespassers.
  - ➤ According to the court, pavement dwellers manage to find a habitat in places which are mostly filthy.
  - ➤ The encroachment committed by these persons are involuntary acts in the sense that those acts are compelled by inevitable circumstances and are not guided by choice.
  - ➤ The court noted, even trespassers should not be evicted by using force greater than what is reasonable judgment appropriate.
  - ➤ The court had said, a trespasser "should be asked and given a reasonable opportunity to depart before force is used to expel him."

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HISTORY, ART & CULTURE

Ol Chiki

Why in news?

For the first time, the Indian Constitution is translated into Santali script 'Ol Chiki'.

- An assistant professor in the Santali language at the Sidho-Kanho-Birsha University in Purulia, West Bengal, Tudu started this initiative.

Background

- In 2003, the 92nd Constitutional Amendment Act added Santali to Schedule VIII along with the Bodo, Dogri and Maithili languages.
- This addition meant that the Indian government was obligated to undertake the development of the Santali language and to allow students appearing for school-level examinations and entrance examinations for public service jobs to use the language.
- In 2005, India's Sahitya Akademi started handing out awards every year for outstanding literary works in Santali.

What is the need for this?

- Professor wanted the document to be more accessible and available for a wider group that may not necessarily be familiar with languages in which a translation of the Constitution is available.
- The community has been historically deprived and so people in the community need to read it to understand what their rights are, the provisions, and what is written inside.

Provisions related to translation of the Indian Constitution

- Any Indian national can translate the Constitution in their own language. There is no need to take permission for translations.
- The individual also has the right to generate income by selling their translation of the Constitution.

About Santals

- According to the 2011 Census of India, there are over 70 lakh people who speak Santali across the country.
- The community is the third-largest tribe in India, concentrated in seven states in large numbers, including in West Bengal, Odisha and Jharkhand.
- Santal community is also spread across Bangladesh, Bhutan and Nepal.
- Sohrai is the principal festival of Santal community.
- Chadar Badar, a form of puppetry known also as Santal puppetry, is a folk show involving wooden puppets placed in a small cage which acts as the stage.
- There are seven kinds of marriage recognized in the Santal community, each with its own degree of social acceptance.

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- The most elaborate kind of marriage is the hapramko bapla, or ancestor's marriage, but the most widely practiced is kesimek'.
- They speak Santali language which belongs to the Munda group of Austro-Asiatic sub-family of languages.
- Santals are well known for their housing architecture with colorfully painted walls, floors and artistically carved doors.

Ol Chiki script

- The Ol Chiki script, also known as Ol Chemet is the official writing system for Santali, an Austroasiatic language recognized as an official regional language in India.
- Letters of Ol Chiki script are also derived from the physical environment and what surrounds the people – hills, rivers, trees, birds, bees, plough, sickle etc.
- It has 30 letters, the forms of which are intended to evoke natural shapes.
- The script is written from left to right.
- The Ol Chiki script was created in 1925 by Pandit Raghunath Murmu for the Santali language, and publicized first in 1939 at a Mayurbhanj State exhibition.

Narasinghapettai nagaswaram gets GI tag

Why in news?

Narasinghapettai, a village in Thanjavur district of Tamil Nadu, is home to the Narasinghapettai Nagaswaram, a classic wind instrument.

- Narasinghapettai nagaswaram has been granted the Geographical Indication tag.

About Nagaswaram

- The nagaswaram is a wind instrument that is an integral part of Carnatic concerts, weddings, festivals and temple ceremonies.
- Its sonorous nature draws attention to the performance of temple rituals and social celebrations.
- The Nagaswaram is made from the wood of acha maram, a tree known for its sturdy features.
- In the present day, the nagaswaram makers use the wood from Chettinadu's old pillars.
- This double reeded instrument, has two parts; a conical tube and a metal bell.
- Tube enlarging downwards with a horn-like portion at the end, fitted with a metal bell.
- The double reed called 'Aku' (in Telugu) acts as a valve, fixed to a metal staple, and inserted in the tube.
- The accompanying percussion instrument is Tavil.
- Occasionally Talam, the large cymbals are also played with the Nagaswaram.
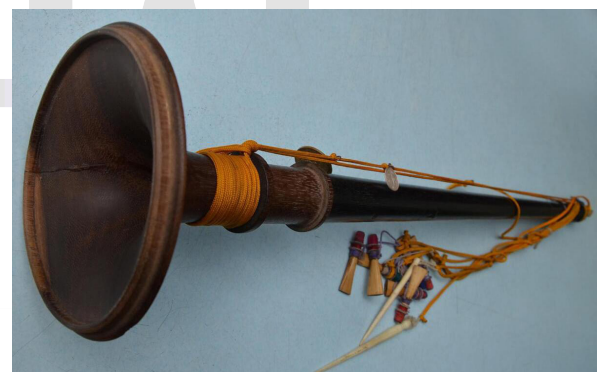
Geographical Indication

- A geographical indication (GI) is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- It is also a part of the WTO's Trade-Related Aspects of Intellectual Property Rights (TRIPS).
- **GI tag in India is governed by Geographical Indications of Goods (Registration & Protection) Act, 1999.**
  - ➤ It is issued by the Geographical Indications Registry (Chennai).
  - ➤ Registration is valid for a period of 10 years.

List of products that have received GI tag in India between April 2021-March 2022		
Products	Category	State/UT
Chunar Glaze Pottery	Handicraft	Uttar Pradesh
Sojat Mehndi	Agricultural	Rajasthan
Karuppur Kalamkari Paintings	Handicraft	Tamil Nadu
Kallakurichi Wood Carving	Handicraft	Tamil Nadu
Bhotia Dann of Uttarakhand	Handicraft	Uttarakhan
Judima	Agricultural	Assam
Balaghat Chinnor	Agricultural	Madhya Pradesh
Kuttiattoor Mango (Kuttiattoor Manga)	Agricultural	Kerala
Pithora	Handicraft	Gujarat
Manjusha Art	Handicraft	Bihar
Harmal Chilli	Agricultural	Goa
Edayur Chilli	Agricultural	Kerala
Uttarakhand Aipan	Handicraft	Uttarakhand
Munsyari Razma	Agricultural	Uttarakhand
Uttarakhand Ringal Craft	Handicraft	Uttarakhand
Uttarakhand Tamta Product	Handicraft	Uttarakhand
Uttarakhand Thulma	Handicraft	Uttarakhand
Myndoli Banana	Agricultural	Goa
Banaras Zardozi	Handicraft	Uttar Pradesh
Mirzapur Pital Bartan	Handicraft	Uttar Pradesh
Banaras Wood Carving	Handicraft	Uttar Pradesh
Banaras Hand Block Print	Handicraft	Uttar Pradesh
Kumaon Chyura Oil	Agricultural	Uttarakhand
Goan Khaje	Food Stuff	Goa
Rataul Mango	Agricultural	Uttar Pradesh
Tamenglong Orange	Agricultural	Manipur
Chamba Chappal	Handicraft	Himachal Pradesh
Mau Saree	Handicraft	Uttar Pradesh
Lahauli Knitted Socks & Gloves	Handicraft	Himachal Pradesh
Kanniyakumari Clove	Agricultural	Tamil Nadu
Hathei Chilli	Agricultural	Manipur
Naga Cucumber	Agricultural	Nagaland
Mahoba Desawari Pan	Agricultural	UP & MP
Mizo Ginger	Agricultural	Mizoram
Dalle Khursani	Agricultural	Sikkim and West Bengal

Bamiyan Buddhas

Why in news?

The ancient Buddha statues sit in serene meditation in the caves of rural Afghanistan.

- Afghanistan's Taliban rulers are pinning their hopes on Beijing to get revenue for the cash-starved country.
- Hundreds of meters below lie what is believed to be the world's largest deposit of copper.

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About the Bamiyan Buddhas

- In their Roman draperies and with two different mudras, the Bamiyan Buddhas were great examples of a confluence of Gupta, Sassanian and Hellenistic artistic styles.
- They are said to date back to the 5th century AD and were once the tallest standing Buddhas in the world. Salsal and Shamama, as they were called by the locals, rose to heights of 55 and 38 metres respectively, and were said to be male and female.
  - ➢ Salsal means "light shines through the universe"; Shamama is "Queen Mother".
  - ➢ The statues were set in niches on either ends of a cliff side and hewn directly from the sandstone cliffs.

Significance of Bamiyan

- Bamiyan is situated in the high mountains of the Hindu Kush in the central highlands of Afghanistan. The valley, which is set along the line of the Bamiyan River, was once integral to the early days of the Silk Roads, providing passage for not just merchants, but also culture, religion and language.
- When the Buddhist Kushan Empire spread, acting as a crucible of sorts, Bamiyan became a major trade, cultural and religious centre. As China, India and Rome sought passage through Bamiyan, the Kushans were able to develop a syncretic culture.
- In the rapid spread of Buddhism between the 1st to 5th centuries AD, Bamiyan's landscape reflected the faith, especially its monastic qualities. The two colossal Buddhas were only a part of several other structures, such as stupas, smaller seated and standing Buddhas, and wall paintings in caves, spread in and around surrounding valleys.

Destruction of the Buddhas

- The destruction of the Bamiyan Buddhas was part of the extremist culture. On February 27, 2001, the Taliban declared its intention to destroy the statues, despite condemnation and protest from governments and cultural ambassadors' world over.
- While this year marks the 20th anniversary of the destruction of the Bamiyan Buddhas, the Taliban wasn't the first group to target the statues or the Bamiyan Valley.
  - ➢ In the 17th century the, Mughal emperor Aurangzeb had the giant statues defaced using artillery.
- Unfortunately, the event paved the way for similar attacks on cultural heritage, such as the ISIS' destruction of the ancient city of Nimrud in 2016, along with the murder of archaeologist Khaled al-Asaad, when he refused to disclose the location of Palmyra's valuable artefacts, in 2015.
- Following the fall of the Bamiyan Buddhas, UNESCO included the remains in its list of world heritage sites in 2003, with subsequent efforts made to restore and reconstruct the Buddhas in their niches with the pieces available.

Anang Tal

Why in news?

Union Minister of State for Culture and Parliamentary Affairs visited (on World Heritage Day) the mini-lake Anang Tal (Mehrauli, New Delhi).

About Anang Tal

- It was created in 1052 A.D by the founder king of Delhi, **Maharaja Anang Pal Tomar.**
- He instructed to declare Anang Tal a National Monument immediately after its construction.
- Anang Tal has a strong Rajasthan connection as Maharaja Anang Pal is known as **nana (maternal grandfather)** of **Prithviraj Chauhan** whose fort **Rai Pithora** is on the list of the ASI.

Anangpal Tomar

- **Anangpal II**, popularly known as Anangpal Tomar, was a ruler from the Tomar Rajput Dynasty.
- He is known to have **established and populated Delhi** in the 11th century. Anangpal Tomar founded Delhi in 1052.

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- ➢ He is often confused with Anangpal I, the founder of Tomar Dynasty of Delhi, who had reigned during the 8th century.
- He traced the lineage to Chandravanshi Kshatriya kings, namely Arjuna from the epic Mahabharata (nowadays commonly referred to as Tomar/Tanwar).

World Heritage Day

The International Day for Monuments and Sites also known as World Heritage Day is an international observance held on **18 April** each year around the world with different types of activities, including visits to monuments and heritage sites, conferences, round tables and newspaper articles.

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ECONOMICS

ONGC's new Hydrocarbon basin

Why in news?

State-run Oil and Natural Gas Corporation Ltd (ONGC) is set to commercialise the Vindhyan Basin in Madhya Pradesh for gas production.

- This would be the ninth producing Basin of India and the eighth by ONGC.
- The eighth Indian Basin, the Bengal Basin, was dedicated to the nation in December 2020.

Oil and Natural Gas Corporation (Founded: 1956)

➢ It is an Indian government-owned-oil and gas explorer and producer.
➢ The operations are overseen by the Ministry of Petroleum and Natural Gas.
➢ It is the largest government-owned-oil and gas exploration and production corporation in the country, and produces around 70% of India's crude oil (equivalent to around 57% of the country's total demand) and around 84% of its natural gas.
➢ In November 2010, the Government of India conferred the Maharatna status to ONGC.

Hydrocarbons

- Gaseous hydrocarbons are organic compounds of hydrogen and carbon that are in a gaseous state. At room temperature, the hydrocarbons methane (CH_4) and ethane (C_2H_6) are gaseous. Natural gas is a hydrocarbon gas mixture consisting primarily of methane.
- A hydrocarbon is an organic compound found naturally in underground reserves of liquid petroleum and natural gas.
- It can also be found in a bituminous solid known as asphalt.
- Hydrocarbons are widely used in the modern world to heat our homes and fuel our cars and serve as the basic stuff of thermoplastic polymers used in a variety of products.

Petroleum and natural gas formation

Tiny marine plants and animals died and were buried on the ocean floor. Over time, the marine plants and animals were covered by layers of silt and sand.
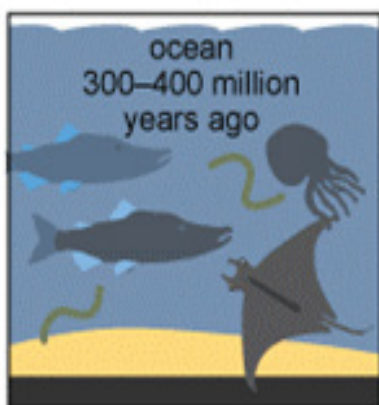
Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure turned the remains into oil and natural gas.
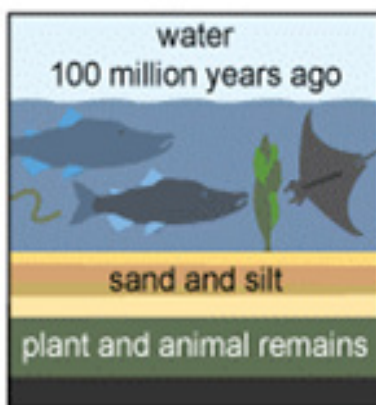
Today, we drill down through layers of sand, silt, and rock to reach the rock formations that contain oil and natural gas deposits.

ocean 300–400 million years ago

water 100 million years ago
sand and silt
plant and animal remains

sand, silt, and other rock
oil and natural gas deposits

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Key details

- Active exploration in the Vindhyan Basin began with the acquisition of seismic data in the late 1980s.
- The decision to commercialise the discovery has been taken after exploratory well 'Hatta-3' produced over 62,044 cubic meters per day of gas, confirming the production potential of the Proterozoic Basin.
- The first well 'Jaberal', which was drilled in the basin in 1991, produced gas of around 2,000 cubic meters per day.
- ONGC will undertake a two-dimensional (2D) seismic survey of the un-appraised areas of India's Exclusive Economic Zone (EEZ).

Significance

- Natural gas is a non-renewable hydrocarbon used as a source of energy for heating, cooking, and electricity generation.
- The development will reduce India's import dependence for its energy requirements as 85% of the country's energy demand is met through imports.

Sedimentary Basins of India

- There are 26 sedimentary basins in India, of which 16 are onland basins, 7 located both onland and offshore and 3 are completely offshore.
- **These basins are divided into three categories based on maturity of hydrocarbon resources as under:**
  - ➢ **Category-I** Basins, which have reserves and already producing.
  - ➢ **Category-II** Basins, which have contingent resources pending commercial production.
  - ➢ **Category-III** Basins, which have prospective resources awaiting discovery

Category - I (Basins with 'Reserves' being produced and exploited)	Category - II (Basins with 'Contingent Resources' to be developed and monetized)	Category - III (Basins with only 'Prospective Resources' to be explored and discovered)
Pre-Cambrian basement/ Tectonic sediments	Shallow water areas (0-400 m Isobath)	Un-assessed deepwater areas
	Deepwater areas (> 400 m Isobath)	

Category - I Basins	Category - II Basins	Category - III Basins	
01. Krishna-Godavari (KG)	08. Saurashtra	13. Kerala-Konkan (KK)	20. Narmada
02. Mumbai Offshore	09. Kutch	14. Bengal-Purnea	21. Spiti-Zanskar
03. Assam-Shelf	10. Vindhyan	15. Ganga-Punjab	22. Deccan Synedise
04. Rajasthan	11. Mahanadi	16. Pranhita-Godavari (PG)	23. Cuddapah
05. Cauvery	12. Andaman	17. Satpura- South Rewa-Damodar	24. Karewa
06. Assam-Arakan Fold Belt		18. Himalayan Foreland	25. Bhima-Kaladgi
07. Cambay		19. Chhattishgarh	26. Bastar

Hydrocarbon Exploration and Licensing Policy (HELP)

- HELP was launched with the clear objective of boosting the production of oil & gas in the Indian sedimentary basin.
- Under HELP Open Acreage Licensing (OAL) mechanism has been launched which allows the investors to carve out blocks of their choice by assessing E&P data available at NDR & by submitting an Expression of Interest (EoI).
- EOI can be submitted throughout the year without waiting for a formal bid round from the government.

India invokes peace clause

Why in news?

India has for the third time invoked the peace clause for exceeding the 10% ceiling on the support it offered its rice farmers.

- India has informed the World Trade Organization (WTO) that the value of its rice production in 2020-21 was $45.56 billion while it gave subsidies worth $6.9 billion, which comes out to 15.14% as against the permitted 10%.
- India ensures food security through the minimum support price (MSP) programme, and Public Distribution System and National Food Security Act, 2013.

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About Peace Clause

- The peace clause protects India's food procurement programmes against action from WTO members in case the subsidy ceilings – 10 per cent of the value of food production in the case of India and other developing countries – are breached.
  - ➤ The original peace clause expired in 2004.
  - ➤ At the 2013 Bali Conference, another temporary clause of this kind was put in place.
- India was the first country to invoke the peace clause for breaching the subsidy limit for rice for the marketing year 2018-19.
- India's "breach" of commitment for rice, under a provision of the agreement on agriculture arises from support provided under public stockholding programmes for food security purposes.

What is the de minimus level in WTO?

- **In WTO, minimal amounts of domestic support that are allowed even though they distort trade are set as:**
  - ➤ up to 5% of the value of production for developed countries,
  - ➤ up to 10% of the value of production for developing countries.

National Food Security Act, 2013 (NFSA)

- **Coverage under PDS:** 75% Rural and 50% Urban population; State-wise coverage determined by the Planning Commission (now NITI Ayog) on the basis of the 2011-12 Household Consumption Expenditure survey of NSSO.
- Coverage of two-thirds of the total population at the all-India level, under two categories of beneficiaries – Antodaya Anna Yojana (AAY) households and Priority Households (PHH).
- **Foodgrains Entitlement:** 5 kg per person for PHH category and 35 kg per household for AAY households.
- **Prices:** Rs. 3/2/1 per kg for rice, wheat, and coarse grains
- **Central Issue Price (CIP)** is the price at which government makes food-grains available to states. As a pro-poor measure, the CIPs for NFSA beneficiaries have not been revised since the commencement of the NFSA.

Krishi Udan 2.0

Why in news?

Krishi Udan 2.0 is providing unprecedented assistance to farmers in North-Eastern states to find a market for their products both abroad and in the country.

- There has been a 22.5 percent increase in agri-goods transported under the scheme in FY 21-22 on an annual year on year basis.

Krishi Udan 2.0

- Krishi Udan Scheme 2.0 was announced in 2021, mainly focusing on transporting perishable food products from the hilly areas, North-Eastern States and tribal areas.
- **Objectives:**
  - ➤ To increase the share of air carriage in the modal mix for transportation of Agri-produce, which includes horticulture, fishery, livestock and processed products.
  - ➤ To ensure seamless, cost-effective, time-bound air transportation and associated logistics for all Agri-produce originating especially from North East (including Assam), hilly and tribal regions of the country.

Krishi Udan 2.0
To facilitate & incentivise Agri-produce in the Northeast, Tribal & Hilly regions

- Scheme to be implemented at 53 airports in the Northeast & tribal regions (including two islands)
- International trade export for organic farm & seafood produce to begin soon
- Will remove barriers in supply chain, logistics & transportation to double farmers' income

- For facilitating and incentivizing movement of agri-produce by air transportation Airports Authority of India (AAI) provides full waiver of Landing, Parking, Terminal Navigational Landing Charges (TNLC) and Route Navigation Facility Charges (RNFC) for Indian freighters and P2C (Passenger-to-Cargo) Aircrafts primarily around 25 airports focusing on North Eastern, Hilly and Tribal region and 28 airports in other regions/areas.
- Krishi Udan Scheme is a convergence scheme where eight Ministries/Departments would leverage their existing schemes to strengthen the logistics for transportation of Agri-produce.
- There is no specific budget for Krishi Udan under the Scheme.

Digi Yatra initiative

Ministry of Civil Aviation is adding a Digital experience for Air Travellers through DigiYatra Platform.

The 'DigiYatra' is an industry-led initiative co-ordinated by the Ministry in line with the Indian Prime Minister's Digital India's vision to transform the nation into a digitally empowered society.

Passengers will be automatically processed based on facial recognition system at check points like; Entry point check, Entry in to Security Check, Aircraft Boarding.

Foreign Trade Policy

Why in news?

The Directorate General of Foreign Trade (DGFT) extended the existing foreign trade policy (FTP) (2015-20), which provides a road map for boosting external commerce in goods and services, by another six months till September 30, 2022.

- The development comes amid disruptions in global trade due to month-long tension between Russia and Ukraine.
- The validity of the current FTP for 2015-20 was already extended by two years through March 31, 2022, in the wake of the Covid-19 pandemic.

What is Foreign Trade?

Foreign trade refers to the exchange of goods and services between two or more countries, across their respective international borders.

What is a Foreign Trade Policy?

- Foreign Trade Policy is a set of guidelines and instructions established by the DGFT in matters related to the import and export of goods in India.
- The Government of India, Ministry of Commerce and Industry announces Export-Import Policy every five years.
- The new FTP (2015-20) came into force w.e.f 01/04/2015.
- The Export-Import Policy (EXIM Policy) is updated every year on the 31st of March and the modifications, improvements and new schemes are effective w.e.f. 1st April of every year.

Implications of Foreign Trade

- Foreign trade is considered to be extremely important for the growth of any country. It acts as one of the primary economic boosters for that specific entity.

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- Foreign trade also covers up the need of a country for particular resources and get rid of the extra resources that are available in the country.
- Foreign trade of any country helps to raise the standard of living of the people.
- Foreign trade also helps to maintain the payment solution balance of the country and make sure that there always exists a free flow of the economy.

Directorate General of Foreign Trade (DGFT)

- DGFT is an attached office of the Ministry of Commerce and Industry and is headed by the Director General of Foreign Trade.
- DGFT provides a complete searchable database of all exporters and importers of India.
- Normally a member of the Indian Administrative Service having rendered 30 or more years is appointed to the post of the Director-General of Foreign Trade by the central government of India.
- The Director-General formulates Foreign Trade Policy and Hand Book of Procedures of Foreign Trade Policy and ITC (HS) Classifications of Import and Export Items.

New Foreign Trade Policy 2021-26

- New FTP will strive to make India a leader in the area of international trade and channelize the synergies gained through merchandise and services exports for growth and employment with a goal to make India a USD 5 Trillion economy.
- Foreign trade policy 2021-26 is expected to focus on MSMEs and new export potential.
- It is also expected to boost e-commerce exports and identify new sectors to boost domestic export.
- New FTP will help in creating a low-cost operating environment through efficient, cost-effective, and adequate logistical and utilities infrastructure.

Objectives of New Foreign Trade Policy 2021 to 2026

- Make India an US $5 Trillion Economy
- 1 Implementation of District Export Hubs
- 2 Correcting Imbalances within India
- 3

India's agricultural products Export

Why in news?

India's agricultural products export crossed $ 50 billion for the financial year FY22.

- This would be the highest level ever achieved for agriculture exports.
- The agricultural exports have grown by 19.92% during 2021-22.
- The growth rate is remarkable as it has been achieved in spite of unprecedented logistical challenges in the form of high freight rates, container shortages, etc.

INDIA'S AGRICULTURE EXPORTS AT ALL-TIME HIGH

Highest ever exports achieved for staples like **rice, wheat, sugar, other cereals and meat**

COVID-19 resulted in increased demand for staples, providing an opportunity for increasing agriculture exports

Amid Russia–Ukraine war, the world is looking at India for supplies of wheat and other food grains

$2.12 bn — 2021-22
$568 mn — 2020-21

Wheat exports jumped nearly four-fold

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Key details

- As per the data, the highest ever exports have been achieved for staples like rice (% 9.65 billion), wheat ($ 2.19 billion), sugar ($ 4.6 billion), and other cereals ($ 1.08 billion).
- Wheat has recorded an unprecedented growth of more than 273%, jumping nearly four-fold from $ 568 million in 2020-21 to touch close to $ 2119 million in 2021-22.
- An increase in exports of these products has benefitted farmers in states like Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Chhattisgarh, Madhya Pradesh, Telangana, Andhra Pradesh, Maharashtra, etc.
- India has captured nearly 50% of the world's market for rice.
- The exports of marine products also reached the highest ever at $ 7.71 billion, benefitting farmers in the coastal states of West Bengal, Andhra Pradesh, Odisha, Tamil Nadu, Kerala, Maharashtra, and Gujarat.
- Spices exports have touched $ 4 billion for the second year in a row.
- Coffee exports have crossed USD 1 billion for the first time, which has improved realizations for coffee growers in Karnataka, Kerala, and Tamil Nadu.

Agriculture sector trends (As per the Economic Survey 2021-22)

- Agricultural sector is estimated to grow 3.9% in 2021-22 on top of 3.6% and 4.3% respectively in the previous two years.
- This sector accounts for 18.8% of gross value added (GVA).
- India has remained a net exporter of agri-products since economic reforms began in 1991 with a share of 3.1% in global agri exports, with a sizeable share in the export of rice, cotton, soya beans and meat according to a World Trade Organization (WTO) report on the trends in world agricultural trade in the past 25 years.
- Largest markets for India's agriculture products are the USA, China, Bangladesh, UAE, Vietnam, Saudi Arabia, Indonesia, Nepal, Iran and Malaysia.

Digital Banking Units

Why in news?

The Reserve Bank of India (RBI) released the guidelines on the "Establishment of Digital Banking Units (DBUs)"

- This is part of the announcement made in the Union Budget 2022-23 to set up 75 Digital Banking Units (DBUs) in 75 districts to commemorate the 75 years of independence of our country (Azadi ka Amrit Mahotsav).

What are DBUs?

- A DBU is a specialised fixed point business unit or hub housing certain minimum digital infrastructure for delivering digital banking products and services as well as servicing existing financial products and services digitally in self-service mode at any time.
- Commercial banks (other than regional rural banks, payment banks and local area banks) with past digital banking experience are permitted to open DBUs in tier 1 to tier 6 centres, unless otherwise specifically restricted, without having the need to take permission from the RBI in each case.

Services that will be provided by these units

- Each DBU must offer certain minimum digital banking products and services. Such products should be on both liabilities and assets side of the balance sheet of the digital banking segment. Digitally value-added services to conventional products would also qualify as such.
- **The services include**
  - Savings bank accounts under various schemes
  - Current accounts
  - Fixed deposits and recurring deposit accounts
  - Digital kit for customers
  - Mobile banking
  - Internet banking

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- ➢ Debit cards, credit cards, and mass transit system cards
- ➢ Digital kit for merchants
- ➢ UPI QR code
- ➢ BHIM Aadhaar
- ➢ point of sale (PoS)
- **Other services include making applications for and onboarding of customers for identified retail, MSME or schematic loans.**
  - ➢ This may also include end-to-end digital processing of such loans, starting from online application to disbursal and identified government sponsored schemes that are covered under the national portal.

Customs duties on cotton imports

Why in news?

The Finance Ministry announced that the import of cotton will be fully exempted from custom duty till 30th September 2022.

- Previously, the import of cotton attracted a 5% basic customs duty (BCD) and another 5% agriculture infrastructure development cess (AIDC).

Basic customs duty

- Basic customs duty is a type of duty or tax imposed under the Customs Act, 1962. The basic customs duty varies for different items and the Central government has the power to reduce or exempt any goods from the charges.

Agriculture Infrastructure and Development Cess

- AIDC was proposed in the Budget 2021-22 to raise funds to finance spending on developing agriculture infrastructure aimed at not only boosting production but also in helping conserve and process farm output efficiently.

Key details

- Since last year, the cotton industry was urging the government to withdraw both the basic customs duty and the AIDC levied on cotton to create a level playing field on the raw material front for the Indian textile and clothing Industry.
- India generally imports only extra-long staples, organic and sustainable cotton, but the removal of import duty will also lead to more import of medium and short-staple cotton.
- Wholesale price index-based inflation in textiles has been in double digits for several months.
- The government introduced the 10% duty on cotton in the FY22 union budget to give tariff protection to domestic cotton producers from imports.
- Inflation has in the recent months forced the government to significantly reduce the duty on edible oils too.
- India has been facing a spike in inflation with the March figure touching 6.95% fanned by the surge in food and fuel prices.
- The surge in prices of commodities and manufactured items is seen widely as a dampener for the economy recovering from the pandemic's effect.

Benefits of waiver of custom duty

- The exemption will benefit the textile chain-yarn, fabric, garments, and made-ups and will also provide relief to consumers.
- Removal of import duty on raw cotton should have a salutary effect on cotton price in India.
- The move is also expected to benefit textile exports as they do not have to seek a refund of the taxes on raw materials under export promotion schemes.
- The duty cut comes amid reports of soaring cotton prices.

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Cotton Industry in India

- India is one of the largest producers as well as exporters of cotton yarn.
- The Indian textiles industry contributes around 5% to country's gross domestic product (GDP), 14% to industrial production and 11% to total export earnings.
- The industry is also the second-largest employer in the country after agriculture, providing employment to over 51 million people directly and 68 million people indirectly, including unskilled women.

Key market & export of cotton

- Cotton yarn and fabrics export account for about 23% of India's total textiles and apparel export.
- In 2019-20*, India's cotton production was 36.04 million bales of 170 kgs each.
- During 2019-20, the export of cotton yarn, cotton fabrics, cotton made-ups, and handloom products reached US$ US$ 10.01 billion.
- The total cotton yarn/ fabs /made-ups, handloom products, and other export accounted for US$ 5.97 billion from April 2021 to August 2021 and for August 2021 it was US$ 1.29 billion.
- The total cotton yarn/ fabs /made-ups, handloom products, and other export accounted for US$ 9.81 billion in FY21, and for March 2021 it was US$ 1.10 billion.

Schemes related to the Textile sector in India

- Scheme for Integrated Textile Parks (SITP)
- North-East Region Textile Promotion Scheme (NERTPS)
- Scheme for Capacity Building in Textile Sector (SAMARTH)

Global Ayush Investment & Innovation Summit

Why in news?

Prime Minister has inaugurated the three-day Global Ayush Investment & Innovation Summit (GAIIS) in Gandhinagar, Gujrat.

About the Summit

- One of the aims of the Summit is to attract lucrative investments to build India as the Global Ayush Destination in the world.
- The Ayush Ministry wants to utilize the platform to initiate target-oriented initiatives to enable the recognition and growth of traditional systems of medicine.
- The event will bring together the country's leading start-ups, entrepreneurs, investors, policymakers, and other national and international stakeholders for a specially curated event on innovation and entrepreneurship to help India become a Global Ayush Destination.
- The present market size of the Ayush sector has grown by 17% p.a. from 2014-2020.

The WHO Global Centre for Traditional Medicine

- The World Health Organization (WHO) and the Government of India signed an agreement to establish the WHO Global Centre for Traditional Medicine.
- The new WHO centre will be established in Jamnagar, Gujarat, India.
- This global knowledge centre for traditional medicine, aims to harness the potential of traditional medicine from across the world through modern science and technology to improve the health of people and the planet.

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- Around 80% of the world's population is estimated to use traditional medicine.

Traditional medicine

- The term traditional medicine describes the total sum of the knowledge, skills, and practices indigenous and different cultures have used over time to maintain health and prevent, diagnose and treat physical and mental illness.
- Its reach encompasses ancient practices such as acupuncture, ayurvedic medicine and herbal mixtures as well as modern medicines.
- Some 40% of approved pharmaceutical products in use today derive from natural substances.

Battery Energy Storage Systems

Why in news?

Solar Energy Corporation of India Limited (SECI) under the aegis of the Ministry of New & Renewable Energy, has issued the tender for setting up 500 MW/1000 MWh Standalone Battery Energy Storage Systems (BESS) in India.

- A first-of-its-kind tender in the country, it will provide Discoms with storage facilities to be used on an "on-demand" basis.

Other key details

- The tender has been issued under the Standard Bidding Guidelines issued by the Ministry of Power in 2022.
- The Projects will be installed in the vicinity of the Fatehgarh-III Grid-Substation of the interstate transmission system (ISTS) network, in the State of Rajasthan.
- The Projects will be set up on a "Build-Own-Operate" basis, with the connectivity and necessary permissions being under the scope of the Project Developer.
- SECI is the implementing agency of this tender and will be procuring capacity on behalf of the Buying Entities, charging a facilitation fee in the form of a trading margin.
- Out of the 60% capacity off taken by SECI, 30% will be earmarked to be used by NLDC, POSOCO for Grid Ancillary Services.
- The Developer shall make the BESS available for 2 operational cycles per day, i.e., 2 complete charge-discharge cycles per day.

