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Schemes

1) Stand Up India

About the scheme

- Stand up India Scheme was launched in 2016 to **promote entrepreneurship at grassroot level** focusing on economic empowerment and job creation.
- This scheme has been extended up to the year **2025**.

Objectives

- The purpose of Stand-Up India is to:
 - ✓ Promote entrepreneurship amongst **women, SC & ST category**
 - ✓ **Provide loans for setting up greenfield enterprises** in manufacturing, services or the trading sector & activities allied to agriculture by both ready and trainee borrowers
 - ✓ **Facilitate bank loans between Rs.10 lakh to Rs.1 crore** to at least one Scheduled Caste/ Scheduled Tribe borrower and at least one woman borrower per bank branch of Scheduled Commercial Banks

Significance

- The Stand-Up India scheme is based on **recognition of the challenges faced by SC, ST and women entrepreneurs** in setting up enterprises, obtaining loans and other support needed from time to time for succeeding in business.
- The scheme therefore endeavors to create an ecosystem, which facilitates and continues to **provide a supportive environment for doing business**.
- The scheme seeks to give access to loans from bank branches to borrowers to help them set up their own enterprise.

Who all are eligible for a loan?

- SC/ST and/or women entrepreneurs, **above 18 years** of age.

- Loans under the scheme are available for **only green field projects**. Green field signifies, in this context, the first time venture of the beneficiary in the manufacturing, services or the trading sector & activities allied to agriculture.
- In case of non-individual enterprises, **51% of the shareholding and controlling stake** should be held by either SC/ST and/or Women Entrepreneur.
- Borrowers should **not be in default** to any bank/financial institution.

Why in the news?

- The Fifth anniversary of the Stand Up India Scheme was celebrated recently.

2) Swarnajayanti Fellowships Scheme

About the scheme

- The Government of India under the **Ministry of Science and Technology** had instituted a scheme "**The Swarnajayanti Fellowships**" to commemorate India's fiftieth year of Independence in **1997**.
- Under this scheme a selected number of young scientists, with proven track record, are provided special assistance and support to **enable them to pursue basic research in frontier areas of science and technology**.
- Scientists selected for the award will be allowed to pursue unfettered research with freedom and flexibility in terms of expenditure as approved in the research plan.
- The project should contain **innovative research ideas** and it should have a potential of making an impact on R&D in the discipline.
- The fellowships are **scientist specific and not institution specific**, very selective and have close academic monitoring.

Nature of Support

- The award consists of a Fellowship of **Rs 25000/- per month** in addition to the salary drawn from the parent Institute for a period of 5 years.
- The fellows selected along with their projects will be considered for funding by the **Science & Engineering Research Board (SERB)** as per SERB norms, for fellowship.
 - *SERB is a statutory body of the Department of Science and Technology (DST), Ministry of Science and Technology, established through the SERB Act, 2008.*
- *Supporting basic research in emerging areas of Science & Engineering is the primary and distinctive mandate of the Board.*
- The duration of the fellowship will be for a **period not exceeding five years.**
- The loans are given for **income generating activities in manufacturing, trading and services sectors and for activities allied to agriculture.**
- Mudra loans are offered in three categories namely, 'Shishu', 'Kishore' and 'Tarun' which signifies the stage of growth or development and funding needs of the borrowers:-
 - **Shishu** : covering loans upto Rs. 50,000/-
 - **Kishore** : covering loans above Rs. 50,000/- and upto Rs. 5 lakh
 - **Tarun** : covering loans above Rs. 5 lakh and upto Rs. 10 lakh
- With an objective to promote entrepreneurship among the new generation aspiring youth, it is ensured that **more focus is given to Shishu Category loans and then Kishore and Tarun categories.**

Why in the news?

- The Ministry of Science and Technology has invited applications for Swarnajayanti Fellowships Scheme - 2020-21.

3) Pradhan Mantri Mudra Yojana

About the scheme

- Pradhan Mantri Mudra Yojana (PMMY) is a flagship scheme of Government of India to **"fund the unfunded"** by bringing such enterprises to the formal financial system and extending affordable credit to them.
- It was launched in **2015** to promote entrepreneurship.
- PMMY provides loans upto **Rs. 10 lakh to the non-corporate, non-farm small/micro enterprises.**
- Under PMMY collateral free loans of upto Rs. 10 Lakh are extended by **Member Lending Institutions (MLIs)** viz Scheduled Commercial Banks, Regional Rural Banks (RRBs), Small Finance Banks (SFBs), Non Banking Financial Companies (NBFCs), Micro Finance Institutions (MFIs) etc.
- More than 28.68 crore loans for an amount of Rs 14.96 lakh crore have been sanctioned since launch of the scheme
- The **average ticket size** of the loans is about Rs 52,000/-
- **88% of the loans are of 'SHISHU' category**
- Almost **24% of the loans have been given to New entrepreneurs**
- About **68% of the loans have been given to women entrepreneurs**
- About **51% of the loans have been given to SC/ST/OBC borrowers.**
- About **11% of the loans have been given to Minority community borrowers.**
- As per a survey conducted by the Ministry of Labour and Employment, PMMY helped in generating **1.12 crore net additional employment** from 2015 to 2018.
- Out of the 1.12 crore of estimated increase in employment, Women accounted for 69 lakh (62%).

Why in the news?

- Pradhan Mantri MUDRA Yojana has completed six years of its implementation.

Initiatives

1) PM CARES Fund

About PM CARES Fund

- The Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM CARES) Fund was set up in the aftermath of the Covid-19 pandemic to mobilize resources. The Fund was established on 27 March 2020.
- PM CARES Fund is a **public charitable trust**. It has been set up keeping in mind the need for having a dedicated fund with the primary objective of dealing with any kind of emergency or distress situation, like posed by the COVID-19 pandemic, and to provide relief to the affected.
- The **Prime Minister** is Chairperson (ex-officio) of the PM CARES Fund and Minister of Defence, Minister of Home Affairs and Minister of Finance, Government of India are ex-officio Trustees of the Fund.

Objectives

- The primary objectives of the PM CARES Fund Trust are:-
 1. To undertake and support relief or assistance of any kind relating to a **public health emergency or any other kind of emergency, calamity or distress**, either man-made or natural, including the creation or upgradation of healthcare or pharmaceutical facilities, other necessary infrastructure, funding relevant research or any other type of support.
 2. To render financial assistance, provide grants or payments of money or take such other steps as may be deemed necessary by the Board of Trustees to assist the affected population.
 3. To undertake any other activity, which is not inconsistent with the above Objects.

Legal Provisions

- PM CARES Fund has been registered as a Public Charitable Trust under the Registration Act, 1908.
- PM CARES Fund accepts **voluntary contributions** by individuals/organizations as well as contributions as part of **Corporate Social Responsibility (CSR)** from Companies/Public Sector Undertakings (PSUs). However, **contributions flowing out of budgetary sources of the PSUs are not accepted.**
- All contributions towards the PM CARES Fund are **100% exempt from Income Tax** under Section 80(G) of the Income Tax Act, 1961 for those who opt for the old tax slabs.
- Any contribution made to the PM CARES Fund by any Company or a PSU shall **qualify as CSR expenditure** as provided under the Companies Act, 2013.
- PM CARES Fund is audited by an **independent auditor.**

Whether Foreign Donation is accepted in the PM CARES Fund?

- **Yes.** PM CARES Fund has received exemption from operation of all provisions of the **Foreign Contribution (Regulation) Act, 2010.**

Why in News?

- The PM CARES Fund has approved the allocation of funds for the installation of 551 dedicated medical oxygen generation plants inside public health facilities in the country.

2) State Disaster Response Fund

About SDRF

- State Disaster Response Fund (SDRF) is constituted under the **Disaster Management Act 2005.**
- It is a primary fund available with the **State Government for responses to notified disasters.**

- The **Central Government contributes 75% of SDRF allocation for general category States/UTs and 90% for special category States** (North Eastern States, Sikkim, Uttarakhand, Himachal Pradesh and Jammu & Kashmir).
- The annual Central contribution is released in two equal installments as per the **recommendation of the Finance Commission**.
- SDRF shall be used only for meeting the expenditure for providing **immediate relief to the victims**.
- The accounts of the SDRF shall be audited annually by **Comptroller & Auditor General of India (CAG)**.
- **Disasters covered under SDRF:** Cyclone, Drought, Earthquake, Floods, Tsunami, Hailstorm, Landslide, Avalanche, Cloud burst, Pest attack, Frost and Cold wave.

Local Disaster

- State Government may use up to **10% of the funds** available under SDRF for providing immediate relief to the victims of the natural disaster that day considered to be **“Disaster” within the local contacts** in the State and which is not included in the notified list of disaster of the Ministry of Home Affairs (MHA).

Why in the news?

- With the second wave raging across the country and impacting states' finances, the union government has released ₹8,873.6 crore in advance as the first instalment of its share of State Disaster Response Fund for the current financial year to all the States.
- Normally, the first instalment of SDRF is released in the month of June as per the recommendations of the Finance Commission. However, in relaxation of normal procedure, the release of SDRF has been advanced.

3) Startup India Seed Fund Scheme

What's in the news?

- The Union government has launched the Startup India Seed Fund Scheme (SISFS).

Aim

- To provide **financial assistance to startups** for proof of concept, prototype development, product trials, market entry, and commercialization.

Features

- The scheme is expected to support an estimated **3,600 eligible startups** through 300 eligible incubators in the next 4 years with an outlay of Rs 945 crore.
- The SISFS will secure seed funding, inspire innovation, support transformative ideas, facilitate implementation, and start startup revolution.
- The Scheme will create a robust startup ecosystem, particularly in **Tier 2 and Tier 3 towns of India**, which are often deprived of adequate funding.
- An **Experts Advisory Committee (EAC)** has been created by the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, to execute and monitor the Startup India Seed Fund Scheme.
- Grants of upto **Rs 5 Crores** shall be provided to the eligible incubators selected by the EAC.
- The selected incubators shall be provided grants of up to **Rs 20 lakhs** for validation of Proof of Concept, or prototype development, or product trials to startups.
- Furthermore, investments of up to **Rs 50 lakhs** shall be provided to the startups for market entry, commercialization, or scaling up through convertible debentures or debt-linked instruments.

Related Information

Definition of Startup in India

- As per the Startup India Action plan, the followings conditions must be fulfilled in order to be eligible as Startup :
 1. Has not yet completed a **period of ten years** from the date of incorporation/registration.
 2. Is a **private limited company or registered as a partnership firm or a limited liability partnership.**
 3. Has an **annual turnover not exceeding Rs. 100 crore** for any of the financial years since incorporation/registration.
 4. Is working towards innovation, development or improvement of products or processes or services, or if it is a scalable business model with a high potential of employment generation or wealth creation.
 5. It is not formed by splitting up or reconstructing a business already in existence.

4) DAY-NRLM

About

- Aajeevika-National Rural Livelihoods Mission (NRLM) was launched by the

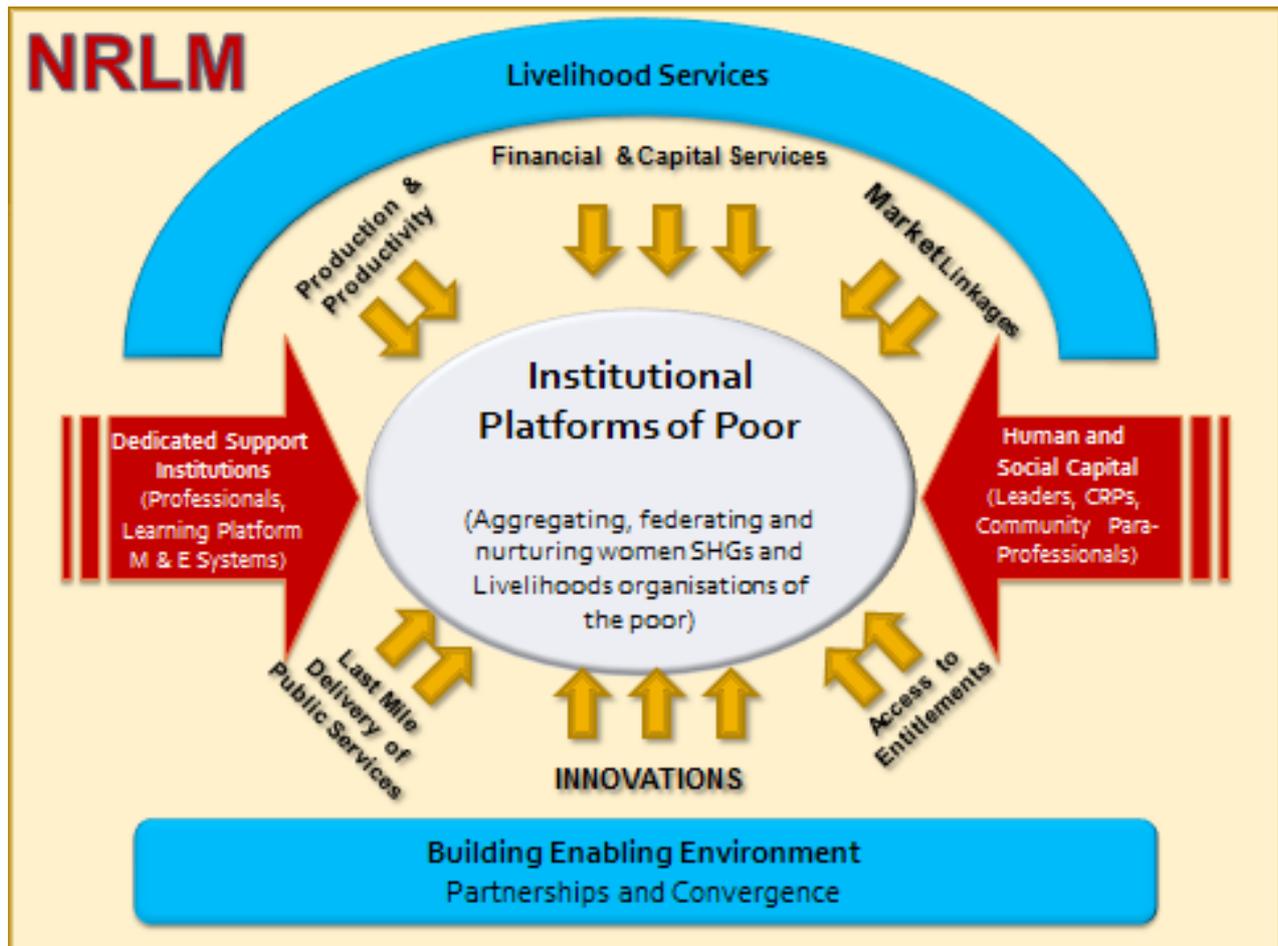
Ministry of Rural Development (MoRD) in 2011.

- Aided in part through investment support by the **World Bank**, the scheme aimed at helping the rural poor by enabling them to increase household income through sustainable livelihood enhancements and improved access to financial services.
- NRLM has the mandate of reaching out to 100 million rural poor in 6 lakh villages across the country.
- **In 2015, the program was renamed Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM).**

Mission

- The poor have innate capabilities to overcome poverty. DAY-NRLM believes in harnessing these innate capabilities of the poor and complements them with capacities (information, knowledge, skills, tools, finance and collectivization) to participate in the growing economy of the country.
- NRLM rests on **three major pillars – universal social mobilization, financial inclusion and livelihood enhancement.**

Implementation



- It works towards **bringing at least one member (preferably a woman) from all poor families into the Self Help Group (SHG) network.**
 - The SHGs and their federations offer their members microfinance services such as – savings, credit, bank linkages, insurance, remittances, equity etc. They also offer collectivization and group activities. The SHGs offer social security and social action in various fronts including health, nutrition, food, gender, convergence etc., directly or through their federations.
 - NRLM facilitates the SHGs to open and operate bank accounts and bank linkages. It also facilitates access to insurance to members. It encourages individual members too to open bank accounts.
 - As the **Institutions of the Poor (IoP)** mature, they are facilitated to take up livelihoods/income-generating activities.
 - *SHGs, their federations at the village, cluster levels and beyond, and other collectives of the poor constitute IoP.*
 - DAY-NRLM adopts a **demand driven approach**, enabling the States to formulate their own State specific poverty reduction action plans.
- Beneficiaries**
- NRLM's priority is to reach out to the poorest, most vulnerable and marginalized. It **begins with targeting women** and they are considered as representatives of their households.
 - In case of **extremely vulnerable persons** like Persons with Disabilities (PwDs), elders etc., NRLM mobilizes **both men and women.**
 - The NRLM Target Households (NTH) are identified through the **Participatory Identification of Poor (PIP)**. The PIP is a community-driven process where the Community Based Organisations (CBOs) themselves

identify the poor in the village using participatory tools. The list of poor identified by the CBO is vetted by the Gram Sabha.

Why in the news?

- Deendayal Antyodaya Yojana-National Rural Livelihoods Mission initiated online trainings, in a cascading mode, for its vast network of over 69 lakh Self-Help Groups SHG to spread awareness through key messaging on COVID-19 vaccination, COVID-19 appropriate behaviours, health seeking behaviour and immunity building.

5) Aahaar Kranti Mission

What's in the news?

- The Union Government has launched the "Aahaar Kranti" mission which is aimed at **spreading the message of the need for a nutritionally balanced diet and to understand the importance of accessibility to all local fruits and vegetables.**

About the Mission

- While **Vijnana Bharati** (a non-profit organization) and **Global Indian Scientists' and Technocrats' Forum (GIST)** initiated the programme, the Department of Science and Technology's autonomous body **Vigyan Prasar** and **Pravasi Bharatiya Academic and Scientific Sampark (PRABHASS)** are a part of this collaborative effort.
 - *GIST is an integrating platform to connect, network and engage Indian Intelligentsia spread across the globe.*
 - *PRABHASS is a National Digital Platform to effectively collaborate with the Global Indian S&T Community for collectively promoting inclusive growth in India, strengthening the Indian innovation ecosystem and contributing towards nation building.*

- They have come together to launch the mission with the motto of "**Good Diet-Good Cognition**".
- The Aahaar Kranti movement is designed to address the peculiar problem being faced by India and the world called "**hunger and diseases in abundance**".

Significance

- Studies estimate that **India produces as much as two times the amount of calories that it consumes.** However, **many in the country are still malnourished.** The root cause of this strange phenomenon is a **lack of nutritional awareness** in all sections of our society.
- There is also a need for a nutritionally balanced diet in the context of the current COVID-19 pandemic. A healthy body would be able to handle the infection much better with greater immunity and higher resilience.
- **UN sustainable goal # 3** that emphasizes on human well-being reads, "Ensure healthy lives and promote well-being for all at all ages" and this goal too makes Aahaar Kranti more meaningful.

Implementation

- The movement proposes to address the current situation of hunger in abundance by working to rouse the people to the values of India's traditional diet, to the healing powers of local fruits and vegetables, and to the miracles of a balanced diet. It will renew the focus on nutritionally balanced diets replete in locally sourced fruits and vegetables.
- The programme will focus on training teachers, who, in turn, will pass on the message to the multitudes of students, and through them to their families and finally the society at large.

6) Draft National Migrant Policy

What is in the news?

- **NITI Aayog**, along with a working subgroup of officials and members of civil society, has prepared a **draft national migrant labour policy**.

What is migration?

- Migration is the **movement of people away** from their usual place of residence, across either internal (within country) or international (across countries) borders.
- According to the 2011 Census, India had **456 million migrants** in 2011 (38% of the population), compared to 315 million in 2001 (31% of the population).
- Between 2001 and 2011, while the population grew by 18%, the number of migrants jumped 45%.

Current issues with migrants

- The **Inter State Migrant Workers Act, 1979**, which was designed to protect labourers from exploitation by contractors by safeguarding their right to non-discriminatory wages, travel and displacement allowances, and suitable working conditions, **covered only labourers migrating through a contractor, and left out independent migrants**.
- The **absence of community building organisations (CBO) and administrative staff** in the source states has hindered access to development programmes, pushing tribals towards migration.
- State labour departments have little engagement with migration issues, and are in halting human trafficking mode.
- The **local administration**, given the usual constraints of manpower, is not in a position to monitor, making way for middlemen to thrive on the situation and entrap migrants.

Approaches to Policy design

- The draft describes two approaches to policy design:
 - Focus on cash transfers, special quotas, and reservations

- Enhancing the capability of the community and thereby remove aspects that come in the way of an individual's own natural ability to thrive.

- The draft seeks to take a **rights-based approach** and discusses the importance of collective action and unions to help migrants bargain for better conditions and remuneration.

Draft National Migrant Policy Recommendations

Inter-ministerial and Interdepartmental coordination

- The draft lays down **institutional mechanisms** to coordinate between Ministries, states, and local departments to implement programmes for migrants.
- It identifies the **Ministry of Labour and Employment** as the nodal Ministry for implementation of policies, and asks it to **create a special unit** to help converge the activities of other Ministries.
- This unit would manage migration resource centres in high migration zones, a national labour Helpline, links of worker households to government schemes, and inter-state migration management bodies.

Facilitate migration

- Migration should be **acknowledged as an integral part of development**, and government policies should not hinder but seek to facilitate internal migration.

Raise minimum wages

- The draft asks source states to raise minimum wages to bring major shifts in local livelihood of tribals which may result in stemming migration to some extent.

Central database

- The draft calls for a **central database to help employers fill the gap between demand and supply** and ensure maximum benefit of social welfare schemes.

- It asks the Ministries and the Census office to be consistent with the definitions of migrants and subpopulations, capture seasonal and circular migrants, and incorporate migrant-specific variables in existing surveys.

Role of panchayats

- Panchayats should maintain a database of migrant workers, issue identity cards and pass books, and provide migration management and governance through training, placement, and social-security benefit assurance.
- The draft asks the Ministries of Panchayati Raj, Rural Development, and Housing and Urban Affairs to use Tribal Affairs migration data to **help create migration resource centres in high migration zones.**
- It asks the Ministry of Skill Development and Entrepreneurship to focus on **skill-building** at these centres.

Education

- The Ministry of Education should take measures under the **Right to Education Act to mainstream migrant children's education**, to map migrant children, and to provide local-language teachers in migrant destinations.

Shelter and accomodation

- The Ministry of Housing and Urban Affairs should **address issues of night shelters, short-stay homes, and seasonal accommodation** for migrants in cities.

Grievance redressal cells

- The National Legal Services Authority (NALSA) and Ministry of Labour should set up grievance handling cells and fast track legal responses for trafficking, minimum wage violations, and workplace abuses and accidents for migrant workers.

Significance of the recommendations

- The draft policy **acknowledges circular migrants** who are the backbone of our economy and contribute at least 10 percent of India's GDP.
 - *Circular migration is the temporary and usually repetitive movement of a migrant worker between home and host areas, typically for the purpose of employment.*
- The draft policy is clear in **highlighting the vulnerability of migrants to crises** and describes the experience of migrants during the lockdown as a **"humanitarian and economic crisis"**.
- It promises to create a policy environment that can better support migration and one that is based on sound data.
- The remit of the policy is broad, seeking to bring even the most **marginalised groups under its umbrella.**
- The draft policy goes on to highlight other areas where migrants could be better supported including financial services, skills development, political inclusion and education, among others.

Environment

1) Global Energy Transition

Context

- Fossil fuels account for **80 per cent of global energy consumption and 75 percent of greenhouse gas emissions**, as per the **Intergovernmental Panel on Climate Change (IPCC)**.
- According to **IPCC's Special Report on Global Warming of 1.5°C** released in 2018, global CO₂ emissions need to drop to **net zero by 2050 to limit the temperature rise to 1.5°C above pre-industrial levels**.
- Hence, countries are transitioning towards cleaner energy systems like renewables and promoting energy efficiency. Investors and financial markets are anticipating this transition and moving capital from fossil fuels to clean energy sources.

Challenges

- Close to **115 countries have already pledged carbon neutrality by 2050**.
- **World Energy Transition Outlook** released by the **International Renewable Energy Agency (IRENA)** predicts world energy share by natural gas would start to decline after peaking in **2025**.
- This massive momentum for energy transition highlights the already existing issues
 - Increasing countries' dependence on materials like lithium
 - Steady increase in greenhouse gases (GHG) emission
 - The global average temperature already reached about 1.2 degree celsius from pre-industrial level in 2020 according to the **State of Global Climate report** of the **World Meteorological Organisation**
 - Supply constraints of lithium, cobalt and several rare earth elements.

Shift from Petro-economies to Electro-economies

- The scramble for natural resources to drive energy requirements will shift geopolitics from oil producing countries (the petro-economies) to the rare earth and other critical mineral producing countries (the electro-economies).
- Global scramble for resources are particularly high for minerals like **Lithium, Cobalt, Nickel, Copper, Graphite** that are essential for the production of **lithium ion batteries** whose usage ranges from **mobile phones to Electric cars to power grids**.
- Global uncertainties over these minerals are high because these minerals are concentrated in few pockets and few players control their supply chain.

Lithium

- It is the **lightest metal with a high electrochemical potential** and is typically used to make cathodes in lithium ion batteries.
- **Availability:** India imports lithium from China, Europe, the US and Japan.

Resource region

- Salt flats of **Argentina, Bolivia and Chile** hold 54 per cent of the world's lithium resources. The dominant position of the Latin American trio makes them known as the **lithium triangle**.

Production of lithium

- **Australia** tops with 49 percent contribution followed by Chile (22 percent) and China (17 percent) of the global production.

Cobalt

Resource region

- 68 percent of cobalt used globally is produced in **Democratic Republic of Congo (DRC)**, followed by **Australia**

having 20 percent of reserves and China with 1 percent.

- Eight out of 14 Cobalt mining firms in DRC are owned and controlled by **China**.

Dominance of China

- **China** today controls **70-80 per cent** of the global trade of most critical minerals **according to a working paper of the Organisation for Economic Co-operation and Development (OECD)**.
- China is a leading producer of all key Lithium-ion battery materials, irrespective of whether it has significant reserves or not.
- **Reasons for China's dominance**
 - ✓ Careful calibrated Government policies starting around 2010s
 - ✓ State owned mining companies in overseas resources rich countries
 - ✓ Low interest loan for rare earths mining industries and mega factory manufacturing facilities
 - ✓ Central and local purchase subsidies, tax breaks, production mandates, technical standards and city-specific measures
 - ✓ Both fiscal and non-fiscal measures included licensing, road access, parking, charging incentives, government-private partnerships for electric taxi and ride-hailing fleets

Derisking Supply Chain Disruptions

- With decarbonisation and the net-zero race gaining pace, countries have started to strategize to reduce dependence on China.
- For eg: **The US** is prioritising mining and processing at home and in partner countries. The **European Commission** has launched an action plan on critical raw materials and an industry alliance to strengthen the EU's strategic autonomy on key raw materials.
- India, Japan and Australia have also launched the **Supply Chain Resilience Initiative** (*Refer International*

Relations section) to counter China's dominance of the supply chain in Indo-Pacific region.

India in energy transition

- India aims to generate **40 per cent of its energy from renewable sources and become a 30-40 percent electric vehicle (EV) nation by 2030**.
- India almost entirely depends on global (especially Chinese) resources and technology for this energy transition.

Government Policies in this regard

- **FAME India scheme** (Faster Adoption and Manufacturing of Electric (Hybrid) vehicles in India) which aims to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same.
- **Production Linked Incentive (PLI) for EV sector** to promote manufacturing, export and storage of lithium-ion cells, essential for developing electric vehicles.

Making availability of resources

- It is reported that **two-thirds** of the minerals required for India to achieve the energy transition goals are **already available in the country**. For the rest, the government is signing up battery mineral sourcing agreements with Latin American countries and Australia.
- Almost 90 percent of materials like lithium, cobalt, manganese and graphite can be mined from used batteries, so there is a **need for Battery recycling policy**.

Way Forward

- Global experience shows India needs targets for electrification, credit based zero emissions mandate and holistic industrial and trade policy to build the ecosystem for the massive change.

2) Arctic sea ice minimum

What is it?

- The Arctic sea ice minimum is the given day in a year when the **ice cap reaches its minimum extent**.
- The lowest annual minimum recorded so far was 3.41 million sq. km in **2012**.

Why in the news?

- **2020's** Arctic sea ice cover shrank to the **second lowest extent** since modern record-keeping began in the late 1970s.
- Because of the heat surrounding the Arctic and its nearby seas, its ice cover melted to 3.74 million sq. km in summer.

Reasons

- **Heatwaves over Siberia** in the first half of 2020, which led to rapid melting of the East Siberian and Laptev Seas.
- **Global warming and rise in atmospheric carbon dioxide (CO₂)** are important factors for thinning of ice. Researchers have found that for every one tonne of anthropogenic CO₂ emissions released into the atmosphere, the Arctic loses 1 sq. m of ice in winter and 3 sq. m in summer.
- **Melting seasons are getting longer** due to the **ice-albedo feedback** which delays the freezing of the Arctic Ocean.
 - *Albedo is a measure of the reflectivity of the Earth's surface. Ice-albedo feedback is a strong positive feedback in the climate system.*
 - *Warmer temperatures melt persistent ice masses in high elevations and upper latitudes. Ice reflects some of the solar energy back to space because it is highly reflective. If an equivalent area of ice is replaced by water or land, the lower albedo value reflects less and absorbs more energy, resulting in a warmer Earth.*

Consequences of thinning of ice

- Fast-thinning sea ice in the Arctic Ocean could
 - ✓ Radically **alter global weather patterns**;

- ✓ Increase the frequency of **extreme weather events** all over the world;
- ✓ Bring about **drastic changes in the Arctic ecosystem**, its food chain and the life of indigenous communities
- ✓ Pose a **threat to the survival of animals** such as polar bears, Arctic seals and walruses.

3) Nature Based Solutions

What's in the news?

- The **United Nations Environment Programme (UNEP)** has released its **Adaptation Gap Report**.
- The Report looks at progress in planning for, financing and implementing adaptation – with a focus on **nature-based solutions**.
 - *UNEP is the leading environmental authority in the United Nations system. It promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system.*
 - *Headquartered in Nairobi, Kenya, it was founded as a result of the UN Conference on the Human Environment (also known as the Stockholm Conference) in 1972.*

What is nature based solution?