Battery energy storage systems (BESS)

- A BESS is an electrochemical device that collects energy from the grid or a power plant and then discharges that energy at a later time to provide electricity or other grid services when needed.
  - **Battery storage:** A technology that enables power system operators and utilities to store energy for later use.

Main BESS parts include:

- **A battery system**
  - It contains individual battery cells that convert chemical energy into electrical energy.
  - The cells are arranged in modules that, in their turn, form battery packs.
- **A battery management system (BMS)**
  - A BMS ensures the safety of the battery system.
  - It monitors the condition of battery cells, measures their parameters and states, such as state-of-charge (SOC) and state-of-health (SOH), and protects batteries from fires and other hazards.
- **An inverter or a power conversion system (PCS)**
  - This converts direct current (DC) produced by batteries into alternating current (AC) supplied to facilities.
  - Battery energy storage systems have bi-directional inverters that allow for both charging and discharging.
- **An energy management system (EMS)**
  - This is responsible for monitoring and control of the energy flow within a battery storage system.

> An EMS coordinates the work of a BMS, a PCS, and other components of a BESS. By collecting and analyzing energy data, an EMS can efficiently manage the power resources of the system.

How Energy Storage Works
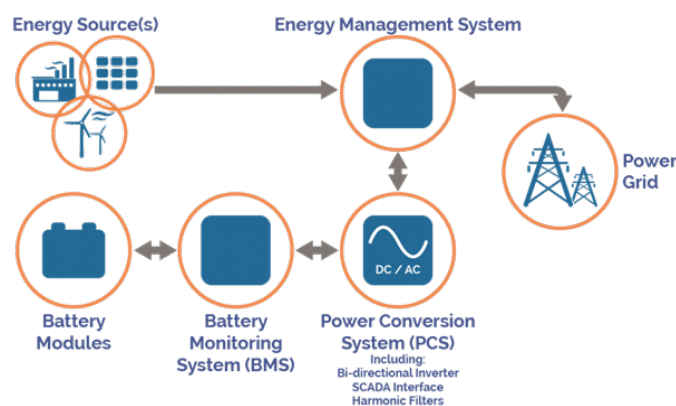
Advantages of BESS

- **Load Management (Energy Demand Management)**
  - BESSs help balance loads between on-peak and off-peak times. The higher the demand, the higher the electricity cost and vice versa—pricing gets lower during off-peak hours.
  - By accumulating energy when the demand is low and discharging it in peak periods, battery storage solutions enable users to save on electricity tariffs (peak shaving).

- **Energy Time-Shift (Arbitrage)**
  - Battery energy storage systems allow for energy time-shifting—energy is purchased at a low price during off-peak periods and sold or used when the price increases.

- **Backup Power**
  - A BESS can supply backup power in case of an electricity grid failure until complete power restoration.

- **Black-Start Capability**
  - A BESS can replace a diesel or natural gas generator used by power plants to restore power generation after blackouts by leveraging its black-start capabilities. Based on battery storage, power systems can restart after a total shutdown without using external electricity networks.

- **Frequency Control**
  - Battery storage systems can regulate frequency in the grid, making sure its value lies within the required range.

- **Renewable Energy Integration**
  - Integrating battery energy storage systems with intermittent renewable energy sources opens the door to inexpensive electricity continuously available to on-grid, off-grid, and hybrid systems.

- **Transmission and Distribution (T&D) Deferral**
  - Battery energy storage can eliminate the need to build new transmission and distribution systems or update existing T&D assets that lack capacity or become obsolete.

- **Microgrids**
  - A BESS is an essential part of microgrids—distributed power networks that can be connected to the utility grid or totally independent. Standalone microgrids located in remote regions can rely on battery storage systems integrated with intermittent renewable energy sources.

Higher inflation in rural India

Why in news?

Official data pegs rural inflation in March at 7.66%, with several States reporting even higher inflation, including West Bengal (8.85%), Uttar Pradesh, and Assam (8.19%) as well as Madhya Pradesh (7.89%).

- Across large parts of the country, the experienced price rise has already crossed 7.5% and even 8%.

Urban and Rural inflation trends

- Urban inflation has usually tended to be higher than rural inflation by an average of about 0.8 percentage points through most of 2021.
- In march 2022, the pace of price rise in the hinterland outstripped urban India, and the gap has been widening rapidly.

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- From a minor 0.2 percentage points higher inflation rate over urban India in January, rural inflation hit a nine-month high of 6.38% in February even as urban inflation declined to 5.75%.
- In March, the gap between the two has surpassed 1.5% with urban inflation at 6.12% and rural areas clocking 7.66%.

Key drivers of higher inflation

- Food inflation was the key driver for the headline inflation rate jump in March.
- Price rise in oils and fats, vegetables and meat and fish have largely driven the hike.
- Besides, fuel and light segment rose 7.52 per cent; clothing and footwear 9.40 per cent; housing 3.38 per cent; and the pan, tobacco and intoxicants climbed 2.98 per cent.

Possible reasons for higher inflation

- The pent-up demand appears to be higher in rural India, so clothing is seeing higher inflation as demand picks up.
- Fuel prices are higher in rural areas due to connectivity issues, while prices of traditional fuel like firewood have also risen in tandem.
- While food price risks have risen due to the Russia-Ukraine conflict.

Pent-up demand

Pent-up demand describes a rapid increase in demand for a service or product, usually following a period of subdued spending. Consumers tend to hold off making purchases during a recession, building up a backlog of demand that is unleashed when signs of a recovery emerge.

Impact of price rise

- The bottom 20% of the population in urban as well as rural India is facing the worst effects.
- For every one percentage point increase in food prices, 10 million people are expected to fall into extreme poverty. The rich can suddenly afford expensive staples, but the poor cannot.
- Malnutrition is expected to grow and its effects will be the hardest to reverse in children.
- The cost of production is likely to increase by around 8-10%.
- The Minimum Support Price should at least be higher by around 12%-15%.

Parboiled Rice

Why in news?

The Centre has said it will stop the purchase of excess parboiled rice, of which Telangana is a major producer, as its demand is low and centre doesn't want to waste money on buying the excess quantity of parboiled rice.

What is parboiled rice?

- The parboiled rice refers to rice that has been partially boiled at the paddy stage, before milling.

Processes for parboiling rice

- **The Central Food Technological Research Institute (CFTRI), Mysuru, uses**
  - ➢ A method in which the paddy is soaked in hot water for three hours, in contrast to the more common method in which paddy is soaked for 8 hours.
  - ➢ The water is then drained and the paddy steamed for 20 minutes.
  - ➢ In this method, the paddy is dried in the shade, but is sun-dried in the common method.
- **The Paddy Processing Research Centre (PPRC), Thanjavur follows**
  - ➢ A method known as the chromate soaking process.
  - ➢ It uses chromate, a family of salt in which the anion contains both chromium and oxygen, which removes the odour from the wet rice.
- All processes generally involve three stages—soaking, steaming and drying. After passing through these stages, the paddy goes for milling.

Benefits of Parboiling rice

- Parboiling makes rice tougher.
- This reduces the chances of the rice kernel breaking during milling.
- Parboiling also increases the nutrient value of the rice.
- Parboiled rice has a higher resistance to insects and fungi.

Disadvantages of Parboiling rice

- The rice becomes darker and may smell unpleasant due to prolonged soaking.
- Setting up a parboiling rice milling unit requires a higher investment than a raw rice milling unit.

PARBOILED TICE STOCK WITH FCI (LAKH TONNES)	
STATE	**STOCKS**
Andhra Pradesh	0.66
Telangana	16.52
Chhattisgarh	1.49
Odisha	2.07
Jharkhand	2.98
Kerala	3.00
Tamil Nadu	12.09
West Bengal	0.43
Karnataka	0.1
Bihar	1.09
Haryana	0.11
Punjab	0.04
TOTAL	**40.58**

As on April 1. Source: Ministry of Consumer Affairs, Food and Public Distribution

Stock of parboiled rice in the country

- The total stock of parboiled rice is 40.58 lakh metric tonnes (LMT) as on April 1, 2022.
- The highest stock is in Telangana at 16.52 LMT, followed by Tamil Nadu (12.09 LMT) and Kerala (3 LMT).
- The stock was in the range 0.04–2.92 LMT in 10 other states —Andhra Pradesh, Chhattisgarh, Odisha, Jharkhand, West Bengal, Karnataka, Bihar, Punjab and Haryana.
- In the coming days, the total parboiled rice stock will increase to 47.76 LMT.

Demand for Parboiled rice

- The Food Ministry pegs the parboiled rice demand at 20 LMT per annum for distribution under the National Food Security Act, 2013.
- In the last few years, production in parboiled rice-consuming states such as Jharkhand, Kerala and Tamil Nadu have increased, resulting in less movement to the deficit states.
- Earlier, the Food Corporation of India (FCI) used to procure parboiled rice from states such as Telangana to supply to these states.

'Poison Pill' defence

Why in news?

Twitter countered Elon Musk's offer to buy the company for more than $43 billion with a corporate tool known as a poison pill, a defensive strategy familiar to boardrooms trying to fend off takeovers but less familiar to everyday investors.

- This defense mechanism was developed in the 1980s as company leaders, facing corporate raiders and hostile acquisitions, tried to defend their businesses from being acquired by another enterprise, person or group.

About Poison Pill

- A poison pill is officially known as a shareholder rights plan, and it can appear in a company's charter or bylaws or exist as a contract among shareholders.
- A poison pill is a maneuver that typically makes a company less palatable to a potential acquirer by making it more expensive for the acquirer to buy shares of the target company above a certain threshold.
- The strategy also gives a company more time to evaluate an offer and can give the board leverage in trying to force a direct negotiation with the potential acquirer.

POISON PILL

POISON PILL is strategy used by Target Company to avoid hostile takeovers completely or at least slow down acquiring process, by making it costly or unattractive.

ADVANTAGES	DISADVANTAGES
Saves company against hostile takeover	Value of company falls down.
Interest of minority shareholders	Discourages FDIs and FIIs investments
Opens door for better acquiring prospects	Encourages managers to halt growth.
Allows stakeholders to make decisions	It halts change & efficient use of resources.
It helps acquisition process to slow down	It may have negatively impact target.

TYPES

- Flip-In Poison Pills
- Flip-Over Poison Pills
- Voting Rights
- High Leverage
- Preferred Stock Option and Employee Stock Options
- Golden Parachute or Staggered Board

Working of poison pill

- There are different types of poison pills, but usually, they allow certain shareholders to buy additional stock at a discounted price.
- The only shareholder blocked from making these discounted purchases is the one who triggers the poison pill.
- It is triggered when a person, usually the acquirer, hits a threshold for how many shares they own.
- If they hit that threshold, the value of their shares is suddenly diluted as other shareholders make discounted purchases.

Other corporate defence mechanisms to prevent hostile takeovers

- **Greenmail Defence**
  - Greenmail is the practice of buying enough shares in a company to threaten a hostile takeover so that the target company will instead repurchase its shares at a premium.
  - Regarding mergers and acquisitions, the company makes a greenmail payment as a defensive measure to stop the takeover bid.
- **Crown jewel defence**
  - When a company is threatened with takeover, the crown jewel defense is a strategy in which the target company sells off its most attractive assets to a friendly third party or spins off the valuable assets in a separate entity.
  - Consequently, the unfriendly bidder is less attracted to the company assets.
  - Other effects include dilution of holdings of the acquirer, making the takeover uneconomical to third parties, and adverse influence of current share prices.
- **Pac-Man defense**
  - The Pac-Man defense is a defensive business strategy used to stave off a hostile takeover, in which a company that is threatened with a hostile takeover "turns the tables" by attempting to acquire its would-be buyer.
- **White Knight defence**
  - A white knight is a hostile takeover defense whereby a 'friendly' individual or company acquires a corporation at fair consideration when it is on the verge of being taken over by an 'unfriendly' bidder or acquirer.
  - The unfriendly bidder is generally known as the "black knight."
  - Although the target company does not remain independent, acquisition by a white knight is still preferred to the hostile takeover.

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Special purpose acquisition companies (SPACs)

Why in news?

The government is reportedly considering a regulatory framework for special purpose acquisition companies (SPACs) to lay the ground for the possible listing of Indian companies through this route in the future.

- The Company Law Committee, which was set up in 2019 to make recommendations to boost ease of doing business in India, has made this suggestion in its report submitted to the government recently.

What is an SPAC?

- An SPAC, or a blank-cheque company, is an entity specifically set up with the objective of acquiring a firm in a particular sector.
- Aim: To raise money in an initial public offering (IPO) without any operations or revenues.
- The money that is raised from the public is kept in an escrow account, which can be accessed while making the acquisition.
- If the acquisition is not made within two years of the IPO, the SPAC is delisted and the money is returned to the investors.
- **Note:** SPACs are essentially shell companies.
    - ➤ A shell corporation is a business that is formed that has no actual business operations.
    - ➤ They are mostly created for money laundering or sometimes for parking early startup funds.
    - ➤ They do not employ anyone or provide any services.

Where India stands?

- Of the 1,145 IPOs by blank-cheque companies since 2009, 248 happened in 2020, 613 in 2021, and 58 in 2022 so far.
- The gross proceeds raised by SPACs amounted to over $83 billion in 2020 and $162 billion in 2021.
- The number for 2022 has crossed $10 billion already.

Regulation of SPACs in India

- The Indian regulatory framework does not allow the creation of blank cheque companies.
- The Securities and Exchange Board of India (SEBI) is in the process of developing a framework for listing of SPACs in India.
- The Companies Act, 2013 stipulates that the Registrar of Companies can strike off a company if it does not commence operations within a year of incorporation.

Initial public offering

- ➤ An initial public offering or stock launch is a public offering in which shares of a company are sold to institutional investors and usually also to retail investors.
- ➤ An IPO is typically underwritten by one or more investment banks, who also arrange for the shares to be listed on one or more stock exchanges.

Escrow account

- ➤ An escrow account is a third-party account where funds are kept before they are transferred to the ultimate party.
- ➤ It provides security against scams and frauds, especially with high asset value and dispute-prone sectors like Real Estate.

State of (un)employment in India

Why in news?

Data from the Centre for Monitoring Indian Economy (CMIE) shows that India's labour force participation rate (LFPR) has fallen to just 40% from an already low 47% in 2016.

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- This suggests not only that more than half of India's population in the working-age group (15 years and older) is deciding to sit out of the job market, but also that this proportion of people is increasing.

Unemployment

Unemployment, according to the OECD, is people above a specified age not being in paid employment or self-employment but currently available for work during the reference period. Unemployment is measured by the unemployment rate, which is the number of people who are unemployed as a percentage of the labour force.

Labour Force Participation Rate (LFPR)

- **According to the CMIE, the labour force consists of persons who are of age 15 years or older, and belong to either of the following two categories:**
  - ➢ are employed
  - ➢ are unemployed and are willing to work and are actively looking for a job
- The LFPR essentially is the percentage of the working-age (15 years or older) population that is asking for a job; it represents the "demand" for jobs in an economy.
- It includes those who are employed and those who are unemployed. The Unemployment Rate (UER), which is routinely quoted in the news, is nothing but the number of unemployed (category 2) as a proportion of the labour force.

Key findings of the Centre for Monitoring Indian Economy (CMIE)

- Chhattisgarh has been ranked first among states with the lowest unemployment rate while the country's unemployment rate stood at 7.6 percent.
- Haryana has the highest unemployment rate at 26.7 per cent, followed by Rajasthan and Jammu and Kashmir at 25 per cent each and Jharkhand at 14.5 per cent.

Centre for Monitoring Indian Economy

- ➢ The CMIE is an independent private limited entity that serves both as an economic think-tank as well as a business information company.
- ➢ CMIE research group has built databases on the Indian economy and private companies.
- ➢ CMIE provides this information in the form of databases and research reports via a subscription-based business model.
- ➢ It is headquartered in Mumbai, with additional offices in India.
- ➢ CMIE was founded by Narottam Shah on 13 April 1976.

Significance of LFPR in India

- Typically, it is expected that the LFPR will remain largely stable. As such, any analysis of unemployment in an economy can be done just by looking at the UER (Unemployment Rate).
- But, in India, the LFPR is not only lower than in the rest of the world but also falling.
- This, in turn, affects the UER because LFPR is the base (the denominator) on which UER is calculated.
- The world over, LFPR is around 60%.
- In India, it has been sliding over the last 10 years and has shrunk from 47% in 2016 to just 40% as of December 2021.
- This shrinkage implies that merely looking at UER will under-report the stress of unemployment in India.

How is it under-reported?

- Let us take an example that there are just 100 people in the working-age group but only 60 ask for jobs — that is, the LFPR is 60% - and of these 60 people, 6 did not get a job. This would imply a UER of 10%.
- Now imagine a scenario when the LFPR has fallen to 40% and, as such, only 40 people are demanding work. And of these 40, only 2 people fail to get a job. The UER would have fallen to 5%.

CHART 1
LABOUR FORCE PARTICIPATION & EMPLOYMENT RATES

CHART 2
UNEMPLOYMENT RATE
Source: Centre for Monitoring Indian Economy

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- Now, the 2 who are unemployed, a total of 20 people have stopped demanding work. Typically, this happens when people in the working-age get disheartened from not finding work.
- Similar has happened in India's case. The LFPR has sustained a secular decline. Every time the LFPR falls, the UER also falls.

The correct way to assess India's unemployment stress

- When LFPR is falling as steadily and as sharply as it has done in India's case, it is better to track another variable: the Employment Rate (ER).
- The ER refers to the total number of employed people as a percentage of the working-age population.
- By using the working-age population as the base and looking at the number of people with jobs (instead of those without them), the ER captures the fall in LFPR to better represent the stress in the labour market.
- If one looks at the ER data (Chart 1), it becomes clear that while India's working-age population has been increasing each year, the percentage of people with jobs has been coming down sharply.
- In last five years (2016-2021), while the total working-age population has gone up by 12 crores, the number of people with jobs has gone down by 80 lakhs.

Why is India's LFPR so low?

- The main reason for India's LFPR being low is the abysmally low level of female LFPR.
- According to CMIE data, as of December 2021, while the male LFPR was 67.4%, the female LFPR was as low as 9.4%.
- In other words, less than one in 10 working-age women in India are even demanding work.
- Even if one sources data from the World Bank, India's female labour force participation rate is around 25% when the global average is 47%.

Conclusion

- Successive governments have taken steps to address the issue, the jobs crisis is in large part the result of the absence of a labour-intensive manufacturing sector which can not only absorb the millions entering the labour force each year, but also those moving out of agriculture.
- For a country of the young, in the midst of a demographic transition, the employment problem is perhaps the most formidable challenge before the government.

'Kisan Bhagidari Prathmikta Hamari' campaign

Why in news?

To commemorate Azadi Ka Amrit Mahotsav, Ministry of Agriculture is organizing a week-long (25-30 April) special campaign on 'Kisan Bhagidari Prathmikta Hamari' to create awareness on various schemes and their benefits for the farming community across the country.

- As part of the campaign, MoA&FW, Department of Agricultural Research and Education (DARE), Ministry of Rural Development will hold wide range of awareness activities.

Key details

- **Aim:** To make the farmers aware about key scheme aspects of Pradhan Mantri Fasal Bima Yojana (PMFBY) like importance of insuring the crops and how to avail scheme benefits etc. along with facilitating farmers in getting benefit of the scheme.
- Under this campaign, the broader focus will be on importance of PMFBY/RWBCIS (Restructured Weather Based Crop Insurance Scheme).
- The detailed information on crop loss intimations during localized calamities and post-harvest losses, tracking of farmers' application, whom farmers can approach for grievance redressal etc. may be shared and explained in details to farmers for maximum benefit of the scheme.
- **One-hour Fasal Bima Pathshala:** It will be conducted at State level in co-ordination with CSC and implementing Insurance Companies.
- Along with Farmers, Panchayat Raj Representatives (PRIs), members and State Government field functionaries working at GP level (from different departments including Agriculture, Revenue, Panchayat Raj etc.) will also be invited for the state specific programme.

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- Local imminent personalities, progressive farmers, Krishi Vigyan Kendra (KVKs), Farmer Producer Organizations (FPOs), Self Help Groups (SHGs), Village level Organizations (VOs) etc will also be invited as special invitees/guests.

Pradhan Matri Fasal Bima Yojna (2016)

- Administered by: Ministry of Agriculture and Farmers Welfare.
- It replaced the National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS).
- The scheme is applicable to all food & oilseed crops and annual commercial/horticultural crops for which past yield data is available.
- **Premium:**
  - ➢ 2% to be paid by farmers for all Kharif crops
  - ➢ 1.5% for all rabi crops
  - ➢ 5% in the case of annual commercial and horticultural crops
- Premium cost over and above the farmer share was equally subsidized by States and Government of India.
- However, Government of India shared 90% of the premium subsidy for Northeastern States to promote the uptake in the region.
- Selection of the Implementing Agency (IA): By the concerned State Government through bidding.

PMFBY 2.0

- **Enrolment 100% voluntary for all farmers from 2020 Kharif.**
  - ➢ Earlier, it was compulsory for loanee farmers to avail a Crop Loan/Kisan Credit Card (KCC) account for notified crops.
- Centre has decided to limit the PMFBY premium rates - against which it would bear 50% of the subsidy - to a maximum of 30% in un-irrigated and 25% in irrigated areas.
- Insurance companies must now spend 0.5% of the total premium collected on Information, Education and Communication (IEC) activities.

Kwar Hydroelectric project

Why in news?

The Cabinet Committee on Economic Affairs has approved the construction of 540 Megawatt Kwar Hydro Electric project located on river Chenab in Kishtwar district of Union Territory of Jammu and Kashmir.

- The project will be implemented by Chenab Valley Power Projects Private Limited which is a joint venture company between NHPC and JKSPDC.
- The company has been entrusted with the construction of hydropower projects on a build, own, operate and maintain (BOOM) basis with an aggregate installed capacity of 3,094 MW.
- The project is envisaged as a Run of River Scheme.
- The Project would result in direct and indirect employment of about 2,500 people.

Indus Water Treaty (IWT)

- Under the 1960 vintage Indus Water Treaty (IWT) between India and Pakistan, the two countries share the waters of six rivers in the Indus basin that flow through India towards Pakistan.
- Of these, India has complete rights over three eastern rivers - Sutlej, Beas and Ravi, while Pakistan has rights over the western rivers - Chenab, Jhelum, and Indus.
- India can build run-of-the-river projects on the western rivers.

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Digital India RISC-V Microprocessor (DIR-V) Program

Why in news?

To achieve commercial silicon and design wins for the next generation of microprocessors (SHAKTI & VEGA) by December 2023, the government of India announced the launch of the Digital India RISC-V (DIR-V) program.

- The government has set a timeline to commercially roll out the first indigenous chipsets by 2023-24.

What is Microprocessor?

- A microprocessor is a computer processor where the data processing logic and control is included on a single integrated circuit, or a small number of integrated circuits.
- The microprocessor contains the arithmetic, logic, and control circuitry required to perform the functions of a computer's central processing unit.

Key points

- The first set of commercial silicon of Shakti and Vega processors available by December 2023 or early 2024.
- Companies are expected to adopt their product designs to DIR-V products Shakti and Vega before 2023-24 and when the silicon is ready, they should start manufacturing and incorporating chips in the products.
- The DIR-V programme will consolidate and leverage the ongoing efforts in the country with an integrated multi-institutional and multi-location team, finalize the formal architecture and target performance of chipsets, support original equipment makers and design win in India and abroad.

About Shakti and Vega

- The Indian Institute of Technology (IIT) Madras and the Centre for Development of Advanced Computing (CDAC) have developed two microprocessors named Shakti (32 bit) and Vega (64 bit) using open-source architecture.

India's vision

- India will use semiconductors worth $70-80 billion to manufacture electronics products worth $300 billion by 2026.
- The Centre is aiming to make the country self-reliant in the semiconductor segment, shortages of which has led to an increase in input costs for products and services, in turn leading to increasing inflation.
- India also aims to build semiconductor fabs and has sought interest from global majors for setting up manufacturing plants in the country, which will entail billions of dollars in investment.

Coming up of giant companies

- The government has received proposals from five firms to set up electronic chip and display manufacturing plants with an investment of ₹1.53 trillion under the Semicon India Programme.
- Vedanta Foxconn JV, IGSS Ventures, and ISMC have proposed to set up electronic chip manufacturing plants with $13.6 billion investment and have sought the support of $5.6 billion from the Centre under the Semicon India Programme.

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INTERNATIONAL RELATIONS

India-Nepal discussed the 'boundary issue'

Why in news?

Nepal's PM discussed the "boundary issue" with Indian PM and "urged" him to resolve it through a "bilateral mechanism".

- India said the "general understanding" was to address it responsibly and "avoid politicisation".

Border dispute

- India had earlier rejected Nepal's unilateral move in 2020 to amend its constitution to show the Kalapani region as part of Nepal for the first time.

Both Nepal and India claim mountain territory of Kalapani

Disputed Kalapani region

CHINA

NEPAL

Sikkim

Kathmandu

BHUTAN

INDIA

BILATERAL LINKS

Major takeaways

1 Operationalisation of rail services along the Jaynagar (India) - Kurtha (Nepal) section, the first broad-gauge passenger rail link between the two countries, for cross-border connectivity

2 Handing over of Solu corridor transmission project, a major power project undertaken with Indian LOC

3 Progress in construction of 132 health facilities across 10 districts in Nepal under a grant from India

4 Launch of RuPay in Nepal, seen as a milestone in bilateral financial connectivity. Expected to facilitate bilateral tourist flows, strengthen people-to-people linkages. Nepal is now the fourth country outside India where RuPay is live, others being Bhutan, Singapore and UAE

PM Modi with his Nepal counterpart in Delhi on Saturday

Agreements signed

- MOU for Enhancing Technical Cooperation in Railway Sector
- Agreement for Supply of Petroleum Products between Nepal Oil Corporation and Indian Oil Corporation Ltd
- Agreement for

Sharing Technical Expertise between Nepal Oil Corporation and Indian Oil Corporation Ltd

- Framework Agreement of International Solar Alliance (ISA). Nepal 105th country to join ISA

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Key details & highlights

- Both the nations stressed on maintaining close cooperation on defence and security institutions.
- The two sides reviewed the full spectrum of the bilateral agenda covering political, economic, trade, energy, security and developmental issues.
- Both sides agreed to strengthen cooperation in the power sector and finalised a joint vision statement on power cooperation, which acts as a blueprint for the future.
- Both reviewed the progress in the implementation of Indian projects in Nepal, including the cross-border rail links connecting Jayanagar-Kurtha-Bijalpur-Bardibas, Jogbani-Biratnagar and Raxaul-Kathmandu.
- Both PMs jointly inaugurated the 90 km long 132 KVDC Solu Corridor Transmission line and substation built under the line of credit extended by India.
- Both sides agreed to expedite progress in the implementation of the Pancheshwar Multipurpose Project, beginning with the early finalisation of the Detailed Project Report (DPR).
- The fresh approvals granted to the Nepal Electricity Authority for the export of substantial amounts of power to India and invited greater participation of Indian companies in Nepal's hydropower development projects.
- The progress made in the 900 MW Arun-III hydro-electric project in Nepal was also noted.
- India assured Nepal government's full support in resolving bottlenecks and facilitating the time-bound completion of all India-assisted projects, including the National Police Academy at Kavrepalan chowk, the Integrated Check Posts at Nepalgunj and Bhairahawa and the projects under the Ramayana circuit.
- The use of Indian RuPay cards in Nepal was jointly launched by the two PMs.
- This would open new vistas for cooperation in financial connectivity, and is expected to facilitate bilateral tourist flows as well as further strengthen people-to-people linkages between India and Nepal.

Conclusion

- India-Nepal has undertaken various connectivity programs to enhance people-to-people linkages and promote economic growth and development.
- There was a general understanding that the dispute needs to be addressed in a responsible manner through dialogue.
- As close neighbors, India and Nepal share a unique relationship of friendship and cooperation characterized by open borders and deep-rooted people-to-people contacts of kinship and culture.

TAPI gas pipeline project

Why in news?

Turkmenistan will promote the implementation of a stalled 1,800km gas pipeline that will pass through Afghanistan, Pakistan and culminate in India (TAPI).

- The announcement was part of "The Tunxi Initiative of the Neighbouring Countries of Afghanistan on Supporting Economic Reconstruction in and Practical Cooperation with Afghanistan".

About TAPI Project

- A stone-laying ceremony for TAPI gas pipeline was laid down in 2015 in Mary, Turkmenistan, near the Galkynysh gas field.
- Designed to serve for 30 years, the pipeline is expected to expected to transport 33 billion cubic metres (bcm) of natural gas a year.
- The pipeline will run through Kandahar and Herat highway in Afghanistan, for a length of 774km.
- It will cover 826 km in Pakistan, across the cities of Quetta and Multan, finally terminating in Fazilka at the Indo-Pakistan border in Punjab region, India.

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- The pipeline will initially transport 27bcm of natural gas a year, which will be increased to 33bcm after one year of operation.

Other Key details

- Turkmenistan will develop trade and economic ties with Afghanistan, and continue to implement new joint projects in such important areas as energy, transport and communications, involving Afghan companies to these projects.
- Pakistan is working on mega projects such as CASA-1000 and TAPI to augment energy cooperation with Central Asia through Afghanistan.
- CASA-1000 is a power transmission project involving Tajikistan, the Kyrgyz Republic, Afghanistan and Pakistan.

Central Asia to South Asia (CASA-1000)

- The Central Asia-South Asia power project, commonly known by the acronym CASA-1000, is a $1.16 billion project currently under construction that will allow for the export of surplus hydroelectricity from Kyrgyzstan and Tajikistan to Afghanistan and finally to Pakistan.
- The project was inaugurated in February 2020.
- The entire project is expected to be completed in 2023.
- The project will allow for the export of 1,300 megawatts of electricity during the summer months when both Tajikistan and Kyrgyzstan experience surplus electricity generation from hydroelectric dams.
- Transmission lines are designed to transmit 1,300 MW of electricity, with Afghanistan allotted 300 MW of electricity and Pakistan 1000 MW of electricity.

Germany shuts down Russian darknet marketplace Hydra

Why in news?

Germany's Federal Crime Police shut down the server infrastructure for the Russian darknet marketplace Hydra, seizing €23 million worth of Bitcoin in the process.

- Suspects are being investigated for "operating criminal trading platforms on the internet on a commercial basis".

World's largest illegal darknet marketplace Hydra

- Hydra was an online criminal marketplace on the dark web that serves as a hub for drugs (including cocaine, heroin, methamphetamine, LSD, and other opioids), stolen credit card information, counterfeit bills, fake documents, and other illegal goods or services.
- The market primarily caters to criminals in Russia and surrounding nations.

Darknet site

- The Hydra darknet site provided a platform for criminals who thought they were beyond the reaches of law enforcement to buy and sell illegal drugs and services.

Impacts

- The dismantling of the Hydra Market sends a message to electronic criminal kingpins that think they can operate with impunity.
- The successful seizure of Hydra, dismantled digital infrastructures which had enabled a wide range of criminals -- including Russian cybercriminals, the cryptocurrency tumblers, and money launderers that support them and others, and drug traffickers.

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Russia suspends from UN Human Rights Council

Why in news?

United Nations General Assembly (UNGA) votes to suspend Russia from the United Nations Human Rights Council (UNHRC).

- The move was taken over allegations that Russian troops killed civilians while pulling back from towns around the Ukrainian capital of Kyiv.
- India has abstained on the resolution with regard to suspension of the Russian Federation from the Human Rights Council adopted in the General Assembly.

> ➢ Russia became the second country to have its membership rights stripped at the rights council.
> ➢ In 2011, Libya was suspended by the assembly when upheaval in the North African country brought down longtime leader Moammar Gadhafi.

The UN General Assembly on Thursday voted to suspend Russia from the UN Human Rights Council over its conduct in Ukraine

DOZENS ABSTAINED
The rare move on Thursday to suspend Russia saw only 24 nations voting against it

93 in favour of suspension

58 abstentions

24 against

A CALL FOR PROBE
Thursday's proposal garnered 58 abstentions, which included India, and nations such as Brazil, Thailand and Mexico, who said they wanted to see the results of an independent probe completed before a decision on Russia's membership was made

India's stand on the Ukraine-Russia crisis

- The resolution titled 'Suspension of the rights of membership of the Russian Federation in the Human Rights Council' was adopted with 93 votes in favour, 24 against, and 58 abstentions, including India.
- Since January this year, India has abstained on procedural votes and draft resolutions in the UN Security Council, the General Assembly, and the Human Rights Council that disapproved of Russian aggression against Ukraine.
- Since the inception of the Ukrainian conflict, India has stood for peace, dialogue and diplomacy.
- India believes that no solution can be arrived at by shedding blood and at the cost of innocent lives. If India has chosen any side, it is the side of peace and it is for an immediate end to violence.
- India had unequivocally condemned the "deeply disturbing" reports of civilian killings in Bucha and backed the call for an independent probe.
- India continues to remain deeply concerned about the exasperating situation and reiterates its call to put a stop to all hostilities.
- Some countries, like India, were of the view that adopting the resolution would violate due process and impact the credibility of the organisation.

Impact of the Russia-Ukraine crisis

- Beyond the suffering and humanitarian crisis from Russia's invasion of Ukraine, the entire global economy will feel the effects of slower growth and faster inflation.
- Russia and Ukraine are major commodities producers, and disruptions have caused global prices to soar, especially for oil and natural gas.
- Food costs have jumped, with wheat, for which Ukraine and Russia make up 30 percent of global exports, reaching a record.
- **Impacts will flow through three main channels.**
  - ➢ One, higher prices for commodities like food and energy will push up inflation further, in turn eroding the value of incomes and weighing on demand.

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➤ Two, neighboring economies in particular will grapple with disrupted trade, supply chains, and remittances as well as an historic surge in refugee flows.
➤ Three, reduced business confidence and higher investor uncertainty will weigh on asset prices, tightening financial conditions and potentially spurring capital outflows from emerging markets.

United Nations Human Rights Council [HQs: Geneva, Switzerland]

• The UNHRC is a United Nations body whose mission is to promote and protect human rights around the world.
• The Council has 47 members elected for staggered three-year terms on a regional group basis.
• The Council investigates allegations of breaches of human rights in United Nations member states and addresses thematic human rights issues like freedom of association and assembly, freedom of expression, freedom of belief and religion, women's rights, LGBT rights, and the rights of racial and ethnic minorities.
• The Council was established by the United Nations General Assembly in 2006 to replace the United Nations Commission on Human Rights.
• The UNHRC holds regular sessions three times a year, in March, June, and September.
• The Council has a five-person Bureau, consisting of a president and four vice-presidents, each representing one of the five regional groups.
➤ They serve for a year each, in accordance with the Council's annual cycle.

United Nations General Assembly

• The UNGA is one of the six principal organs of the United Nations (UN), serving as the main deliberative, policymaking, and representative organ of the UN.
• The UNGA is responsible for the UN budget, appointing the non-permanent members to the Security Council, appointing the Secretary-General of the United Nations, receiving reports from other parts of the UN system, and making recommendations through resolutions.

Sri Lanka economic crisis

Why in news?

Anger against Sri Lankan President handling of a deepening economic crisis spiralled into violence.

• A severe shortage of foreign currency has left government unable to pay for essential imports, including fuel.

Roots of the crisis

• It lies in economic mismanagement by successive governments that created and sustained a twin deficit – a budget shortfall alongside a current account deficit.
• But the current crisis was accelerated by deep tax cuts promised by the government during a 2019 election campaign that were enacted months before the COVID-19 pandemic, which wiped out parts of Sri Lanka's economy.
• Sri Lanka's lucrative tourism industry and foreign workers' remittances are sapped by the pandemic.
• And therefore, credit ratings agencies moved to downgrade Sri Lanka and effectively locked it out of international capital markets.
• In turn, Sri Lanka's debt management programme derailed and foreign exchange reserves plummeted by almost 70 per cent in two years.
• Lankan government's decision to ban all chemical fertilisers in 2021, also hit the country's farm sector and triggered a drop in the critical rice crop.

SOARING INFLATION

In Sri Lanka, overall rate of inflation for February 2022, as measured by National Consumer Price Index (NCPI), stood at **17.5% — the highest since 2015**

Sri Lanka NCPI - Year-on-Year % ■ 2022 ■ 2021

Inflation of the food category (Y-oY)

Feb 2022 **24.7%**

Jan 2022 **24.4%**
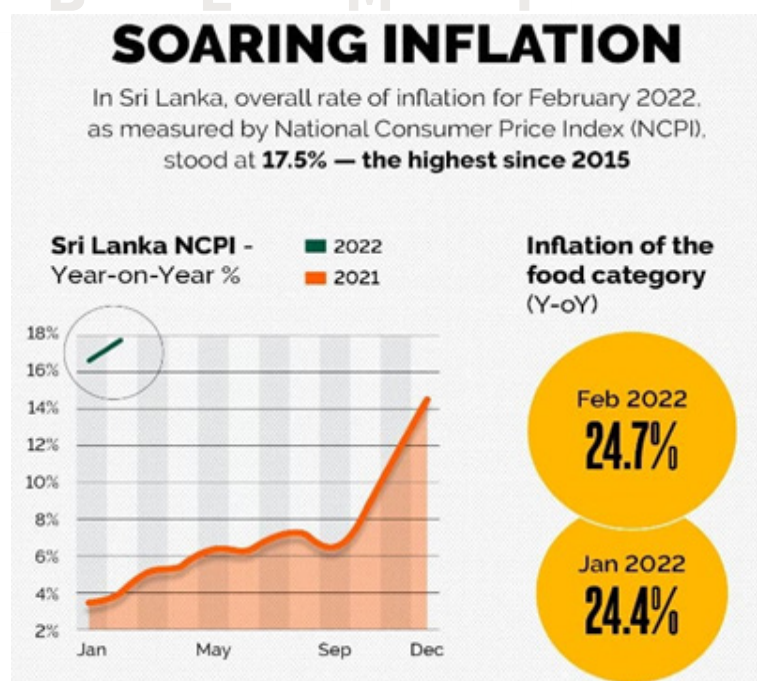
Twin deficits

- Twin deficits occur when a country has both a current account deficit and a government budget deficit at the same time.
- Twin deficits signal that a country's national expenditure exceeds its national income, and that its production of tradable goods and services is inadequate.

THE SOARING COST OF FOOD

■ Feb 2021 ■ Feb 2022 ● Y-o-Y change (%)

Dried Chillies - imported (Rs/kg)
538.13 / 943.53 ↑ 75.3%

Red Onion (Local)
350.00 / 560.00 ↑ 60.0%

Potato (Local)
160.00 / 279.72 ↑ 74.8%

Egg - White (Each)
16.57 / 18.28 ↑ 10.3%

Sugar - White
116.00 / 144.78 ↑ 24.8%

Samba rice (Rs/kg)
128.63 / 165.61 ↑ 28.8%

Nadu rice (Rs/kg)
98.25 / 161.11 ↑ 64.0%
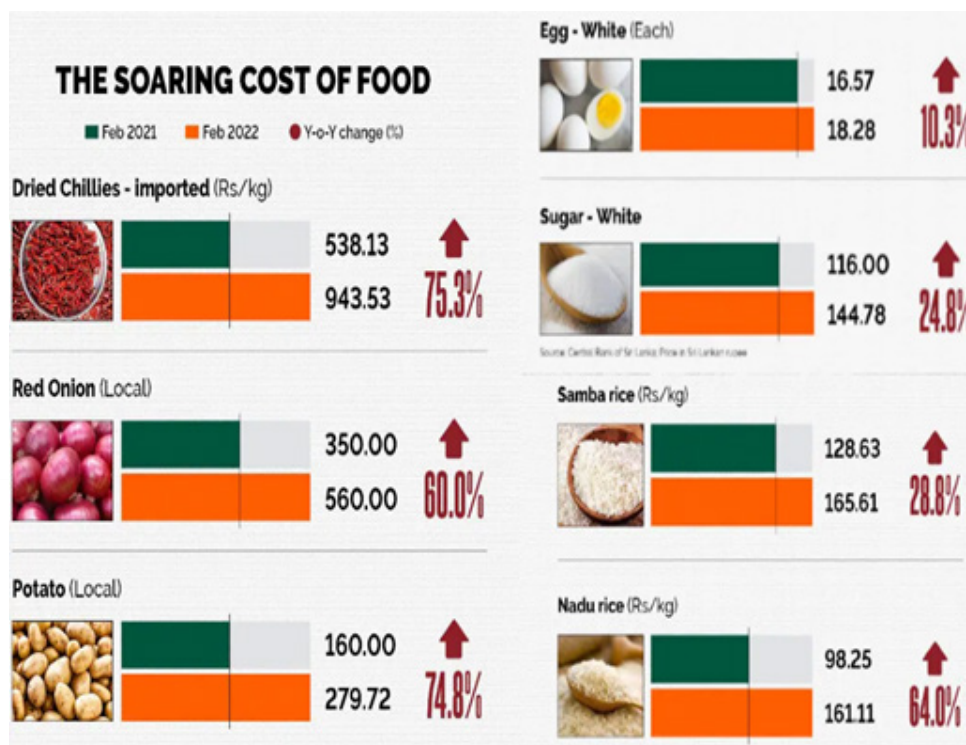
What happened with Sri Lanka's foreign debt?

- As of February 2022, the country was left with only $2.31 billion in its reserves.
- Country faces debt repayments of around $4 billion in 2022, including a $1 billion international sovereign bond (ISB) maturing in July.
- ISBs make up the largest share of Sri Lanka's foreign debt at $12.55 billion, with the Asian Development Bank, Japan and China among the other major lenders.
- The IMF said that public debt had risen to "unsustainable levels" and foreign exchange reserves were insufficient for near-term debt payments.

International Sovereign Bond

- International Sovereign Bonds is a facility obtained by a Government from the Open Market for its financing needs.
- The Government will issue bonds to the market, and it is the government that takes responsibility for settling these bonds.

Sri Lanka's helping hand

- For months, the Sri Lankan government is seeking help from the IMF despite rising risks.
- The IMF will initiate discussions with Sri Lankan authorities on a possible loan program in the coming days.
- Before heading to the IMF, Sri Lanka steeply devalued its currency, further stoking inflation and adding to the pain of the public, many of whom are enduring hardship and long queues.
- In the interim, Sri Lanka has also sought help from China and India, particularly assistance on fuel from the latter.
- A diesel shipment under a $500 million credit line was signed with India in February.
- Sri Lanka and India have signed a $1 billion credit line for importing essentials, including food and medicine.
- Sri Lankan government has sought at least another $1 billion from India.

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- After providing the CBSL (Central Bank of Sri Lanka) with a $1.5 billion swap and a $1.3 billion syndicated loan to the government, China is considering offering the island nation a $1.5 billion credit facility and a separate loan of up to $1 billion.

UK to send asylum seekers to Rwanda

Why in news?

The United Kingdom has signed a deal with Rwanda to send some asylum seekers to the East African nation to save lives from human trafficking.

- The main target of the pilot scheme will be single men arriving on boats or lorries.
- Many human rights and refugee organisations see the UK-Rwanda deal as an inhumane and expensive exercise.

Asylum

- The protection granted by a state to someone who has left their home country as a refugee.

What is the new plan?

- Under this new plan, people who arrive in Britain as stowaways in trucks or boats will be flown 6,400 kilometers to Rwanda.
- Once there, they will be assessed for eventual resettlement in the African nation.
- The UK government has paid the Rwandan government £120 million for housing and integrating the migrants as part of the pilot scheme, which will initially last for five years.
- The agreement seeks to ensure "that people are protected, respected, and empowered to further their own ambitions and settle permanently in Rwanda if they choose.
- People who are relocated to the African country "will be given the support including up to five years of training, integration, accommodation, health care, so that they can resettle and thrive.

Aim of the new scheme

- The plan aims to improve the UK's asylum system which has been struggling to deal with "a combination of real humanitarian crises and evil people smugglers profiteering by exploiting the system for their own gains."
- The scheme would break the business model of traffickers and disrupt the flow of illegal migration.
- It is essentially part of a wider strategy to bring down the number of people entering the UK by crossing the channel in small boats.
- The scheme is only for people seeking asylum in the UK.

How many refugees enter the UK via the channel?

- In last year, over 28,000 people entered the UK in boats.
- For years, migrants have travelled to the UK, using northern France as a launching point, by hiding in trucks and ferries.
- With the pandemic shutting down most routes in 2020, many opted to travel in small boats organised by traffickers.

English Channel

- The English Channel, a narrow waterway between Britain and France, is one of the busiest shipping lanes in the world.
- It is an arm of the Atlantic Ocean that separates southern England from northern France and links to the southern part of the North Sea by the Strait of Dover at its northeastern end.
- Refugees and migrants take the risk of dangerous crossing in dinghies unfit for the voyage and at the mercy of people smugglers, hoping to claim asylum or economic opportunities in Britain.

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Why has the scheme been criticised?

- The United Nations Refugee Agency (UNHCR) said they must "not be traded like commodities and transferred abroad for processing."
- UNHCR opposed to arrangements that seek to transfer refugees and asylum-seekers to third countries in the absence of sufficient safeguards and standards.
- Such arrangements simply shift asylum responsibilities, evade international obligations, and are contrary to the letter and spirit of the Refugee Convention.
- Amnesty International UK called the plan "shockingly ill-conceived".
- Rwanda has a known track record of extrajudicial killings, suspicious deaths in custody, unlawful or arbitrary detention, torture, and abusive prosecutions, particularly targeting critics and dissidents.

Do any other countries send asylum seekers overseas?

- Yes, several other countries — including Australia, Israel and Denmark — have been sending asylum seekers overseas.

Will the Rwanda Deal solve the problem of illegal immigration?

- It remains unclear if the Rwanda Deal will solve the problem of unlawful crossings.
- Evidence from similar experiences indicates that such policies do not fully combat "people smuggling". Instead, they create a parallel problem.
- Australia has a similar deal with Nauru, which today remains its only processing station. However, the Nauru Regional Processing Centre witnessed a riot in 2013, where allegations of sexual abuse against women and children and self-harm was reported amongst the inmates.

Court's Ruling

- In 2017, the Papua New Guinea Supreme Court ruled that the processing centre on Manus Island was "illegal and unconstitutional" and ordered that Australia pay 70 million Australian dollars as compensation to the 2,000 people detained at this centre.

- Israel deported a reported 4,000 people from Eritrea and Sudan who arrived in Rwanda and left the country shortly after, sometimes being encouraged to do so.

Conclusion

- The Rwanda Deal is an instrument that will certainly generate revenue for the Rwandan government. However, it also unloads a British issue onto a less developed nation in an attempt to pander to the anti-immigrant sentiments in the U.K.

Solution

- U.K government has introduced a tough new immigration bill that would make it more difficult for people who enter the country by unauthorized routes to claim asylum and would allow asylum-seekers to be screened abroad. It has not yet been approved by Parliament.

Virtual Network Centre on Quantum Computing

Why in news?

An MoU was signed between India and Finland to establish an Indo-Finnish Virtual Network Centre on Quantum Computing.

- Indian side has identified three premier institutes IIT, Madras, IISER, Pune and C-DAC, Pune for Virtual Network Centre on Quantum Computing.

Quantum Computing

- Quantum computing is a rapidly-emerging technology that harnesses the laws of quantum mechanics to solve problems too complex for classical computers.
- It is a type of computation that harnesses the collective properties of quantum states, such as superposition, interference, and entanglement, to perform calculations.
- The devices that perform quantum computations are known as quantum computers.

Applications of Quantum Computing in areas such as:

- Sustainable Energy Technologies (generation, conversion, storage and conservation),
- Environment and Clean Technologies,
- Biobased Economy,
- BioBanks and Bio based materials for different applications,
- Water and Marine Technologies,
- Food & Agri Technologies,
- Affordable Healthcare (including, Pharmaceuticals and Biomedical Instrumentation),
- Technologies for Advanced Manufacturing,
- Integration of AI and Machine Learning in all domains

Indo-Finnish Virtual Network Centre on Quantum Computing

- This is a bilateral collaboration between India and Finland.
- **Aim:** To stimulate innovative research and development projects that address a specific need or challenge, demonstrate high industrial relevance and commercial potential, and deliver benefit to both nations.
- The Indian side has identified three premier institutes, IIT-Madras, IISER-Pune and C-DAC-Pune, for the Virtual Network Centre on Quantum Computing.

Significance

- Finland's leading role in clean and green technologies can help India's drive towards sustainable development.

Joint collaboration on other programs

- The Department of Science and Technology has initiated several new mission mode programmes like electric vehicles, cyber physical system, quantum technologies, future manufacturing, green hydrogen fuel and sought joint collaboration with Finland in solving issues of societal challenges.

NOTE

- Both India and Finland are **consultative members** of the Antarctic Treaty and have active stations in Antarctica.
- Finland would be hosting Antarctic Treaty Consultative Meeting (ATCM) in 2023 and India in 2024.

Digital Services Act (DSA)

Why in news?

The European Parliament and European Union (EU) Member States had reached a political agreement on the Digital Services Act (DSA), landmark legislation to force big Internet companies to act against disinformation and illegal and harmful content.

- The Digital Services Act (DSA) will provide better protection for Internet users and their fundamental rights.

About DSA

- The act was proposed by the EU Commission (anti-trust) in December 2020.
- It will tightly regulate the way intermediaries, especially large platforms such as Google, Facebook, and YouTube, function when it comes to moderating user content.

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- Instead of letting platforms decide how to deal with abusive or illegal content, the DSA will lay down specific rules and obligations for these companies to follow.
- DSA will apply to a large category of online services, from simple websites to Internet infrastructure services and online platforms. The obligations for each of these will differ according to their size and role.
- The legislation brings in its ambit platforms that provide Internet access, domain name registrars, hosting services such as cloud computing and web-hosting services. But more importantly, very large online platforms (VLOPs) and very large online search engines (VLOSEs) will face more stringent requirements.
- Any service with more than 45 million monthly active users in the EU will fall into this category. Those with under 45 million monthly active users in the EU will be exempt from certain new obligations.

Global Security Initiative

Why in news?

A new Global Security Initiative is put forward by the Chinese President during the Boao Forum for Asia (BFA) Annual Conference 2022 in Boao, south China's Hainan province, which will look to counter the U.S. Indo-Pacific strategy and the Quad – the India, U.S., Australia, Japan grouping.

What is China's Global Security Initiative?

- It is aimed at creating an Asian security framework that replaces "confrontation, alliance and a zero-sum approach with dialogue, partnership and win-win results".
- It is committed to the vision of common, comprehensive, cooperative and sustainable security, which would "oppose unilateralism, and say no to group politics and bloc confrontation."
- Global Security Initiative would "oppose the wanton use of unilateral sanctions and long-arm jurisdiction", referring to Western sanctions.
- The initiative is important global public good offered by China following the Belt and Road Initiative (BRI) and Global Development Initiative (GDI).
- It represents vivid practice of the vision of building a community with a shared future for mankind in the security field, and contributes China's solutions to problems haunting global security governance.

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INTERNAL SECURITY

AFSPA removed from parts of Nagaland, Assam and Manipur

Why in news?

According to the Ministry of Home Affairs, the Armed Forces Special Powers Act (AFSPA) is removed from several districts across Assam, Nagaland, and Manipur.

- This comes after the Assam and Meghalaya resolved a part of their 50-year boundary dispute, which will result in an improved security situation and fast-tracked development.

The Armed Forces Special Powers Act (AFSPA), 1958

- The Act in its original form was promulgated by the British in response to the **Quit India movement** in **1942.**
- After Independence, Prime Minister Jawaharlal Nehru decided to retain the Act, which was first brought in as ordnance and then notified as an Act in 1958.
- AFSPA has been imposed on the Northeast states, Jammu & Kashmir, and Punjab during the militancy years.

Powers under AFSPA

- AFSPA provides for special powers for the armed forces that can be imposed by the Centre or the Governor of a state, on the state or parts of it, after it is declared "disturbed'' under Section 3.
- The Act defines these as areas that are "disturbed or dangerous condition that the use of armed forces in aid of the civil power is necessary''. AFSPA has been used in areas where militancy has been prevalent.
- The Act gives sweeping powers to the armed forces. It allows them to open fire', even causing death, against any person in contravention of the law or carrying arms and ammunition.
- It gives them powers to arrest individuals without warrants, on the basis of "reasonable suspicion", and also search premises without warrants.
- The Act further provides blanket impunity to security personnel involved in such operations: There can be no prosecution or legal proceedings against them without the prior approval of the Centre.

Why is the decision significant?

- The Northeast has lived under the shadow of AFSPA for nearly 60 years, creating a feeling of alienation from the rest of the country.
- The move is expected to help demilitarise the region; it will lift restrictions of movements through check points and frisking of residents.
- Over the last two decades, various parts of the Northeast have seen a reduction in insurgencies.
- In Nagaland, all major groups — the NSCN(I-M) and Naga National Political Groups (NNPGs) — are at advanced stages of concluding agreements with the government.

Way forward

- AFSPA needs to be more comprehensive with elaborate rules on how to investigate alleged human rights violations in order to reduce the possibility of misusing it.
- Government and security forces must follow the guidelines of the Supreme Court, the Jeevan Reddy Commission, and the National Human Rights Commission (NHRC).

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e-DAR portal

Why in news?

The Ministry of Roads, Transport and Highways (MoRTH) has developed the portal named **'e-DAR' (e-Detailed Accident Report),** in consultation with insurance companies, which will provide instant information on road accidents.

- This portal will also help accelerate accident compensation claims, bringing relief to victims' families.
- e-DAR would be an extension and e-version of Integrated Road Accident Database (iRAD).

About the web portal

- The web portal will be linked to the Integrated Road Accident Database (iRAD).
- Digitalised Detailed Accident Reports (DAR) will be uploaded on the portal for easy access.
- From iRAD, applications to more than 90% of the datasets would be pushed directly to the e-DAR.
- Stakeholders like the police, road authorities, hospitals, etc., are required to enter very minimal information for the e-DAR forms.
- e-DAR portal would conduct multiple checks against fake claims by conducting a sweeping search of vehicles involved in the accident, the date of accident, and the First Information Report number.
- The portal would be linked to other government portals like Vaahan and would get access to information on driving licence details and registration of vehicles.
- Details like photos, video of the accident spot, damaged vehicles, injured victims, eye-witnesses, etc., would be uploaded immediately on the portal.
- The state police, an engineer from the Public Works Department or the local body will receive an alert on his mobile device and the official concerned will then visit the accident site, to examine it, and feed the required details.
- Hotspots for accidents would also be identified so as to obtain solutions to avoid accidents at these hotspots.

Road accidents in India

- **India ranks first in the number of road accident deaths** across the 199 countries and accounts for almost 11% of the accident-related deaths in the World.

Year	Total Number of Road Accidents (in numbers)	Total Number of Persons Killed (in numbers)	Total Number of Persons Injured (in numbers)
2015	5,01,423	1,46,133	5,00,279
2016	4,80,652	1,50,785	4,94,624
2017	4,64,910	1,47,913	4,70,975
2018	4,67,044	1,51,417	4,69,418
2019	4,49,002	1,51,113	4,51,361
2020	3,74,397	1,33,201	3,35,050

Causes of Road Accidents

- Road accidents are multi-causal and are the result of an interplay of various factors. These can broadly be categorized into those relating to:
- **Human error: Accidents caused by human error include:**
  - cases of accidents caused by traffic rule violations
  - driving without valid driver license
  - non-use of safety devices
- **Road environment: The causes related to the category of road environment include:**
  - accidents happening in a particular geographical area (residential, commercial institutional etc.)
  - those related to the type of road features including straight, curved, steep etc.
  - type of junction & type of traffic control
  - weather condition etc.
- **Vehicular condition:** The third category of vehicular condition includes cases of accidents associated with overloading and the age of the vehicles.

Road accidents mitigation measures

- The Ministry has formulated a comprehensive National Road Safety Strategy to address the issue of road safety.
- This provides the framework for National collaboration on road safety improvement and allow for a move towards VISION ZERO.
- This strategy covered themes on Education, Publicity and awareness campaigns, Engineering (both of roads and vehicles), Enforcement and Emergency Care.
- The Ministry has launched the Integrated Road Accident Database (IRAD). The IRAD is currently planned to be piloted in 6 States.
- Driver Training: Government is taking steps to strengthen the system of driver licensing and training to improve the competence and capability of drivers.
- **RDTC:** Regional Driving Training Centre (RDTC) are tier -II centers, with minimum land requirement of 3 acres with basic support infrastructure including testing tracks.
- DTCs: Guidelines for the "Scheme for setting up of Driving Training Centres (DTC)" has also been issued by MoRTH.
- Spreading Awareness through TV, Films, Radio Spots and Print media.
- The Ministry observes National Road Safety Week every year with the objective of creating awareness on road safety.
- The Government encourages increased activity in programmes of road safety research by identifying priority areas, funding, research in those areas adequately and establishing centres of excellence in research and academic institutions.
- Ministry of Road Transport & Highways advocates use of Traffic calming measures at accidents prone areas.
- Road-side Safety Crash barriers are installed at roadside hazards.
- Promoting Intelligent Transport System (ITS): E-Challan, M-Parivahan, Transport Mission Mode Project.
- Enforcement of Road Safety Laws.
- Electronic Monitoring and Enforcement of Road Safety.
- Motor Vehicle Accident Fund and Cashless Treatment during Golden Hour.
- Good Samaritan Guidelines.

Way ahead

India is committed to bringing down fatalities from road accidents by 50 percent by 2030 as a signatory to the Stockholm declaration.

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DEFENCE AND SECURITY

Exercise Lamitiye

Why in news?

The 9th edition of the Joint biennial Military Exercise Lamitiye 2022 between the Indian Army and Seychelles Defence Forces (SDF) was concluded successfully.

- Lamitiye, which in Creole means friendship, is a biennial training event being conducted in Seychelles since 2001.

Creole language

- ➤ A creole language is a stable natural language that develops from the simplifying and mixing of different languages into a new one within a fairly brief period of time: often, a pidgin evolved into a full-fledged language.
- ➤ While the concept is similar to that of a mixed or hybrid language, creoles are often characterized by a tendency to systematize their inherited grammar.

Indo-Seychelles relations

- Since 1976 the two nations have set up healthy relations in various strategic fields like patrolling of Seychelles waters, joint naval exercises, etc.
- Seychelles government, in 2015, had leased the Assumption Island to the Indian Navy to establish a joint naval port, which belongs to Seychelles.
- Due to opposition from the political parties of Seychelles, naval base development at Assumption Island would not move forward.
- India and Seychelles had shared efforts in anti-piracy operations, enhanced EEZ surveillance and monitoring to prevent intrusions by potential economic offenders indulging in illegal fishing, poaching, drugs, and human trafficking.
- Cooperation of the two nations was exemplified by the installation of the Coastal Surveillance Radar System.

SOME IMPORTANT EXERCISES

RED FLAG-INDIA AND US | AL NAGAH-INDIA AND OMAN
'NASEEM-AL-BAHR'-INDIA AND OMAN | EKUVERIN-INDIA AND MALDIVES
GARUDA SHAKTI-INDIA AND INDONESIA | DESERT WARRIOR- INDIA AND EGYPT

'CALM' System

Why in news?

The Army issued a Request for Information (RFI) for the Cannister Launched Anti-Armour Loiter Ammunition (CALM) System for its mechanised forces.

- The CALM system can be used on enemy tanks and other targets in the plains and deserts of Western India as well as on high altitude areas in the Northern borders in Ladakh.

About CALM System

- The CALM System is a pre-loaded canister with loiter ammunition or a drone.

- Once fired it can remain aloft for a period of time over the area of operation, and when a target is sighted it can be guided down to destroy the target with the explosive payload that it carries.
- Loiter ammunitions carry a camera which is nose-mounted and which can be used by the operator to see the area of operation and choose targets.
- These munitions also have variants which can be recovered and reused in case they are not used for any strike.

What are loitering munitions?

- Loitering munition is a category of weapon systems, the main elements of which are an unmanned platform with a warhead.
- They are a mix of a surface-to-surface missile and a drone.
- Loiter munitions are launched in a manner similar to a drone and they stay aloft for a longer time, surveying a designated area and seeking targets.
- Loiter munitions are smaller, cheaper and less complex systems than combat or armed drones.

- Recently, Newly-developed Loitering Munitions (LM0, LM1 and Hexacopter) were tested in Nubra Valley area of Ladakh during 21-23 March.

- While LM0 and LM1 achieved full endurance of 60 minutes, the hexacopter did 30 mins flight, making it for the first time in the world that the Man-Portable Loiter Munitions with 4 Kg warhead have successfully tested at a flight ceiling of 4500 m.

- Loitering munitions are an asset to the artillery branch of the Army as they are able to detect and take out static and moving targets across all types of landscape — from mountains to deserts.
- These are able to destroy radar installations, air defence systems and communication centres and dynamic targets such as enemy vehicles and troops.

Neptune cruise missile

Why in news?

Ukraine claimed to have severely damaged the Russian Black Sea Fleet Flagship 'Moskva' off the coast of Odessa via a planned strike using the Neptune anti-ship cruise missiles.

Neptune Missile system

- The Neptune Missile system was inducted into the Ukrainian Defence Forces in 2021.
- The cruise missile was developed in haste by the military as the Russian threat to the coastal areas of Ukraine was growing rapidly since the occupation of Crimea in 2014.
- The Neptune is a coastal anti-ship cruise missile which is capable of destruction of naval vessels in a range of 300 km.

Ukraine's Neptune missile

The truck-launched RK-360 anti-ship cruise missile gives Ukraine a flexible, powerful punch against Russia's fleet.

Booster rocket | Fins (unfold after launch)
MS-400 turbofan jet engine | High-explosive warhead
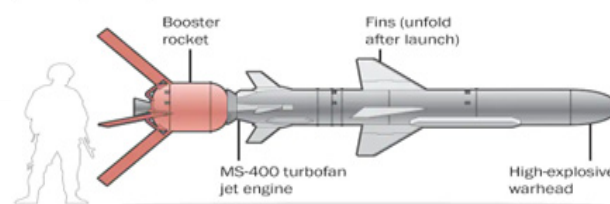
In service: 2021-present
Designer: Luch Design Bureau, Kyiv
Range: About 200 miles
Weight: About 2,000 pounds

- Weighing 870 kg and carrying a 150kg warhead, Neptune missiles are capable of destroying targets of up to 5,000 tons.
- The design of this missile is based on a Russian Kh-35 cruise missile which goes by the NATO name of AS-20 Kayak.
- The Neptune cruise missile uses a radar-homing guidance to home in on enemy ships.

What is Moskva?

- It is a guided missile cruiser of the Russian Navy named after the city of Moscow.
- It is the flagship of the Black Sea Fleet of the Russian Navy and carries a crew of around 500 personnel.

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Helipad. 1 x Ka-27 HELIX helicopter

64 x S-300F Fort (SA-N-6 GRUMBLE) long-range surface-to-air missiles

2 x 20 x OSA-MA (SA-N-4 GECKO) short-range surface-to-air missiles

2 x 5 x 533mm heavyweight torpedo tubes

AK-630 anti-aircraft gun

AK-630 anti-aircraft gun

2 x RBU-6000 anti-submarine Rockets

AK-630 anti-aircraft gun

AK-630 anti-aircraft gun

1 x twin AK-130 130mm/L70 dual purpose gun

16 x P-1000 Vulkan (SS-N-12 SANDBOX) supersonic anti-ship missiles

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РИА НОВОСТИ

01:58 04/14/2022 (updated: 07:35 04/14/2022) ⊙ 448386

Ammunition detonated on the Moskva missile cruiser as a result of a fire

Ammunition detonated on board missile cruiser Moskva due to fire

© RIA Novosti / Press Service of the Black Sea Fleet of the Russian Navy / Go to photobank
Missile cruiser "Moskva" of the Black Sea Fleet. Archive photo

MOSCOW, April 14 - RIA Novosti. The ammunition detonated as a result of a fire on the Moskva missile cruiser, the Russian Defense Ministry said.

The crew was completely evacuated. The reasons for the incident are being established.

Indian Navy Indigenisation Plan (INIP) 2015-2030

Why in news?

The Navy in 2014 promulgated the Indian Navy Indigenisation Plan 2015-2030, to enable indigenous development of equipment and systems is further ramping up indigenisation efforts, especially in weapons and aviation-related items.

- This falls in line with the Government's push to cut down on defence imports.
- It will also boost domestic manufacturing which may be gained further due to the ongoing Russian war in Ukraine and the large-scale dependency of the Indian military on Russian arms and equipment.

More on the news

- Till date, the Navy has indigenised around 3400 items under INIP, including over 2000 machinery and electrical spares, over 1000 aviation spares, and over 250 weapon spares.
- The existing Naval Aviation Indigenisation Roadmap (NAIR) 2019-22 is also under revision.
- All fast-moving aircraft mandatory spares and high-cost indigenous repairs are being included in the revised NAIR 2022-27.
- There is a particular focus on the fight component (which is weapons) as there is still a long way to go compared to the float and move components.
- Float consist of the ship, move comprises the propulsion and fight consist of weapons and sensors.
- Four in-house indigenisation committees have been formed to handle indigenisation of spares with respect to naval aircraft.
- The Naval Liaison Cells (NLCs) located at various places have been nominated as 'indigenization cells'.
- There are currently 41 ships and submarines under construction, 39 are being built in India shipyards.

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- **Some of the focus areas include:**
  - ➤ Indigenous design and development and production of Anti-Submarine Weapons and sensors.
  - ➤ Satcom and electronic warfare equipment.
  - ➤ Anti-Ship Missiles and Medium Range Surface to Air Missile.
  - ➤ Combat management system.
  - ➤ Software defined radios.
  - ➤ Network encryption devices.
  - ➤ Link II communication system.
  - ➤ Main batteries for submarines.
  - ➤ Distress sonar system.
  - ➤ Components of missiles.
  - ➤ Torpedoes.

Naval Innovation and Indigenisation Organisation

- Launched by Defence Minister in 2020.
- It provides a flexible and accessible interface for academia and industry with Indian Navy capability development apparatus.

INS Vagsheer

Why in news?

The sixth and last submarine of the Indian Navy's Kalvari class submarines, named 'Vagsheer', of Project 75 has been launched at the Kanhoji Angre Wet Basin of Mazagon Dock Limited (MDL).