- Nature-based solutions (NBS) are defined as **sustainable management and use of nature and its surroundings for tackling socio-environmental challenges**.
- More generally, 'nature-based solutions' is a term that can be used to describe **alternative and non-traditional approaches to environmental issues**, like flooding, water scarcity, or soil erosion, by harnessing natural capital.

How is it different?

- Whilst the traditional method in infrastructural development is '**grey**' – involving constructed and artificial

structures – nature-based solutions encompass **natural, green, and integrated infrastructure**, which combines elements of all three.

- Nature-based solutions **disengage with the construction of seawalls, reservoirs, dams, and drainage systems** that a grey infrastructure approach would take for certain climate risks.
- Instead, nature-based solutions could include, restoring and conserving coral reefs and mangrove belts to enhance the resilience to coastal flooding and sea level rise, acting as a first line of defence to help dissipate wave energy; upsloping vegetation to reduce the risks of landslides; and creating permeable green areas to help replenish groundwater in regions facing water scarcity.

Components of NBS

- Green infrastructure
- Natural infrastructure
- Ecological engineering
- Ecosystem-based mitigation
- Ecosystem-based adaptation
- Ecosystem-based disaster risk reduction.

Need for NBS

- NBS can act as a **guiding principle** for the countries in adaptation planning.
- It can be used as a tool to address **multi-fold problems faced by urban areas**: For Example, NBS was used for cooling in the city of Madison, located in the U.S. state of Wisconsin. The project showed a decrease in daytime temperature with increasing tree cover. The study further highlighted that a canopy cover of 40 per cent resulted in substantially cooler temperatures.
- NBS is also significant for **addressing loss of biodiversity and mitigating climate change**: Eg: Wildfire in the Amazon rainforests in 2019 were caused primarily by the opening up of

the forest for mining, logging and agricultural purposes.

Steps in implementation of NBS

- Degraded land which has multiple implications is selected. Eg., Mined land in hills;
- Scale of the design of the restoration programme needs to be estimated;
- Economically viable plan to be formulated;
- Ensuring inclusive governance- local community level participation in the process;
- Restoration of the lost or degraded land;
- Restored area must be maintained, studied and effectively documented to support future decision making;
- Replicating workable solutions in similar environments.

Issues with NBS

- **Highly context specific**, and their effectiveness is also uncertain under changing climatic conditions.
- **High incremental investment cost**: The Adaptation Gap Report claims an investment of \$140 billion to \$300 billion annually by 2030, rising to between \$280 billion and \$500 billion by 2050 might be required to finance NBS globally.

Conclusion

- Diverting current fossil fuel funding and providing direct grants to developing countries for stagewise implementation of NBS projects down to the local levels are crucial to conserve the environment, create habitats for endangered species, lower carbon emissions, and restore an aesthetic natural beauty to communities.

4) Net Zero Producers' Forum

What's in the news?

- **Qatar, the US, Saudi Arabia, Canada and Norway** have announced that they will form the Net-Zero Producers

Forum as part of the countries' climate commitments.

- The forum will be **dedicated to developing long-term strategies to reach global net-zero emissions.**

Net Zero Producers' Forum



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- The cooperative forum will develop pragmatic net-zero emission strategies, including methane abatement, advancing the circular carbon economy approach, development and deployment of clean-energy and carbon capture and storage technologies, diversification from reliance on hydrocarbon revenues, and other measures in line with each country's national circumstances.
- The forum will also discuss how they can support the **implementation of the Paris climate deal** (Refer Pulse January 2021 edition).
- The five countries, collectively, represent **40% of global oil and gas production.**

5) Climate vulnerability assessment

What's in the news?

- The **Department of Science and Technology** has released a report titled '**Climate vulnerability assessment for adaptation planning**

in India using a common framework', which identifies the most vulnerable states and districts in India with respect to current climate risk and key drivers of vulnerability.

- It was part of a capacity building programme under the **National Mission on Sustaining the Himalayan Ecosystem** and **National Mission on Strategic Knowledge for Climate Change** (Refer Pulse January 2021 edition).
- The report Developed **Vulnerability Indices (VI)** based on several factors such as:
 - Lack of forest area per 1,000 rural population,
 - Lack of crop insurance,
 - Marginal and small operational land holding,
 - Low density of health workers,
 - Low participation of women in the workforce,
 - Yield variability of food grains,
 - A high proportion of the population below the poverty line.

What are the findings?

- The **greenest part of India is the most vulnerable to climate change.** Along with Chhattisgarh in central India, Jharkhand, Mizoram, Odisha, Assam, Bihar, Arunachal Pradesh, and West Bengal — all in the eastern part of the country — are the **eight most vulnerable States** that require prioritisation of adaptation interventions.
- **Jharkhand**, with the highest VI of 0.674, topped the list of States most vulnerable to climate change. **Drivers of vulnerability:** high incidence of vector-borne diseases, high yield variability of food grains, and low road and rail density.
- One of the important factors for increased climate risks is **high levels of poverty** across the country.
- Uttarakhand, Haryana, Tamil Nadu, Kerala, Nagaland, Goa and Maharashtra have been identified as the **least vulnerable states.**

Current trend of Vulnerability in India

- Vulnerability is a **function of exposure, sensitivity and adaptive capacity.**
- According to the **Global Climate Risk Index 2021**, India was ranked 7th out of 181 countries implying an extremely high exposure and vulnerability.
- In India, **around 75% of the states are vulnerable to climate change** out of which **89% of coastal areas are highly vulnerable.**

- **With every 1 degree increase in temperature, there is a reduction of around 20% in agricultural productivity.**

What needs to be done to reduce the degree of Climate risks?

- **Identification of the risk and casualty factors** is the first step towards vulnerability assessment which can further help in adaptive measures.
- **Prioritisation of Climate proofing sectors** like Agriculture, Industries and Infrastructure can reduce the climate risk to a great extent.
- Developing **risk financing tools and impact based capacity building measures** need to be taken.
- **Onset and Chronic events need to be mapped together** for arriving at nature based solutions for adaptation and mitigation.
- **Adaptation measures at the local level** at the first step is the need of the hour.
- Creating a **climate risk atlas** by categorising the risks of a particular district and **reforms in Agriculture** need to go hand in hand.

Conclusion

- A collaborative dynamic policy formulation by Government and private sector and community participation can reduce the enhancing degree of climate risk as well as can be the basis for adaptive planning.

Flora & Fauna

1) Gharial Reintroduction

About Gharials

- Gharials (*Gavialis gangeticus*), sometimes called gavials, are a type of Asian crocodilian distinguished by their long, thin snouts. It is one of the most endangered **freshwater crocodile species**.
- Gharials exhibit **sexual dimorphism** — or differences in characteristics between males and females of the same species — in both size and appearance which are absent in other crocodile species.
- Adult males develop a **bulbous growth** at the tip of their snout, called a "**ghara**" after the Indian pot it resembles. The ghara has several functions. It partially covers the crocodile's nostrils and acts as a vocal resonator, creating a loud, buzzing sound when the gharial vocalizes. It is also a visual signal for females, helping males attract a mate.



Threats

- **Protection Status:** IUCN Red List: **Critically Endangered**; CITES: **Appendix I**; Wildlife Protection Act (1972): **Schedule I**.
- Gharial populations have declined as much as 98 percent since the 1940s due to human activities like **hunting for traditional medicine and dam-making**.

Distribution

- Historically, gharials were found in the river system of India, Pakistan,

Bangladesh and southern part of Bhutan and Nepal.

- Today, their major population occurs in **three tributaries of the Ganga River**: the Chambal and the Girwa Rivers in **India** and the **Rapti-Naryani River in Nepal**. The **Gharial reserves** of India are located in three States – Uttar Pradesh, Madhya Pradesh and Rajasthan.

Why in News?

- Over half a century after they were considered extinct in Punjab, the critically endangered gharials have bounced back to life in the northern state, thanks to a reintroduction programme, by the state department of forests and wildlife preservation, that completes its third year.
- Under **Project Crocodile** initiated in 1975 by the Government of India, 47 gharials brought from **Morena captive breeding centre** in Madhya Pradesh were released into **Punjab's Beas River** in three batches between 2017 and 2018.
- Multiple ground surveys of state agencies have revealed that the mortality rate of the gharials is now low. Most importantly, the population is well spread out in the river and has adjusted well to the local habitat.

2) Irrawaddy Dolphins

About Irrawaddy Dolphins



- Irrawaddy dolphins are patchily distributed throughout freshwater and coastal areas in Southeast Asia.

- There are five isolated freshwater Irrawaddy dolphin populations: in **Myanmar** they live in the Ayeyarwady River (also known as the Irrawaddy River); in **Borneo**, they live in the Mahakam River; in **Cambodia and Lao PDR** they live in the Mekong River; in **India** they live in **Chilika Lake**; and in **Thailand** they live in Songkhla Lake.
- Marine Irrawaddy dolphin populations are found in patches as they prefer to live in sheltered coastal waters where freshwater is flowing in, such as river deltas, mangrove channels, and estuaries.
- These dolphins have a bulging forehead, short beak, and 12-19 teeth on each side of both jaws.
- **Protection Status:** IUCN Red List: **Endangered**; CITES: **Appendix I**; Wildlife Protection Act (1972): **Schedule I**.
- Following the opening of the sea mouth in Chilika in 2002, and the consequent increase in water depth, dolphins have reportedly been recorded in more areas of the lake than before, perhaps indicating an expansion of suitable habitat.

Chilika Lake



- It is **Asia's largest brackish water estuarine lake**, located in the **Odisha's Coast**.
- It is the **largest wintering ground for migratory waterfowl** found anywhere on the Indian sub-continent. Flocks of

migratory waterfowl arrive from as far as the Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Kirghiz steppes of Mongolia, Central and South East Asia, Ladakh and the Himalayas, to feed and breed in its fertile waters.

- Chilika lake has been designated as a "**Ramsar Site**", i.e. a wetland of International Importance.
- The lake was also included in the **Montreux Record** (Threatened list) in 1993 by Ramsar Secretariat due to the change in the ecological character of the lake ecosystem. Subsequently, however, due to successful restoration of the lake ecosystem by Chilika Development Authority it was **removed from the Montreux Record in 2002**.
 - Refer Pulse October 2020 edition for details on Ramsar Convention & Montreux Record.
- The **Nalaban Island** within the lake is notified as a Bird Sanctuary under Wildlife (Protection) Act, 1972.

Why in the news?

- In a recent aquatic survey at Chilika Lake, a surge has been observed in Irrawaddy dolphins population.
- Irrawaddy Dolphins, which is an iconic species of Chilika, have seen a growth in population from 146 to 162 this year.

3) Indus & Ganges river dolphins

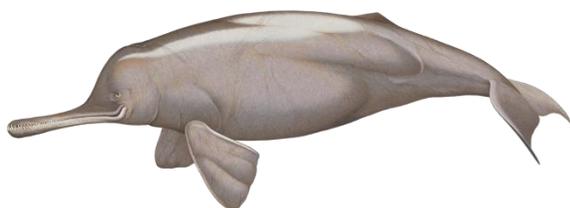
Indus Dolphin

- Indus dolphins (*Platanista gangetica minor*), locally known as *bhulan*, is a **freshwater dolphin species**.
- Today, they can only be found in the **lower parts of the Indus River in Pakistan and in River Beas, a tributary of the Indus River in Punjab, India**.
- In Pakistan, their numbers declined dramatically after the construction of an irrigation system, and most dolphins are confined to a 750 mile stretch of the river.

- Meanwhile in India, the dolphin population is significantly lower. WWF India's survey in 2018 pegged their population to be between 5 and 11 individuals.
- They have adapted to life in the muddy river and are **functionally blind**. They hunt by emitting ultrasonic sounds, which bounces off of fish and other prey, enabling them to "see" an image in their mind (**echolocation**).
- It is the **national marine mammal of Pakistan**.
- **Protection Status:** IUCN Red List: **Endangered**; Wildlife Protection Act (1972): **Schedule I**.



Ganges Dolphin



- The Ganges river dolphin (*Platanista gangetica gangetica*), commonly known as *susu*, is **one of the five river dolphins** found in the world. The species is found in the **Ganga and Brahmaputra river basins** of India, Nepal and Bangladesh.
- The presence of the Dolphin in a river system **signals its good health and biodiversity**.
- The calves are chocolate brown at birth and become grayish brown in adulthood with a smooth and hairless skin. Females are larger than males.
- The Ganges river dolphins **can only live in freshwater** and are **essentially blind**. Instead they use **echolocation** to detect food and navigate, and, to a very small extent, communication.

- In 2009, the Indian government declared the Ganges river dolphin as the **National aquatic animal**.
- Despite being a protected species under the Wildlife Protection Act, 1972, its numbers had dwindled over the last century due to indiscriminate fishing, poaching and development of barrages and dams along with the habitat of the dolphins.
- Their population is estimated to be less than 2000 individuals.
- **Vikramshila Gangetic Dolphin Sanctuary**, located in Bihar, is dedicated to the conservation of the species.
- **Protection Status:** IUCN Red List: **Endangered**; Wildlife Protection Act (1972): **Schedule I**.

Why in the news?

- Through DNA analysis, scientists have found that Indus and Ganges Dolphins are **two distinct species**. Currently, they are classified as two subspecies under *Platanista gangetica* and this needs a revision.
- The study estimates that Indus and Ganges river dolphins may have diverged around 550,000 years ago.
- The study also found that due to dams and barrages both their gene flows are reduced and both their populations are vulnerable.

4) Indian Rhino Vision 2020

About Greater One-Horned Rhino

- The greater one-horned rhino (*Rhinoceros unicornis*) is the largest of the rhino species. It is also known as **Indian rhino**.
- Once widespread across the entire northern part of the Indian subcontinent, rhino populations plummeted as they were hunted for sport or killed as agricultural pests.
- This pushed the species very close to extinction and by the start of the 20th century, around 200 wild greater one-horned rhinos remained.



- The recovery of the greater one-horned rhino is among the greatest conservation success stories in Asia. Thanks to strict protection and management from Indian and Nepalese wildlife authorities, the greater one-horned rhino was brought back from the brink.
- At present, the greater one-horned rhino lives in **northern India and southern Nepal**, in riverine (floodplain) grasslands and adjacent woodland.
- **Protection Status:** IUCN Red List: **Vulnerable**; CITES: **Appendix I**; Wildlife Protection Act (1972): **Schedule I**.