- INS Kalvari, INS Khanderi and INS Karang, and INS Vela have already been commissioned.

Submarine

A submarine is a watercraft capable of independent operation underwater. It differs from a submersible, which has more limited underwater capability.

Project 75

- P-75 is one of two lines of submarines, the other being P-75(India), as part of a plan approved in 1999 for indigenous submarine construction with technology taken from overseas firms.
- The Project 75 (India)-class submarines, or P-75I, are a planned class of diesel-electric submarines, which are to be built for the Indian Navy.
- Under this project, the Indian Navy intends to acquire six conventional, diesel-electric attack submarines,

which will also feature advanced capabilities - including air-independent propulsion (AIP), ISR, special operations forces (SOF), anti-ship warfare (AShW), anti-submarine warfare (ASW), anti-surface warfare (ASuW), land-attack capabilities and other features.

Mormugao Port

- ➤ This port is on the western coast of India, the coastal state of Goa.
- ➤ It was commissioned in 1885 on the site of a natural harbour and is one of India's oldest ports.

Aim of the exercise

- NATPOLREX VIII aims at validating the procedures and guidelines as contained in the National Oil Spill Disaster Contingency Plan (NOSDCP) at the National and also at the regional level under the aegis of SACEP MoU to which India is a member State.

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Background

- ➢ India is a party to the United Nations Convention on the Law of the Sea (UNCLOS) and has an obligation to protect and preserve the marine environment.
- ➢ The responsibility for co-ordination of marine oil spills at sea was transferred to the Coast Guard from the Directorate General of Shipping on 07 March 1986.
- ➢ Consequent to the transfer of responsibility, a draft National Oil Spill Disaster Contingency Plan (NOS-DCP) was prepared by the Coast Guard on 14 April 1988.
- ➢ The final draft was approved by the Committee of Secretaries on 04 November 1993.

Threat of spill

- Presently, as the third-largest importer of crude, India receives large volume of oil through ships.
- Similarly, India stands sixth in the world as major chemical importer country.
- The major ports in India handle over 7,000 POL (petroleum, oil and lubricant) tankers each year.
- Both oil and chemicals if spilled pose inherent risks to the Maritime Zones of India and the connected coastlines housing large coastal population, Marine eco-system, industries and various installations along with supporting tourism industry

Related International Conventions

- India has been active at the International Maritime Organization in the development and implementation of many of the IMO Conventions that specifically address pollution from ships.
- **These conventions are implemented in India by the Merchant Shipping Act, 1958. The IMO Conventions relevant to this national plan are as follows:**
  - ➢ International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990
  - ➢ International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969
  - ➢ International Convention on Salvage, 1989
  - ➢ Wreck-removal Convention, 2007
  - ➢ International Convention on Civil Liability for Oil Pollution Damage, 1992
  - ➢ International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001
  - ➢ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972
  - ➢ The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009.

Main Airframe Fatigue Test

Why in news?

The Hindustan Aeronautics Limited (HAL) has commenced the Main Airframe Fatigue Test (MAFT) of Light Combat Aircraft Mark 1 (LCA Mk1) airframe at its Ground Test Centre of the Aircraft Research and Design Centre (ARDC), Bengaluru.

What is MAFT test?

- As per the military airworthiness requirements, the MAFT had to demonstrate the capability of the airframe to withstand four times the service life.
- These tests will be carried out over a period of eight to nine years.
- The successful completion of the MAFT will qualify the LCA [Air Force] Mk1 airframe for its full-service life.

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Who plans the test?

- The designers from HAL and scientists from Aeronautical Development Agency (ADA) in coordination with the Regional Centre for Military Airworthiness (RCMA), CEMILAC are the ones who have made the schedule and plan for the MAFT Test.
- And these tests and inspections will be carried out by ARDC and it will be under the supervision of DGAQA and there will be participants from ARDC and ADA.

About LCA in IAF

- In May 2020, the state-owned HAL had produced its first LCA-MK1 FOC variant aircraft; it was then put to test.
- The FOC version is seen as an operational upgrade to the Initial Operational Clearance (IOC) version.
- So far, the IAF has already delivered 16 IOC variant aircraft and they are part of the No 45 squadron (Flying Daggers) at the Sulur Air Force Station.
- No 18 squadron (Flying Bullets) has been operationalised by the IAF and it has FOC variants at the same air base.
- Once IAF gets the delivery of all the 24 FOC variants (16 FOC-single seater and 8 FOC twin seater), the 45 Flying Daggers will then be upgraded to the same variant.

About Airframe

- The airframe is the same for the LCA Mk1 in service and the more capable LCA-Mk1A, 83 of which the IAF has contracted for.
- The MK1A is expected to roll out in the next couple of months.

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SCIENCE & TECHNOLOGY

Very High Throughput Satellites (VHTS)

Why in news?

Satellite internet operators, who have sent thousands of satellites up in space in hopes of providing internet to remote areas, are turning to a new crop of satellites called Very High Throughput Satellites (VHTS) to take on telcos.

Very High Throughput Satellites (VHTS)

- VHTS refers to a newer crop of fixed service satellites (FSS), deployed at a geostationary equatorial orbit (GEO) of 35,786km above the Earth's surface.
- They offer significantly higher data bandwidth over the previous generation FSS satellites.
- FSS satellites are used in television broadcasting and telephone communication, and depend on dish-style antennas.
- These satellites multiply the number of spot beams (radio signals used to relay information in Satcom) that they offer and have far greater throughput, which leads to significantly reduced cost per bit of connectivity.

Traditional Satellite   VHTS

One hub, One line card   One hub, multiple line cards
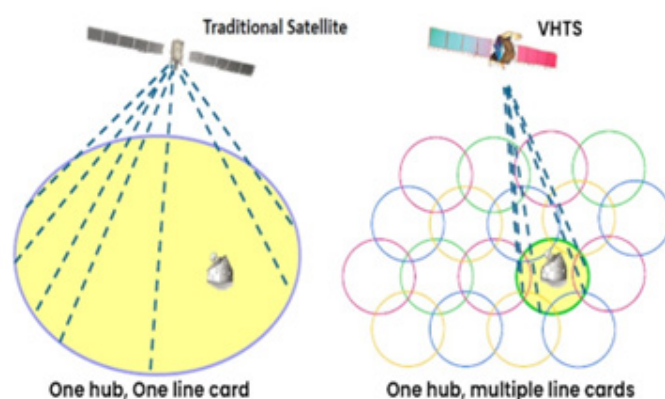
VHTS almost exclusively make use of <u>frequency reuse</u> and <u>multiple spot beams</u>

Advantages of VHTS

- The cost of satellite internet connectivity in rural and remote areas can closely rival terrestrial telecom operators looking to provide fiber-based broadband connectivity.
- Such technologies can help satellites offer over 100 gigabit per second (Gbps) data throughput, in turn translating to over 100MBps download speeds on the ground.
- The biggest advantages that VHTS can offer is consistency of network bandwidth and speed even in remote areas, which is very hard to achieve for on-ground fiber broadband operators today.

Market potential

- India's satellite services market expects to grow to nearly $5 billion by 2025, and the near-term annual revenue opportunity is estimated at more than $1 billion.
- This is since almost 75% of rural India doesn't have broadband access and many locations still go without cellular or fiber connectivity.
- A study says provision of high-speed broadband via satellites to India's unserved regions could contribute up to $184.16 billion in GDP growth per annum by 2030.

Blue Straggler Stars

Why in news?

Indian Institute of Astrophysics, Bengaluru, researchers have found support for one way to understand Blue Straggler Star's aberrant behaviour.

- For this, the researchers made use of the observations by the UVIT instrument (Ultra Violet Imaging Telescope) of ASTROSAT, India's first science observatory in space.

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About 'Blue Stragglers' Star

- **Blue stragglers:** A class of star observed in old, dense stellar systems such as globular clusters.
  - They stand out because old stellar populations are expected to be devoid of blue (high-mass) stars which possess very short lifespans.
  - They grow brighter and hotter as indicated by their blue colour, thus standing out from the cooler red stars in their vicinity in the colour-magnitude diagram.
  - Since they lag behind their peers in the evolution, they are called stragglers.
- **Origin:** They are only found in dense stellar systems, where distances between stars are extremely small (a fraction of a light year). In these dense environments, collisions between stars are relatively common, and it has long been believed that blue stragglers are the result of the merger of two old, red stars.
- This merger produces a star with a greater mass (hence bluer in colour), and severely disrupts the two stars involved, mixing hydrogen into the stellar core and giving the star a new lease on life.
- This model for the formation of blue stragglers was confirmed through observations of the nearby globular cluster, 47 Tucanae, taken with the Hubble Space Telescope.
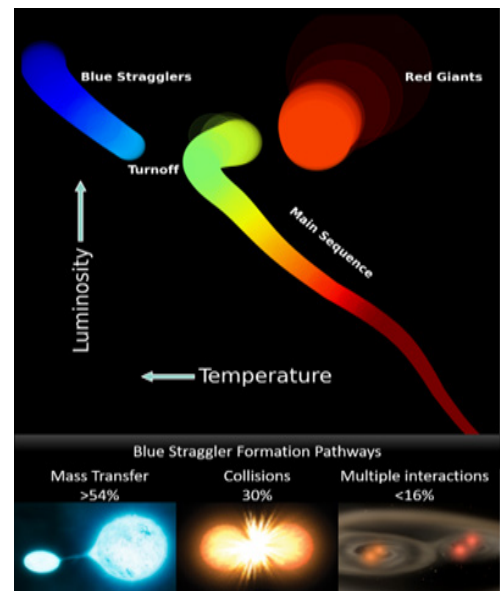
Indian Institute of Astrophysics [HQs: Bengaluru]

- It is an autonomous Research Institute wholly financed by the department of Science and Technology.
- IIA conducts research primarily in the areas of astronomy, astrophysics and related fields.
- IIA contributed to Astrosat, India's first dedicated multi-wavelength space observatory.
- **Its areas of research:**
  - Sun & Solar system
  - Stellar Astronomy
  - Galactic Astronomy
  - Extragalactic Astronomy & Cosmology
  - Theoretical Astrophysics & Physics
  - Techniques & Instrumentation
  - Space Astronomy

Strontium

Why in news?

Microsoft said it had disrupted cyberattacks from a Russian nation-state hacking group.

- The group called 'Strontium' by the software company targeted Ukrainian firms, media organizations, government bodies, and think tanks in the U.S. and the EU.

What is Strontium?

- Strontium (aka Fancy Bear) is a highly active cyber-espionage group.
- The group is said to be connected to the GRU, the Russian Armed Forces' main military intelligence wing.
  - The GRU's unit 26165 is identified as Fancy Bear.
- **The group deploys diverse malware and malicious tools to breach networks.**
  - These tools can be used as hooks in system drivers to access local passwords, and can track keystroke, mouse movements, and control webcam and USB drives.
  - They can also search and replace local files and stay connected to the network.

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HEALTH & EDUCATION

National Health Authority (NHA)

Why in news?

National Health Authority (NHA), the implementing agency for Ayushman Bharat Digital Mission (ABDM) has extended an open invitation to all interested parties for sharing their Expression of Interest (EoI) for developing innovative solutions that shall help build a national digital health ecosystem for India.

- This collaborative approach will help speed up the development, also it will help in making digital public goods available to the public and/or private entities.

Some illustrative examples of the contribution to this cause are as follows:

- **Unified Health Interface (UHI)**
  - ➢ NHA intends to develop a digital platform (similar to Unified Payment Interface or UPI) for interoperability between various digital solutions to facilitate various stakeholders using disparate solutions to communicate.
- **Health Claims Platform (HCP)**
  - ➢ NHA is developing a Health Claims Platform as a public good. Health providers (e g: Hospitals, labs) can submit their e-claims on this platform which can be received by payers (e.g.: Insurers, TPAs) for processing.
- **Software as a Service (SaaS)**
  - ➢ Various digital health solutions can be used by healthcare providers. These may include solutions such as Hospital Information System (HIS), Hospital (or Health) Management Information System (HMIS), Laboratory Management Information System (LMIS), teleconsultation solution, health lockers, etc.
- **Open-Source Solutions**
  - ➢ Interested parties are also invited to contribute through open-source software solutions that can be made available for use by various entities.
  - ➢ These may include software mentioned the above para pertaining to SaaS or any other tool which may be of use to healthcare providers.

Ayushman Bharat Digital Mission (ABDM)

- Under this mission, every citizen will get a digital health ID and their health records will be digitally protected.
- The digital ID will be a repository of all health-related information of a person.
- The ID will enable access and exchange of health records of citizens-with their consent.
- **Key building blocks of ABDM are:**
  - ➢ Ayushman Bharat Health Account (ABHA)
  - ➢ Healthcare Professionals Registry (HPR)
  - ➢ Health Facility Registry (HFR)
  - ➢ Health Information Exchange & Consent Manager (HIE-CM)

THE ABDM ECOSYSTEM

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National Health Authority

- It is the apex body responsible for implementing India's flagship public health insurance/assurance scheme called "Ayushman Bharat Pradhan Mantri Jan Arogya Yojana".
- It is an attached office of the Ministry of Health and Family Welfare with full functional autonomy.
- It is governed by a Governing Board chaired by the Union Minister for Health and Family Welfare.
- **It is headed by a Chief Executive Officer (CEO), an officer of the rank of Secretary to the Government of India, who manages its affairs.**
  - ➤ The CEO is the Ex-Office Member Secretary of the Governing Board.
- **It has been entrusted with the role of:**
  - ➤ Designing strategy
  - ➤ Building technological infrastructure
  - ➤ Implementation of "Ayushman Bharat Digital Mission" to create a National Digital Health Eco-system.
- **NHA is the successor of the National Health Agency, which was functioning as a registered society since May, 2018.**
  - ➤ Pursuant to Cabinet decision for full functional autonomy, National Health Agency was reconstituted as the National Health Authority in 2019.

Vidya Samiksha Kendra

Why in news?

The Prime Minister stressed that Command and Control Centre 2.0 or Vidya Samiksha Kendra can bring big changes in the field of education across the country.

- The use of such a huge technology in government primary school is a wonder for the world.

About Command-and-Control Centre 2.0

- In June 2021, Chief Minister of Gujarat inaugurated the technological and infrastructural upgraded Command and Control Centre called CCC 2.0.
- It is a surveillance system which tracks enrolment, attendance, learning outcomes, drop-outs, school accreditation and monitors schools, teachers and block and cluster resource centre co-ordinators.
- This state-of-the-art data driven centre is based on the National Digital Education Architecture (NDEAR) Framework.
- The centre is aimed at leveraging data and technology to improve learning outcomes.
- The entire surveillance operation was being run from a tech-equipped command and control centre.

Need of the system

- The system was established to improve the quality of education by ensuring teachers stick to their assigned tasks on a daily basis, the system was devised after various discussions and reports concluded that poor monitoring of teachers resulted in absenteeism and "non-seriousness".
- Even those who monitor them were handed GPS-enabled tablets and tracked through geofencing by which an alert triggered when a mobile device enters or leaves a specified area.

Working and advantages of CCC

- The CCC monitors 55,000 primary and secondary government schools and hand holds 4 lakh teachers to help improve learning outcomes of nearly 1.2 crore students.
- It can track details like "the pattern emerging from periodic tests, which student has performed badly in which subject and which question, (which) can be accessed with the help of artificial intelligence and machine learning".
- CCC is being used for inter-operability of data systems – that exist in silos, like student and teacher attendance data, CRC app data, semester assessment, CCC monitoring data, U-DISE, periodic assessment tests (PAT) and so on.
- The data tracked and analysed include school history of a child right from his migration from which district and school to where, how many times has he changed the school.

- It also provides data of students who remained absent from tests or students who scored low can also predict the chances of their drop-out.
- Thus, students have been categorised as high, medium and no risk and tracking of such high-risk students in each cluster will help check their dropping out from schools.
- The CCC has categorised drop-out of students into two-seasonal migration and result and attendance oriented.
- This data of students is then shared with the Cluster Resource Centre (CRC) co-ordinators so that they can ensure the child does not actually quit school.

National Digital Education Architecture (NDEAR) Framework

- The National Digital Education Architecture comes with a vision to create a 'Unifying national digital infrastructure to energise and catalyse the education ecosystem'.
- According to National Education Policy of 2020, the core idea of NDEAR is to facilitate achieving the goals of education policy through a digital infrastructure for innovations in the education ecosystem, ensuring autonomy and participation of all the relevant stakeholders.

NDEAR is	NDEAR is not
1. An architectural blueprint for the education ecosystem and not a system.	1. A monolith platform; or
2. That defines a set of	2. Portal; or
a. Principles - e.g. technology and ecosystem	3. Application; or
b. Standards and Specifications - e.g. technology and data	4. A mobile app; or
c. Guidelines - e.g. data proces, ecosystem engagement	5. An entity; or
d. Policies - e.g. data, openness, inclusion, accessibility	6. Software component(s); or
3. And identifies the key building blocks needed to make the architecture blueprint a reality	7. Prescriptive set of:
4. For an ecosystem of	a. Features Solutions
a. Actors to build, develop, innovate - interoperable building blocks	b. Education policies+programmes It is not a builder or developer of building blocks, solutions, programmes
b. Applications/Innovations in the form of Solutions, platforms, tools, assets to be developed and used	
5. To enable the achievement of policy goals through programmes such as - SSA, FLN Mission - etc	

Major challenges faced by Indian Education Sector

- 17 crores out of 52 crore estimated population in age group 3 to 23 years is out of formal education system.
- Digital divide
- Challenges in Foundational Learning and Numeracy
- Learning Outcomes, Assessment
- Large number of School dropout (approx. 85 lakhs in a year)
- Teacher Education, Teacher Management
- Quality of education
- Education Governance

Way ahead

- For easy access and quick decisions, the plan is to have CCC house all head of departments (HoDs) of education at the School Education Centre.
- The Gujarat government is now looking at much more advance technology driven data including a predictive analysis of students who are at a risk of dropping out.

Diabetes and Endocrinology

Why in news?

Only 1/3rd of individuals with known diabetes in India have good control over the disease, a study by the Indian Council of Medical Research (ICMR) and the Madras Diabetes Research Foundation suggested.

- Published in The Lancet Diabetes and Endocrinology, the study also said that fewer than half have good control of blood pressure and LDL (bad) cholesterol, and only 7.7 percent of people with diabetes meet all three targets.

What is Diabetes?

- Diabetes is a disease that occurs when your blood glucose, also called blood sugar, is too high. Blood glucose is your main source of energy and comes from the food you eat. Insulin, a hormone made by the pancreas, helps glucose from food get into your cells to be used for energy.

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- Over time, having too much glucose in your blood can cause health problems. Although diabetes has no cure.
- The most common types of diabetes are type 1, type 2, and gestational diabetes.

Type 1 diabetes	Type 2 diabetes	Gestational diabetes
- Your body does not make insulin. - Your immune system attacks and destroys the cells in your pancreas that make insulin. - Usually diagnosed in children and young adults. - People with type 1 diabetes need to take insulin every day to stay alive.	- Your body does not make or use insulin well. - Develop at any age, even during childhood. - This type of diabetes occurs most often in middle-aged and older people. - Type 2 is the most common type of diabetes.	- Develops in some women when they are pregnant. - Mostly, this type of diabetes goes away after the baby is born. - If you've had gestational diabetes, you have a greater chance of developing type 2 diabetes later in life.

- Over time, high blood glucose leads to problems such as, heart disease, stroke, kidney disease, eye problems, dental disease, nerve damage and foot problems.

Other key findings

- At least 36% of the population with diabetes achieved good glycemic control, 48.8% achieved good blood pressure control and 41.5% achieved LDL cholesterol control.
- Diabetes affects more than 537 million individuals across the globe and is one of the leading causes of death worldwide.
- Higher education, being male, residing in rural parts of the country and shorter duration of diabetes were associated with better achievement of the combined goals of diabetes treatment.
- Only 36.9% of those on insulin performed any self-monitoring of blood glucose.
- As far as home monitoring is concerned, 16.7% of the population reported using a blood glucose monitor to check their blood sugar.
- Glycemic, blood pressure and lipid control remain suboptimal in the Indian population with diabetes.
- Fruits and vegetables are not consumed as much as required with less than 20% of the diabetic population reported consuming three servings of fruits and vegetables per day.
- The study showing less than 25% of people with diabetes performed moderate to vigorous physical activity/ exercise.

> **NOTE: For the outcome assessment, researchers defined;**
> - Good glycemic control as HbA1c of less than 7.0% and good blood pressure control was defined as less than 140/90 mm Hg.
> - Good lipid control was defined as total cholesterol of less than 200 mg/dL, triglycerides of less than 150 mg/dL, LDL cholesterol of less than 100 mg/dL, and non-HDL cholesterol of less than 160 mg/dL.
> - ABC control was defined as the proportion of individuals meeting glycaemic, blood pressure, and LDL cholesterol targets together.

Conclusion

- As health is primarily the responsibility of each state in India, there is a need of targeted policies for improving diabetes care delivery and surveillance in India.
- Government could provide healthy food options available at cheap rates, instead of packaged foods.
- The government could also help by spreading awareness about self-monitoring of various health parameters.

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- **Some other key interventions at government level includes:**
  - ➢ Improving education about diabetes and its attendant conditions
  - ➢ Making health care easily available and accessible to all
  - ➢ Ensuring monitoring of the condition

Indomethacin

Why in news?

A common anti-inflammatory drug has been found to be an effective antiviral agent in the treatment of mild and moderate Covid-19 patients.

- The drug is. widely used to treat various types of inflammation-related conditions.

Coronavirus disease (COVID-19)

- Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus.
- The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe.
- These particles range from larger respiratory droplets to smaller aerosols.

About Indomethacin

- Indomethacin is a non-steroidal anti-inflammatory drug available as capsules and a liquid suspension, to be taken orally.
- Indomethacin works by stopping the body's production of a substance that causes pain, fever, and inflammation.
- It is used to relieve moderate to severe pain, tenderness, swelling, and stiffness caused by various kinds of arthritis, and pain in the shoulder caused by inflammation.

A research study in India

- A randomised clinical trial was conducted by IIT Madras researchers at Panimalar Medical College and Research Institute, Chennai.
- Out of 210 patients admitted, 107 were randomly allocated to a control group and treated with paracetamol and standard care, while 103 patients were administered indomethacin along with standard care of treatment.
- None of the 103 patients who received indomethacin developed oxygen desaturation, while 20 patients in the control group were desaturated (saturation levels below 93%).
- Indomethacin group patients recovered from all symptoms in three to four days, while it took twice that time for the control group.
- Liver and kidney function tests showed no adverse reaction.
- A 14th-day follow-up showed that nearly half the control group patients had several discomforts while a few indomethacin patients complained only of tiredness.

Nonsteroidal anti-inflammatory drug

- **Non-steroidal anti-inflammatory drugs (NSAID)** are members of a therapeutic drug class which reduces pain, decreases inflammation, decreases fever, and prevents blood clots.
- Side effects depend on the specific drug, its dose and duration of use, but largely include an increased risk of gastrointestinal ulcers and bleeds, heart attack, and kidney disease.
- The term non-steroidal distinguishes these drugs from steroids, which while having a similar eicosanoid-depressing, anti-inflammatory action, have a broad range of other effects.
- NSAIDs work by inhibiting the activity of cyclooxygenase enzymes (COX-1 or COX-2).
- In cells, these enzymes are involved in the synthesis of key biological mediators, namely prostaglandins, which are involved in inflammation, and thromboxanes, which are involved in blood clotting.
- **There are two general types of NSAIDs available:** non-selective, and COX-2 selective.
- The most prominent NSAIDs are aspirin, ibuprofen, and naproxen; all available over the counter (OTC) in most countries.

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Health Professional Registry (HPR)

Why in news?

The National Health Authority (NHA) has rolled out a module for nurses on Health Professional Registry (HPR) under Ayushman Bharat Digital Mission (ABDM).

- With the rollout, nurses providing health services across modern and traditional systems of medicine can enroll on HPR.

About Health Professional Registry (HPR)

- HPR is a comprehensive repository of all healthcare professionals involved in delivery of healthcare services across both modern and traditional systems of medicine.
- Through HPR, healthcare professionals can onboard onto India's digital health ecosystem and connect to patients to healthcare providers or vice versa with last mile coverage.

Benefits Of Healthcare Professionals Registry

Unique and Trustable Identity
Provision of unique Healthcare Professional ID to connect with all stakeholders of healthcare ecosystem.

Online Presence and Discoverability
Ease of discovering verified healthcare professionals and better access to quality healthcare.

Telemedicine
Verified healthcare professionals can treat patient remotely through telemedicine and review digital health records.

Unified Digital Services
Host of online benefits such as license renewal, obtaining no-objection certificate, digital signature, and access to clinical decision support systems

Key details

- The module for doctors from all systems of medicines and their onboarding is already in place in the Health Professional Registry.
- Applications for enrolment in the registry will be verified by the concerned councils.
- NHA plans to enroll more categories of health professionals like Para-medicals, grass-root level community health workers (ASHAs), medical support staff, allied healthcare professionals etc. in the registry.
- A health professional can become part of the HPR by registering on the website using their Aadhaar card or driving license.

Ayushman Bharat Digital Mission

- ABDM aims to bridge the existing gap amongst different stakeholders of the healthcare ecosystem through digital highways.
- ABDM will create a seamless online platform through the provision of a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems while ensuring the security, confidentiality and privacy of health-related personal information.

National Health Authority

- National Health Authority is the successor of National Health Agency, which was functioning as a registered society since 23 May 2018.
- The NHA is responsible for implementing India's flagship public health insurance/assurance scheme Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).
- NHA has been set-up to implement the PM-JAY at the national level.
- In the States, State Health Agencies in the form of a society/trust have been set up with full operational autonomy over the implementation of this scheme including extending the coverage to non SECC beneficiaries.

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Conclusion

- The Healthcare Professionals Registry shall act as a single source of truth for digital health, and all healthcare professionals in the ABDM ecosystem.
- Further, these healthcare professionals will also need to abide by the rules of conduct placed by various services they are utilizing through the registry.

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GOVERNMENT SCHEMES

Central Armed Police Salary Package (CAPSP) Scheme

Why in news?

State Bank of India (SBI) has signed a Memorandum of Understanding (MoU) with the Border Security Force to offer special benefits to the serving and retired BSF personnel and family pensioners through the Central Armed Police Salary Package (CAPSP) Scheme.

- Central Armed Police Salary Package (CAPSP), ensures ease of access to banking facilities for them and their families.

Key details and highlights

- The MoU will ensure extensive benefits to the security forces including complimentary Personal and Air Accidental Insurance (Death) cover, additional cover in case of on-duty death, and Permanent Total Disability / Partial Disability cover.
- The MoU will support child education and the marriage of girl children of deceased BSF personnel.
- The retired personnel will be eligible for complimentary Personal Accidental (Death) Insurance, irrespective of age, whereas family pensioners will be eligible for a bouquet of benefits.
- Bank will offer zero-balance savings bank accounts with a host of complimentary benefits and waiver of service charges to recognize their contribution toward nation-building.
- Bank will also provide attractive interest rates and concession on processing charges for serving personnel on Home, Car, Education, and Xpress Credit Personal loans.

Personnel of the following Central Armed Police Forces (CAPFs) can avail of Salary Accounts under Central Armed Police Salary Package.

- Central Reserve Police Force (CRPF)
- Border Security Force (BSF)
- Central Industrial Security Force (CISF)
- Sashastra Seema Bal (SSB)
- Indo Tibetan Border Police (ITBP)
- National Security Guard (NSG)
- Railway Protection Force (RPF)
- Railway Protection Special Force (RPSF)

State Bank of India

- State-owned State Bank of India is India's largest commercial bank in terms of assets, deposits, branches, customers and employees.
- It is also the largest mortgage lender in the country which has so far fulfilled the home buying dreams of 30 lakh Indian families.
- The home loan portfolio of the bank has crossed the milestone of Rs 5 lakh crore.
- As on December 31, 2021, the bank has a deposit base of over Rs. 38 lakh crore with CASA ratio of 45.74 per cent and advances of more than Rs. 28 lakh crore.

Border Security Force

- The Border Security Force (BSF) is India's border guarding organisation on its border with Pakistan and Bangladesh.
- It is one of the seven Central Armed Police Forces (CAPF) of India, and was raised in the wake of the 1965 war on 1 December 1965, "for ensuring the security of the borders of India and for matters connected there with".
- It is the only CAPF to have a Water Wing, Air Wing, and an Artillery Regiment.

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- It comes under the Ministry of Home Affairs.
- It currently stands as the world's largest border guarding force.
- BSF has been termed as the First Line of Defence of Indian territories.

PNB Rakshak Plus

- All Defence Personnel are eligible to open salary account under the scheme i.e. all three wings of Defence.
- PNB Rakshak Plus Scheme also includes BSF, CRPF, CISF, ITBP, State Police Force, Metro Police (Cities which follows the Police Commissionerate System- like Delhi Police, Mumbai Police, Kolkata Police etc.), Research and Analysis Wing (RAW), Intelligence Bureau (IB), Central Bureau of Investigation (CBI) Indian Coast Guard Personnel & Para-Military personnel, Gentlemen cadets and Special Forces at Central & State level.
- Benefits of PNB Rakshak Plus scheme are also extended to all the pensioners who choose to draw their pensions through PNB Branches and pension is credited through CPPC i.e. processed & credited through our bank. Accounts where pension is received by Cheque/NEFT/RTGS etc will not be covered under scheme.
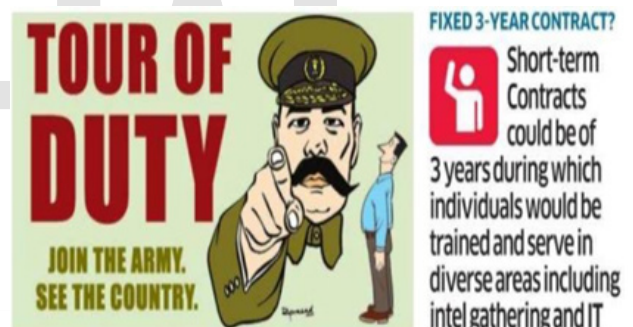
'Tour of Duty' Scheme

Why in news?

The country's defence establishment is moving towards finalising the radical 'Tour of Duty' Scheme, under which youngsters will be recruited as soldiers only for three to five years in the backdrop of the urgent need to curb the ballooning salary and pension bills that are adversely impacting military modernisation.

- The Army's pay and pension bill has been steeply increased over the years, which currently accounts for 60% of its budget allocation.

Other key details

- As per the latest proposals, this idea will only be restricted to jawans and not be extended to the officer-level, as there is the Short Service Commission.
- The scheme, which was being pushed by late CDS General Bipin Rawat, is likely to be applicable to IAF and Navy too.
- There are different models under consideration like whether jawans should be recruited for three or five years on a contract basis.
- It has been earlier reported that the 12-lakh strong army was finalising the radical 'Tour of Duty' proposals for both officers and jawans, which would not entail any pensionary benefits being to them.
- The ToD scheme, which is likely to be called the 'Agnipath' recruitment, may be launched on an experimental basis first.
- Among the recruited soldiers, 25% of them would serve for three years and 25% for five years, the remaining 50% would serve for the full term till they reach the retirement age.

Significance

- The Tour of Duty scheme will help in resolving the issue of lack of manpower in the Indian Army.
- This is significant in the current climate where the nation is facing a serious threat from China as well as Pakistan at the borders.

- In the Indian Army, 7,476 posts of officers and 97,177 posts of junior commissioned officers and other ranks were vacant.
- In the Indian Air Force, a total 621 officers and 4,850 junior commissioned officers and other ranks were vacant.
- In the Indian Navy, 1,265 officers and 11,166 junior commissioned officers and other ranks' posts had not been filled.

Short Service Commission

- The Short Service Commission is limited to the officer cadre of the Indian Army.

- It started during World War II when the British realised that they needed far more officers than those who could be commissioned from either Sandhurst or the JSW (Joint Services Wing).

- These officers came on a contract for five-10 years and could be later converted to a permanent commission. This was done till the end of World War II.

- In 1962 during the Indo-China War, Emergency Commission was reopened and based on the increasing requirement of the officers, Officers Training School (OTS) in Chennai was opened, which granted short-service commissions to five-10 years.

- This form of commission is still prevalent and make a large chunk of the commissioned officers.

- As of today, those opting for the short service commission are recruited on a contract for five years, which can be extended or be converted to permanent commission, in select cases.

Rashtriya Gram Swaraj Abhiyan (RGSA)

Why in news?

The Union Cabinet approved a financial outlay for the Rashtriya Gram Swaraj Abhiyan (RGSA).

- The RGSA is aimed at helping 2.78 lakh rural local bodies to achieve sustainable development goals.

Key highlights

- The Cabinet Committee on Economic Affairs gave its assent for the continuation of the centrally sponsored scheme from April 1, 2022 to March 31, 2026.

- The Abhiyan will boost the governance capabilities of Panchayati Raj institutions (PRIs).

- The scheme was first approved by the Cabinet in 2018 for implementation from 2018-19 to 2021-22.