Conservation Issues

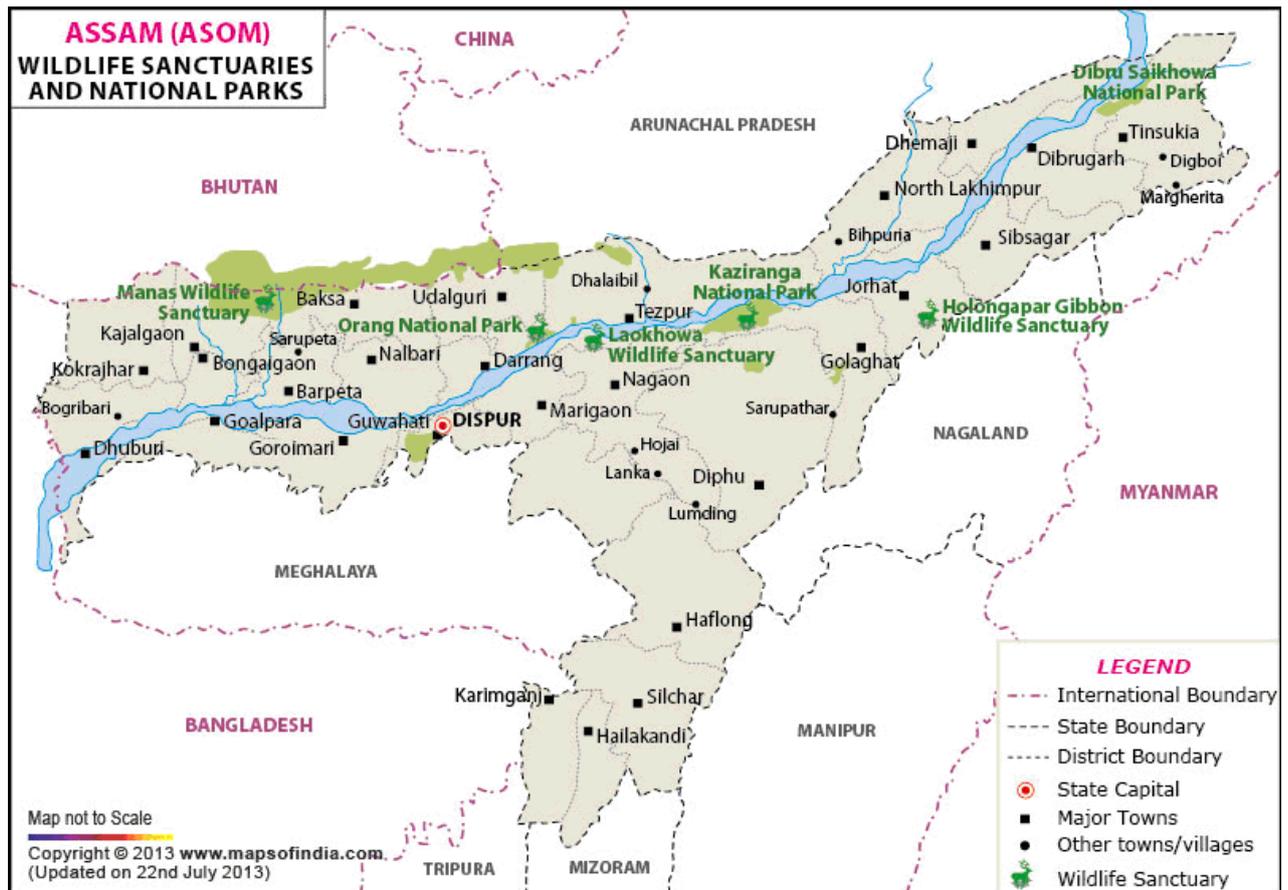
- **Assam** holds nearly three-quarters of the world's greater one-horned rhinos.

However, the species' stronghold, rhinos were found in only three protected areas: **Kaziranga National Park, Pobitora Wildlife Sanctuary and Orang National Park**.

- Yet the largest of these, Kaziranga National Park, was almost at capacity. Additionally, with the rhinos concentrated in just three areas, the risk of a disease or a natural disaster decimating the population was high. For the species to thrive, more habitat had to be found.

About IRV 2020

- In this context, the Indian Rhino Vision 2020 (IRV 2020) was launched in **2015** which aims at increasing the number and range of rhinos in Assam through **wild-to-wild translocations** from Kaziranga National Park and Pobitora Wildlife Sanctuary to potential Protected Areas including **Manas National Park, Burachapori Wildlife Sanctuary, Laokhowa Wildlife Sanctuary, and Dibru-Saikhowa National Park**.



- The vision is to attain a population of **3000 wild rhinos in Assam, distributed over seven of its Protected Areas by 2020.**
 - Started in **2005**, it has been running for the last 15 years with 8 phases.
 - The IRV 2020 was implemented by the **Department of Environment and Forests of the Government of Assam** along with the **World Wide Fund for Nature (WWF)**, an international nongovernmental organization.
- Why in News?**
- The IRV 2020 has come to an end with the release of two rhinos — an adult male and a female — in Assam's Manas National Park transported from Pobitora Wildlife Sanctuary.
 - The 8th round was adjourned last year due to COVID 19, but this year it was materialised.
- Performance of IRV 2020**
- Assam had about 2,000 rhinos when IRV2020 began in 2005. The rhino census could not be conducted in 2020 because of COVID-19 restrictions. The 2018 census yielded an estimated 2,650 rhinos in Assam, and if one goes by the annual rate of increase in the animal's population, there should be close to 3,000 individuals today.
 - Though the **target of attaining a population of 3,000 rhinos was almost achieved, the animal could be reintroduced in only one of the four protected areas planned.** The original plan was to spread the rhino population across four protected areas i.e. Manas National Park, Burachapori Wildlife Sanctuary, Laokhowa Wildlife Sanctuary, and Dibru-Saikhowa National Park.
 - However, only the Manas Tiger Reserve received a total of 22 rhinos from other protected areas under the translocation programme. The translocated rhinos increase the genetic diversity of the Manas population, achieving the goal of a

natural and healthy breeding program for the future of the species.

5) Sumatran rhinoceros

About Sumatran Rhinoceros

- They are **the smallest** of the living rhinoceroses and the **only Asian rhino with two horns** and a thin coat of reddish-brown hair.



- They are more closely related to the extinct woolly rhinos than any of the other rhino species alive today. **Less than 80 Sumatran rhinos are left in the wild, living in isolated pockets of forest.**
- Sumatran rhinos are threatened due to habitat loss, low birth rate and fragmentation, with its numbers falling by about 70% over the past two decades.
- Once found across South Asia, today, the **species only survives on the Indonesian islands of Sumatra and Borneo** where dense highland and

lowland tropical and subtropical forests are found.

- The species was **declared extinct in the wild on mainland Malaysia in 2015 and Malaysian Borneo in 2019.**
- **IUCN status: Critically Endangered.**

Why in the news?

- A new genetic research on Sumatran rhinos has found that the two existing wild populations of this rhino on the islands of Borneo and Sumatra have good genetic health and surprisingly low levels of **inbreeding**.
 - *Inbreeding is mating with close relatives — in the wild because of its small numbers. It creates a **heightened risk of genetic flaws and reduced genetic diversity.***
- Scientists had feared that with such small population sizes, in-breeding in extant populations of Sumatran rhinoceros would be much higher. So, the fact that a lot of diversity remains is promising towards their conservation.
- However, the Sumatran rhino is still on the verge of extinction due to **non-genetic factors**. The results indicate that if we manage to solve the problems caused by habitat destruction and poaching, there is at least a chance that the survivors will not be doomed by their poor genetic status.

Agriculture

1) Farming in India

Who is a farmer?

- There is **no official definition** of a farmer in India yet.
- According to the Ministry of Agriculture and Farmers' Welfare, **anybody who has a piece of cultivable land** is considered a farmer in India (whether one is cultivating or not is not a parameter to be a farmer).
- The **National Commission of Farmers** headed by **M S Swaminathan** defined a farmer as a **person actively engaged in the economic and/or livelihood activity of growing crops** and producing other primary agricultural commodities.

Why is farming so crucial to Indian economy?

- **120 million households** depend on agriculture for their livelihood.
- **54.6% of India's workforce** is in agriculture.
- Agriculture contributed **19.9% of India's GDP** in 2020-21.
- Agriculture constituted **10% of export earnings** (only sector that grew in 2020-21 despite the Covid-19 pandemic).

Current issues in Indian farming sector

- Small sized landholdings (**average landholding** in the country is **1.08 hectares**) which make cultivation economically unviable.
- According to the Agriculture Census of India, 2015-16, **smallholders** (farmers with less than 2 ha of landholding) now **cultivate 42 percent of operated land** and **constitute 83 percent of total landholdings**.
- Every second Indian worker is into Agriculture according to the **Economic Survey (2020-21)** without much difference in the output resulting in **disguised unemployment**.

- **Dependency on the monsoon:** More than 60% of the farm lands in India are rainfed.
- **Farm debt:** According to the **All India Rural Financial Inclusion Survey** done by **NABARD** in 2018, over 52 percent of farming households in the country are indebted currently.
- **Less mechanized farm practices** which is merely 40 to 45% while China has reached 70% in 2020.
- According to the Economic survey 2017-18, **climate change** might reduce farm incomes by **up to 20-25 per cent** in the medium term.
- Most problematic is the **farmers' reliance on traders, commission agents and moneylenders for credit**, for institutional credit reaches only 65 per cent of them and more of small and marginal farmers are excluded from this net.
- **Post-harvest loss** accounts for staggering **Rs 63,000 crores per year** in India which is highest for any country. Just 70% of this amount spent on cold storage facilities would avoid this loss.

Making farming self sufficient

- A **chemical-intensive, mono-crop-based, market-purchased-input-dependent model** has not only failed to benefit a majority of the farmers, but has also proved to be bankrupt in ecological, social and financial terms.
- India, with its millennia-old farm practices based on **principles of sustainability** has been a self-reliant one for a longer period of time until the green revolution.
- Now, NITI Ayog pushes for natural farming initiatives, such as the **Bhartiya Prakritik Krishi Paddhati (BPKP) programme**.
 - *In India, Natural farming is promoted as BPKP under centrally sponsored scheme- Paramparagat*

Krishi Vikas Yojana (PKVY). BPKP is aimed at promoting traditional indigenous practices which reduce externally purchased inputs.

- The **ICAR-Network Project on Organic Farming**, through its multi-year and multilocation studies, concluded that most of the crops responded positively to organic practices and provided similar or **4-14 percent higher yields after the conversion period of two-three years.**

How can farmers' income be doubled?

Financially

- Removing the interconnected cartel of traders and middlemen through the **promotion of Farmer Producer Organizations (FPOs), societies etc.**
- Increasing the **institutional credit** available to the farmers through financial inclusion schemes
- Fixing price of the commodity for **contract farming**
- **Reserve Pricing mechanism** in contract farming as suggested by Ashok Dalwai committee

Agronomically

- Promotion of **vertical and urban gardening**
- Introduction **digital way of marketing and transactions** (Eg: e-NAM)
- Focusing on **high water use efficiency** by means of subsidized drip and sprinkler irrigation
- **Early forecasting** of extreme weather phenomenon and communicating them to farmers
- **Mechanization at large scale** by means of consolidation of land through FPOs, contract farming etc.

Way Forward

- India needs a blend of traditional wisdom and techniques devised through sustainability-focused science.
- Technologies should be evaluated on novel criteria like water and energy-efficiency, biodiversity index, pollution

potential, health impacts, social distress and women empowerment, etc. and steps should be taken for their adoption.

- Agro-ecology-based farming is not a fantasy, but a well-established approach based on Science and by following this path, India can even lead global agriculture.

2) Shaphari Certification Scheme

Shrimp exports from India

- Frozen shrimp is **India's largest exported seafood item.** It constituted 50.58% in quantity and 73.2% in terms of total U.S. dollar earnings from the sector during 2019-20.
- **Andhra Pradesh, West Bengal, Odisha, Gujarat and Tamil Nadu** are India's major shrimp producing States, and around 95% of the cultured shrimp produce is exported.
- India exported frozen shrimp worth almost \$5 billion in 2019-20, with **the U.S. and China being the biggest buyers.**
- But a combination of factors had hurt export volumes in recent months, including container shortages and incidents of seafood consignments being rejected because of **food safety concerns.**

Why in News?

- To bolster confidence in India's frozen shrimp produce, the **Marine Products Exports Development Authority (MPEDA)** has kicked off a new scheme to certify hatcheries and farms that adopt good aquaculture practices.
- The certification scheme for aquaculture products will be known as '**Shaphari**', a Sanskrit word that means superior quality of fishery products suitable for human consumption.

About the Scheme

- The Shaphari scheme is **based on the United Nations' Food and Agriculture Organization's technical guidelines on aquaculture**

certification and will have **two components** — certifying hatcheries for the quality of their seeds and, separately, approving shrimp farms that adopt the requisite good practices.

- The certification of hatcheries will help farmers easily identify good quality seed producers. Those who successfully clear multiple audits of their operations shall be granted a certificate for a **period of two years**.
- The **entire certification process will be online** to minimise human errors and ensure higher credibility and transparency. Guidelines for certification of farms are under preparation in consultation with stakeholders.
- Overall, certified aquaculture products will help exporters to export their consignments to markets under stringent food safety regulations without the fear of getting rejected.

About MPEDA

- The Marine Products Export Development Authority was set up in 1972 as a **statutory body** under the **Ministry of Commerce & Industry**.
- MPEDA is the nodal agency for promotion of export of marine products from India.
- MPEDA has presence in all the maritime states and is implementing its developmental schemes for export promotion / aquaculture production through its field offices.

3) NPOP & PGS

Organic Farming in India

- Organic products are grown under a system of agriculture **without the use of chemical fertilizers and pesticides with an environmentally and socially responsible approach**.
- This is a method of farming that works at grass root level preserving the reproductive and regenerative capacity of the soil, good plant nutrition, and sound soil management,

produces nutritious food rich in vitality which has resistance to diseases.

- India is bestowed with a lot of potential to produce all varieties of organic products due to its various agro climatic conditions. In several parts of the country, the inherited tradition of organic farming is an added advantage. This holds promise for the organic producers to tap the market which is growing steadily in the domestic and export sector.
- **India's rank 8th in terms of World's Organic Agricultural land and 1st in terms of total number of producers as per 2020 data.**

Area

- As on 31st March 2020, total area under organic certification process (registered under National Programme for Organic Production) is **3.67 million Hectare**. This includes 2.299 million ha cultivable area and another 1.37 million Hectare for wild harvest collection.
- Among all the states, **Madhya Pradesh** has covered the largest area under organic certification followed by Rajasthan, Maharashtra, Gujarat, Karnataka, Odisha, Sikkim and Uttar Pradesh.
- During 2016, **Sikkim** has achieved a remarkable distinction of converting its entire cultivable land (more than 75000 ha) under organic certification.

Production

- Among different states **Madhya Pradesh** is the largest producer followed by Maharashtra, Karnataka, Uttar Pradesh and Rajasthan.
- In terms of commodities **Oil seeds** are the single largest category followed by Sugar crops, Cereals and Millets, Tea & Coffee, Fiber crops, fodder, Pulses, Medicinal/ Herbal and Aromatic plants and Spices & Condiments.

Exports

- The total volume of export during 2019-20 was 6.389 lakh MT. The

organic food export realization was around INR 4,686 crore (689 million USD). The major export destinations are EU, USA, Canada, Switzerland, Pakistan, New Zealand and Australia.

- In terms of export value realization Processed foods including soya meal, Oilseeds, Plantation crop products such as Tea and Coffee, Cereals and millets, Spices and condiments, Dry fruits, Sugar and Medicinal plants lead among the products.

About NPOP

- The **Agricultural and Processed Food Products Export Development Authority (APEDA)** under the Ministry of Commerce & Industries is implementing the National Programme for Organic Production (NPOP).
- The programme involves the accreditation of Certification Bodies, standards for organic production, promotion of organic farming and marketing etc.
- All types of agriculture, horticulture and non-food crops are grown under organic certification process.
- Livestock, aquaculture, animal feed processing and handling, mushroom production, sea weeds, aquatic plants and green house crop production have also come under the ambit of organic certification.
- **Organic products are currently exported from India only if they are produced, processed, packed and labelled as per the requirements of the NPOP.**
- As per the established norm of organic production systems, the areas having chemical input usage history are required to undergo a **transition period of a minimum 2-3 years** to qualify as organic. During this period, farmers need to adopt standard organic agriculture practices and keep their farms under the certification process. On successful completion, such farms can be certified as organic

after 2-3 years. The certification process also requires elaborate documentation and time to time verification by the certification authorities.

Global Recognition

- The NPOP standards for production and accreditation system have been **recognized by European Commission and Switzerland** for unprocessed plant products as equivalent to their country standards. It enables India to export unprocessed plant products to these countries without the requirement of additional certification. The equivalency with the EU also facilitates the export of Indian organic products to the **United Kingdom** even in the post Brexit phase.
- Similarly, **The United States Department of Agriculture (USDA)** has recognized NPOP conformity assessment procedures of accreditation as equivalent to that of the National Organic Program (NOP) of the US.
- With these recognitions, Indian organic products duly certified by the accredited certification bodies of India are accepted by the importing countries. APEDA is also in the process of Bilateral equivalence with South Korea, Taiwan, Canada, Japan etc.

What's in the news?

- The Ministry of Commerce and Industry has announced that in terms of quantity, the **exports of organic food products grew by 39 per cent** to eight lakh 88 thousand metric tonne during the last financial year compared to 2019-20.
- The growth in organic products has been achieved despite logistical and operational challenges posed by the COVID19 pandemic.
- **Oil cake meal** has been a major commodity of the organic product exports from the country in 2020-21,

followed by **oil seeds, cereals and millets, tea, medicinal plant products and dry fruits.**

- India's organic products have been exported to **58 countries** including USA, European Union, Canada, Great Britain, Australia, Switzerland, Israel, South Korea.

Related Information

PGS-India

- Participatory Guarantee Systems (PGS) for India programme for local and domestic market was launched by the **Ministry of Agriculture and Farmers Welfare** with an aim to make the certification system affordable and accessible without the need for third party certification agencies.
- PGS-India is a quality assurance initiative that is **locally relevant, emphasizes the participation of stakeholders**, including producers and consumers and operates outside the frame of third party certification.
- In the PGS framework, people in similar situations (in this case smallholder producers) assess, inspect and verify the production practices of each other and take decisions on organic certification. The certification is in the form of a documented logo or a statement.

Difference between NPOP and PGS India Certifications

- Both the programmes (NPOP and PGS-India) are independent of each other and products certified under one system cannot be processed or labeled under another system. While **NPOP certified products can be traded in export and in the domestic market, PGS-India certified products can be traded only in the domestic market.**
- Under the NPOP framework, **Accredited certification agencies** authorized under the programme are certifying organic producers. PGS-India programme was launched with an aim to make the certification system

affordable and accessible **without the need for third party certification agencies.** Under the PGS, farmers in a group inspect each other's land and vouch for its organic credentials.

- While NPOP is implemented by **APEDA** under the **Ministry of Commerce & Industries**, PGS-India is facilitated by the **Ministry of Agriculture and Farmers' Welfare** through **National Centre of Organic Farming (NCOF)** as its Secretariat.

Advantages of PGS India

- Procedures are simple, documents are basic, and farmers understand the local language used.
- All members live close to each other and are known to each other. As practising organic farmers themselves, they understand the processes well.
- Because peer appraisers live in the same village, they have better access to surveillance; peer appraisal instead of third-party inspections also reduces costs.
- Mutual recognition and support between regional PGS groups ensures better networking for processing and marketing.

Limitations of PGS

- PGS certification is only for farmers or communities that can organize and perform as a group within the village or in close-by villages with continuous territory.
- Individual farmers or group of farmers smaller than five members are not covered under PGS. They either have to opt for third party certification or join the existing PGS local group.
- PGS ensures traceability only up to the end till it is in the custody of the PGS group. Once the product leaves the custody of PGS group there is no control of PGS on its integrity.

4) e-SANTA

What's in the news?

- Minister for Commerce and Industry Piyush Goyal has recently inaugurated e-SANTA portal. It is an **electronic marketplace providing a platform to connect aqua farmers and buyers**.
- The term e-SANTA stands for **Electronic Solution for Augmenting NaCSA farmers' Trade in Aquaculture**.

About e-SANTA

- e-SANTA is an end-to-end electronic trade platform between aqua farmers and exporters. The aqua farmers have the freedom to list their produce and quote their price while the exporters have the freedom to list their requirements and also to choose the products based on their requirements such as desired size, location, harvest dates etc.
- This enables the farmers and buyers to have greater control over the trade and enables them to make informed decisions.

Significance

- e-SANTA will raise income, lifestyle, self-reliance, quality levels,

traceability, and provide new options for aqua farmers. The platform will change the traditional way of carrying out business from a word of mouth basis to become more formalised & legally binding.

- e-SANTA will act as an alternative marketing tool between farmers & buyers by **eliminating middlemen**. The platform is available in **many languages** which will help the local population.

Related Information

About NaCSA

- National Centre for Sustainable Aquaculture (NaCSA) is an **extension arm of Marine Products Export Development Authority** under the Ministry of Commerce & Industry.
- The objectives of NaCSA are to encourage and uplift the small and marginal farmers through organization of clusters and maintaining Best Management Practices in shrimp culture.

Organisations

1) NATO

About NATO

- Formed in **1949** with the signing of the **Washington Treaty**, NATO is a **security alliance of 30 countries from North America and Europe**.
- Established in the Cold War as a bulwark against Soviet aggression, NATO's fundamental goal is to safeguard the Allies' freedom and security by political and military means.
- **Article 5 of the Washington Treaty** states that an attack against one Ally is an attack against all — is at the core of the Alliance, a promise of collective defence.
- **Article 4** of the treaty ensures consultations among Allies on security matters of common interest, which have expanded from a narrowly defined Soviet threat to the critical mission in Afghanistan, as well as new threats to security such as cyber attacks, and global threats such as terrorism and piracy that affect the Alliance and its global network of partners.
- A "**NATO decision**" is the expression of the collective will of all 30 member countries since all decisions are taken by **consensus**.
- At present, NATO has **30 members**. In 1949, there were **12 founding members** of the Alliance: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom and the United States. The other member countries are: Greece and Turkey (1952), Germany (1955), Spain (1982), the Czech Republic, Hungary and Poland (1999), Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia

and Slovenia (2004), Albania and Croatia (2009), Montenegro (2017) and North Macedonia (2020).

- NATO's Headquarters are located in **Brussels, Belgium**,

Why in the News?

- Ukrainian President Volodymyr Zelensky has urged NATO to speed up his country's membership in the alliance, saying it was the only way to end fighting with pro-Russia separatists.
- Ukraine recently accused Russia of massing thousands of military personnel on its northern and eastern borders as well as on the **Crimean peninsula** annexed by Moscow in 2014. Ukraine's Western allies have rushed to its defence, with a series of statements warning Russia against taking further action.
- Ukraine signed a partnership agreement with NATO in 1997 and launched talks on full membership in 2005. But those talks never progressed far, and the situation was dramatically complicated when Russia invaded Ukrainian territory in 2014, annexing Crimea and launching irregular warfare in other parts of the country.



Science and Technology

1) National Policy for Rare Diseases 2021

What is a rare disease?

- A rare disease is a health condition of **low prevalence that affects a small number of people** compared with other prevalent diseases in the general population.
- Rare diseases include genetic diseases, rare cancers, infectious tropical diseases and degenerative diseases.
- **80% of rare diseases are genetic in origin** and hence disproportionately impact children.

Definition of a rare disease

- There is **no universally accepted definition** of rare disease.
- These diseases have **differing definitions** in various countries and range from those that are prevalent in 1 in 10,000 of the population to 6 per 10,000. According to the **Indian Council of Medical Research (ICMR)** registry definition, "A disease or disorder is defined as Rare in India when it **affects fewer than 1 in 2500 individuals**".
- So far about 450 rare diseases have been recorded in India and it is estimated that about 6-8% of the country's population is affected by a rare disease.

Challenges associated with rare diseases

- There are 7,000-8,000 classified rare diseases, but **less than 5% have therapies available to treat them**. About 95% rare diseases have no approved treatment and less than 1 in 10 patients receive disease-specific treatment.
- The field of rare diseases is very complex and heterogeneous and prevention, treatment and management of rare diseases have multiple challenges. **Early diagnosis** of rare diseases is a major challenge

owing to a variety of factors that include **lack of awareness among primary care physicians, lack of adequate screening and diagnostic facilities etc.**

- There are also fundamental challenges in the **research and development** for the majority of rare diseases as relatively little is known about the pathophysiology or the natural history of these diseases particularly in the Indian context.
- Rare diseases are also **difficult to research upon** as the patients pool is very small and it often results in inadequate clinical experience. **Availability and accessibility to medicines** are also important to reduce morbidity and mortality associated with rare disease.
- The **cost of treatment of rare diseases is prohibitively expensive**. Various High Courts and the Supreme Court have also expressed concern about lack of a national policy for rare diseases.

Why in News?

- To address all these challenges, the Union Health & Family Welfare Ministry has approved the "National Policy for Rare Diseases 2021" recently.

Highlights of the Policy

- In the new policy, rare diseases have not been defined but **classified into three groups**:
 - **Group 1** has disorders amenable to one-time curative treatment, including osteopetrosis and Fanconi anaemia.
 - **Group 2** has diseases requiring long-term or lifelong treatment with relatively lower cost of treatment and benefit has been documented in literature, including galactosemia, severe food protein allergy, and homocystinuria.

- **Group 3** has diseases for which definitive treatment is available, but challenges are to make optimal patient selection for benefit, and very high cost and lifelong therapy, covering diseases such as spinal muscular atrophy (SMA), Pompe disease, and Hunter syndrome.

Lowering the Cost of Treatment

- The Rare Diseases Policy aims to lower the high cost of treatment for rare diseases with **increased focus on indigenous research** with the help of a **National Consortium** to be set up with the Department of Health Research, Ministry of Health & Family Welfare as convenor.
- Increased focus of research and development and local production of medicines will lower the cost of treatment for rare diseases.

National Hospital Based Registry

- The policy also envisages creation of a **national hospital based registry of rare diseases** so that adequate data is available for definition of rare diseases and for research and development related to rare diseases within the country.

Screening, Prevention & Treatment

- The Policy also focuses on **early screening and prevention through primary and secondary health care infrastructure** such as Health and Wellness Centres and District Early Intervention Centres (DEICs) and through counselling for the high-risk parents.
- Screening will also be supported by **Nidan Kendras** set up by the Department of Biotechnology.
- Policy also aims to **strengthen tertiary health care facilities** for prevention and treatment of rare diseases through **designating 8 health facilities as Centre of Excellence (CoEs)** and these CoEs will also be provided one-time financial

support of up to Rs 5 crores for upgradation of diagnostics facilities.

Crowd Funding Mechanism

- Besides, the Policy also envisages a **crowd funding mechanism** in which corporates and individuals will be encouraged to extend financial support through a robust IT platform for treatment of rare diseases.
- Funds collected will be utilized by Centres of Excellence for treatment of all three categories of rare diseases as first charge and then the balance financial resources could also be used for research.

Rashtriya Arogya Nidhi

- A provision for **financial support up to Rs. 20 lakhs under the Umbrella Scheme of Rashtriya Arogya Nidhi** is proposed for treatment of those rare diseases that require a one-time treatment (diseases listed under **Group 1** in the rare disease policy).
- **Beneficiaries** for such financial assistance would **not be limited to BPL families**, but the benefit will be **extended to about 40% of the population**, who are eligible under Pradhan Mantri Jan Arogya Yojana.
- The **state governments** would be asked to undertake treatment of diseases covered under **Group 2** which largely include disorders managed with special dietary formulae or food for special medical purposes (FSMP) and disorders that are amenable to other forms of therapy.
- For diseases classified under **Group 3**, which require life-long expensive treatments, the government would create a **digital platform to bring together Centres for Excellence, patients undergoing treatment and corporate donors or prospective voluntary individuals who could help fund treatment.**

Criticisms

- Families of rare diseases patients and their advocacy groups are unhappy

with the **lack of financial support for diagnosed Group 3 diseases patients** in the new policy.

- Patients and their support groups had recently written to the health ministry seeking **creation of a seed-funding of Rs 80-100 crore** while rolling out the national policy so that life-saving therapies to all those patients with treatable Group 3 disorders can be provided, thereby reducing any further loss of life.

Way Forward

- The Centre can set aside a **substantial corpus to fund life-saving treatments**, instead of leaving patients at the mercy of crowdfunding.
- Further, there is a need to support the development of and commercialisation of drugs for treatment, and improve funding for research on rare diseases.

2) Mars Odyssey spacecraft

About the Spacecraft

- **NASA's Mars Odyssey spacecraft** was launched in **2001**.
- Still in orbit around Mars, it holds the **record for the longest continually active spacecraft in orbit around a planet other than Earth**.

Objectives

- Mars Odyssey was designed to investigate the Martian environment, providing key information on its surface and the radiation hazards future explorers might face.
- The goal was to **map the chemical and mineralogical makeup of Mars** as a step to detecting evidence of past or present water and volcanic activity on Mars.
- The spacecraft was also designed to act as a **relay for future landers** and did

so for the Mars Exploration Rovers (Spirit and Opportunity), the Mars Science Laboratory, and the Phoenix lander.

Findings

- One of Mars Odyssey's most exciting findings is that the probe had identified **large amounts of hydrogen in the soil**, implying the presence of ice possibly a mile below the planet's surface.
 - In 2008, Mars Odyssey had found **evidence of salt deposits** in 200 locations in southern Mars. These chloride minerals were left behind in places where water was once abundant.
 - Having fully completed its primary mission by August 2004, mission planners began a series of extended missions starting Aug. 24, 2004. NASA approved seven two-year extensions in 2004, 2006, 2008, 2010, 2012, 2014, and 2016.
 - During its many years in Martian orbit, Mars Odyssey **mapped the amount and distribution of the numerous chemical elements and minerals** in the Martian surface and **tracked the radiation environment in low Mars orbit**, both necessary before humans can effectively explore the Martian surface.
 - The most complete global maps of Mars were made using Odyssey's infrared camera, called the **Thermal Emission Imaging System, or THEMIS**.
- ### Why in the news?
- NASA's Mars Odyssey spacecraft completed 20 years of mapping Mars on April 7.