SDGs (sustainable development goals) for nine themes

1 Poverty-free and enhanced livelihood in villages

2 Healthy village

3 Child-friendly village

4 Water sufficient village

5 Clean and green village

6 Self-sufficient infrastructure in village

7 Socially secured village

8 Village with good governance

9 Engendered development in the village

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Panchayat

- The word "Panchayat" means assembly (ayat) of five (panch) and raj means "rule".
- Traditionally Panchayats consisted of elderly and wise people chosen by the local community, who used to settle disputes between individuals and villages.
- Panchayati Raj is the oldest system of local government in the Indian subcontinent.
- Panchayati Raj Institutions as units of local government have been in existence in India for a long time, in different permutations and combinations.
- However, it was only in 1992 that it was officially established by the Indian Constitution as the third level of India's federal democracy through the 73rd Amendment Act.
- **The Panchayati Raj Institution (PRI) consists of three levels:**
  - ➢ Gram Panchayat at the village level
  - ➢ Block Panchayat or Panchayat Samiti at the intermediate level
  - ➢ Zilla Panchayat at the district level

Need of the scheme

- The RGSA will empower the panchayat systems in India.
- The members of panchayat will be provided skills on decision making, expenditure management, information systems, delivery of services to the people, interacting with common people, etc.
- Special training for the new entrants of the panchayats, women and members of SC / ST category will be held before they take up the office.
- The officials have put the figure that a total of around 2,85,000 Gram Panchayats will be directly benefitted with the RSGA program, throughout the nation.

Significance

- As panchayats have representation of SCs, STs, and women, and are institutions closest to the grassroots, strengthening panchayats will promote equity and inclusiveness, along with social justice and economic development of the community.
- Increased use of e-governance by PRIs will help achieve improved service delivery and transparency.
- The scheme will strengthen gram sabhas to function as effective institutions with the social inclusion of citizens, particularly the vulnerable groups.
- It will establish the institutional structure for capacity building of PRIs at the national, state, and district level with adequate human resources and infrastructure.
- Around 60 lakh elected representatives, functionaries, and other stakeholders of rural local bodies, including traditional bodies, across the country, will be direct beneficiaries of the scheme.

Other steps taken by the government

- The Cabinet also approved a policy for the utilisation of non-minable land for development and setting up of infrastructure relating to coal and energy.
- The approved policy provides a clear framework for utilisation of lands that are no longer suitable or economically viable for coal mining activities; or lands from which coal has been mined out/de-coaled and has been reclaimed.
- The Cabinet also granted ex-post facto approval to a pact signed with Japan for collaboration in exploring technologies for treating wastewater.
- The Jal Shakti Ministry had signed a memorandum of cooperation with Japan's Ministry of Environment last month for promoting cooperation for decentralised domestic wastewater management.

About the Rashtriya Gram Swaraj Abhiyan (RGSA)

- PM launched Rashtriya Gram Swaraj Abhiyan (RGSA), the 'Transformation of Aspirational Districts' program aims to quickly and effectively transform selected districts.
- These districts were selected on parameters like poverty, public health, nutrition, education, gender, sanitation, drinking water, livelihood generation which are in sync with SDGs and fall within the realm of Panchayats.
- RGSA is proposed to be implemented as a core Centrally Sponsored Scheme (CSS) for four years viz., from 2018-19 to 2021-22 with State and Central shares.

- The sharing ratio for the State components will be in the ratio of 60:40 except NE and Hilly States, where the Central and State Ratio will be 90:10.
- For all UTs, the Central share will be 100%.
- RGSA enables Panchayats to function effectively to achieve SDGs and other development objectives that require significant Capacity building efforts.

Conclusion

- RGSA scheme is a wonderful and guiding beacon for PRIs to bring extensive changes in development of Rural areas to fulfill the dream of Mahatma Gandhi.
- The Abhiyan will establish the institutional structure for capacity building of the Panchayati Raj Institutions at the national, state and district level.

Dr. Ambedkar Centres of Excellence (DACE)

Why in news?

Union Minister for Social Justice and Empowerment and Chairman of Dr. Ambedkar Foundation (DAF) launched the Dr. Ambedkar Centres of Excellence (DACE) Scheme.

- The DACEs are being set up to provide high quality free coaching facilities to the Scheduled Caste students for the Civil Services examinations, conducted by Union Public Service Commission (UPSC).

DACE Scheme

- Dr. Ambedkar Foundation (DAF), Ministry of Social Justice & Empowerment, Govt. of India, is starting Dr. Ambedkar Centres of Excellence (DACE) in 31 Central Universities across the country.
- Under the DACE Scheme, a total of 100 seats will be sanctioned for coaching per centre.
- Of the total sanctioned seats for coaching, 33% seats will preferably be given to the eligible female candidates of Scheduled Castes.
- If eligible female candidates are not available in sufficient numbers for the coaching, the concerned University will allocate the vacant seats to the male/transgender candidates (SC Candidates only).
- The coaching benefits, under the scheme, will only be utilized by a student once regardless of the number of chances he/she is entitled for a particular competitive examination.
- It will be mandatory for a student to submit an affidavit to the University stating that he/she has not received any monetary benefit from any of the other schemes of Government of India, State/UTs or any funding agency.
- The students will be selected through an entrance test conducted by the University as per merit.
- In order to conduct the coaching classes, the Universities will have to possess necessary infrastructure such as separate classrooms, Library, Hi-Speed Wi-Fi connectivity, and other requisite equipment etc.
- Dr. Ambedkar Foundation (DAF) shall fund the entire expenditure incurred on the establishment of Dr. Ambedkar Centre for Excellence.
- Rs. 75,000/- per annum / per student will be provided to the University for 100 students.

Dr. Ambedkar Chairs

- Dr. Ambedkar Foundation is running another Scheme called "Dr. Ambedkar Chairs" in Universities/ Institutions all over the country.
- At present, there are 24 Dr. Ambedkar Chairs across the country.
- In the recent past, Dr. Ambedkar Chair Scheme has been revamped.
- A revised Memorandum of Understanding (MoU) will also be signed with regard to revamped Dr. Ambedkar Chairs Scheme between 24 Universities/Institutions and Dr. Ambedkar Foundation, Ministry of Social Justice & Empowerment, Govt. of India.
- Dr. Ambedkar Chairs aim to provide advanced Centres of learning in the premier universities and educational institutes, where academicians, scholars and students would enrich and advance studies and research to understand, assess, disseminate and implementthe ideas and thoughts of Dr. B.R. Ambedkar.
- The Chairs also aim to conduct advanced research and teaching on the present and past of the deprived sections of Indian society to provide justice and empower them.

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Prime Minister Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)

Why in news?

The Cabinet Committee on Economic Affairs has approved the continuation of lending under the Prime Minister Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi) beyond March 2022 till December 2024, with focus on enhanced collateral free affordable loan corpus, increased adoption of digital transactions and holistic socio-economic development of the Street Vendors and their families.

About PM SVANidhi

- Launched by: Ministry of Housing and Urban Affairs in 2020.
- It is a micro-credit facility that provides street vendors a collateral-free loan of Rs 10,000 with low rates of interest for a period of one year.
- The scheme aimed at aiding the vendors at getting back on their feet financially.
- In the long term, it aims at establishing a credit score for the vendors as well as creating a digital record of their socio-economic status, so that they can avail the Central government schemes later.
- The scheme also attempts to formalise the informal sector of the economy and provide them safety nets and a means of availing loans in the future.

Vendors eligible for the loan

- All vendors who have been vending from or before March 24, 2020 and with a certificate of vending can avail the loan.
- As per the Street Vendors Act of 2014, the Town Vending Committees (which comprises the local authorities and vendors from an area) issue a certificate of vending after a survey has been conducted of all the vendors.
- In case, vendors are unable to provide any such certificate of vending, the urban local bodies shall provide a Letter of Recommendation for every vendor who wishes to avail the loan.
- **Small Industries Development Bank of India is the technical partner for implementation of this scheme.**
  - It will manage the credit guarantee to the lending institutions through Credit Guarantee Fund Trust for Micro and Small Enterprises.

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REPORTS AND INDICES

World Population Report 2022

Why in news?

The United Nations Population Fund's State of World Population Report 2022 titled "Seeing the Unseen: The case for action in the neglected crisis of unintended pregnancy" was released.

- Research shows that nearly half of all pregnancies worldwide — 121 million annually — are unintended, which it calls "a neglected crisis."

Unintended pregnancy

- Unintended pregnancies are pregnancies that are mistimed, unplanned or unwanted at the time of conception.
- Sexual activity without the use of effective contraception through choice or coercion is the predominant cause of unintended pregnancy.

Key findings of the report

- The report said over 60% of unintended pregnancies end in abortion and an estimated 45% of abortions are unsafe, causing 5% to 13% of maternal deaths.
- The staggering number of unintended pregnancies represents a global failure to uphold women and girls' basic human rights.
- The rate of unintended pregnancy did decline between 1990 and 2019, from 79 to 64 for every 1,000 women aged 15 to 49.
- The total number of women experiencing unintended pregnancies increased about 13% over the 30-year period because of population growth.
- An estimated 257 million women globally who want to avoid pregnancy are not using safe and modern methods of contraception, and in 47 countries about 40% of sexually active women were not using any contraceptive methods.
- **Women of reproductive age in 64 countries showed that:**
  - 23% were unable to say no to sex,
  - 24% were unable to make decisions about their own health care, and
  - 8% were unable to make decisions about contraception
- This means that only 57% of women are able to make their own decisions over their sexual and reproductive rights.
- The report states that there has been a rise in rape-related pregnancies.
- Among women who have experienced partner violence contraceptive use is 53 percent lower. There is more chance of pregnancies occurring due to rape than consensual sex.
- There is a rise in humanitarian emergencies with the ongoing Ukraine-Russia war due to which many women are facing sexual violence and losing access to contraception.
- Studies have shown that more than 20 percent of refugee girls and women will and might have faced sexual violence.
- A rise in abortion has been noticed with more than 60 percent of pregnancies that are unintended, and around 30 percent of all pregnancies, ending in abortion.
- Across the globe, 45 percent of all abortions performed were unsafe.

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- An estimated 4.8 million unintended pregnancies will occur in Afghanistan by 2025 as a result of health system disruptions and gender inequality.
- In the first 12 months of the COVID-19 pandemic, the estimated disruption in contraceptive supplies and services lasted an average of 3.6 months, leading to as many as 1.4 million unintended pregnancies.

Other key factors also contribute to unintended pregnancies, including:

- Lack of sexual and reproductive health care and information
- Contraceptive options that don't suit women's bodies or circumstances
- Harmful norms and stigma surrounding women controlling their own fertility and bodies
- Sexual violence and reproductive coercion
- Judgmental attitudes or shaming in health services
- Poverty and stalled economic development
- Gender inequality

About United Nations Population Fund

- UNFPA is formally named the United Nations Population Fund.
- The organization was created in 1969, the same year the United Nations General Assembly declared "parents have the exclusive right to determine freely and responsibly the number and spacing of their children."
- In 1987, it was officially renamed the United Nations Population Fund but the original abbreviation, 'UNFPA' for the United Nations Fund for Population Activities was retained.
- UNFPA is a subsidiary organ of the UN General Assembly and works as a sexual and reproductive health agency.
- UNFPA works directly to tackle Sustainable Development Goals on health (SDG3), education (SDG4), and gender equality (SDG5).
- **In 2018, UNFPA launched efforts to achieve three transformative results, ambitions that promise to change the world for every man, woman, and young person:**
  - ➢ Ending unmet need for family planning
  - ➢ Ending preventable maternal death
  - ➢ Ending gender-based violence and harmful practices

Way Forward

- Safe contraceptive services are essential to maintaining women's reproductive rights and preventing pregnancy, which can have significant implications for mothers, families, and society at large.
- Expanding the range and scope of contraceptives can prevent early and unwanted pregnancies.
- On the micro-level, planned pregnancies help eliminate poor health problems.
- At the macro level, it helps to mitigate the negative effects of large family sizes like a strain on resources, poorer economic outcomes for the mothers, increased anxiety for the parents, and financial stress.
- Enabling conditions to reduce unwanted pregnancy, can have different benefits at the family and societal levels.

Performance Report: Functioning of Unique Identification Authority of India

Why in news?

The Comptroller and Auditor General (CAG) of India (the Country's top auditor) has pulled up the Unique Identification Authority of India (UIDAI) for "deficient data management".

- UIDAI is the statutory authority established in 2016 to issue Aadhaar to all residents of the country.

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Comptroller and Auditor General of India

- The CAG is the Constitutional Authority in India, established under Article 148 of the Constitution of India.
- They are empowered to Audit all receipts and expenditure of the Government of India and the State Governments, including those of autonomous bodies and corporations substantially financed by the Government.
- The CAG is also the statutory auditor of Government-owned corporations and conducts supplementary audit of government companies in which the Government has an equity share of at least 51 per cent or subsidiary companies of existing government companies.
- The reports of the CAG are laid before the Parliament/Legislatures and are being taken up for discussion by the Public Accounts Committees (PACs) and Committees on Public Undertakings (COPUs), which are special committees in the Parliament of India and the state legislatures.
- The CAG is also the head of the Indian Audit and Accounts Department, the affairs of which are managed by officers of Indian Audit and Accounts Service.

According to the CAG audit report:

- Aadhaar is falling behind on technology, missing out on confidentiality, and has gaps in its data archiving policy and preserving confidentiality in the delivery of the cards to people.
- The Unique Identification Authority of India (UIDAI) generated Aadhaar numbers with incomplete documents.
- UIDAI had not ensured that the client applications used by its authentication ecosystem partners were not capable of storing the personal information of the residents, which put the privacy of residents at risk.
- The Aadhaar authentication ecosystem refers to agencies — these could be banks or telecommunication companies — that often use the 12-digit ID number for applicant verification, who query the UIDAI database for identity verification, including via the use of biometrics such as fingerprints.
- Another important issue was with duplicate entries which are still in the database because of unpaired biometric data.
- Another problem was that UIDAI appeared to have charged people for biometric updates when poor quality data was fed in during enrolment. 73% of biometric updates were voluntary updates. UIDAI charged residents a fee for no fault of theirs.
- UIDAI's move to issue Aadhaar cards to children and newborns without biometrics under an initiative known as Bal Aadhaar. This needs to be reviewed. Because anyway after 5 years, a child has to apply for new regular Aadhar.
- The unique identity is not matched anyway because it is issued on the basis of documents of parents.
- Apart from being violative of the statutory provisions, UIDAI has also incurred avoidable expenditure of ₹310 crores on the issue of Bal Aadhaars till 31 March 2019.
- The audit held that there "were flaws in the management of various contracts".
- The report indicates that there are systemic problems in the design and the role of UIDAI, where it is operating the system and is also in the role of overseeing itself and the entities to which it gives contracts.
- The lack of accountability is an inherent feature of the Aadhaar system.
- In the conclusion of its report, the CAG has said that UIDAI generated Aadhaar numbers with incomplete information, which, along with the lack of proper documentation or poor-quality biometrics, have resulted in multiple or duplicate Aadhaar cards being issued to the same person.

RECOMMENDATIONS

- Prescribe a procedure and required documentation other than self-declaration.
- Tighten the service Legal Agreement parameters of Biometric Service Providers.
- Explore alternate ways to capture the uniqueness of biometric.
- Proactive steps to identify and fill the missing documents so as to avoid any legal complications.
- Improve the success rate of authentication transaction by analyzing failure cases.
- Thorough verification of technological support claimed to be done before on-boarding the entities.
- Frame suitable data archival policy to mitigate the risk of vulnerable to data protection.

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Aadhar

- Aadhaar is a 12-digit unique identity number that can be obtained voluntarily by the citizens of India and resident foreign nationals who have spent over 182 days in twelve months immediately preceding the date of application for enrolment, based on their biometric and demographic data.
- The data is collected by the Unique Identification Authority of India (UIDAI).
- Aadhaar is the world's largest biometric ID system.

Unique Identification Authority

- The Unique Identification Authority of India (UIDAI) is a statutory authority and a government department, established on 12 July 2016 by the Government of India under the jurisdiction of the Ministry of Electronics and Information Technology, following the provisions of the Aadhaar Act 2016.
- The UIDAI was initially set up by the Government of India in January 2009, as an attached office under the aegis of the Planning Commission.

Conclusion

- In the rush to compile data in electronic form and better target subsidies, governments cannot ignore the responsibility to protect citizens from the perils of the cyber age.
- Government should create a mechanism such as a Privacy Commissioner to prevent disclose or access to any such data.

Global Wind Energy Report 2022

Why in news?

The wind industry enjoyed its second-best year ever amidst the pandemic but new installations must still quadruple by the end of the decade to meet a net-zero pathway.
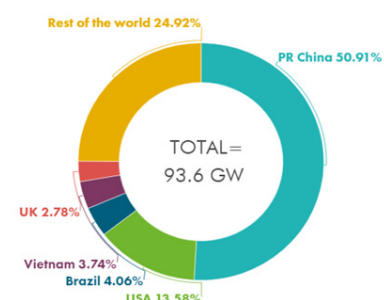
Wind Energy

The wind is used to produce electricity using the kinetic energy created by air in motion. This is transformed into electrical energy using wind turbines or wind energy conversion systems. Wind first hits a turbine's blades, causing them to rotate and turn the turbine connected to them. That changes the kinetic energy to rotational energy, by moving a shaft which is connected to a generator, and thereby producing electrical energy through electromagnetism.

Key Highlights

- According to the Global Wind Report 2022, the global wind industry had its second-best year in 2021, with almost 94 GW of capacity added globally, trailing behind the 2020's record growth by only 1.8%.
- Europe, Latin America, and Africa & Middle East had record years for new onshore installations, but total onshore wind installations in 2021 was still 18% lower than the previous year. The decline was driven primarily by the slow-down of onshore wind growth in the world's two largest wind power markets, China and the US.
- 21.1 GW of offshore wind capacity was commissioned last year, three times more than in 2020. making 2021 the best year in offshore wind history, bringing its market share in global new installations to 22.5% in 2021.
- China made up 80% of offshore wind capacity added worldwide in 2021, bringing its cumulative offshore wind installations to 27.7 GW. This is an astounding level of growth, as it took three decades for Europe to bring its total offshore wind capacity to a similar level.
- Total global wind power capacity is now up to 837 GW, helping the world avoid over 1.2 billion tons of CO_2 annually – equivalent to the annual carbon emissions of South America.
- Wind auction activities bounced back in 2021 with more than 88 GW of wind capacity awarded globally, 153% higher than in 2020.

Total global new wind power installations in 2021

Rest of the world 24.92%
PR China 50.91%
TOTAL= 93.6 GW
UK 2.78%
Vietnam 3.74%
Brazil 4.06%
USA 13.58%

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- After a year in which net zero commitments gathered global momentum, coupled with renewed urgency for achieving energy security, the market outlook for the global wind industry looks even more positive. 557 GW of new capacity is expected to be added in the next five years under current policies. That is more than 110 GW of new installations each year until 2026.
- However, this growth needs to quadruple by the end of the decade if the world is to stay on-course for a 1.5C pathway and net zero by 2050.

Lagging growth

- Wind energy is not growing nearly fast or widely enough to realise a secure and resilient global energy transition.
- At current rates of installation, GWEC Market Intelligence forecasts that by 2030 we will have less than two-thirds of the wind energy capacity required for the 1.5°C and net zero pathway set out by IRENA in their 2050 roadmap, effectively condemning us to miss our climate goals.
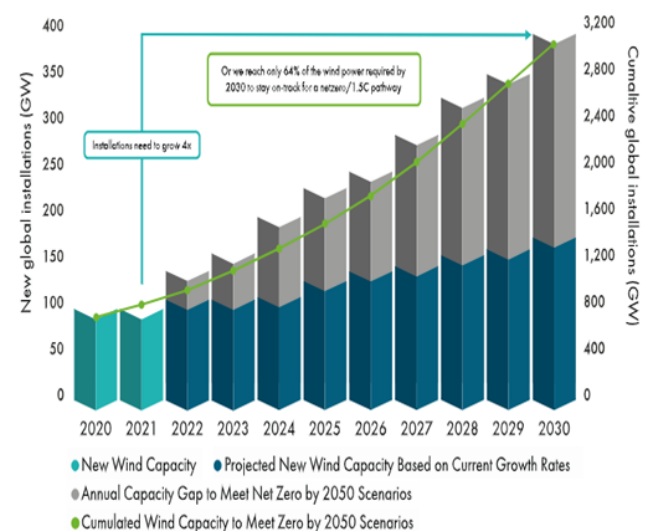
Challenges to growth

The wind energy sector continues to face considerable barriers to growth, the report revealed. These barriers include:

- Inconsistent policy environments focused on short-term political aims
- Badly designed markets which do not enable bankable renewable energy projects
- Infrastructure and transmission bottlenecks
- A lack of adequate industrial and trade policies related to renewable technologies Hostile political or misinformation campaigns.

Scope in India

- In India, more than 1.4 GW of wind was installed in 2021, exceeding the 1.1 GW of installations during the previous year, the report said.
- The Union Ministry of New and Renewable Energy (MNRE) has set a target of installing 5 GW of offshore capacity by 2022 and 30 GW by 2030. India is yet to develop its offshore wind energy facility.
- India can generate 127 GW of offshore wind energy with its 7,600 km of coastline, according to the MNRE.
- Onshore wind energy refers to turbines that are located on land and use wind to generate electricity. Offshore wind energy is the energy generated from the wind at sea.

Global impediments

- The global onshore wind market added 72.5 GW in 2021, the report stated.
- But the world's two largest markets, China and the United States, failed to install new onshore capacity last year.
- Europe, South America, Africa and West Asia increased their onshore wind installations by 19 per cent, 23 per cent and 120 per cent, according to the analysis.
- In China, the termination of the feed-in-tariff, a policy mechanism designed to accelerate investment in renewable energy technologies, led to a 39 per cent drop in installations to 30.7GW.
- In the United States, a 25 per cent decline to 12.7GW was mainly due to COVID-19-associated supply chain issues and disruptions.
- In sub-Saharan Africa, South Africa is the largest wind energy market in terms of installed capacity.
- GWEC market intelligence expects that 557 GW of new capacity will be added in the next five years under the current policy environment. That is more than 110 GW of new installations each year until 2026.

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Way forward

- To sustain and increase growth in wind-based generation capacity, policymakers are urged to streamline the procedures to grant permits, including land allocation and grid connection projects.
- Workforce planning for large-scale renewables deployment should be an early policy priority and investment in grids must treble from current levels through to 2030.
- There is also a need for greater public-private co-operation to confront "the new geopolitics of the wind supply chain". A stronger international regulatory framework is needed to address the increased competition for commodities and critical minerals.

State Energy and Climate Index

Why in news?

NITI Aayog has launched the State Energy & Climate Index-Round 1 which has ranked States and Union Territories (UTs) on six parameters.

- The States have been categorised based on size and geographical differences as larger and smaller States and UTs.

NITI Aayog

- The NITI Aayog serves as the apex public policy think tank of the Government of India, and the nodal agency tasked with catalyzing economic development and fostering cooperative federalism through the involvement of the State Governments of India in the economic policy-making process using a bottom-up approach.

State Energy and Climate Index (SECI)

- The index has been designed to assess and identify the scope for improving the performance of states and to help them efficiently manage their energy resources.
- The index also aims to track the efforts made by States and UTs in the climate and energy sector.
- The index is based on 2019–20 data.
- The index has a preliminary set of 27 Key Performance Indicators (KPIs) covering 6 parameters 'DISCOM's performance', 'access, affordability & reliability of energy', 'clean energy initiatives', 'energy efficiency', 'environmental sustainability' and 'new initiatives'.
- The SECI will help States to understand their performance across multiple parameters/indicators.

The objectives of the index are:

- Ranking the States based on their efforts towards improving energy access, energy consumption, energy efficiency, and safeguarding environment;
- Helping drive the agenda of affordable, accessible, efficient and clean energy transition at the State level;
- Encouraging healthy competition among the states on different dimensions of energy and climate.

Key details & findings

- Gujarat, Kerala and Punjab have been ranked as the top three performers in the category of larger States.
- Jharkhand, Madhya Pradesh and Chhattisgarh were the bottom three States.
- Goa emerged as the top–performer in the smaller States category followed by Tripura and Manipur.
- Among UTs, Chandigarh, Delhi and Daman & Diu/Dadra & Nagar Haveli are the top performers.
- Punjab was the best performer in discom performance while Kerala topped in access, affordability and reliability category.
- Haryana was the best performer in clean energy initiative among larger States and Tamil Nadu in the energy efficiency category.

Background

- India, the third-largest energy consumer and the third-largest oil importer is working aggressively to provide affordable and clean energy to all.

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- **India has some far-reaching agendas like:**
  - Increasing non-fossil fuel based installed electricity capacity of the country by 2030 to 500 GW.
  - Reducing the emission intensity of its GDP by about 45 percent from 2005 levels by 2030.
  - India will meet 50 percent of its electricity requirements from renewable energy by 2030.
  - India will reduce the total projected carbon emissions by one billion tonnes from now onwards till 2030.
  - By the year 2070, India will achieve the target of Net-zero.

Objectives of clean energy transition

- **The energy sector contributes to about 75% of the total greenhouse gas emissions of the country. The paradigm shift in the clean energy transition has a twin-fold objective:**
  - Ensure affordable and reliable energy to all and
  - Reduce its dependence on fossil-based energy by accelerating the clean energy transition.

Conclusion

The SECI is the first step where States can explore and benchmark themselves on various parameters. The findings will help the states to take timely remedial measures for better management, thereby, meeting expectations of the citizens. The overall objective of the index is to develop healthy competition among the states to perform better and provide quality energy services to users in their states.

World Bank research paper on Poverty

Why in news?

Extreme poverty in India declined by 12.3 percentage points between 2011 and 2019 but at a rate that is significantly lower than observed over the 2004-2011 period, according to a World Bank Policy research paper.

- Poverty reduction was higher in rural areas as compared to urban India.
- Rural poverty dropped by 14.7 percent while urban poverty declined by 7.9 percentage points during 2011 to 2019.

Extreme poverty

- Extreme poverty, deep poverty, abject poverty, absolute poverty, destitution, or penury, is the most severe type of poverty, defined by the United Nations (UN) as "a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information.
- In 2018, extreme poverty mainly refers to an income below the international poverty line of $1.90 per day (in 2011 prices, equivalent to $2.29 in 2021), set by the World Bank.

Incidences of rising poverty

- Urban poverty rose by 2 percentage points in 2016 during the demonetization event and fell sharply thereafter.
- Rural poverty rose by 10 basis points in 2019 likely due to a growth slowdown.

Key findings of the research

- The poverty head-count rate is 10.2% in 2019, down from 22.5% in 2011.
- Rural and urban poverty dropped by 14.7 and 7.9 percentage points during 2011-2019.
- Urban poverty rose by 2 percentage points in 2016 (coinciding with the demonetization event) and rural poverty rose by 10 basis points in 2019 (coinciding with a slowdown in the economy).
- The extent of poverty reduction during 2015-2019 is estimated to be notably lower than earlier projections based on growth in private final consumption expenditure reported in national account statistics.
- The rate of poverty reduction between 2004 and 2011 is estimated at approximately 2.5 percentage points per year. After 2011 poverty reduction has slowed down.

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- Poverty has declined by an average of 1.3 percentage points per year between 2011 and 2018. One percentage point equals 100 basis points.
- Real incomes for farmers with the smallest landholdings have grown by 10 percent in annualized terms between the two survey rounds [2013 and 2019] compared to a 2 percent growth for farmers with the largest landholding.

Conclusion

- The country has halved its poverty rate over the past three decades and has seen strong improvements in most human development outcomes.
- Growth is expected to continue and the elimination of extreme poverty in the next decade is within reach.

'State of India's Children: Status and Trends in Multidimensional Child Development'

Why in news?

NITI Aayog and UNICEF India signed a Statement of Intent (SoI) on the Sustainable Development Goals (SDGs) with a focus on children.

- The SoI seeks to formalize a framework of cooperation to launch the first report on the 'State of India's Children: Status and Trends in Multidimensional Child Development'.

Key details

- To achieve the child development priorities under the SDGs, UNICEF India and NITI Aayog are developing a comprehensive measure to understand the multidimensional attainments and deprivations among children across health and nutrition, education, water and sanitation, household living standards; and protective environment, with the aim of analyzing the status of children around critical child related SDGs to establish recent trends.
- This effort will contribute to the realization of India's commitments on the 2030 Agenda and provide a set of policy recommendations for concerted action in terms of accelerating progress towards the SDGs to 'leave no child behind' and achieving their holistic development.

SDG India Index and Dashboard

- A child-focused SDG initiative builds on effort of monitoring progress through the SDG India Index and Dashboard, which continues to be a unique data-driven initiative for triggering policy action.
- This new initiative with UNICEF is built on the ethos of SDG attainments for children and ensuring that no child is left behind.'
- Comprehensive measurement of the status of children will pave the way for multi-sectoral policies and programmes across health and nutrition, education, safe water and sanitation, child protection, social protection and climate action to reach the most vulnerable children.

Way forward

- UNICEF India commend NITI Aayog for this initiative to develop a multidimensional measure of attainments and deprivations among children. It's a demonstration of India's strong commitment to achieve the SDGs, by focusing on child related SDGs.
- This project will undertake a whole-of-society approach of involving all stakeholders ranging from Union Ministries, State Governments, Civil Society Organizations, and child rights collectives.

World Military Expenditure

Why in news?

According to new data on global military spending published by the Stockholm International Peace Research Institute (SIPRI), world military spending continued to grow in 2021, reaching an all-time high of $2.1 trillion.

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- The five largest spenders in 2021 were the U.S, China, India, the U.K. and Russia, together accounting for 62% of expenditure. The U.S. and China alone accounted for 52%.

Stockholm International Peace Research Institute (SIPRI)

- SIPRI is an international institute based in Stockholm.
- It was founded in 1966 and provides data, analysis and recommendations for armed conflict, military expenditure and arms trade as well as disarmament and arms control.
- SIPRI's organizational purpose is to conduct scientific research in issues on conflict and cooperation of importance for international peace and security, with the goal of contributing to an understanding for the conditions for a peaceful solution of international conflicts and sustainable peace.

Military Expenditure

- Military expenditure refers to all government spending on current military forces and activities, including salaries and benefits, operational expenses, arms and equipment purchases, military construction, research and development, and central administration, command and support.

Key details

- Despite Covid-19 pandemic, countries continue to spend more on their military budget. The budget rose by 0.7 % as compared to the last year.
- The country has increased its spending on research and development by 24% while weapons procurement saw a fall of 6.4%.
- The US tops the list by spending $ 801 billion.
- In the second position, China spent an estimated $ 293bn, an increase of 4.7%.
- With a 3 per cent increase, the United Kingdom, the fourth-largest military spender, spent $68.4bn.
- The country replaced Saudi Arabia which decreased its spending by 17 per cent.
- Russia spent 4.1% of its gross domestic product (GDP), the country spent $ 65.9 billion with an increase of 2.9 % in 2021.

GLOBAL SPENDING TOPS $2 TRN FOR 1ST TIME

America ■ Asia ■ Europe ■ West Asia ■ Africa   ($ billion)

TOTAL: 1,796 | 1,843 | 1,908 | 1,960 | 2,113

	2017	2018	2019	2020	2021
Africa	42	41	41	43	40
West Asia	189	193	181	171	186
Europe	339	346	363	378	418
Asia	470	484	506	519	586
America	756	779	817	849	883

Source: SIPRI

India is the third-largest spender

- India is among the top three largest defence spenders, spending $76.6 billion on its military expenditure in 2021.
- For the financial year 2021-22, the Ministry of Defence reserved 64 % of the 'Capital Acquisition Budget'.
- The defence ministry surpassed its target of spending and spent 65.50 % of the budget allocated for the procurement of arms from domestic firms.

Pushing Make-in-India

- The ministry is procuring defence equipment from indigenous firms and reducing the dependence on foreign entities. India has the second-largest military force with the third-largest defence budget in the world.
- Given the fact that India spends Rs 2 lakh crore to fulfil its defence requirements, the major defence requirements were met through imports earlier but the scenario has changed now.
- In May 2020, the Indian government increased the Foreign Direct Investment (FDI) limit from 49 % to 74 % in the defence sector.
- The Indian defence forces are expected to spend an estimated USD 130 billion (in capital procurement in the next 5 years).
- Recognising the border dispute with China and Pakistan, India is spending a major part of the budget on the defence sector.

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Russia increases military budget

- Russia increased its military expenditure by 2.9% in 2021, to $65.9 billion, at a time when "it was building up its forces along the Ukrainian border".
- High oil and gas revenues helped Russia to boost its military spending in 2021.

Other notable developments

- In 2021 Iran's military budget increased for the first time in four years, to $24.6 billion.
- Funding for the Islamic Revolutionary Guard Corps continued to grow in 2021—by 14 per cent compared with 2020—and accounted for 34 per cent of Iran's total military spending.
- Eight European North Atlantic Treaty Organization (NATO) members reached the Alliance's target of spending 2 per cent or more of GDP on their armed forces in 2021.
- Nigeria raised its military spending by 56 per cent in 2021, to reach $4.5 billion.
- Qatar's military spending in 2021 was 434 per cent higher than in 2010, when the country last released spending data before 2021.

Conclusion

In a drive to strengthen the indigenous arms industry, Indian military budget was earmarked for acquisitions of domestically-produced arms. India dedicatedly focusing on achieving self-reliance in defence sector.