Reports and Indices

1) Global Gender Gap Report 2021

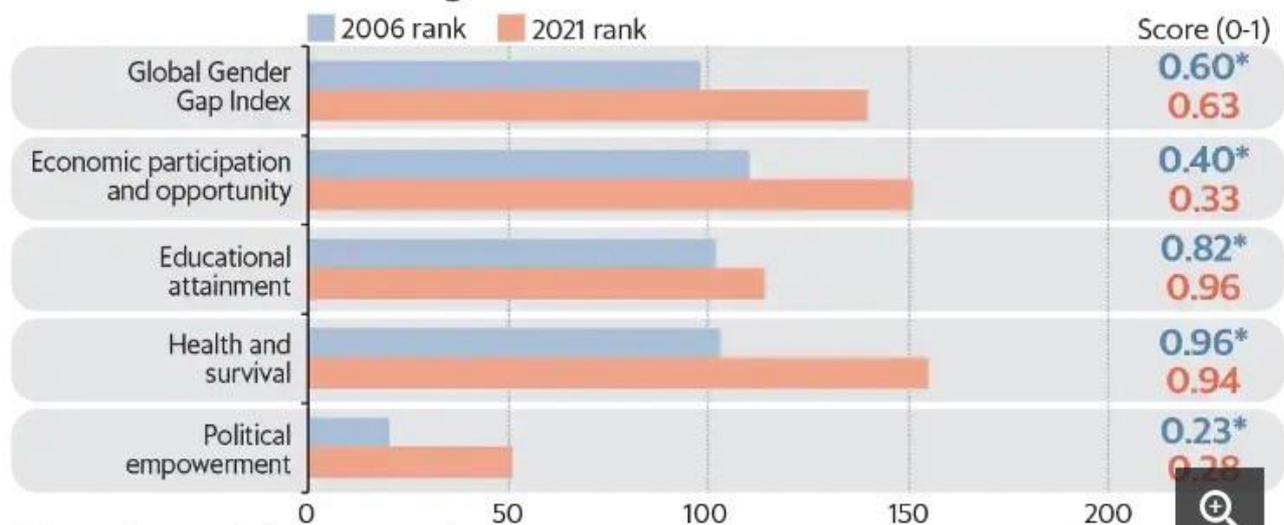
About the Report

- The Global Gender Gap Report is a flagship publication of the **World Economic Forum**.
- The report benchmarks the evolution of gender-based gaps in four areas:
 1. Economic participation and opportunity,
 2. Educational attainment,
 3. Health and survival, and
 4. Political empowerment.
- It also examines the drivers of gender gaps and outlines the policies and practices needed for a gender-inclusive recovery.

Why in News?

- The World Economic Forum has released its Global Gender Gap Report 2021.

India has slipped 28 places in the World Economic Forum's Global Gender Gap Report 2021, and is now one of the worst performers in South Asia. It is now ranked 140th among 156 nations.



* Figures closer to 1 indicate greater parity between men and women.

Source: World Economic Forum

South Asia

- Among regions, **South Asia** is the second-lowest performer on the index, with 62.3 per cent of its overall gender gap closed.

- The index has benchmarked 156 nations across the globe in 2021.

Highlights of the Report

Top performers

- The data show that it will take **135.6 years to bridge the gender gap worldwide** and the pandemic has impacted women more severely than men. The gap is the widest on the political empowerment dimension with economic participation and opportunity being next in line. However, the gap on educational attainment and health and survival has been practically bridged.
- For the 12th time, **Iceland** is the most gender-equal country in the world.
- The top 10 most gender-equal countries include Finland, Norway, New Zealand, Rwanda, Sweden, Ireland and Switzerland.

- Within South Asia, a wide gulf separates the best-performing country, **Bangladesh**, which has closed 71.9 per cent of its gender gap so far, from **Afghanistan**, which has only closed 44.4 per cent of its gap.

India's position

- **India has slipped 28 places to rank 140th** among 156 countries in the 2021 Report, becoming the third-worst performer in South Asia. The country had ranked 112th among 153 countries in the Global Gender Gap Index 2020.
- The **gender gap in India has widened to 62.5% from 66.8% one year ago**. It is largely due to women's inadequate representation in politics, technical and leadership roles, decrease in women's labour force participation rate, poor healthcare, lagging female to male literacy ratio, income inequality.
- In South Asia, only Pakistan and Afghanistan ranked below India.
- Among India's neighbours, Bangladesh ranked 65, Nepal 106, Pakistan 153, Afghanistan 156, Bhutan 130 and Sri Lanka 116.

India's performance

- The report states that the country **fared the worst in political empowerment**, where India regressed 13.5 percentage points. The main change that took place this year is the **significant decline in the share of women among ministers**, which halved, from 23.1% in 2019 to 9.1% in 2021. In addition, the **share of women in parliament** remains stagnant at 14.4% and the share of the last 50 years in which a woman has been head of state is 15.5%.
- India's gender gap on the **economic participation and opportunity subindex** widened by 3 per cent this year, leading to a 32.6 per cent gap closed till date.
- Among the drivers of the poor performance is a **decrease in women's labour force participation rate**, which fell from 24.8 per cent to 22.3 per cent. In addition, the **share of women in professional and technical roles** declined further to 29.2 per cent. The **share of women in**

senior and managerial positions also remains low: only 14.6 per cent of these positions are held by women and there are only 8.9 per cent firms with **female top managers**.

- Further, the **estimated earned income of women in India is only one-fifth of men's**, which puts the country among the bottom 10 globally on this indicator.
- **Discrimination against women** is also reflected in the **health and survival subindex statistics**. With 93.7 per cent of this gap closed to date, India ranks among the bottom five countries in this subindex.
- **Wide gaps in sex ratio** at birth are due to the high incidence of gender-based sex-selective practices. In addition, more than one in four women has faced **intimate violence** in her lifetime.
- **96.2 per cent of the educational attainment subindex gender gap has been closed**, with parity achieved in primary, secondary and tertiary education. Yet, **gender gaps persist in terms of literacy**: one third of women are illiterate (34.2 per cent) compared to 17.6 per cent of men.

Impact of Covid-19 pandemic

- The report noted that another generation of women will have to wait for gender equality as 36 more years were added to the time left to close the gender gap.
- As the impact of the COVID-19 pandemic continues to be felt, **closing the global gender gap has increased by a generation from 99.5 years to 135.6 years**.
- The report also called for the enforcement of strategies that stress on equal hiring practices and skills development.

2) State of World Population 2021 report

About the Report

- The State of World Population is an annual report published by the **United Nations Population Fund (UNFPA)**.
- Each edition covers and analyses developments and trends in world population and demographics, as well as shedding light on specific regions, countries and population groups and the unique challenges they face.

Why in News?

- UNFPA has released its flagship State of World Population 2021 report titled **'My Body is My Own'**.
- This is the first time a United Nations report has **focused on bodily autonomy**, defined as the power and agency to make choices about your body without fear of violence or having someone else decide for you.

Highlights of the Report

Global Scenario

- **Nearly half the women from 57 developing countries do not have the right to make decisions regarding their bodies**, including using contraception, seeking healthcare or even on their sexuality.
- The report shows that in countries where data is available, only 55% of women are fully empowered to make choices over healthcare, contraception and the ability to say yes or no to sex.
- It also highlights that **only 75% of countries legally ensure full and equal access to contraception**.
- Some examples of violation of bodily autonomy include child marriage, female genital mutilation, a lack of contraceptive choices leading to unplanned pregnancy, unwanted sex exchanged for a home and food or when people with diverse sexual orientations and gender identities cannot walk down a street without fearing assault or humiliation.
- Under its ambit also fall people with disabilities stripped of their rights to self-determination, to be free from

violence and to enjoy a safe and satisfying sexual life.

- Women's access to bodily autonomy is measured in the report through their **power to make their own decisions** about their reproductive health care, contraceptive use and sexual relations and the extent to which the laws of the countries support or interfere with a woman's right to make these decisions.

Alarming findings

- The report noted that **lack of bodily autonomy may have worsened during the coronavirus pandemic**, placing record numbers of women and girls at risk of gender-based violence and harmful practices such as early marriage.
- A woman's power to control her own body is **linked to how much control she has in other spheres of her life**, with higher autonomy associated with advances in **health and education, income and safety**.
- Amongst its findings, the report documented several ways through which bodily autonomy of not only women and girls, but **also men and boys**, is violated, with factors such as disability worsening the situation.
- For instance, girls and boys with disabilities are nearly three times more likely to be subjected to sexual violence, with girls at the greatest risk.

Scenario in India

- In **India**, according to **NFHS-4 (2015-2016)**, only about 12% of currently married women (15-49 years of age) independently make decisions about their own healthcare, while 63% decide in consultation with their spouse. For a quarter of women (23%), it is the spouse that mainly takes decisions about healthcare.
- Only 8% of currently married women (15-49 years) make decisions on the use of contraception independently, while 83% decide jointly with their spouse. Information provided to

women about use of contraception is also limited — only 47% of women using a contraceptive were informed about the side effects of the method, and 54% women were provided information about other contraceptives.

‘Men must become allies’

- The report highlighted that addressing the appalling situation requires much more than a disconnected series of projects or services, stressing that real, sustained progress largely depends on **uprooting gender inequality and all forms of discrimination, and transforming the social and economic structures that maintain them.**
- In this, men must become allies. Many more must commit to stepping away from patterns of privilege and dominance that profoundly undercut bodily autonomy, and move towards ways of living that are more fair and harmonious, benefiting us all.

Related Information

About UNFPA

- UNFPA is the United Nations sexual and reproductive health agency.
- Its mission is to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled.

3) Gender bias and inclusion in advertising in India

What's in the news?

- **UNICEF and the Geena Davis Institute on Gender in Media (GDI)** recently conducted a study titled “Gender bias and inclusion in advertising in India”.
 - *GDI is a non-profit research organization that researches gender representation in media and advocates for equal representation of women.*
- The research measures over 1,000 television and YouTube

advertisements aired across India in 2019. The ads analysed were those that received the most reach.

Results of the study

- The study finds that while Indian advertisements on television and YouTube are superior to global benchmarks insofar as **girls and women have parity of representation in terms of screen and speaking time, their portrayal is problematic** as they **further gender stereotypes** — they are more likely than male characters to be shown as married, less likely to be shown in paid occupation, and more likely to be depicted as caretakers and parents.
- The study finds that **women characters dominate screen time (59.7%) and speaking time (56.3%)**, but one of the drivers of this is their depiction for selling cleaning supplies and food and beauty products to women consumers.
- For example, almost all the detergent and food commercials depicted a woman taking care of her family who speaks directly to women viewers about caring for their families.
- **Female characters are more likely to be shown doing the following activities than male characters** — shopping; cleaning; and being involved in the purchase or preparation of meals.
- For characters where intelligence is part of their character in the ad, **male characters are more likely to be shown as smart than female characters.**
- Two-thirds of female characters (66.9%) in Indian ads have **light or medium-light skin tones** — a higher percentage than male characters (52.1%).
- The research also found consistent **gender differences in sexualization.** Female characters are nine times more likely to be shown as “**stunning/very**

attractive” than male characters. Female characters are also **invariably thin**, but male characters appear with a variety of body sizes in Indian advertising.

Impacts

- **Misrepresentation and harmful stereotypes of women** in advertising have a significant impact on women — and young girls — and how they view themselves and their value to society.
- The study noted that while we do see female representation dominate in Indian ads, they are **still marginalised by colorism, hypersexualisation, and without careers or aspirations outside of the home**. The stark inequality must be addressed to ensure an equitable society.

4) State of Working India 2021

What's in the news?

- Azim Premji University's Centre for Sustainable Employment, Bengaluru, has released a report titled '**State of Working India 2021: One Year of Covid-19**'.
- The report, which covers the period March 2020 to December 2020, dwells on the impact of one year of COVID-19 on employment, incomes, inequality and poverty.

Highlights of the Report

Increase in informal employment

- The COVID-19 pandemic has **substantially increased informality in employment**, leading to a decline in earnings for the majority of workers, and consequent increase in poverty in the country.
- Regarding employment, the report notes that **100 million jobs were lost nationwide** during the April-May 2020 lockdown. Though **most of these workers had found employment by June 2020, about 15 million remained out of work**.
- As for income, for an average household of four members, the

monthly per capita income in Oct 2020 (Rs. 4,979) was still below its level in Jan 2020 (Rs. 5,989).

- The study found that post-lockdown, **nearly half of salaried workers had moved into informal work**, either as self-employed (30%), casual wage (10%) or informal salaried (9%).

Fallback options

- The **fallback option varied by caste and religion**. General category workers and Hindus were more likely to move into self-employment while marginalised caste workers and Muslims moved into daily wage work.
- **Education, health and professional services** saw the highest exodus of workers into other sectors, with **agriculture, construction and petty trade** emerging as the top fallback options.
- Due to the employment and income losses, the **labour share of the GDP fell by 5 percentage points**, from 32.5% in the second quarter of 2019-20 to 27% in the second quarter of 2020-21.
 - *Labour share of GDP is the total compensation of employees given as a percent of GDP, which is a measure of total output. It provides information about the relative share of output which is paid as compensation to employees as compared with the share paid to capital in the production process for a given reference period.*
- Of the decline in income, 90% was due to reduction in earnings, while 10% was due to loss of employment. This means that even though most workers were able to go back to work, they had to **settle for lower earnings**.
- Monthly earnings of workers fell on an average by 17% during the pandemic, with self-employed and informal salaried workers facing the highest loss of earnings.

Vulnerable sections

- **Women and younger workers** were more affected by the pandemic-related measures. During the lockdown and in the post-lockdown months, 61% of working men remained employed while 7% lost their job and did not return to work. But in the case of women, only 19% remained employed while 47% suffered a permanent job loss.
- With 230 million falling below the national minimum wage threshold of Rs. 375 per day during the pandemic, **the poverty rate has increased by 15 percentage points in rural areas and nearly 20 percentage points in urban areas.**
- Households coped with the loss of income by **decreasing their food**

intake, selling assets and borrowing informally from friends, relatives and money-lenders. The report notes that 20% of those surveyed said that their food intake had not improved even six months after the lockdown.

Recommendations

- These findings are a serious cause for concern in the absence of inclusive social welfare architecture.
- Among other ameliorative policy measures, the report calls for **extending free rations** under the Public Distribution System till the end of 2021, **expansion of MGNREGA entitlement to 150 days**, and a **“Covid hardship allowance”** for the 2.5 million Anganwadi and ASHA workers.

Polity

1) Chief Election Commissioner

Constitutional Provisions

- **Part XV** of the Indian constitution deals with elections and establishes a commission for these matters.
- **Article 324 to 329** of the constitution deals with powers, function, tenure, etc. of the commission and the members.

About Election Commission of India

- The Election Commission of India is an **autonomous constitutional authority** responsible for administering Union and State election processes in India.
- The body administers elections to the **Lok Sabha, Rajya Sabha, State Legislative Assemblies in India, and the offices of the President and Vice President** in the country.

Powers and Responsibilities

- The Commission's functions and powers with respect to elections are divided into **three categories (Administrative, Advisory, and Quasi-judicial)**. In detail, these powers include
 1. Determining the Electoral Constituencies' territorial areas throughout the country.
 2. Preparing and periodically revising electoral rolls and registering all eligible voters.
 3. Notifying the schedules and dates of elections and scrutinising nomination papers.
 4. Granting recognition to the various political parties and allocating them election symbols.
 5. The Commission also has advisory jurisdiction in the matter of post-election disqualification of sitting members of Parliament and State Legislatures.
 6. It issues the Model Code of Conduct in elections for political parties and candidates so that no

one indulges in unfair practice or there is no arbitrary abuse of powers by those in power.

Composition of Election Commission

- Since its inception in 1950, the election commission had been a one-member body with only the **Chief Election Commissioner (CEC)** as its sole member. Later, **two more election commissioners** were appointed to the body and the Election Commission became a multi-member body with 3 election commissioners.

Chief Election Commissioner and Election Commissioners

- The **President** appoints Chief Election Commissioner and Election Commissioners. They have tenure of **six years**, or up to the age of **65 years**, whichever is earlier.
- They enjoy the same status and receive salary and perks as available to Judges of the **Supreme Court of India**.
- According to Article 324 (5), the Chief Election Commissioner (CEC) can be removed from office **only through impeachment by Parliament**.
- However, the same constitutional provision is silent about the procedure for removal of the two Election Commissioners. It only provides that they cannot be removed from office **except on the recommendation of the CEC**.
- The Commission transacts its business by holding regular meetings and also by circulation of papers. All Election Commissioners have **equal say in the decision making of the Commission**.
- If the Chief Election Commissioner and other Election Commissioners differ in opinion on any matter, such matters shall be decided according to the **opinion of the majority**.
- It should be noted that the **Constitution has not prescribed the**

qualifications of the members of the Election Commission.

- Also, the **Constitution has not debarred** the retiring election commissioners from any further appointment by the government.

Why in News?

- President Ram Nath Kovind has appointed Election Commissioner Sushil Chandra to take over as Chief Election Commissioner from Sunil Arora, whose tenure ended on April 12.

2) Government of NCT of Delhi (Amendment) Act, 2021

How is Delhi governed?

- Delhi's current status as a Union Territory with a Legislative Assembly is an outcome of the **69th Amendment Act** through which **Articles 239AA and 239BB** were introduced in the Constitution in **1991**.
- The **Government of National Capital Territory of Delhi (GNCTD) Act, 1991**, was passed simultaneously to supplement the constitutional provisions relating to the Assembly and the Council of Ministers in the national capital.
- The GNCTD Act outlines the powers of the Assembly, the discretionary powers enjoyed by the Lieutenant Governor (L-G), and the duties of the Chief Minister with respect to the need to furnish information to the L-G.
- The L-G does have the power to **refer any matter, over which there is a disagreement with the elected government, to the President** under **Article 239AA (4)**.

Supreme Court judgement

- In its **2018 verdict**, the five-judge Bench of the Supreme Court had held that the **Lieutenant Governor's concurrence is not required on issues other than police, public order and land**.

- The apex court held that the **LG of Delhi has no independent decision-making powers and is bound to follow the "aid and advice"** of the Delhi Chief Minister and her Council of Ministers in the Government of Delhi on all matters **except those pertaining to police, public order and land**.
- It had added that **decisions of the Council of Ministers will, however, have to be communicated to the L-G**.
- The court held that requiring prior concurrence of the Lieutenant Governor would absolutely negate the ideals of representative governance and democracy conceived for the National Capital Territory (NCT) of Delhi by **Article 239AA** of the Constitution.
- It ruled that every "trivial difference of opinion" between the LG and the NCT government cannot be referred to the President for a decision. The issues referred should be of **substantive or national importance**. In this regard, the court interpreted the phrase "**any matter**" in the proviso to **Article 239AA(4)** as not "**every matter**", which means a reference to the President was only an exception and not the general rule.

Why in News?

- The Parliament has recently passed the Government of National Capital Territory of Delhi (Amendment) Act, 2021. It amends the Government of National Capital Territory of Delhi Act, 1991.
- It amends certain powers and responsibilities of the Legislative Assembly and the Lieutenant Governor.

Highlights of the Act

Restriction on laws passed by the Assembly

- The amendment provides that the term "**government**" referred to in any

law made by the Legislative Assembly will imply **Lieutenant Governor**.

Rules of Procedure of the Assembly

- The original Act allows the Legislative Assembly to make Rules to regulate the procedure and conduct of business in the Assembly. The amendment provides that **such Rules must be consistent with the Rules of Procedure and Conduct of Business in the Lok Sabha**.

Inquiry by the Assembly into administrative decisions

- The amendment act **prohibits the Legislative Assembly from making any rule** to enable itself or its Committees to:
 - ✓ Consider the matters of day-to-day administration of the NCT of Delhi and
 - ✓ Conduct any inquiry in relation to administrative decisions.
- Further, the act provides that all such rules made before its enactment will be void.

Assent to Bills

- The 1991 Act requires the LG to reserve certain Bills passed by the Legislative Assembly for the consideration of the President.
- These Bills are those: (i) which may diminish the powers of the High Court of Delhi, (ii) which the President may direct to be reserved, (iii) dealing with the salaries and allowances of the Speaker, Deputy Speaker, and members of the Assembly and the Ministers, or (iv) relating to official languages of the Assembly or the NCT of Delhi.
- The latest amendment **requires the LG to also reserve those Bills for the President, which incidentally covers any of the matters outside the purview of the powers of the Legislative Assembly**.

LG's opinion for executive actions

- The parent Act specifies that all executive action by the government, whether taken on the advice of the Ministers or otherwise, must be taken in the name of the LG.
- The amendment adds that on **certain matters, as specified by the LG, his opinion must be obtained before taking any executive action on the decisions of the Minister/ Council of Ministers**.

Criticisms

- For 2015 to 2018, the state government was engaged in a constant battle with the Centre over policy decisions and the powers of the L-G vis-à-vis the elected government. The Supreme Court judgment gave it a freer hand in terms of policy decisions.
- It was because of the judgment that the government was able to clear policy decisions like giving free power to those using under 200 units, free bus riders for women and doorstep delivery of ration.
- The amendments will have far-reaching implications. By making it mandatory for the elected government to route all its files through the L-G, the amendments will essentially **take away the government's autonomy and the dream for full statehood for the state**, which each political party has promised the electorate at various times.
- Some experts believe the amendments **snatch the democratic and Constitutional right of the city's citizens to vote** those they deem fit to administer them.
- The Centre has however said the new act seeks to promote "harmonious relations between the legislature and the executive" and provide for rules made by the Legislative Assembly of Delhi to be "consistent with the rules of the House of the People" or the Lok Sabha.

Economy

1) Payments banks

About Payments banks

- Payments banks are the new age banks with limited facilities. These banks mostly operate through the small vendors and shopkeepers. It exists in between the mobile wallet and regular banks.
- Payments banks are permitted to set up their own outlets such as branches, Automated Teller Machines (ATMs), Business Correspondents (BCs), etc. to undertake only certain restricted activities permitted to banks under the Banking Regulation Act, 1949.
- A payments bank provides following services to its customers:
 - ✓ Accept demand deposits (restricted upto **Rs.1 lakh**)
 - ✓ Remittance services
 - ✓ Mobile payments
 - ✓ Fund transfers
 - ✓ Debit card and associated services
 - ✓ Net Banking services
 - ✓ Sell third-party financial products like insurance and mutual funds
- However, payments banks cannot undertake the following activities:
 - ✓ They **cannot undertake lending activities**
 - ✓ They **cannot set up subsidiaries to undertake non-banking financial services activities**
 - ✓ They are **not eligible to accept NRI deposits.**

Objectives

- The main objective of payments banks is to widen the spread of payment and financial services to small business, low-income households, and the migrant labour workforce in a secured technology-driven environment.
- With payments banks, RBI seeks to increase the penetration level of financial services to the remote areas of the country.

- The Reserve Bank expects payments banks to target India's migrant labourers, low-income households and small businesses, offering savings accounts and remittance services with a low transaction cost.

Eligible promoters

- Existing non-bank Pre-paid Payment Instrument (PPI) issuers authorised under the Payment and Settlement Systems Act, 2007
- Other entities such as individuals / professionals; Non-Banking Finance Companies (NBFCs), corporate Business Correspondents (BCs), mobile telephone companies, supermarket chains, companies, real sector cooperatives; that are owned and controlled by residents; and public sector entities may apply to set up payments banks.

Regulations

- Payments banks are registered as a **public limited company** under the **Companies Act, 2013**, and licensed under Section 22 of the **Banking Regulation Act, 1949**.
- Deposits mobilised by the payments bank are covered under the **deposit insurance scheme of the Deposit Insurance and Credit Guarantee Corporation of India (DICGC)**.
- Apart from amounts maintained as **Cash Reserve Ratio (CRR)** with RBI on its outside demand and time liabilities, Payments banks are required to invest **minimum 75 per cent of its "demand deposit balances"** in Government securities/Treasury Bills with maturity up to one year that are recognized by RBI as eligible securities for maintenance of Statutory Liquidity Ratio (SLR) and hold **maximum 25 per cent in current and time / fixed deposits** with other scheduled

commercial banks for operational purposes and liquidity management.

- The **minimum paid-up equity capital for payments banks shall be Rs. 100 crore**, of which the promoter's contribution would be minimum 40 percent of paid-up equity capital for the first 5 years of commencement of the business.
- The foreign shareholding in the payments bank would be **as per the Foreign Direct Investment (FDI) policy for private sector banks** as amended from time to time. As per the current FDI policy, the aggregate foreign investment in a private sector bank from all sources will be allowed upto a maximum of 74 per cent of the paid-up capital of the bank.

Why in News?

- The RBI has **doubled the maximum limit of funds account holders of payments banks to Rs 2 lakh** from Rs 1 lakh earlier with immediate effect.
- The decision to double the limit was based on a review of the performance of payments banks and with a view to encourage their efforts for financial inclusion and to expand their ability to cater to the needs of their customers, including MSMEs, small traders and merchants.
- Currently, Fino Payments Bank, Paytm Payments Bank, India Post Payments Bank, Airtel Payments Bank, Jio Payments Bank are actively operating in this space.

2) Ways and Means Advances

About WMA

- The **Reserve Bank of India (RBI)** gives **temporary loans to the centre and state governments** as a banker to the government. This facility is called Ways and Means Advances (WMA). This facility was introduced in 1997.
- Thus, WMA is a temporary liquidity arrangement that helps **meet**

mismatches in receipts and payments of the government.

- Under this scheme, Centre and states can avail themselves of immediate cash from the RBI. But it has to return the amount within **90 days**. Interest is charged at the **existing repo rate**.
- The governments are, however, allowed to draw amounts in **excess of their WMA limits**. The interest on such overdraft is usually **above the repo rate**.
- The limits for WMA are decided by the government and RBI mutually and revised periodically.

Why in News?

- The RBI has announced that the existing interim Ways and Means Advances limit of Rs 51,560 crore for all states and Union Territories will continue up to September 30, 2021, as the effect of the Covid-19 pandemic is still prevalent.
- The Reserve Bank will review the WMA limit thereafter, depending on the course of the pandemic and its impact on the economy.

3) RBI sets up panel to review working of ARCs

What is an ARC?

- An Asset Reconstruction Company is a specialized financial institution that buys the non-performing assets (NPA) or bad assets from banks and financial institutions so that the latter can clean up their balance sheets. In other words, ARCs are in the business of **buying bad loans from banks**.
- ARCs clean up the balance sheets of banks when the latter sells these to the ARCs. This helps banks to **concentrate on normal banking activities**. Banks, rather than going after the defaulters by wasting their time and effort, can sell the bad assets to the ARCs at a mutually agreed value.

Objective of ARCs

- Rapid growth of bad debts/ non-performing assets was the chronic hurdle for healthy growth of Indian economy.
- According to **RBI's Financial Stability Report (FSR)**, banks' non-performing assets may rise to as high as 14.8% in one year in case of a severe stress scenario, from 7.5% as of September 2020.
- ARCs acquire the bad debts/NPA accounts from Banks and Financial Institutions and try to resolve expeditiously by availing remedies under existing laws of India.

Legal Backing

- ARCs are incorporated under the Companies Act 2013 and registered with Reserve Bank of India under section 3 of **The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002**.
- ARCs function under the **supervision and control of the Reserve Bank of India**.

SARFAESI Act 2002- origin of ARCs

- The SARFAESI Act provides the legal basis for the setting up of ARCs in India.
- The Act allows banks and financial institutions to recover their dues by proceeding against secured assets of the borrower/guarantor **without the intervention of the court/tribunals**.
- Before this Act took effect, financial institutions had to take recourse to civil suits in the courts to recover their dues, which is a lengthy and time-consuming process.

- As per the SARFAESI Act, if a borrower defaults on a loan financed by a bank against collateral, then the **bank gets sweeping powers to recover its dues from the borrower**. After giving a notice period of 60 days, the lender can take possession of the pledged assets of the borrower, take over the management of such assets, appoint any person to manage them or ask debtors of the borrower to pay their dues too, with respect to the asset.
- This recovery procedure saves banks and financial institutions a lot of time which otherwise would be long drawn out due to the intervention of courts.
- After enactment of SARFAESI Act in 2002, a large number of ARCs were formed and were registered with the RBI which has got the power to regulate the ARCs.
- While ARCs have grown in number and size, their **potential for resolving stressed assets is yet to be realised fully**.

Why in News?

- The RBI has set up a six-member committee to undertake a comprehensive review of the working of asset reconstruction companies and recommend suitable measures for enabling them to meet the growing requirements.
- As per the terms of reference of the committee, the panel will review the existing legal and regulatory framework applicable to ARCs and recommend measures to improve efficacy of ARCs.
- Besides, it has also been asked to review business models of the ARCs.

International Relations

1) CPTPP

About CPTPP

- The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) is a free trade agreement (FTA) between 11 countries around the Pacific Rim: **Canada, Mexico, Peru, Chile, New Zealand, Australia, Brunei, Singapore, Malaysia, Vietnam and Japan.**

- The CPTPP was launched to remove trade barriers among these 11 nations representing nearly 500 million consumers in the Asia-Pacific region in a bid to counter China's growing economic influence.
- The eleven signatories have combined economies representing 13.4 percent of global GDP, making the CPTPP one of the world's largest free-trade areas.



When was the CPTPP negotiated?

- Negotiations for what was then simply the **Trans-Pacific Partnership (TPP)** began in 2010 and concluded in 2015.
- The US** was party to those talks, but the election of President Trump in 2016 led to its **withdrawal from the agreement** before ratification.
- The remaining 11 participants scrambled to amend the text of the agreement, and the newly renamed Comprehensive and Progressive Agreement for Trans-Pacific Partnership was signed in **March 2018**. It came into force in December the same year.

- The **United Kingdom** has made a formal request to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, seeking membership of the 11-country deal to open new avenues for post-Brexit trade.
- A year after it formally left the European Union, the British government said that it wants to join the bloc to lower tariffs for the British economy. The government says the partnership removes tariffs on 95 percent of goods traded between members.

Why in News?

2) E9 countries meeting

About E9 countries

- E9 Partnership was first established in **1993** with the objective to achieve the goals of **UNESCO's Education For All (EFA) initiative**.
 - *EFA is an international initiative first launched at the 'World Conference on Education for All' (Jomtien, Thailand, 1990) by UNESCO, UNDP, UNFPA, UNICEF and the World Bank to bring the benefits of education to "every citizen in every society."*
 - *UNESCO has been mandated to lead the movement and coordinate the international efforts to reach Education for All.*
- E9 countries include **Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan**.
- They represent over half of the world's population and some of the largest education systems in the world.
- E9 countries together can strengthen political will and collective effort to ensure **quality education and lifelong learning opportunities** for all.
- E9 Partnership is working towards the achievement of **Sustainable Development Goal 4 (SDG 4)** which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030.