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MISCELLANEOUS

'Pradhanmantri Sangrahalaya' Museum

Why in news?

In an attempt to showcase the contributions of all the former Prime Ministers since independence, the Indian PM inaugurated Pradhanmantri Sangrahalaya.

- The Sangrahalaya is a tribute to every Prime Minister of India since Independence, irrespective of their ideology or tenure in office.

Aim

- The Sangrahalaya is aimed at sensitizing and inspiring the younger generation about the leadership, vision and achievements of all Indian Prime Ministers.

Key details

- The design of the museum building is inspired by the story of rising India, shaped and moulded by the hands of its leaders.
- The design incorporates sustainable and energy conservation practices.
- The logo of the Sangrahalaya represents the hands of the people of India holding the Dharma Chakra symbolizing the nation and democracy.
- Starting from displays on the freedom struggle and the framing of the Constitution, the Sangrahalaya goes on to tell the story of how our Prime Ministers navigated the nation through various challenges and ensured the all-round progress of the country.

Malcolm Adiseshiah Award

Why in news?

Renowned Indian economist and political commentator Prabhat Patnaik has been selected for the 2022 Malcom Adiseshiah Award.

About the Malcolm Adiseshiah Award

- The award is annually given by the Malcolm and Elizabeth Adiseshiah Trust to an outstanding social scientist selected from nominations received by a specially constituted national jury.
- The award comprises a citation and prize money of ₹2 lakh.

Who was Malcolm Adiseshiah?

- Malcolm Sathiyanathan Adiseshiah (1910-1994) was an Indian development economist and educator.
- He was awarded the Padma Bhushan (1976).
- In 1998, UNESCO created 'The Malcolm Adiseshiah International Literacy Prize' in recognition of his contribution to education and literacy.
- He was nominated to the Rajya Sabha in 1978.

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Drone Imaging and Information Service of Haryana Limited (DRIISHYA)

Why in news?

A training institute for drone pilots under the aegis of the Drone Imaging and Information Service of Haryana Limited (DRIISHYA) will be set up in Haryana to support capacity development.

- The institute is expected to cater to training needs of personnel of DRIISHYA and other organisations.

Key highlights

- Haryana becomes the first state to create a separate corporation to hasten unmanned aerial vehicle (UAV)-driven governance application.
- With the help of drones, illegal encroachments can also be controlled along with detecting of expansion of areas as earlier manual surveys were conducted at regular intervals which were time-consuming, costly and required more manpower.
- The use of drones should also be ensured in urban local bodies, power, disaster management, mining, forest, traffic, town and country planning, agriculture, etc, as it would help in mapping, land records, disaster management and emergency services, development planning departments in the urban areas.
- The headquarter of this company has been made in Karnal and it will be the nodal agency for the procurement of drones.

Kisan Drones

- Kisan Drones will be used to boost the agricultural sector in the country, the use of Kisan Drones will be promoted for crop assessment, digitization of land records and spraying of insecticides and nutrients.
- This step was taken as the government aims to promote chemical-free national farming.
- High capacity Kisan Drones will be used to carry vegetables, fruits, fishes to the market directly from the farms.

Unmanned aerial vehicle

- An unmanned aerial vehicle (UAV), commonly known as a drone, is an aircraft without any human pilot, crew, or passengers on board.
- UAVs are a component of an unmanned aircraft system (UAS), which includes adding a ground-based controller and a system of communications with the UAV.
- The flight of UAVs may operate under remote control by a human operator, as remotely-piloted aircraft (RPA), or with various degrees of autonomy, such as autopilot assistance, up to fully autonomous aircraft that have no provision for human intervention.

Classifications of UAV

UAVs may be classified, according to design configuration such as weight or engine type, maximum flight altitude, degree of operational autonomy, operational role, etc.

- **Based on the weight**
  - ➢ Based on their weight, drones can be classified into five categories — nano (weighing up to 250 g), Micro air vehicles (MAV) (250 g - 2 kg), Miniature UAV or small (SUAV) (2–25 kg), medium (25–150 kg), and large (over 150 kg).
- **Based on the degree of autonomy**
  - ➢ The International Civil Aviation Organization (ICAO) classifies uncrewed aircraft as either remotely piloted aircraft or fully autonomous.

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- **Based on the altitude**
  - ➢ Based on the altitude, the following UAV classifications have been done:
  - ➢ Hand-held 2,000 ft (600 m) altitude, about 2 km range
  - ➢ Close 5,000 ft (1,500 m) altitude, up to 10 km range
  - ➢ NATO type 10,000 ft (3,000 m) altitude, up to 50 km range
  - ➢ Tactical 18,000 ft (5,500 m) altitude, about 160 km range
  - ➢ MALE (medium altitude, long endurance) up to 30,000 ft (9,000 m) and range over 200 km
  - ➢ HALE (high altitude, long endurance) over 30,000 ft (9,100 m) and indefinite range
  - ➢ Hypersonic high-speed, supersonic (Mach 1–5) or hypersonic (Mach 5+) 50,000 ft (15,200 m) or suborbital altitude, range over 200 km
  - ➢ Orbital low Earth orbit (Mach 25+)
  - ➢ CIS Lunar Earth-Moon transfer
  - ➢ Computer Assisted Carrier Guidance System (CACGS) for UAVs
- **Based on the composite criteria**
  - ➢ An example of classification based on the composite criteria is U.S. Military's unmanned aerial systems (UAS) classification of UAVs based on weight, maximum altitude and speed of the UAV component.

SOME OF THE MOST COMMON APPLICATIONS AND USES FOR UAV DRONES ARE:

• AERIAL PHOTOGRAPHY & VIDEOGRAPHY	• MULTISPECTRAL/THERMAL/NIR CAMERAS	• MINING
• REAL ESTATE PHOTOGRAPHY	• LIVE STREAMING EVENTS	• FIREFIGHTING
• MAPPING & SURVEYING	• ROOF INSPECTIONS	• MONITORING POACHERS
• ASSET INSPECTION	• EMERGENCY RESPONSE	• INSURANCE
• PAYLOAD CARRYING	• SEARCH AND RESCUE	• AVIATION
• AGRICULTURE	• MARINE RESCUE	• METEOROLOGY
• BIRD CONTROL	• DISASTER ZONE MAPPING	• PRODUCT DELIVERY
• CROP SPRAYING	• DISASTER RELIEF	
• CROP MONITORING	• FORENSICS	

Street Child Cricket World Cup (SCCWC)

Why in news?

Organised by Street Child United and Save the Children India, the Street Child Cricket World Cup 2023 will welcome 22 teams from 16 countries to India next year.

- The event will see street-connected children and young people take part in a mixed-gender cricket tournament.
- The SCCWC 2023 will also collaborate with World Bank, ICC and the British High Commission.

Participants

- Countries that will participate this year are Bangladesh, Bolivia, Brazil, Burundi, England, Hungary, Mauritius, Mexico, Nepal, Rwanda, South Africa, Sri Lanka, Tanzania, Uganda and Zimbabwe.

Other key details

- In 2019, this championship was held in London where eight teams competed, and Team India South emerged victorious after beating hosts England.
- The SCCWC will be a catalyst for One Million Young People globally receiving identity for the very first time.
- It is a universal call for governments to ensure that street children everywhere are better protected, and granted access to basic services that so many of us take for granted.

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Significance

- This is a unique event that can show the world how cricket is helping give street children a voice to challenge the negative perceptions associated with their situation.

Save the Children India

- Save the Children is India's leading independent child rights' NGO, which works in 18 states of the country.
- Beginning its journey in 2008 in India, and registered as 'Bal Raksha Bharat' (under Societies Registration Act, 1861), it has changed the lives of more than 1.1 crore children.
- Headquartered in Gurugram, the organization is a member of the international Save the Children Alliance.
- While Save the Children has been working in India since 1940s, Save the Children India formally came into being as Bal Raksha Bharat in April 2008.
- The organization implements sustainable, community-driven projects in the remotest corners of India and urban areas to provide quality education and healthcare, protection from harm and abuse and life-saving aid during emergencies to children.

Street Child United

- Street Child United is a UK charity using the power of sport, specifically international sports events, to change the negative perceptions and treatment of street-connected children everywhere.
- It is headquartered in London.
- Its vision is to create a world where every child can access their rights, no matter their background.

Street Child World Cup

- The Street Child World Cup is a global movement that unites street-connected children from five continents ahead of the FIFIA World Cup.
- The tournament provides a platform to champion the rights of street children – the right to identity, the right to protection from violence and the right to education – and challenge the negative perceptions and treatment of street children around the world.
- The first Street Child World Cup was held in Durban, South Africa, in March 2010.

Conclusion

- The Street Child Cricket World Cup unite the street children in international cricket tournament to raise awareness and tackle the stigma and negative treatment they face. These youngsters will also make their voices to help improve the lives of street children worldwide.

Bilquis Bano Edhi

Why in news?

Prime Minister of India condoled the death of Bilquis Edhi, a Pakistani humanitarian activist who used to work alongside her philanthropist husband late Abdul Sattar Edhi.

About Bilquis Edhi

- Edhi was born in 1947 in Bantva, in present day **Gujarat state.**
- As a teenager she was noted to have not enjoyed school and instead joined a small and expanding dispensary as a nurse in 1965.
- Bilquis Bano Edhi helped **save the lives of over 16,000 babies.**
- She was one of the most active philanthropists in Pakistan.
- She was the co-chair of the Edhi Foundation, a charity organization that provided many services in Pakistan including a hospital and emergency service in Karachi.
- For her contributions, she was awarded the **1986 Ramon Magsaysay Award**

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for Public Service and the **Mother Teresa Memorial International Award** for Social Justice in 2015.

- For her service to the country, she was also referred to as **The Mother of Pakistan.**
- She was also a recipient of Hilal-i-Imtiaz, Pakistan's second highest civilian honour.
- She died on 15 April 2022.

Prime Minister's Awards for Excellence in Public Administration

Why in news?

On the occasion of Civil Services Day, Prime Minister of India will confer the Prime Minister's Awards for Excellence in Public Administration at Vigyan Bhawan on 21 April 2022.

About the award

- Prime Minister's Awards for Excellence in Public Administration have been instituted with a view to recognize the extraordinary and innovative work done by Districts/implementing units and Central/State organisations for the welfare of common citizens.
- They are also conferred for effective implementation of identified priority programs and innovation.
- **Exemplary work done in the following five identified priority programmes will be given awards which is to be presented on Civil Services Day 2022:**
  - Promoting "Jan Bhagidari" or People's Participation in Poshan Abhiyan
  - Promoting excellence in sports and wellness through Khelo India scheme
  - Digital payments and Good Governance in PM SVANidhi Yojana
  - Holistic Development through One District One Product scheme
  - Seamless, End-to-End Delivery of Services without Human Intervention
- A total of 16 awards for 5 identified Priority Programmes and for innovations in the sphere of public administration/delivery of services etc. will be given this year.

PM Awards scheme

- Government of India has instituted a scheme in 2006 namely, "The Prime Minister's Awards for Excellence in Public Administration" - to acknowledge, recognize and reward the extraordinary and innovative work done by Districts/ Organizations of the Central and State Governments.
- The Scheme was restructured in 2014 for recognizing the performance of District Collectors in Priority Programs, Innovations and Aspirational Districts.
- The Scheme was restructured again in 2020, to recognize the performance of District Collectors towards economic development of the district.
- The Scheme has been revamped with a new approach in 2021 with the objective to encourage Constructive Competition, Innovation, Replication and Institutionalisation of Best Practices.
- Under this approach emphasis would be on good governance, qualitative achievement and last mile connectivity, rather than only on achievement of quantitative targets.

National Civil Services Day

- Every year on April 21, India celebrates and observes National Civil Services Day.
- The day is celebrated to mark the efforts of the civil servants working tirelessly and relentlessly in different departments and organisations in order to ensure that the administrative machinery works smoothly.
- Civil servants are responsible for policymaking and ensuring that those policies are implemented, thereby playing an important role in the development of the nation.
- The first National Civil Services Day was observed in 2006.

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Father of Indian Civil Service

- **Charles Cornwallis** is known as the father of the Indian Civil Service because of his contribution to reforming and modernising the civil services in India.
- The **foundation of civil services in India** was laid by **Warren Hastings**, but it was Cornwallis who took on the responsibility of bringing a reform.
- Cornwallis also introduced two divisions of the Indian Civil Service, namely, **covenanted and uncovenanted.**
- While the **covenanted division** of civil service **only included Europeans** and those occupying the higher ranks, the **uncovenanted division** was to allow Indians, civil servants, at the lower level of administration.
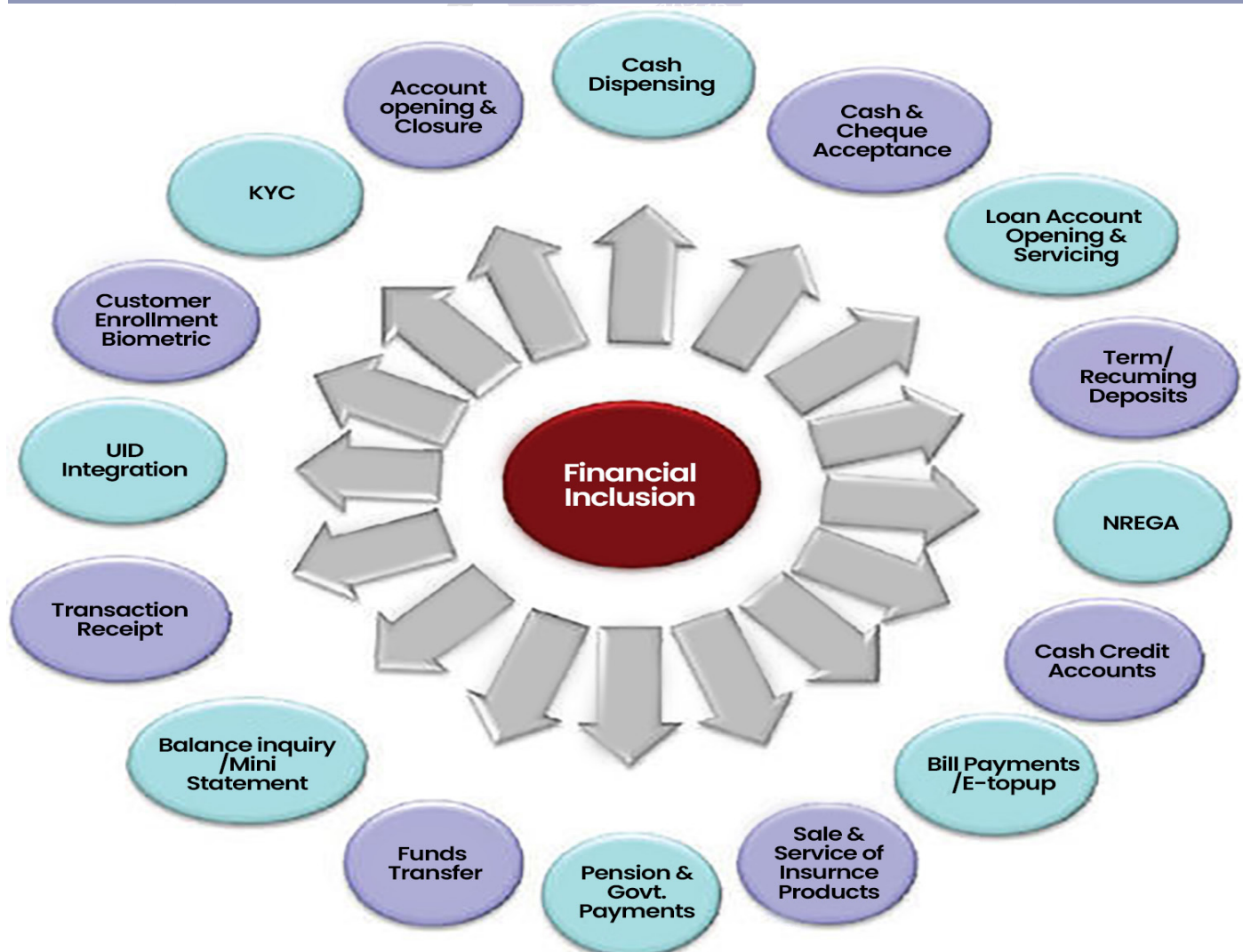
Fincluvation

Why in news?

On the occasion of the 75th anniversary of Indian Independence & ongoing Azadi ka Amrit Mahotasav, India Post Payments Bank (IPPB), a 100% government owned entity under Department of Posts (DoP) announced the launch of Fincluvation.

- Fincluvation is a joint initiative to **collaborate with Fintech Startup community** to co-create and innovate solutions for financial inclusion.

Financial Inclusion

Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way.

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About Fincluvation

- Fincluvation is a first initiative to create a powerful platform **to mobilize the start-up community** towards building meaningful financial products aimed at financial inclusion.
- Combination of IPPB's Banking stack, DoP's trustworthy doorstep service network and the techno-functional acumen of start-ups can deliver unmatched value to the citizens of the country.
- Fincluvation will be a permanent platform of IPPB to co-create inclusive financial solutions with participating start-ups.
- Fincluvation invites startups to Participate, Ideate, Develop and Market intuitive and tailored products and services that can be taken to the customers.
- **Startups are encouraged to develop solutions aligned with any of the following tracks:**
  - **Creditization -** Develop Innovative & Inclusive credit products aligned with the use cases of target customers and take them to their doorsteps through Postal network.
  - **Digitization -** Bring convenience through convergence of traditional services with Digital Payment Technologies such as making the traditional Money Order service as Interoperable Banking service.
  - **Any Market-** led solutions that can help solve any other problem relevant to IPPB and/or DoP in serving the target customers
- Fincluvation will allow the **start-ups to work with IPPB and DoP experts** to develop solutions and conduct pilots using the postal network and IPPB's technology stack.

India Post Payments Bank

- India Post Payments Bank has been incorporated as a **public sector company** under the **department of posts,** with **100% government equity.**
- It is governed by the **Reserve Bank of India.**
- IPPB aims to utilize all of India's 155,015 post offices as access points and 3 lakh postal postmen and Grameen Dak Sewaks to provide doorstep banking services.
- IPPB offers savings accounts, money transfer and insurances through the third parties, bill and utility payments.
- A payments bank is a **differentiated bank**, offering a limited range of products. It can accept deposits of **up to ₹ 1 lakh per customer.**

The bank also provides features like:

- **Account:** The bank offers savings and current accounts up to a balance of ₹2 Lakh.
- **QR Card:** Customers can use QR code payments eliminating the need to remember account numbers, PINs and passwords.
- Unified Payments Interface
- Immediate Payment Service
- National Electronic Funds Transfer
- Real-time gross settlement
- Bharat BillPay
- Direct Benefit Transfer
- RuPay Debit Card
- AEPS (Adhaar Enabled Payment Service)

PAYMENTS BANK	SMALL FINANCE BANK
Can accept deposits, but only up to ₹1 lakh per individual customer	Allowed to take deposits of any amount
Can't lend in any form	Can lend but the focus will be on small lending
Can open small savings accounts	Can finance small business units, small and marginal farmers, micro and small industries and unorganised sector entities
Can provide remittance services	Can provide remittances as well as credit cards
Allowed to issue automated teller machine (ATM) or debit cards	Allowed to issue ATM or debit cards
Not allowed to issue credit cards	Has to ensure that 50% of loan portfolio constitutes advances of up to ₹25 lakh
Can distribute products such as mutual funds, insurance and third-party loans	Can distribute financial products such as mutual funds, insurance and pension

Source: RBI website

Courage Award for protecting democracy

Why in news?

Ukrainian President Volodymyr Zelenskyy is among five people named as recipients of the John F. Kennedy Profile in Courage Award for acting to protect democracy.

- He was chosen because of the way he has marshaled the spirit, patriotism and untiring sacrifice of the Ukrainian people in a life-or-death fight for their country.
- The awards will be presented on May 22 at the John F. Kennedy Presidential Library in Boston.

Other details

- The John F. Kennedy Library Foundation said four U.S. officials were chosen for standing up for free and fair elections.
- They are Republican U.S. Rep. Liz Cheney of Wyoming, Michigan Secretary of State Jocelyn Benson, Arizona House Speaker Rusty Bowers, and Fulton County, Georgia, elections worker Wandrea "Shaye" Moss.

The John F. Kennedy (JKF) Library Foundation

- The John F. Kennedy Library Foundation is a non-profit organization that provides financial support, staffing, and creative resources for the John F. Kennedy Presidential Library and Museum.
- The Kennedy Library Foundation is not a grant-making foundation.
- The primary mission of the John F. Kennedy Library Foundation is to support the work of the John F. Kennedy Presidential Library and Museum whose core function is to collect, preserve, and make available for research the documents, audiovisual material and memorabilia of President Kennedy, his family, and his contemporaries.

Profile in Courage Award

- The Profile in Courage Award is a private award given to recognize displays of courage similar to those John F. Kennedy originally described in his book of the same name.
- The Profile in Courage Award is created in 1989.
- It is given to individuals (often elected officials) who, by acting in accord with their conscience, risked their careers or lives by pursuing a larger vision of the national, state or local interest in opposition to popular opinion or pressure from constituents or other local interests.
- The winners of the award are selected by a committee named by the John F. Kennedy Library Foundation.
- It is generally awarded each year around the time of JFK's birthday (May 29) at a ceremony at the Kennedy Library in Boston.
- Two recipients, John Lewis (in 2001) and William Winter (in 2008), were designated as honorees for Lifetime Achievement.

Khelo India University Games 2021

Why in news?

The Khelo India University Games 2021 were declared open by the Vice President of India on 24th April.

- The Vice President emphasised the need to encourage sporting activity upto village level.

Key highlights

- The Vice President called for developing the necessary sports infrastructure at the grassroots level, with concerted efforts of the centre, state and local bodies.
- The Vice President also called for awarding some extra marks to sportspersons in college admissions and promotions in various departments.

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- This edition of Khelo India would feature 20 sports disciplines with indigenous sports like Yogasana and Mallakhamba introduced for the first time.
- About 3879 competitors from 200-plus universities will be in action across 20 different disciplines including indigenous sports like Mallakhamba and Yogasana.

Khelo India

- The Khelo India programme has been introduced to revive the sports culture in India at the grass-root level by building a strong framework for all sports played in our country and establish India as a great sporting nation.
- Talented players identified in priority sports disciplines at various levels by the High-Powered Committee will be provided annual financial assistance of INR 5 lakh per annum for 8 years.

Importance of sports

- Alternative careers
- Health advantages
- Channelization of youth energy
- Tackling numerous societal problems
- Revenue generation
- Promotes the spirit of Unity in Diversity
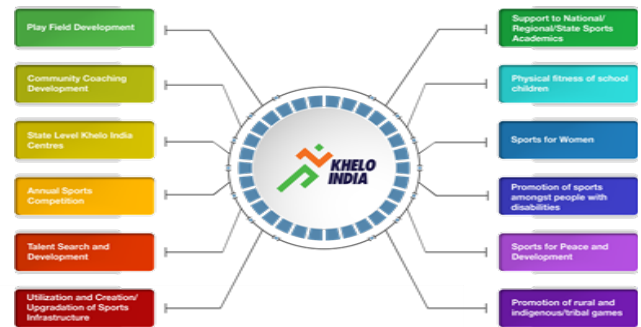
Issues associated with the Sports Sector

- Funding crunch
- Resource deficit
- High-performance pressure
- Religious barriers
- Lack of sports culture
- Sports & Politics

All India Economic Strategy to 2035

- To increase medal tallies in the short to medium term, the Indian Government is likely to target the development of a select list of sports in which India has demonstrated potential.
- These will include athletics, badminton, boxing, cycling, gymnastics, hockey, shooting, squash, swimming, table tennis, weightlifting and wrestling.
- The Australian Government, along with state governments, could play a major role in collaborating with Indian counterparts as they seek to establish national sporting frameworks and systems.
- India already looks to Australia as a model in sports for achieving results.
- **Growing role of private sector:** the sport sector in India has historically been government-led with private participation limited to public-private partnerships in infrastructure development and sports academics- this balance has shifted in recent years
- The Australian model demonstrates the need for grassroots participation and a strong supporting structure such as workforce development, sports science and medicine as well as governance is needed.

The importance of sports in nation building

Sports has a huge role to play when it comes to nation-building and the same is evident from the following:

- **Builds and define the character of a nation**
  - ➢ It helps in elevating qualities like discipline, determination, teamwork and a passion for fitness in the psyche of a nation.
  - ➢ Once you are into sports, certain virtues like teamwork, ethics, and sportsmanship become lifelong qualities.

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- **Helps in guiding the youth in the proper direction**
  - ➢ Various sport programs can be used in slums to bring change and hope in the lives of many destitute children in slums.
  - ➢ Overcoming problems like children dropping out of school, rampant drug abuse in the slums, this has created hope and brought positivity amongst thousands of children in the slums.

- **Helps in building infrastructure**
  - ➢ The 2008 Beijing Olympic Games as China's "coming out" party—an event that showcased China's transformation into a great economic power.
  - ➢ In India, as part of Nehru's attempt to forge new Asian solidarity, the Asian Games were virtually invented by India and the first Asian Games in 1951 in Delhi emerged from this crucible.
  - ➢ 1982 Delhi Asiad recreated Delhi and also facilitated the creation of first national TV service and introduced the colour TV to India.

- **Creating a Global community**
  - ➢ Any major international sporting event like the Olympics or a World Cup promotes universal brotherhood and gives one a sense of belonging to a larger global community.

'Azadi Se Antyodaya Tak' campaign

Why in news?

Union Minister for Rural Development & Panchayati Raj launched 'Azadi Se Antyodaya Tak'.

- It is a 90-day campaign with a mission to saturate 75 Districts across 28 States/UTs with beneficiary schemes of 09 central ministries.

Nine Central Ministries are:

Ministry of Rural Development, Department of Social Justice & Empowerment-Divyangjan, Ministry of Women & Child Development, Department of Financial Services, Ministry of Skill Development & Entrepreneurship, Department of Agriculture & farmers Welfare, Department of Health & Family Welfare, Department of Animal Husbandry & Dairying and Ministry of Labour & Employment.

Goal of the campaign

- The goal of the campaign is to take up 17 select schemes with direct assistance to beneficiaries in saturation mode, reaching out to the person at the bottom of the pyramid in rural areas by each of the participating ministries/departments.

Key details

- The identified districts are aligned with the birth place of 99 Freedom Fighters, who made the ultimate sacrifice for the nation during India's struggle for independence.
- The 75 districts, marginally lagging behind in the development parameters, have been shortlisted through MPCE (Monthly per Capita Indicators) and SECC-2011 (Socio-Economic Caste Census) data.
- Through the campaign, the people will now get to know about unsung heroes of the freedom struggle.
- This campaign is being implemented involving all rural stakeholders such as Panchayati Raj Institutions (PRIs), families of selected freedom fighters, youth groups, women networks, and students.
- This campaign will also be supported by public servants like local MLAs, MPs, Sarpanch, etc.

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DOWN TO EARTH

Kangaroos in Dooars

Why in news?

Jalpaiguri in north Bengal is becoming a new transit point for the trafficking of native and even exotic wildlife after the discovery of kangaroos.

- Jalpaiguri have become a favourite with those who are involved in illegal wildlife trafficking because surveillance on other routes has increased.

Other key details

- **The borders of three of India's neighbours —** Nepal, Bhutan and Bangladesh lie close to the city and district as these are located near the strategic 'Chicken's Neck' corridor.
- Myanmar and China are also not too far away.
- According to an environmental activist, Jalpaiguri route was being used to traffic wildlife mainly to China, Vietnam, Cambodia, Laos, Thailand and via Bangladesh, to Persian Gulf countries.
- Three dead and four alive kangaroos were discovered in siliguri.
- Some sources say that kangaroos are being bred in Sri Lanka and are being sent to different places, especially China.
- The route being taken is either via Sikkim or via Phuentsholing in Bhutan to China. Jalpaiguri has thus become a transit point.
- Other than living animals, body parts such as fur, skin, stuffed heads, teeth and bone are also trafficked.

What can be done?

- The forest department and the Wildlife Crime Control Bureau (WCCB) is very active in the area.
- A special officer has been appointed, who is based in Siliguri to check crime.
- The WCCB had taken initiatives to organise regular workshops with other stakeholders like the Border Security Force, Customs, the Sashastra Seema Bal, the forest department and the police to maintain awareness.

Illegal wildlife trade in India

- Illegal wildlife trade has emerged as a form of Organised Transnational Crime that has threatened the existence of many wild species across the globe.
- In India, it includes diverse products including mongoose hair; snake skins; Rhino horn; Tiger and Leopard claws, bones, skins, whiskers; Elephant tusks; deer antlers; shahtoosh shawl; turtle shells; musk pods; bear bile; medicinal plants; timber and caged birds such as parakeets, mynas, munias etc.
- A large part of this trade is meant for the international market and has no direct demand in India.
- In India, the problem is not of the laws but that these may be poorly communicated and just as poorly implemented and enforced.
- The positive efforts to address wildlife trade concerns are undermined by lack of political will and governance failures.
- Without political backing, disincentives for over-exploitation and illegal trade, such as penalties for legal infringements, are all too often weak.

Laws and Government Initiatives

- **Prevention Of Cruelty to Animals Act, 1960**
  - This act regulates Dog breeding, Animal Markets, Aquarium and Pet 'fish' shop owners.
  - Prevention Of Cruelty to Animals (Care and Maintenance of Case of Property Animals) Rules 2017- if accused is convicted or pleads guilty, the magistrate shall deprive him ownership of animal and forfeit the seized animal to rehabilitation centre, infernary, or any organization.

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- **Wildlife Protection Act, 1972**
  - ➤ It provides for authorities to administer and implement Act; regulate the hunting of wild animals, protect specified plants, sanctuaries, national parks and closed areas, restrict illegal trade and commerce in wild animals or animal articles and miscellaneous matters.
  - ➤ Section 39 of this act specifies that any wild animal hunted, bred, fed, found, killed, alive or dead shall be property of a State Government.
- **Indian Penal Code, 1860**
  - ➤ Section 428 and Section 429 reads that killing, poaching, maiming, poisoning or torturing an animal is a cognizable offence and immediately FIR must be lodged in area police station.
  - ➤ The punishment for such act is rigorous imprisonment which may extent to five years or fine or both.
- **Constitution of India**
  - ➤ Under Article 51A (g), it is a fundamental duty of every citizen of India to protect and improve natural environment including forests, lake, rivers and wildlife and to have compassion for living creatures.
- **Prevention of Cruelty to Animals (Slaughter House) Rules, 2001**
  - ➤ Act provides that no one can slaughter animals in slums, in roadside meat shops or in dhabas or in private houses. Animal sacrifice is illegal.
  - ➤ The act of animal sacrifices is covered under Local Municipal Corporation Acts, Prevention of Cruelty to Animals Act, 1960, Wildlife (Protection) Act, 1972, Indian Penal Code (IPC).
- **CITES (Convention on International Trade in Endangered Species of Fauna and Flora)**
  - ➤ India is also a member of the CITES (Convention on International Trade in Endangered Species of Fauna and Flora) since 1976.
  - ➤ CITES is an international agreement between governments that aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
  - ➤ CITES works by subjecting international trade in specimens of selected species listed on Appendices to certain controls.

Conclusion

- There is an urgent need for knowledge and action to bring legal wildlife trade within sustainable levels and stop all illegal wildlife trade that has threatened and even pushed many species towards extinction.
- Towards this trafficking, a wildlife trade monitoring network and a joint programme of WWF, the global conservation organization and IUCN, the International Union for Conservation of Nature, established in 1976, works closely with the National and the State Governments and various agencies to help study, monitor and influence action to curb illegal wildlife trade and bring wildlife trade within sustainable levels.

Climate change and us

Why in news?

In a study published in Nature, it is found that, ancient humans are likely evolved in response to climate shifts by settling and adapting to newer habitats.

- Climate change driven by astronomical forces — such as tilt in the Earth's axis and changes in the shape of the Earth's orbit around the sun — has influenced how much solar radiation reaches the planet.

Climate change

- Climate change refers to **long-term shifts in temperatures and weather patterns.** These shifts may be natural, but since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels (like coal, oil, and gas), which produces heat-trapping gases.

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Key findings

- According to researchers, climate change spurred the ice age and the warmer interglacial periods.
- These climatic shifts determined where food was available, driving migration and adaptations.
- Astronomically-forced past climate change determined where ancient humans lived and how their habitat and food-preferences changed over time due to adaptation.
- **The researchers mapped the habitats of five human lineages:** Homo neanderthalensis, Homo erectus, Homo heidelbergensis, African Homo — Homo habilis and Homo ergaster — and Homo sapiens.
- According to their analysis, Homo erectus and Homo sapiens had the most extensive habitats. While Neanderthals were more concentrated in Europe, the early African homo found refuge in eastern and southern Africa. Homo heidelbergensis settled in **southern Africa, east Africa, and Eurasia.**
- The researchers highlighted that all five human species showed a preference for a particular habitat and they responded to climate shifts.
- For example, Homo heidelbergensis and Neanderthals had to migrate from Northern Europe when ice ages made the region cold and dry. So, they moved south to the Mediterranean, which had enough food available.
- Researchers also found that around two to one million years ago, early African hominins preferred stable climatic conditions, staying back in narrow habitable corridors.
- On the other hand, Homo heidelbergensis, migrated and adapted to make use of a much wider range of available food resources in new environments.
- Homo heidelbergensis became global wanderers by reaching remote regions in Europe and eastern Asia.
- **The researchers also told that when and how one species developed into another. When major ice age cycles began, Homo heidelbergensis split into two groups:** European and African.
- Around 400,000-500,000 years ago, the European group may have gradually evolved into Neanderthals.
- Around 200,000-300,000 years ago, the African group likely developed into the earliest Homo sapiens in the southern part of the continent.
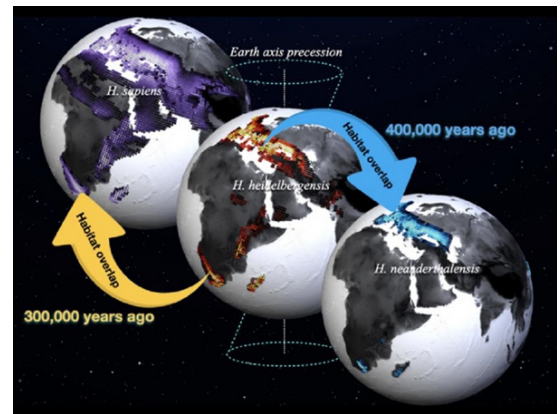
Climate change impact on humans

- Warmer temperatures over time are changing weather patterns and disrupting the usual balance of nature. This poses many risks to human beings and all other forms of life on Earth.
- **Hotter temperature**
  - Nearly all land areas are seeing more hot days and heat waves.
  - 2020 was one of the hottest years on record.
  - Higher temperatures increase heat-related illnesses and can make it more difficult to work and move around.
- **More severe storms**
  - Changes in temperature cause changes in rainfall.
  - This results in more severe and frequent storms.
  - They cause flooding and landslides, destroying homes and communities.
- **Increased drought**
  - Water is becoming scarcer in more regions.
  - Droughts can stir destructive sand and dust storms that can move billions of tons of sand across continents.
  - Deserts are expanding, reducing land for growing food.
  - Many people now face the threat of not having enough water on a regular basis.
- **A warming, rising ocean**
  - The ocean soaks up most of the heat from global warming.

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- ➢ This melts ice sheets and raises sea levels, threatening coastal and island communities.
- ➢ The ocean also absorbs carbon dioxide, keeping it from the atmosphere. More carbon dioxide makes the ocean more acidic, which endangers marine life.
- **Loss of species**
  - ➢ Climate change poses risks to the survival of species on land and in the ocean.
  - ➢ These risks increase as temperatures climb.
  - ➢ Forest fires, extreme weather, and invasive pests and diseases are among many threats.
- **Not enough food**
  - ➢ Changes in climate and increases in extreme weather events are among the reasons behind a global rise in hunger and poor nutrition.
  - ➢ Fisheries, crops, and livestock may be destroyed or become less productive.
  - ➢ Heat stress can diminish water and grasslands for grazing.
- **More health risks**
  - ➢ Changing weather patterns are spreading diseases such as malaria.
  - ➢ Extreme weather events increase diseases and deaths, and make it difficult for health care systems to keep up.
  - ➢ Other risks to health include increased hunger and poor nutrition in places where people cannot grow or find sufficient food.
- **Poverty and displacement**
  - ➢ Climate change increases the factors that put and keep people in poverty. Floods may sweep away urban slums, destroying homes and livelihoods.
  - ➢ Heat can make it difficult to work in outdoor jobs. Weather-related disasters displace 2.3 crore people a year, leaving many more vulnerable to poverty.

Conclusion

The history of past civilizations has often been closely linked to changing climatic conditions. From the above research, the characteristics of settlement preferences, the distribution of settlements is accurately predicted, and the relationship between settlement preferences and the evolution of the environment and civilization is verified.

Life Expectancy

Why in news?

Adivasis, Dalits and Muslims are three of India's most disadvantaged groups and they have a lower life expectancy than "higher-caste" Hindus.

- Adivasis have a life-expectancy over four years lower, Dalits more than three years lower and Muslims almost a year lower than that of upper-caste Hindus.

Life expectancy

- Life expectancy is a statistical measure of the average time an organism is expected to live, based on the year of its birth, its current age, and other demographic factors like sex.
- **The most commonly used measure is life expectancy at birth (LEB), which can be defined in two ways.**
  - ➢ Cohort LEB is the mean length of life of a birth cohort (all individuals born in a given year) and can be computed only for cohorts born so long ago that all their members have died.
  - ➢ Period LEB is the mean length of life of a hypothetical cohort assumed to be exposed, from birth through death, to the mortality rates observed at a given year.

NOTE:

- The life expectancy at birth in 2019 was **69.5 years** for men and 72 years for women, which came down to 67.5 years and 69.8 years, respectively, in 2020.
- The life expectancy at birth is calculated on the basis of the average number of years a new born is expected to live if mortality patterns at the time of the birth of the infant remain constant in future.

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Key Findings of the study

- The report published in the Proceedings of the National Academy of Sciences of the United States of America (PNAS), highlighted the impact of discrimination and social exclusion on health disparities.
- According to report, the relatively smaller gap between life expectancy of Muslims and higher-caste Hindus is largely due to lower exposure to open defecation among Muslim children, lower rates of cervical cancers among Muslim women, lower consumption of alcohol and fewer suicide.
- The study assessed data from India's Annual Health Survey, 2010-2011, focussing on nine states — Assam, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand — representing 48.5 per cent of India's population.
- The impact of social exclusion as a result of one's religion, caste or indigenous group on health and access to healthcare is an underexplored topic in low- and middle-income countries (LMIC).
- Patterns of disparities may be distinct in LMICs because population health is poorer, social safety nets are less robust, health care is less accessible and mortality risk-factors differ.
- Life expectancy of upper-caste Hindus in the nine states was higher than the all-India life expectancy in 2010.
- Moreover, the same indicator for Adivasis and Dalits "are lower than those observed for all of India in 1996-2000, more than ten years before the survey."
- The study also found a marginal difference in life expectancy based on sex.
- Life expectancy of Adivasi men was five years lower and of Adivasi women four years lower than higher-caste Hindus.
- There was no difference in life expectancy between Dalit women and men.
- Among the nine states, Assam recorded the highest life expectancy for the Adivasi population, while Madhya Pradesh recorded the lowest.
- The Dalit population recorded the highest life expectancy in Jharkhand and the lowest in Uttar Pradesh.
- For the Muslim population, life expectancy was the highest in Rajasthan and lowest in Uttar Pradesh.

Conclusion

From a policy perspective, these findings suggest that population health interventions that explicitly challenge social disadvantages are essential because addressing economic inequality may not be sufficient.

Nitrogen levels on a decline

Why in news?

An imbalance in nitrogen availability has been reported across the globe, with some places having an excess and others a shortage of the element.

- This has been hurting aquatic and terrestrial life.

Nitrogen

- Nitrogen is a **colorless and odorless diatomic gas.**
- N_2 forms about 78% of Earth's atmosphere, making it the most abundant uncombined element.
- Nitrogen occurs in all organisms, primarily in amino acids (and thus proteins), in the nucleic acids (DNA and RNA) and in the energy transfer molecule adenosine triphosphate.
- The human body contains about 3% nitrogen by mass, the fourth most abundant element in the body after oxygen, carbon, and hydrogen.
- Many industrially important compounds, such as ammonia, nitric acid, organic nitrates (propellants and explosives), and cyanides, contain nitrogen.
- Apart from its use in fertilisers and energy-stores, nitrogen is a constituent of organic compounds as diverse as Kevlar used in high-strength fabric and cyanoacrylate used in superglue.
- Nitrogen is a constituent of every major pharmacological drug class, including antibiotics.

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Key findings of the study

- There is both too much nitrogen and too little nitrogen on Earth at the same time.
- Without nitrogen, an essential nutrient, plants grow slowly and produce smaller flowers and fruits.
- Their leaves turn yellowish and are less nutritious to insects, birds and animals.
- Nitrogen availability has been shrinking in grasslands in central North America for a hundred years.
- Cattle grazing areas have had less protein in their diets over time.
- Many forests in North America and Europe have also suffered from nutritional declines for several decades or longer due to the same reason.
- Tropical and boreal forests may be particularly vulnerable.
- Plants grow quickly when exposed to high carbon dioxide (CO_2) concentrations.
- High CO_2 levels dilute plant nitrogen, triggering a cascade of effects that lower the availability of nitrogen.
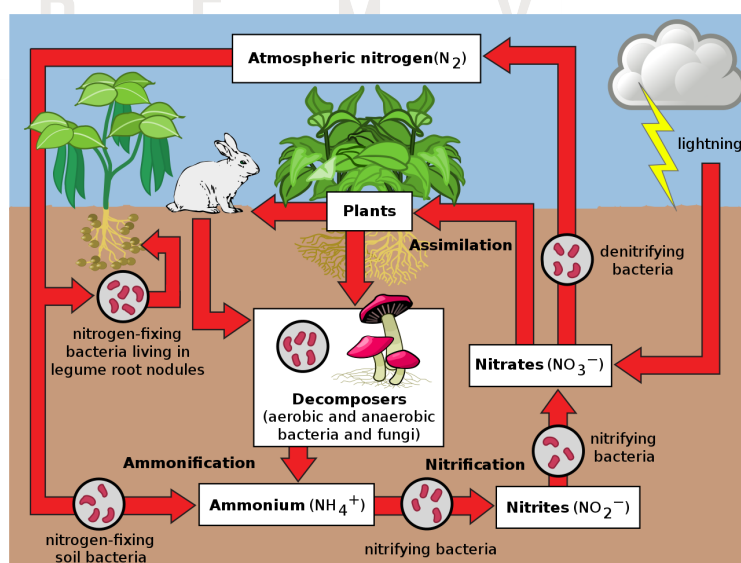
Low Nitrogen level

- Other factors contributing to nitrogen decline include warming and disturbances, including wildfire.
- Declining nitrogen availability can be linked to insect apocalypse.
- Plants with low nitrogen levels can encourage swarming in some species of locusts.
- Low nitrogen availability could limit plants' ability to capture CO_2 from the atmosphere.
- The strong indications of declining nitrogen availability in many places and contexts are another important reason to rapidly reduce our reliance on fossil fuels.

Nitrogen by humans

- Human production of nitrogen is now five times higher than it was 60 years, according to a 2017 study.
- According to the National Oceanic and Atmospheric Administration, when excessive nitrogen accumulates in the streams, inland lakes and coastal bodies of water, it could sometimes result in eutrophication, leading to harmful algal blooms, dead zones and fish kills.
- In humans, high levels of nitrogen in the groundwater are linked to intestinal cancers and miscarriages and can be fatal for infants.

Nitrogen cycle

- The nitrogen cycle is the **biogeochemical cycle** by which nitrogen is converted into multiple chemical forms as it circulates among atmosphere, terrestrial, and marine ecosystems.
- The conversion of nitrogen can be carried out through both biological and physical processes.
- Important processes in the nitrogen cycle include **fixation, ammonification, nitrification, and denitrification.**
- Human activities such as fossil fuel combustion, use of artificial nitrogen fertilizers, and release of nitrogen in wastewater have dramatically altered the global nitrogen cycle.
- Human modification of the global nitrogen cycle can negatively affect the natural environment system and also human health.

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Conclusion

- Excess nitrogen in the atmosphere can produce pollutants such as ammonia and ozone, which can impair our ability to breathe, limit visibility and alter plant growth. When excess nitrogen comes back to earth from the atmosphere, it can harm the health of forests, soils and waterways.

- Similarly, when nitrogen level is low or there is no nitrogen available, a plant cannot make proteins, amino acids, and even its very DNA. This is why when there is a nitrogen deficiency in the soil, plants are stunted. They simply cannot make their own cells.

Central Water Commission (CWC) data

Why in news?

Live storage of water in India's major reservoirs has been continuously dipping amid an early and intense heat wave as well as deficient pre-monsoon rainfall.

- The storage levels in 140 major reservoirs monitored by the Central Water Commission (CWC) fell to 39% of their cumulative capacity from 50% from March 17-April 21, 2022 — a 2-3% dip every week.

Reservoir

- A reservoir is an artificial lake where water is stored. Most reservoirs are formed by constructing dams across rivers.
- A reservoir can also be formed from a natural lake whose outlet has been dammed to control the water level.
- The dam controls the amount of water that flows out of the reservoir.

Other details

- More water is lost to evaporation as the summer peaks, resulting in a dip in water levels.
- This raises concerns about meeting the daily water needs of cities as well as for summer crops.
- Low water storage due to a delayed monsoon arrival or inadequate rainfall can affect the upcoming Kharif-sowing season.
- It may also pose a challenge in meeting the peak electricity demand as 45 of these 140 reservoirs are for hydropower generation.
- Live storage available in these reservoirs is 68.739 billion cubic meter (BCM), against the total capacity of 175.957 BCM.
- The nine major reservoirs in the northern region has the lowest live storage (32%).
- The western region has 44% live storage, followed by central with 42% and southern and eastern regions with 37% live storage each.
- There are at least 12 reservoirs with storage 10 per cent or lower.
- In the 23 meteorological subdivisions of India Meteorological Department (IMD), all have recorded deficient rainfall, meaning a departure from normal.
- The highest departure of 100% from normal was recorded in two subdivisions of eastern Uttar Pradesh and Saurashtra, Kutch and Diu, followed by 99% departure in Vidarbha, Gujarat region, Haryana, Chandigarh and Delhi and West Uttar Pradesh subdivisions.
- In eastern Uttar Pradesh, the live storage is only half of its capacity.
- In the drought-prone subdivision of Saurashtra, Kutch and Diu, live storage is just 28% of the capacity.
- Out of the 45 reservoirs with hydropower benefit, at least 32 have below 50% storage.

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Correlation between rainfall, surface water level and groundwater level

- In the dry season, the upgradient surface water in the reservoir is positively correlated with the downgradient level in the reservoir.

- This indicates that the water level upgradient of the reservoir directly influences the water level downgradient of the reservoir.

- The level of the upgradient and downgradient waters in the reservoir is not well correlated with the rainfall intensity, indicating that the release of the water in the reservoir may not be influenced by rainfall since it could be related to the need of the water for irrigation.

- There is no apparent relationship between rainfall and the depth to groundwater at any well.

- This is expected because there is less rainfall in the dry season and hence the groundwater level should be independent of the rainfall intensity.

- On the other hand, the depth to groundwater is well negatively related to the upgradient and downgradient water levels in the reservoir.

- This suggests that when the water level in the reservoir is high and the groundwater table is shallow.

- This is expected both in the rainy and dry seasons.

- On average, the groundwater level in the study area fluctuated correspondingly because the correlation coefficients between depths to groundwater in the observation wells are highly positive correlated.

Central Water Commission (CWC)

- Central Water Commission (CWC) is a technical organisation that functions as part of the **Ministry of Jal Shakti.**

- They are entrusted with the responsibilities of providing consultation to various state governments on water bodies related issues, coordinate various governmental schemes for conservation, control, and utilisation of water resources.

- Central Water Commission help state governments in devising and analysing flood control measures.

- They undertake flash flood forecast as well.

- Water Power Development is another area where central water commission undertakes the tasks of investigations, construction and executions.

- The Chairman of the Central Water Commission has the status of Ex-Officio Secretary to the Government of India.

Conclusion

Increasing climate and water resources variability (like droughts and floods), continuous population growth, controversy surrounding development of traditional storage, increasing sensitivity to environmental issues globally, and general understanding of the need to find ways for buffering variability in the future for food security reasons keep the issues of water storage development firmly on the development agenda.

India's threatened and endemic species

Why in news?

According to a study published in Environmental Research Letters, Kerala, Tamil Nadu and Karnataka host a large share of India's threatened and endemic species of amphibians, birds and mammals.

- The three states account for 51% of the country's species threat abatement and restoration (STAR) score.

- A higher STAR score indicates greater presence of threatened species.

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Species Threat Abatement and Recovery (STAR) Metric

- *STAR was previously known as the Biodiversity Return on Investment Metric (BRIM).
- The STAR* measures the contribution that investments can make to reducing species extinction risk.
- It can help national and subnational governments, cities, civil society, the finance industry, investors and companies to target their investments and activities to achieve conservation outcomes and contribute to global policy aims.

Key features of the STAR:

- A fully additive metric, from pixel to global, or across sites in a portfolio
- Allows comparison across investment targets – a change in value in one place is directly comparable to a change somewhere else on the planet
- Responsive at the pace of investors
- Based on the IUCN Red List of Threatened Species – the global standard for documenting species' conservation status

STAR calculation

- The STAR apportions the relative contribution of threats (pressures) to each threatened species' extinction risk.
- For a particular site, land management unit, or administrative region (country or province), the STAR shows the potential for reducing extinction risk before investment activities start (ex-ante measure), or can measure the achieved impact of conservation interventions on extinction risk over time (ex-post measure).
- The STAR shows how interventions deliver reductions in pressure that can result in changes to the Red List Index (RLI), which is used as the biodiversity indicator for the Sustainable Development Goals, the Aichi Targets and the United Nations System for Environmental-Economic Accounting.
- The STAR responds to change faster than the Red List Index and can be meaningfully applied at smaller scales. Positive changes in the STAR are clear evidence of progress generated by investment towards reducing extinction risk.

Key findings

- India's total national STAR score was 41,817, of which 11,585 was for mammals, 10,843 for birds and 19,389 for amphibians.
- The global STAR score for the three species groups combined was 1,223,500.
- **India's national STAR score represented 3.4 per cent of the global STAR;**
  - ➢ it was 3.7 per cent for mammals
  - ➢ 2.9 per cent for birds and
  - ➢ 3.6 per cent for amphibians
- The top 20% of all 36 states contributed 80% to the national STAR score.
- These include Kerala (20%), Tamil Nadu (18%), Karnataka (13%), Arunachal Pradesh (6%), Assam (5%), Maharashtra (5%) and the Andaman and Nicobar Islands in the Indian Ocean (12%).
- In contrast, the 20 states with lower STAR scores contributed only 6 per cent to the national STAR score. This is because several of them are small in area and host few threatened species.
- Several bigger states such as Uttar Pradesh, Bihar, Odisha and Telangana, however, contributed less than 1 per cent to the national STAR score.
- The high STAR scores of the top three states (51% combined) were primarily due to the presence of a number of endemic amphibian species that are critically endangered like Indirana phrynoderma (Kerala Indian frog), Fejervarya murthii (Ghats wart frog), Indirana gundia (Gundia frog), Micrixalus kottigeharensis (Kottigehar dancing frog) and others.
- The high scores of the northeastern states of Arunachal Pradesh and Assam were due to the presence of a high number of threatened birds and mammals such as Liocichla bugunorum and Biswamoyopterus biswasi.

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Threats negatively affecting species

- Addressing threats from annual and perennial non-timber crop production can contribute the most to reducing extinction risk for amphibians, birds and terrestrial mammals.
- Such threats alone account for 44 per cent of the total Indian STAR score.
- The next important threats are biological resource use — hunting and collecting birds and animals, logging and wood harvesting as well as residential and commercial development.
- The study calculated the STAR metrics to identify which threats are negatively affecting which species in each state and where habitat restoration will yield the maximum returns for individual species.
- The relative contribution of each of the 97 individual threats listed in the threats classification scheme of the IUCN Red List database was calculated to the total STAR metric threat-abatement score of each species in each state / district, by considering the scope and severity of each threat.

Recovery calculation

- The STAR metric restoration scores per state/district was calculated, considering the rate of recovery of a species' population to calculate how much restoring the lost historical habitat of each species in each state/district of India could contribute towards reducing their global extinction risk.

Reduce biodiversity loss

- An important step to reduce biodiversity loss in India will be the generation of high spatial resolution quantitative information on threats affecting individual species in different regions as well as regions where habitat restoration can yield best outcomes for the species.

IUCN Red List of Threatened Species

- The IUCN Red List of Threatened Species is the world's most comprehensive inventory of the global conservation status of plant and animal species.
- It uses a set of quantitative criteria to evaluate the extinction risk of thousands of species.
- With its strong scientific base, the IUCN Red List is recognised as the most authoritative guide to the status of biological diversity.

What does IUCN mean by "threatened"?

- Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species are considered to be threatened with global extinction.

What does each category mean?

- In descending order of threat, the IUCN Red List threat categories are as follows:

Extinct or Extinct in the Wild

- Critically Endangered, Endangered and Vulnerable: species threatened with global extinction.
- Near Threatened: species close to the threatened thresholds or that would be threatened without ongoing conservation measures.
- Least Concern: species evaluated with a lower risk of extinction.
- Data Deficient: no assessment because of insufficient data.

Utility of the Red List

- **The IUCN Red List is used by institutional, business and community users such as:**
  - ➤ National and international government agencies
  - ➤ Wildlife departments
  - ➤ Conservation-related non-governmental organisations (NGOs)
  - ➤ Natural resource planners
  - ➤ Educational organisations
  - ➤ Zoos and aquariums
  - ➤ Students
  - ➤ Media
  - ➤ Business community

◆   ◆   ◆   ◆   ◆

YOJANA

Fintech Beyond Boundaries

Introduction

The Government has demonstrated to the world a unique model of Public-Private Partnership by building a strong public infrastructure in the India Stack- that facilitates and enables private sector innovation.

The India Stack is based on a four-pronged approach.

1. Biometric identity in the form of Aadhaar for identification
2. Getting everyone a bank account through Pradhan Mantri Jan-Dhan Yojana (PMJDY) and building financial inclusion
3. Building scalable platform(s) to transfer money [Immediate Payment Service (IMPS), Unified Payment Interface (UPI), Bharat Bill Payment System (BBPS), etc.]
4. Allowing banks and fintech to access platforms like UPI, Goods and Services Tax Network (GSTN) & DigiLocker to innovate.

Fintech

- Financial technology is the technology and innovation that aims to compete with traditional financial methods in the delivery of financial services. It is an emerging industry that uses technology to improve activities in finance.
- Fintech to enhance the frameworks that ensure accountability and transparency economic and social well-being of millions of people around the world.

India - A global FinTech Superpower

- India is one of the **largest and fastest-growing fintech markets** in the world with more than 2100 fintech and is the third-largest fintech ecosystem in line after the US and China.
- India has a **fintech adoption rate of 87%**, which is the **highest in the world** with the global average at around 64%.
- Indian FinTech industry's market size is $31 Bn in 2021 and is estimated at ~$ 150 Bn by 2025.
- The Fintech transaction value size is set to grow from US$ 66 Bn in 2019 to US$ 138 Bn in 2023, at a CAGR of 20%.
- The Indian Fintech industry ecosystem sees a wide range of subsegments, including Payments, Lending, Wealth Technology (WealthTech), Personal Finance Management, Insurance Technology (InsurTech), Regulation Technology (RegTech), etc.
- The Fintech sector in India has seen a funding of $8.53 Bn (in 278 deals) in FY22.
- As of March 2022, India's Unified Payments Interface (UPI) has seen participation of 313 banks and has recorded 5.4 Bn monthly transactions worth over $128 Bn.
- As of April 2022, India has 16 Fintech companies, which have gained 'Unicorn Status' with a valuation of over $1 bn.

Digital Public Infrastructure

- DPI refers to **digital solutions** that enable basic functions essential for **public and private service delivery,** i.e. collaboration, commerce, and governance.
- DPI solutions can improve the lives of people around the world by enabling digital inclusion.
- The beauty of digital public goods, i.e., open-source software, open data, open AI models, open standards, etc., is that anyone, anywhere, can contribute to them and use them.

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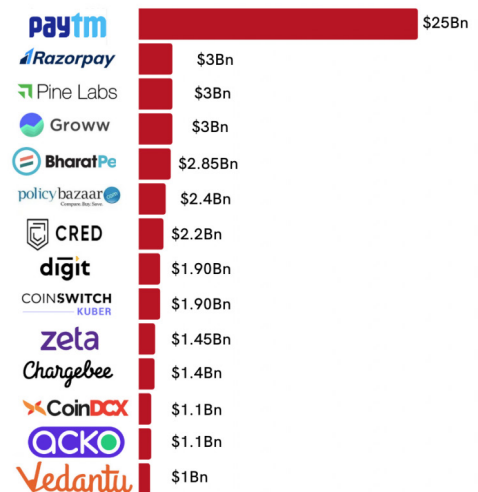
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Fintech Unicorn in India

The fintech revolution in India through important initiatives:

- Jan Dhan Yojana: The world's largest financial inclusion initiative, "Jan Dhan Yojna", has helped in new bank account enrollment of over 435 Mn beneficiaries for direct benefits transfer and accessibility to a host of financial services applications such as remittances, credit, insurance, and pensions enabling FinTech players to build technology products to penetrate the large consumer-base in India.

- Financial Literacy: Some of the recent initiatives towards improving financial literacy in India include setting up the National Centre for Financial Education and implementation of the Centre for Financial Literacy project by the RBI. These steps aim to promote financial education across India for all sections of the population.

- E-RUPI: e-RUPI is a person & purpose specific digital payments instrument to allow for contactless & cashless payment solutions and shall play an important role in making the Direct Benefits Transfer more seamless & effective. The solution is being adopted for cashless payments for Covid-19 vaccination.

Market Valuation of Fintech Unicorns in India

Market Valuation in $ million

Company	Valuation
paytm	$25Bn
Razorpay	$3Bn
Pine Labs	$3Bn
Groww	$3Bn
BharatPe	$2.85Bn
policy bazaar	$2.4Bn
CRED	$2.2Bn
digit	$1.90Bn
COINSWITCH KUBER	$1.90Bn
zeta	$1.45Bn
Chargebee	$1.4Bn
CoinDCX	$1.1Bn
acko	$1.1Bn
Vedantu	$1Bn

- India Stack: IndiaStack is a set of APIs that allows governments, businesses, startups and developers to utilise a unique digital Infrastructure to solve India's hard problems towards presence-less, paperless, and cashless service delivery. The India Stack has been the driving force behind the accelerated evolution of Fintechs. It is one of the most important digital initiatives undertaken globally, aimed at putting up a public digital infrastructure based on open APIs to promote public and private digital initiatives and has played a catalytic role in India's digital foundation and evolution.

Conclusion

- Fintechs solve problems that straddle across the different financial sector domains namely Banking, Capital Markets, Insurance, Funds, etc.
- As a unified regulator for the IFSCs, IFSCA (International Financial Services Centres Authority) provides a unique opportunity to fintech to craft solutions for Open banking, Open Insurance, Open Investment eventually leading to an Open Finance Ecosystem that augurs well for the Open Data Economy of the future.

Digital Identity

Introduction

'Aadhaar', the unique; online verifiable digital identity is the backbone of India's Digital revolution. This public digital infrastructure has transformed the way the government welfare programmes are being implemented. Aadhaar infrastructure coupled with new technologies like Blockchains, loT, etc., can deliver value, while staying within the boundaries of current and future laws of the land. It is most likely the single-most-important element in India's exponential growth in fintech services.

- Adhaar was launched in 2009 and in 2014 it was combined with Jan-Dhan initiative, a financial inclusion programme for India's large number of unbanked households then.
- Today, more than 80% of all Indians have a bank account, up from half that level when the programme started.
- Today, the Central Government uses APB (Aadhaar Payment Bridge)-enabled direct benefit transfers for 314 programmes/schemes. Another 450 programmes of the different State Governments also use these digital rails.

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Aadhaar has emerged as a preferred identity document because of its features:

- Aadhaar is 'Know Your Customer (KYC)'- compliant
- Electronic KYC (e-KYC)
- Aadhaar is a single source of authentication

Digital consumer base

- India's digital consumer base is the second largest in the world, and the benefits of technology are being felt by all segments of people.
- The Government catalysed the process by establishing a strong national digital foundation-public platforms and infrastructure and by rolling out lots of digital applications and services.

Digital Foundation

- **A suite of open APIs (Application Programming Interfaces)-** such as the Unified Payments Interface (UPI) and Bharat Interface for Money (BHIM)/Bharat Quick Response (QR) code for payments, DigiLocker for online document access and retrieval, electronic "Know Your Customer" (e-KYC) for electronic verification of customers* identities, c-sign, APB, Aadhaar Enabled Payment System (AEPS and the Bharat Bill Payment System (BBPS)- form part of India's strong financial digital foundation.

India Stack

- India Stack is the moniker for a set of open APIs and digital public goods that aim to unlock the economic primitives of identity, data, and payments at population scale.
- Although the name of this project bears the word India, the vision of India Stack is not limited to one country; it can be applied to any nation, be it a developed one or an emerging one.
- This project was conceptualized and first implemented in India, where its rapid adoption by billions of individuals and businesses has helped promote financial and social inclusion and positioned the country for the Internet Age.

Statistics of success

- **67 billion:** Total number of digital identity verifications
- **5.47 trillion:** INR total value of monthly real-time mobile payments
- **2.8 billion:** Total volume of monthly real-time mobile payments
- **4:** Operational Account Aggregators

Timeline

- **2009:** The Unique ID Authority of India (UIDAI) formed
- **2010:** The very first Aadhaar card is issued
- **2011:** NPCI launches Aadhaar Payments Bridge & Aadhar enabled payment system to channel government subsidies directly into Aadhaar-linked bank account.
- **2012:** UIDAI launched eKYC which brings the Know-Your-Customer.
- **2015:** CCA launches eSign as an open API, allowing Aadhaar holders to digitally sign any document.
- **2015:** MeitY launches DigiLocker
- **2016:** The number of Aadhaar holders crosses 1 billion
- **2016:** NPCI launches Unified Payments Interface, a revolution in real-time mobile payments
- **2018:** The number of mobile payments made using UPI crosses 1 billion
- **2019:** UPI monthly transaction volumes cross 1 billion
- **2021:** UPI monthly transaction volumes cross 4 billion
- **2021:** The account aggregator framework goes live with 8 banks

Artificial Revolution in Financial Sector

Introduction

- India's success in the field of fintech is a result of various facets such as the rapid adoption of digital technology by banks and the establishment of a comprehensive system of digital payment modes.
- The system encompasses everything from Unified Payments Interface (UPI) to dozens of digital payment applications and cards like RuPay to mico-banking.

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- Artificial Intelligence (AI) is providing a significant basis for future technological innovation.
- The financial sector will be transformed by AI, offering the opportunity for better and more tailor-made services, cost reduction, and the development of new business models.

Two questions naturally arise in the wake of such prolific advancement.

- First, what comes next.
- Second, what are the challenges emerging within it.

Challenges

- There are many challenges today that have not been seen before. Something needs to be done to keep these systems impenetrable.
- What can be said about a country's criminal disappearing in the internet universe after committing a crime in another country? We have also seen that an SMS becomes a means to access a person's bank account and steal his savings.
- Human beings have a role in finding their solution, but results cannot be achieved solely based on human capabilities.
- The answer to the challenges emerging from technology should be equally fast-paced, and this solution can also be achieved with the aid of technology Digital security systems are still in place at several stages in the financial system, and the consumer has also become more vigilant than before.
- Still, the new-age challenges continue to confront the capabilities of the existing security system. Perhaps we need to find a safe haven in artificial intelligence, quantum computing, and blockchain.

Role of technology in the financial sector

- The role of technology in the financial sector is becoming increasingly intensive. Today, crores of people have become part of the banking system through Jan-Dhan Yojana.
- There is a flood of mobile applications used for money transactions. More than 60 percent of transactions are covered under the UPI, and more than 250 banks are members of it.
- Now RBI has started providing money transactions even on ordinary mobile phones without the internet facility, indicating the magnitude and totality of the whole development.
- According to a study, the situation will change further by 2026, when 44% of the total financial transactions in India will come through payment gateways and aggregators, while 34% will be done through QR codes. Not only this, 22 per cent of the payments will be done through POS (Point of Sale) machines (handheld).

Buy Now Pay Later (BNPL)

- Nowadays, a new area is also gaining popularity in financial technology called 'Buy Now, Pay Later (BNPL). These are loans of a small amount for which negligible or very little interest is charged. Small loans are also being offered for smaller payments (such as movie tickets or food bills), to be repaid over a few days, weeks, or months.

Concept of Big Data

- Big Data implies that information is being generated in infinite sizes based on the activities of people on digital mediums.
- In the light of these changes, technologies such as Artificial Intelligence, data analytics, cyber security, and quantum computing need to take the driving seat to focus on both the opportunities and challenges of the modern era.

Significance

- AI plays a vital role in the technologies that monitor and analyse customer behaviour and activities.
- If it is analysed properly, it can be used to get the best results in economic, political, defence, and other such areas.
- AI can be excellent use in fraud prevention.
- Criminals who commit crimes like money laundering are considered very cunning and technically capable. Traditional methods and existing techniques are ineffective in identifying their activities. AI can 'sniff' the suspicious activities of such people. The same applies to identity theft, misuse of credit cards, etc.
- Nowadays, the role of Chatbots equipped with Al is increasing in providing services to customers.

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Way ahead

In the coming years, the first of the five critical areas in which we will witness constant change and innovation-driven by technology is- making the functioning of the financial sector fast-paced, safer, and more organised. The second area is to seek, identify and convert new possibilities into opportunities. The third critical area is interaction with customers, where the remaining barriers and limits will also be knocked down in the days to come. The fourth big area is the ability to relate financial processes to people's backgrounds and behaviours, which can bring about a paradigm shift in the sector. The last and fifth area is cyber security, which will ensure that our financial infrastructure remains secure, despite the enormous increase in the scope and volume of transactions, and variations in the financial sector.

Digital Currency

Introduction

- With reserves of precious metal becoming more competitively priced, metal objects like iron and aluminum were introduced. But a major problem that occurred with this medium of the transaction was the immense difficulties in carrying around a large number of these heavy metal objects as transactions grew.
- Certain regions of the world moved from commodity money to a representative and later, a fiat form of money like paper money and non-precious coinage. Fiat money is not backed by any commodity such as gold or silver and is typically declared by a decree from the government to be an enforceable legal tender.
- Today, countries are seized with the idea of cryptocurrency as in this modern digital age paper banknotes are gradually losing their role as a reference value in payment systems across the world.

Cryptocurrency

A cryptocurrency, crypto-currency, crypto, or coin is a digital currency designed to work as a medium of exchange through a computer network that is **not reliant on any central authority,** such as a government or bank, to uphold or maintain it.

Digital currency

- Digital currency is any currency, money, or money-like asset that is primarily managed, stored or exchanged on digital computer systems, especially over the internet. Types of digital currencies include cryptocurrency, virtual currency and central bank digital currency.

Budget 2022

- In Budget 2022, the Union government introduced Central Bank Digital Currency (CBDC) which will give a big boost to digital economy.
- It is proposed to introduce Digital Rupee based on blockchain and other technologies, and will be issue by the Reserve Bank of India starting this year.

Central Bank Digital Currencies (CBDC)

- CBDC is just the digital form of the legal currency used in the country and is not a private currency.
- Introduction of a central bank digital currency will give a big boost to the digital economy.
- Digital currency will also lead to a more efficient and cheaper currency management system.
- The digital rupee will be the digital version of physical cash issued by the RBI and will, therefore, be sovereign backed. On the other hand, cryptocurrencies are not backed by a government / central bank and can be an asset class or a payment mechanism.
- The digital rupee will be different from Bitcoin, Ethereum and other cryptocurrencies in the sense it will be backed by the government.
- Having an intrinsic value on account of government backing, the digital rupee will be equivalent to holding a physical rupee equivalent.

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Variants of CBDC

A BIS publication highlighted three different 'variants' of CBDC.

1. Account-based, where the central bank allows people to open an account and transfer money between account holders.
2. Token-based, or retail-based, where each token represents 'digital cash' for use by the general public or non-banking entities.
3. Wholesale based, where a restricted-access digital token is issued for wholesale settlements like interbank payments and even, cross-border payments.

Features of CBDC

- **Availability.**
  - ➢ Currently, access to digital central bank money is limited to central bank operating hours.
  - ➢ CBDCs could be available 24 hours a day and seven days a week or only during certain specified times (such as the operating hours of large-value payment systems).
  - ➢ CBDC could be available permanently or for a limited duration (eg. it could be created, issued and redeemed on an intraday basis).
- **Anonymity.**
  - ➢ Token-based CBDC can, in principle, be designed to provide different degrees of anonymity in a way that is similar to private digital tokens.
  - ➢ A key decision for society is the degree of anonymity vis-à-vis the central bank, balancing, among other things, concerns relating to money laundering, financing of terrorism and privacy.
- **Transfer mechanism.**
  - ➢ The transfer of cash is conducted on a peer-to-peer basis, while central bank deposits are transferred through the central bank, which acts as an intermediary.
  - ➢ CBDC may be transferred either on a peer-to-peer basis or through an intermediary, which could be the central bank, a commercial bank or a third-party agent.
- **Interest-bearing.**
  - ➢ As with other forms of digital central bank liabilities, it is technically feasible to pay interest (positive or negative) on both token- and account-based CBDCs.
  - ➢ The interest rate on CBDC can be set equal to an existing policy rate or be set at a different level to either encourage or discourage demand for CBDC.
  - ➢ Both non-interests bearing and interest-bearing accounts could be used for retail or wholesale payment transactions. The payment of (positive) interest would likely enhance the attractiveness of an instrument that also serves as a store of value.
- **Limits or caps.**
  - ➢ Different forms of quantitative limits or caps on the use or holdings of CBDC are often mentioned as a way of controlling potentially undesirable implications or to steer usage in a certain direction.
  - ➢ For example, limits or caps could make a CBDC less useful for wholesale rather than retail payments. At present, such limits or caps on holdings/use are most easily envisioned in non-anonymous account-based systems.

Challenges

- In some countries, there are legal considerations. Not all central banks have the authority to issue digital currencies and expand account access, and issuance may require legislative changes, which might not be feasible, at least in the short term.
- Other questions include whether a CBDC is "legal tender" (ie. a legally recognised payment instrument to fulfil financial obligations) and whether existing laws pertaining to transfers of value and finality are applicable.
- Central banks would also have to take account of AML/CFT concerns and requirements if they were to issue CBDC.
- Issuing a CBDC that does not adequately comply with these and other supervisory and tax regimes would not be advisable.
- To date, it is not clear how AML/CFT requirements can be implemented practically for anonymous forms of CBDC.
- For CBDC, the appropriate degree of privacy of the currency would need to be considered carefully, which could entail difficult public policy design choices for a central bank.

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- Cyber-security is currently one of the most important operational challenges for central bank systems and the financial industry more generally.
- The robustness of possible new technologies in ensuring a sound risk management framework is uncertain. Because central bank services are essential to the smooth functioning of an economy, very robust requirements for reliability, scalability, throughput and resilience are necessities.

Conclusion

Once the use of digital currency becomes widespread, backed by the government's mandate, it can be used in Direct Benefit Transfer (DBTs) to the vulnerable population ensuring increased exposure to the digitisation and quick financial assistance at the same time. C BDC will also be a further push to e-commerce with the greater trust of the masses in digital transactions that are backed by the government.

While CBDC is sure to give a boost to the already strong digital infrastructure of the country, what will be exciting to witness will be the exact system that the government introduces for the adoption of the CBDC. A country like India with a large and diverse population works as a sample market for the entire world to understand the mechanism of a new product, in this case, a digital currency.

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KURUKSHETRA

Rural Women: Integral for Aatma Nirbhar Bharat

Introduction

New India, under the leadership of the honourable Prime Minister, envisions rural India as an asset laden with great potential to speed up its economic development and also yield on delivering Sustainable Development Goals (SDG).

Government schemes/initiatives for rural wellbeing

- Ujjwala Yojana
- Deen Dayal Antyodaya Yojana
- Beti Bachao Beti Padhao
- National Health Mission
- Aatma Nirbhar Bharat
- Prime Minister's Employment Generation Program
- National Livelihood Mission
- Deen Dayal Upadhayay Grameen Kaushalya Yojana
- Pradhan Mantri Kaushal Vikas Yojana
- National Rural Economic Transformation Project
- Pradhan Mantri Matru Vandana Yojana
- Education, Productive resources and skill development schemes

Empowering rural women is vital to boost the economy, food security, poverty alleviation, reducing the impact of climate change and support in achieving the UN- millennium goals by 2030.

Rural Vs. Urban

- The rural and urban population recorded in 2001 was 74.3 crore and 28.6 crore respectively; while in 2011 it was 83.3 crore and 37.7 crores, respectively (Census, 2011).
- In 2011-12, the workforce participation rate for urban males and urban females are 54.6 percent and 14.7 percent respectively whilst rural males and rural females are 54.3 percent and 24.8 percent, respectively (MoSP, 2017).
- In rural communities, agriculture and allied sector is the primary source of livelihood of 80 percent of all economically active rural women.
- Thirty-three percent among them constitute the agricultural labour force and 48 percent are self-employed farmers.
- Women are working extensively in farm activities like production of major grains, sowing, manure preparation, fertilizer/pesticide application, seed selection and seedling production, weeding, transplanting, threshing, winnowing, etc.

Mainstreaming Women Farmers

- The concept of 'Gender Mainstreaming in Agriculture' was laid by the present government to encourage the participation of rural women in agriculture. The mission was propagated to ensure access to ongoing women-oriented schemes and resources across rural setups.
- Beneficiary-oriented schemes with special provisions for rural women are acquainted by Ministry of Agriculture and Farmers' Welfare.
- The Indian Council of Agricultural Research through one of its institutes i.e National Research Centre for Women in Agriculture (NRCWA) has been conducting several research programmes to improve rural set-ups and remove impediments for women engaged in farming activities.

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- Exclusive research projects in the aspect of gender equality in agriculture and household economy, management of the coastal agroecosystem, extension methods for farm women, standardisation of women specific field practices, occupational health hazards, reducing drudgery of women in agricultural operations, eco-friendly pest management technologies, evaluation of interactive learning modules, etc. are undertaken

Rural set-up for women empowerment

- The status of rural women is evolving since the inception of reforms in the area of rural development.
- The schemes like Prime Minister's Employment Generation Program (PMEGP), National Livelihoods Mission, Deen Dayal Upadhayay Grameen Kaushalya Yojana (DDUGKY), Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Beti Bachao Beti Padhao (BBBP), Pradhan Mantri Matru Vandana Yojana (PMMVY) etc. have made significant contributions in improving stature of rural women in India at the grassroots level. The setting up of Mahila Shakti Kendras (MSK) at district level has provided safety and security to rural women.

Financial empowerment

- Financial empowerment is the feeling of being in control of your own financial situation. When you feel this kind of empowerment, you feel that you control your financial situation and not the other way around.
- The financial inclusion and accessibility to banking through Pradhan Mantri Jan-Dhan Yojana has boosted prospects of rural women participation in the formal sector.
- Jan Dhan campaign has ensured access to financial services viz. banking, savings and deposit accounts, remittance, credit, insurance, pension etc. in an affordable manner to rural women.
- Through financial inclusion, transparent mode of transaction and timely access to financial services through DBT are provided to rural women.
- This financial inclusion has helped rural population to fight the crisis during CoVID-19 pandemic outbreak with uninterrupted access to financial aid.

Conclusion

- Rural transformation can be expedited by scaling up programmes for rural women's empowerment.
- Skill development, access to education, healthcare, safe and secure environment, ownership rights, and new technology can play a significant role in improving lives of rural women.
- Empowering women farmers will enhance agriculture productivity and help in building an empowered nation.

Women Farmers

Introduction

The Mahila Kisan Sashaktikaran Pariyojana (MKSP) was launched with the primary objective to empower women in agriculture and allied sectors by making systematic investments to enhance their participation and productivity in agriculture-based livelihoods and building the capacity around sustainable harvesting, post -harvesting techniques for NTFPs and value chain development through promotion of producer collectives.

Mahila Kisan Sashaktikaran Pariyojana (MKSP)

- NRLM recognises that the poor have multiple livelihoods and one of the key components, as envisaged in the NRLM Framework, is enhancing and expanding the existing livelihoods of the poor. More than 70 percent of the rural poor are dependent on agriculture either as cultivators or as agricultural labour. Besides, livestock rearing is again a key livelihood of the poor. In forest fringe areas, non-timber forest produce (NTFP) is a major livelihood of the poor who mostly belong to tribal communities.
- Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) started promoting farm livelihoods intervention through MKSP.
- Under the MKSP, around 38.94 lakh Mahila Kisans (women farmers) have been covered through 87 projects sanctioned to 26 States/UTs spread across 298 districts, 1853 blocks, and 32,901 villages. Combining the progress under MKSP and expansion through the Annual Action Plans, around 1.60 crores Mahila Kisans have been covered across 30 States/UTs.

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- **The three broad focus programmatic areas of MKSP are:**
  - Sustainable Agriculture
  - Non-Timber Forest Produce (NTFP)
  - Value Chain Development

Sustainable Agroecological Practices

The primary objective of the MKSP is to empower women by making systematic investments to enhance their participation and productivity, as also create sustainable livelihoods for rural women. The key objectives of the sub-scheme are:

- to enhance the productive participation of women in agriculture;
- to create sustainable agricultural livelihood opportunities for women in agriculture;
- to improve the skills and capabilities of women in agriculture to support farm and non-farm-based activities;
- to ensure food and nutrition security at the household and the community level;
- to enable women to have better access to inputs and services of the government and other agencies; and
- to enhance the managerial capacities of women in agriculture for better management of bio-diversity.

State government interventions

- States are identifying livelihood community cadres for sustainable agriculture, livestock and NTFP.
- There are 108 National Resource Persons (NRPs) and 1,718 State Resource Persons (SRPs) in place who ensure proper training of the above community cadre.
- Out of the total community cadres created by States, a total of 1.26 lakh Krishi Sakhi (Community Resource Person-Agriculture), Pashu Sakhi (Community Resource Person-Animal Husbandry) and other CRPs have been trained through standardized training modules, this community cadre provides 24-7 handholding to the women farmers in the villages.
- The Ministry of Agriculture and Farmers' Welfare has started hiring the services of Krishi Sakhis for awareness generation on Soil Health Card.

Household level Nutritional Security

- It has been observed in various surveys that the rural households, especially of the poor areas are suffering from various disease like anemia, problems in child birth, etc. due to malnutrition.
- Therefore, to promote supplemental food production among the underprivileged and poor people in the rural areas, DAY-NRLM promotes the small Nutrition Garden model with an aim to improve nutrition security and supplement household income.
- Nutrition Gardens can be established and maintained on a small patch of land with minimum technical inputs. These gardens provide an assorted mix of vegetable and fruits for a considerable stretch of the year to the rural resource-poor communities.
- This also provides them with a platform for innovations in supplemental food production as well as an opportunity to improve their livelihoods.

Custom Hiring Centre (CHC)/ Tool Banks

- The WSHG members come from poor families, so they have difficulty in accessing modern equipments for agriculture.
- This increases the productivity from their small land holdings.
- A custom hiring centre/ tool bank is a one-stop solution for farm equipment needs to constituent WSHG members.
- It offers agricultural equipment at an affordable rate on rent. A minimum rent is taken to ensure proper maintenance of the equipments.
- The primary users of the CHC/Tool Bank being established under NRLM are the women farmers who are also the SHG members mobilised under the umbrella of DAY-NRLM.
- Till date more than 23,800 custom hiring centres/ tool banks have been established.

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Conclusion

These remarkable contributions of the SHGs hold promise of the movement in building more strength and charting a remarkable path during the period of 'Amrit Kal' whereby the strong impetus to growth of the country in the rural areas will be led by these women.

Technology and Development

Introduction

Technological upgradation and inclusive growth have been focal development points in rural India. Higher and better productivity, socio- economic equality, harmonising modern technology, and sustainable growth can be considered the pillars for a nation's progress.

- The Government of India has rolled out schemes from education to financial literacy and agritech to skill development that caters to nearly 900 million people living in rural regions.
- Digital literacy and connectivity have strengthened the labour market, provided a platform to people in rural areas and helped them become financially independent.

Agriculture

- Rural India is home to 65 percent of the total population of our country.
- The Center has promised to work shoulder-to-shoulder to implement specific schemes and technological advancements in agriculture.
- The Government of India launched e-NAM (National Agriculture Market) in April 2016.
- It is an online platform for farmers that integrates agricultural markets pan-India with a theme of one nation, one market.
- The platform aids farmers and traders to view all Agriculture Produce Market Committee (APMC) related information, commodity arrivals, and buy and sell trade offers thus helping farmers bid for the best prices across markets.

National Aquifer Mapping and Management Programme (NAQUIM)

- The government is also investing in mapping all of India's aquifers.
- The National Aquifer Mapping and Management Programme (NAQUIM) aims at 3D mapping of the aquifers and characterising them in terms of quantity, quality, and spatial and temporal distribution of water level and resources in them.
- The Jal Shakti Abhiyan primarily focuses on saving and conserving rainwater for creating appropriate rainwater harvesting structures in urban and rural areas of all the districts in the country.

Alternate sources and sustainable livelihood

- To effectively realise the positive impact of the fourth industrial revolution, it is essential to use technology to bridge the gap between skilled and unskilled labour.
- The use of technology to increase productivity would be an essential public policy endeavour in the future.
- Digitalisation will go long way in reducing traditional bottlenecks such as shrinking markets and low density that have been roadblocks in building long-term and sustainable rural economies.
- Digitalisation can provide new opportunities for growth and better and more diverse occupations in rural areas.
- Technological advancements can lower trade expenses, allowing rural areas to tap into new markets.
- Rural goods and services are likely to reach more distant markets faster and at a lesser cost, thanks to the new technologies.
- Driverless vehicles and drone-based deliveries are also expected to be deployed in their initial phase in rural areas.
- In rural economies, new technology can help to improve the entreprenuerial business environment.
- Small and medium sized enterprises in rural areas benefit from technological advancements.
- New technologies such as additive manufacturing, for eg. 3D printers, have the potential to lessen the need for economies of scale by making small scale production more cost effective.

Education

As part of the Aatma Nirbhar Bharat Abhiyan, a comprehensive intiative called PM e-VIDYA was launched, which combines all-digital, online, and on-air education to offer multimode access to education.

- **DIKSHA**

DIKSHA (Digital Infrastructure for Knowledge Sharing and Sharing) is one nation, one-digital platform initiative. In states and union territories (UTs), the nation's digital infrastructure delivers high-quality e-content for education

- **SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)**

SWAYAM is a Government of India initiative to achieve the three cardinal principles of education policy: access, equity and quality. This initiative aims to make the best teaching learning tools available to everyone, particularly the most disadvantaged. SWAYAM aims to bridge the digital divide, it is a platform that allows anyone, anywhere, at any time, to access all the courses taught in classrooms from grade 9 through post-graduation.

- **Technological Advancement for Rural Areas (TARA)**

This scheme under the **skill enhancement education and development program (SEED)** is critical in providing long-term core support to science-based voluntary organisations and field institutions in rural and other disadvantaged areas to promote and nurture them as 'S&T Incubators' and 'Active Field Laboratories' to work and provide technological solutions and effective delivery of technologies for livelihood generation and social benefits.

- **Ayushman Bharat Digital Mission**

The Ayushman Bharat Digital Mission (ABDM) aims to develop the infrastructure necessary to support India's integrated digital healthcare infrastructure. It will use digital highways to bridge the distance between diverse players in the healthcare industry.

- **Ayushman Bharat Health Account (ABHA)**

Achieving safer and more efficient digital health records originated with ABHA. A digitally secure ABHA permits health data access and sharing with participating healthcare providers and payers.

- **E-Shram**

E-Shram is a platform designed by the Ministry of Labor and Employment to benefits unorganised workers who are not Employees' State Insurance (EPFO) or Employees' State Inurance (ESIC) members. Signing up for the Shramik Yojana and acquiring an e-Shram card entitles many benefits. The government's acceptance of social security measures will also assist workers.

- **Digital India Programme**

Digital India is India's flagship initiative to transform the country into a knowledge based economy and a digitally empowered society. Digital India covers three essential areas: digital infrastructure as a utility for all citizens govenance and on-demand services, and citizen empowerment through digital technology.

- **Digital India Land Records Modernisation Programme (DILRMP)**

A central sector scheme aims to leverage existing commonalities in land records to develop an appropriate Integrated Land Information Management System (ILIMS). Individual states can also add state-specific requirements as deemed necessary and proper.

Conclusion

- In a country like India, where a majority of population still lives in rural hinterland, rural development is synonymous with India's growth story. While development of our rural regions had always been a priority, the onset of digitisation has accelerated the pace of rural development.
- With schemes like Jan-Dhan Yojana being tremendously successful in rural India and agriculture activity being pushed towards modern, greener methods, inclusivity and sustainability of this development goes without saying.

IDSA

India and the Philippines

Introduction

The External Affairs Minister made his maiden visit to the Philippines. The visit came soon after Manila finalised a US$ 375 million BrahMos missile deal with New Delhi.

- This engagement in the defence industry sector is an important milestone in the evolving bilateral relationship.

Multifaceted Partnership

- The Philippines and India discussed wide-ranging cooperation in sectors of agriculture, tourism, science & technology, and infrastructure.
- Given the strong focus on security, the two leaders agreed to boost cooperation on defence and maritime security, and counter-terrorism.
- Emerging areas such as blue economy, renewable energy, cybersecurity and space were also on the agenda.
- Simplifying the visa policy to increase people-to-people contact and student exchange may be an important step in elevating bilateral ties.
- Indian naval warships have visited Filipino ports since 1998 and the two countries have also signed Defence Cooperation Agreement in 2006.
- India supported the Philippines' candidacy for non-permanent member of the United Nations Security Council in 2005, and the Philippines reciprocated by supporting India's candidacy in 2011.

A Case for Comprehensive Strategic Partnership

- A Comprehensive Strategic Partnership (CSP) may be seen as the highest level of strategic alignment between two nations that recognise the need to cooperate closely on areas of defence and security, and share the rationale behind "profound cooperation in all sectors for their mutual benefits".
- India has signed CSP with other Southeast Asian nations such as Vietnam in 2016 and Indonesia in 2018, leading to improved interaction and increased congruence of regional security perspectives.
- The acquisition of BrahMos may be seen in the same light as Manila strives to boost its defence capabilities, particularly in the maritime arena, where it can "exert credible sea denial" over disputed waters of the South China Sea.
- With the 'China' threat on its exposed maritime boundaries, frequent natural calamities like typhoons and threat of terrorism in Mindanao region and other islands, coupled with limited coast defence capability, Manila's deeper cooperation with New Delhi on this front can substantially improve its existing coastal defence capabilities through regular training of forces and development of infrastructure and surveillance capacities.
- A CSP with the Philippines may allow India to increase its presence in the strategic region of South China Sea which lies at the centre of Southeast Asia, and is critical for passage of massive global cargo.
- A CSP, given the mutual will to commit for a closer security relationship, can help reduce the insecurities of nations in a volatile environment.
- The Philippines has expressed support for a CSP between India and ASEAN, reflective of its faith in India as a reliable security partner.
- The Philippines' National Security Policy focusing on the period 2017–22 observes India's role among other powers in the EAS like South Korea and Australia as "crucial in contributing to the peace, stability, and prosperity of the East Asian region", and notes that these powers will form "an integral part of the evolving regional security architecture".

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- A CSP between India and the Philippines would be fruitful in not only strengthening the bilateral relations between the two, but also in adding heft to the security architecture of the Indo-Pacific.

Possible Challenges

- Even as India and the Philippines are inching closer on security and defence cooperation, Manila's perception of how this deepening relationship may be viewed by other large powers in the region like China and the US, will be an important factor for its future course.
- While India and the US have aligned on the Indo-Pacific strategy of inclusive development and freedom of the oceans, China and India have not had the best of bilateral relations in the past few years.
- The Philippines has struggled with its China policy as it sought to reap economic benefits by not pursuing the United Nations Convention on the Law of the Sea (UNCLOS) tribunal ruling of 2016 against China.

Conclusion

- A CSP can be expected to serve two broad objectives at the moment.
- First is, a renewed focus on defence modernisation, especially of the Philippines, since rejuvenation of local capacity may be critical in acceptance of and cooperation with new emerging security arrangements in the region, whether that is traditional in nature like the AUKUS, or non-traditional like supply chain resilience initiative.
- Second is that a CSP can be helpful in the meaningful engagement of India and the Philippines at important multilateral ASEAN-led organisations like the EAS.
- As the global security environment changes rapidly due to ongoing hot wars such as in Ukraine, the multi-polarity of the world order may be increasingly reinforced.
- Both India and the Philippines believe in maintaining multi-alignment, while also ensuring strategic autonomy to act in their national interest, and towards promoting peace and order in the Indo-Pacific.

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LEARN THROUGH IMAGES

3100 Wolves left in India

Why in news?

The first scientific population estimate of Indian peninsular wolves (Canis lupus pallipes), have revealed that only 3,100 members of the soecies are left in the country.

- This makes them almost as endangered as tigers, whose estimated population in the country is around 2967.
- Wolves are known to be more than a million years older than all other wolf species in the world.

About Indian wolves

- The Indian wolf (Canis lupus pallipes) is a subspecies of grey wolf that ranges from Southwest Asia to the Indian Subcontinent.
- There are approximately 400-1,100 wolves living in the Himalayan Region and 4,000-6,000 wolves in the Peninsular Region.
- Wolves in the Himalayan Region prefer colder, steeper habitats while those in the Peninsular Region are mostly found in agropastoral areas that have less forest density.
- The highest concentration of wolves is currently in Madhya Pradesh (772), followed by Rajasthan (532), Gujarat (494), Maharashtra (396) and Chhattisgarh (320).
- Both tigers and wolves are classified under "schedule I" of the Wildlife Protection Act, 1972 as endangered.

Diet pattern

- About half of the diet of both wolf subspecies found in India — the woolly or Himalayan wolf and the Indian wolf — is made up of domestic lifestock.
- The woolly wolf's diet consisted of 20 different food items including small birds, reptiles to large mammals and domestic animals such as cattle and yak.
- The woolly wolf is heavily dependent upon the domestic prey items in the Himalayan region.
- Livestock such as yak, Dzo cow, goat and sheep were the most consumed mammals in its diet, compared to sparsely distributed wild prey.

Threats

- Habitat destruction and intentional killing—including cruel traps and deadly poisons—are the top threats to wolves.

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Coastal Erosion

Why in News?

The Ministry of Earth Sciences informed in a Lok Sabha that the Indian coastline of the mainland is under varying degrees of erosion, about 34% of the 6,907.18 km long Indian coastline of the mainland is under erosion and 26% of the coastline is of an accreting nature.

Coastal Erosion

• Coastal erosion is the process by which local sea-level rise, strong wave action, and coastal flooding wear down or carry away rocks, soils, and/or sands along the coast.

Causes of Coastal Erosion

• Erosion due to natural phenomenon
• Erosion due to human interference

Impact of Eoastal Erosion

• Removal of small islands and Loss of beach sediments.
• Destruction of existing habitats of shore flora and fauna.
• Deposition of sediment on productive lands.
• Damage and destruction of jetties.

NATURAL	ARTIFICIAL
1 Action of breaking Waves	1 Construction of Unplanned Structures
2 Effect of severe Cyclonic Storms	2 Reduction of sediment supply due to damming of rivers
3 Rise in Sea level	3 Removal of Sand from beaches
4 Deflation	4 Dredging of inlet channels
5 Tidal Current	5 Unplanned reclamation

Land features created by coastal erosion

• **Cliffs:** Sea cliffs are steep faces of rock and soil that are formed by destructive waves.
• **Sea Caves:** Sea Caves form when cracks in rock at the base of cliffs are eroded and expanded by the sea.
• **Sea Arch:** Sea Arches are formed when a cave continues to be eroded and expanded until it cuts right through a headland.
• **Sea Stack:** A Sea Stack forms when a sea arch continues to be eroded and widened until the rock becomes too weak to support the roof of the sea arch and collapses into the sea. The remaining pillar of rock is known as a sea stack.
• **Sea Stump:** A sea stump is formed when a tail sea stack is eroded and worn down until it is just above the surface of the sea.

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Defence Minister's
third positive indigenisation list

Why in news?

In a major push towards defence indigenisation, Defence Minister unveil 3rd list of over 100 military systems and weapons that will be put under import restrictions

Background

- The first "positive indigenisation" list of 101 items that included towed artillery guns, short-range surface-to-air missiles, cruise missiles and offshore patrol vessels was issued in August 2020.
- In May 2021, the government approved restrictions on the import of an additional 108 military weapons and systems such as next-generation corvettes, airborne early warning systems, tank engines and radars under a staggered timeline of four-and-half years.

About the 3rd list

- The third list comprises:
- highly complex Systems
- Sensors
- Weapons and Ammunitions
- Light Weight Tanks
- Mounted Arty Gun Systems (155mmX 52Cal)
- Guided Extended Range (GER) Rocket for PINAKA MLRS
- Naval Utility Helicopters (NUH)
- Next Generation Offshore Patrol Vessels (NGOPV)
- MF STAR (Radar for Ships)
- Medium Range Anti-Ship Missile (Naval Variant)
- Advance Light Weight Torpedo (Ship Launch)
- High Endurance Autonomous Underwater Vehicle
- Medium Altitude Long Endurance Unmanned Aerial Vehicle (MALE UAV)
- Anti-Radiation Missiles
- Loitering Munition

Defence Indigenisation: Made in India, by India, for India

- The Indigenisation of the Indian Defence Sector can be understood as the capability to develop and produce defence equipment within the country for the purpose of achieving self-reliance and reducing the burden of imports.
- The Indian Defence Sector aims to design, develop and lead the production of state-of-the-art sensors, weapon systems, platforms and allied equipment for the Indian Defence Services.
- With the mission to provide technological solutions to the Defence Services in order to optimise combat effectiveness and to promote the well-being of the troops, they are working towards developing infrastructure and a strong indigenous technology base with the help of a committed quality manpower.

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"Finlandization"

Why in news?

Since Russia invaded Ukraine, despite several rounds of talks between the representatives, it remains unclear when and how the war might end.

About "Finlandization"

- 'Finlandization' refers to the policy of strict neutrality between Moscow and the West that Finland followed during the decades of the Cold War.

- The principle of neutrality was rooted in the Agreement of Friendship, Cooperation, and Mutual Assistance (YYA Treaty) that Finland signed with the USSR in April 1948.

- Article 1 of the treaty: In the eventuality of Finland, or the Soviet Union through Finnish territory, becoming the object of an armed attack by Germany or any state allied with the latter, Finland will, true to its obligations as an independent state, fight to repel the attack.

- Finland will in such cases use all its available forces for defending its territorial integrity by land, sea, and air, and will do so within the frontiers of Finland in accordance with obligations defined in the present agreement and, if necessary, with the assistance of or jointly with, the Soviet Union.

Finlandization of Ukraine

- During the ongoing armed conflict between Ukraine and Russia, Ukraine has found itself in a similar situation as Finland.

- According to Henry Kissinger, US Secretary of State from 1973 to 1977

  o If Ukraine is to survive and thrive, it must not be either side's outpost against the other — it should function as a bridge between them.

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Bucharest Nine

B9

Why in news?

The envoys to India of nine Eastern European countries jointly wrote an article to "acquaint the Indian public with the basic facts on the ground" about the "premeditated, unprovoked and unjustified Russian aggression in Ukraine".
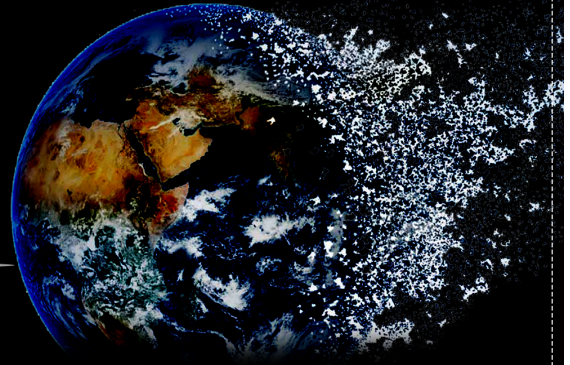
- The nine Eastern European countries are jointly known as Bucharest Nine.

About Bucharest Nine

- The "Bucharest Nine" is a group of nine NATO countries in Eastern Europe that became part of the US-led military alliance after the end of the Cold War.

- Bucharest Nine or the Bucharest Format (B9 or B-9) was founded on 4 November 2015 in Bucharest, Romania.

- Its members are Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia.

- Its apparition was mainly a result of a perceived aggressive attitude from Russia following the annexation of Crimea from Ukraine and its posterior intervention in eastern Ukraine both in 2014.

- B9 was created on the initiative of Klaus Iohannis, who has been President of Romania since 2014, and Andrzej Duda, who became President of Poland in August 2015, at the High-Level Meeting of the States from Central and Eastern Europe in Bucharest.

- All members of the B9 were either part of the former Soviet Union (USSR) or the Soviet-led Warsaw Pact.

- All members of the B9 are part of the European Union (EU) and North Atlantic Treaty Organisation (NATO).

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World Air Quality Report

2021

Why in news?

- According to the World Air Quality Report 2021, prepared by Swiss organisation IQAir, sixty-three of the world's 100 most polluted cities are in India.

Key Findings

- Delhi remains the most polluted capital city in the world with the highest average annual PM2.5 concentration.
- It is followed by Dhaka (Bangladesh), N'Djamena (Chad), Dushanbe (Tajikistan) and Muscat (Oman).
- None of the cities in India meet the World Health Organization (WHO) air quality guideline of 5 micrograms per cubic metre.
- 48 percent of Indian cities exceeded 50μg/m3, or more than 10 times the WHO guideline on PM2.5 concentration.

PM 2.5

- Fine particulate matter (PM2.5) is an air pollutant that is a concern for people's health when levels in the air are high.
- PM2.5 are tiny particles in the air that reduce visibility and cause the air to appear hazy when levels are elevated.
- The term fine particles, or particulate matter 2.5 (PM2.5), refers to tiny particles or droplets in the air that are two and one half microns or less in width.
- Like inches, meters and miles, a micron is a unit of measurement for distance. There are about 25,000 microns in an inch.

IQAir: First in Air Quality

- IQAir is a Swiss-based air quality technology company that empowers the world to breathe cleaner air through information, collaboration and technology.
- With the vision of a world where everyone breathes clean air, IQAir provides individuals, organizations and communities with tools to improve air quality.
- Since 1963, IQAir pioneers air quality solutions that include air quality data, sensors, monitoring systems, air purification and expert services.

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