Why in News?

- A Consultation meeting of Ministers of Education of E9 countries was held recently.

3) Raisina Dialogue

About the Dialogue

- The Raisina Dialogue is **India's flagship conference on geopolitics and geoeconomics**, held annually since 2016. It is jointly organised by the **Ministry of External Affairs and**

the Observer Research Foundation (ORF).

- *ORF is an independent global think tank based in Delhi.*
- It is a multilateral conference committed to addressing the most challenging issues facing the global community. Every year, global leaders in policy, business, media and civil society are hosted in **New Delhi** to discuss cooperation on a wide range of pertinent international policy matters.
- The Dialogue is structured as a multi-stakeholder, cross-sectoral discussion, involving heads of state, cabinet ministers and local government officials, as well as major private sector executives, members of the media and academics.

Why does the Dialogue matter?

- In the past six years, the Raisina Dialogue has grown in stature and profile to emerge as a leading global conference on international affairs. It attracts leading minds from the global strategic and policy-making community to discuss broader foreign policy and strategic issues facing the world.
- An event of such scale sets the tone for the rest of the year. The Dialogue provides a platform for the government to state its position on various questions and issues of international relations.
- The event gives many experts, and other countries, a glimpse into the Indian government's near-term priorities in international relations.
- The Dialogue also provides a golden chance for young scholars and researchers to interact with a galaxy of stars from the international relations universe. Also, it gives a platform for researchers to network and perhaps even collaborate.
- And finally, the event creates an ecosystem for the growth and

development of think tanks and other policy groups.

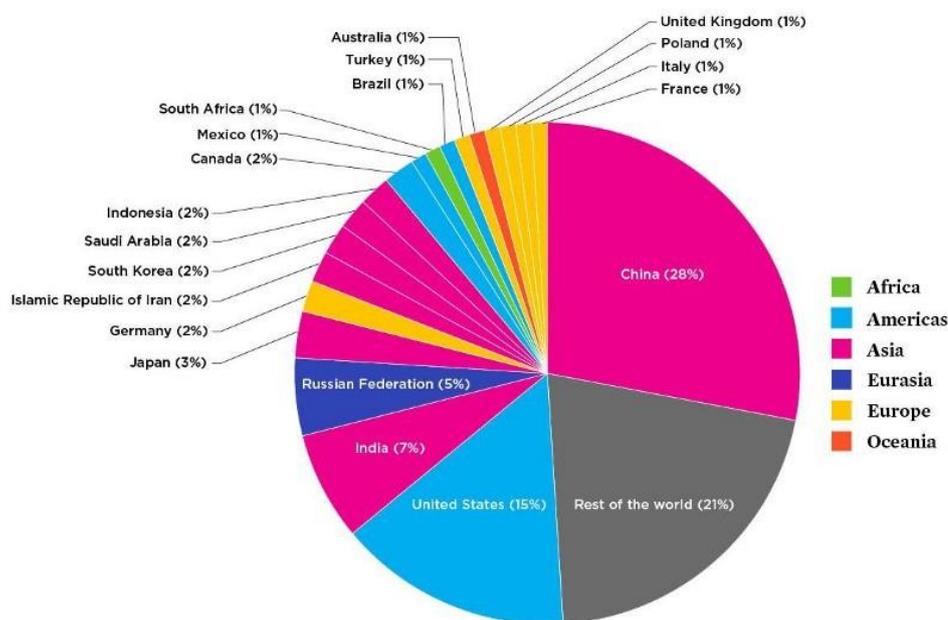
Why in News?

- The 6th Edition of the Raisina Dialogue was held virtually due to the Covid-19 situation in various parts of the world.
- The theme for the 2021 Edition was “#ViralWorld: Outbreaks, Outliers and Out of Control”.

4) Leaders' Climate Summit

Why in the news?

- Recently the US President Joe Biden hosted Virtual Leader's Climate Summit (LCS), an event meant to resurrect U.S. leadership in the fight against global warming.
- 40 countries participated in the summit which included **17 major economies that are responsible for 80% of global emissions**. The image below represents **country-wise CO2 emissions**.



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Data: Earth Systems Science Data 11, 1783-1838, 2019

- The leader's summit on climate was also an effort from the new US administration to reestablish US leadership in the fight against climate change and demonstrate that climate is at the centre of US diplomacy.

Significance

- In recent years, scientists have underscored the need to **limit planetary warming to 1.5 degrees Celsius** in order to stave off the worst impacts of climate change. A key goal of the Leaders Summit was to catalyze efforts that keep that 1.5-degree goal within reach.
- The Summit also highlighted examples of how enhanced climate ambition will

create good paying jobs, advance innovative technologies, and help vulnerable countries adapt to climate impacts.

Highlights of the Summit

- The summit addressed the urgent need to **scale up climate finance**, including both efforts to increase public finance for mitigation and adaptation in developing countries and efforts to catalyze trillions of dollars of private investment to support the transition to net zero emissions by 2050.
- Biden stressed the importance of developed countries mobilising **\$100 billion per year** in public and private finance to support developing

countries. He also announced that the US will seek to double funding, by 2024, for annual US public climate finance to developing countries.

- **The US, the world's second-leading emitter after China**, announced that it would reduce greenhouse gas emissions by 50% by the end of the decade, while other countries also announced more ambitious climate targets.

Other announcements made by countries during the summit include:

- **Japan** will cut emissions 46-50% below 2013 levels by 2030, with strong efforts toward achieving a 50% reduction, a significant improvement from its existing 26% reduction goal.
- **Canada** will strengthen its **nationally determined contributions (NDCs)** to a 40-45% reduction from 2005 levels by 2030, a significant increase over its previous target to reduce emissions 30% below 2005 levels by 2030.
 - *NDCs are each country's goals towards achieving the Paris Agreement target of limiting rising temperatures to less than 2 degrees Celsius. Refer Pulse January 2021 edition for details on NDCs & Paris Agreement.*
- **The United Kingdom** will embed in law a 78% GHG reduction below 1990 levels by 2035.
- **The EU** is putting into law a target of reducing net greenhouse gas emissions by at least 55% by 2030 and a net zero target by 2050.
- **South Korea** will end public overseas coal finance and strengthen its NDC this year to be consistent with its 2050 net zero goal.

India-US Climate and Clean Energy Agenda 2030 Partnership

- While addressing the summit, Prime Minister Narendra Modi said **India's per capita carbon footprint is 60% lower than the global average** owing

to the fact that our lifestyle is rooted in sustainable traditional practices.

- India reiterated its target of **450 GW of renewable energy by 2030** and announced the launch of the **US-India 2030 Climate and Clean Energy Agenda 2030 Partnership** to mobilise finance and speed clean energy innovation and deployment this decade.
- The Partnership will aim to mobilize finance and speed clean energy deployment; demonstrate and scale innovative clean technologies needed to decarbonize sectors including industry, transportation, power, and buildings; and build capacity to measure, manage, and adapt to the risks of climate-related impacts.
- The Partnership will proceed along two main tracks: the **Strategic Clean Energy Partnership and the Climate Action and Finance Mobilization Dialogue**.
- Through this collaboration, India and the United States aim to demonstrate how the world can align swift climate action with inclusive and resilient economic development, taking into account national circumstances and sustainable development priorities.

5) Supply Chain Resilience Initiative

What's in the news?

- In a move to counter China's dominance of the supply chain in Indo-Pacific region, trade ministers of **India, Japan and Australia** have formally launched the Supply Chain Resilience Initiative (SCRI) in a virtual trilateral ministerial meeting.
- Committed to building resilient supply chains in the Indo-Pacific in the aftermath of COVID-19 pandemic, the initiative is set to fundamentally reshape the geographical character of cross-border production networks in the region.

- Initially, SCRI will focus on sharing best practices on supply chain resilience and holding investment promotion events and buyer-seller matching events to provide opportunities for stakeholders to explore the possibility of **diversification of their supply chains**.

Significance

- In the context of international trade, supply chain resilience is an approach that **helps a country to ensure that it has diversified its supply risk across a clutch of supplying nations instead of being dependent on just one or a few**.
- The COVID-19 pandemic has driven home the need to address weaknesses of several traditional supply chains. The imposition of lockdowns and halt in production across locations **severely affected global distribution of inputs and final products**.
- In the beginning, the effect was mostly confined to products sourced from China. With more countries pausing industrial production, other supply chains encountered severe disruptions.
- Built over decades on principles of economic efficiency, regional supply chains were clearly **incapable of handling exogenous shocks of the magnitude inflicted by COVID-19**. The need for restructuring them, in order to make them more resilient to unexpected disruptions, has been a fundamental lesson imparted by the pandemic.

Strategic Reasons

- For major Indo-Pacific economies like India, Japan, and Australia, it has become essential to diversify sourcing across various segments of different supply chains in order to minimize risks from disruption and enhance resilience. In this respect, their deep trade and economic relations with

China need to be reduced to avoid future production disruptions.

- Restructuring supply chains away from China became a major objective for these countries as concerns increased over **security risks associated with production networks** significantly embedded in, or connected to, China.
- By disengaging strategic supply chains — semiconductors, automobiles, pharmaceuticals, and telecommunications — from China, and repositioning them substantially in countries without security threats, proponents of the RSCI hope to **decouple from China in a broader strategic sense**.
- The ostensible purpose behind the organized effort to decouple is also to **develop a coalition of like-minded countries for taking on an assertive China in the Indo-Pacific**.

Roadmap of RSCI

- The RSCI is looking to **restructure cross border production networks and trade relations primarily based on geostrategic factors**. This is different from fundamental economic ones, particularly cost efficiencies, that typically determine growth of supply chains. However, migration of supply chains out of China on largely non-economic grounds would still require support of some of the economic factors in order to be successful.
- Financial incentives** are crucial for repositioning supply chains. Businesses, including lead firms, vendors, and distributors across various supply chains, would have to be compensated for migrating to locations much less efficient than China.
- Japan** is offering subsidies to its businesses for relocation from China. While these were initially being offered for relocating back to Japan, and also to Southeast Asia, India and Bangladesh

have lately been added to locations eligible for subsidies.

Way Forward

- The RSCI's long-term success depends significantly on the extent to which Japan, India, Australia, and Southeast Asian countries join it and are able to work out common rules for effective growth of supply chains.
- The RSCI is one of the first examples of a distinct anti-China geoeconomic

alliance taking shape in the post-COVID-19 world.

- The new initiative also symbolizes segregation of global and regional supply chains along geopolitical lines. It points to the wider possibility of the post-COVID-19 global economic order being fashioned into distinct blocs of cross-border production networks representing specific political alliances. Its success might spur more such initiatives elsewhere.

Art and Culture

1) Kumbh Mela

What is it?

- Kumbh Mela is a major pilgrimage and festival in Hinduism, during which participants bathe or take a dip in a sacred river.
- It is celebrated in a **cycle of approximately 12 years, at four river-bank pilgrimage sites:** the Prayagraj/Allahabad (Ganges-Yamuna-Sarasvati rivers confluence), Haridwar (Ganges), Nashik (Godavari), and Ujjain (Shipra). The confluence is referred to as the 'Sangam'.
- It is the **largest peaceful congregation of pilgrims on earth.**
- This tradition is so ancient and sacred, that it was even included in the travel accounts of **Chinese traveller Hsuan Tsang**, when he visited India in 629-645 BCE.
- Types of Kumbh Mela and its Occurrence
 - Kumbha Mela - held at all four places every 3 years
 - Ardha Kumbha Mela - held at Haridwar and Allahabad every 6 years
 - Purna Kumbha Mela - held only at Allahabad every 12 years
 - Maha Kumbha Mela - held only at Allahabad every 144 years
- It is placed under **UNESCO's Representative List of Intangible Cultural Heritage of Humanity.**

Why in News?

- The duration of the 'Kumbh Mela' in Uttarakhand's Haridwar has been curtailed to just one month for the first time in its history in view of a recent surge in Covid-19 cases.
- The occasion usually lasts around three-and-a-half months.

Related Information

UNESCO List of Intangible Cultural Heritage of Humanity

- UNESCO established its Lists of Intangible Cultural Heritage with the aim of ensuring better protection of important intangible cultural heritages worldwide and the awareness of their significance.
- The list was **established in 2008 when the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage took effect.**
- The following 13 traditional-cultural elements of India have been added into this list:
 1. Tradition of Vedic chanting
 2. Ramlila, the traditional performance of the Ramayana
 3. Kutiyattam, Sanskrit theatre
 4. Ramman, religious festival and ritual theatre of the Garhwal Himalayas
 5. Mudi yettu, ritual theatre and dance drama of Kerala
 6. Kalbelia folk songs and dances of Rajasthan
 7. Chhau dance of Eastern India
 8. Buddhist chanting of Ladakh
 9. Sankirtana, ritual singing, drumming and dancing of Manipur
 10. Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab
 11. Yoga
 12. Nawrouz
 13. Kumbh Mela

2) Lingaraj Temple

About the temple



- Lingaraja Temple is a **Hindu temple dedicated to Shiva** and is one of the oldest temples in **Bhubaneswar, Odisha**.
- The temple was built in the **Kalinga Architecture** during the **11th century AD** and is raised in **red sandstone**.
- The Lingaraja temple is built first by the ruler **Yayati Kesari (Somavamsi dynasty)** and continued by kings from the Somavamsi dynasty, with **later additions** from the **Ganga rulers**.
- It is built in the **Deula style** that has four components namely, vimana (structure containing the sanctum), jagamohana (assembly hall), nata mandira (festival hall) and bhoga-mandapa (hall of offerings), each increasing in the height to its predecessor.
- In the sanctum sanctorum, the linga of Lord Shiva is regarded as '**Swayambhu**' (self-originated) and worshipped as both Lord Shiva and Lord Vishnu.
- The amiability of the two factions is found in this temple where the god is adored as **Harihara**, a consolidated type of **Vishnu and Shiva**.
- The temple has images of Vishnu, possibly because of the rising prominence of the **Jagannath sect** emanating from the Ganga rulers who built the Jagannath Temple in Puri in the 12th century.

Why in News?

- The Bhubaneswar Municipal Corporation has restricted public entry into the 11th century Lingaraj Temple after priests tested positive for the novel coronavirus.

Related Information

Kalinga School of Temple Architecture

- Kalinga style is identified as a **subclass** under the **Nagara** category.
- There are three kinds of Kalinga temple styles i.e. **Rekha, Khakhara and Bhadra**.
 - ✓ **Rekha-deul (temple)** is distinguished with its square plan topped with a curvilinear tower.
 - ✓ **A Pidha-deul**, also referred as **Bhadra deul**, also has a square plan topped with a pyramidal tower composed of horizontal tiers arranged in a receding manner.
 - ✓ **A Khakhara deul** is surmounted with a barrel-shaped (vault-shape) tower over a rectangular plan.
- **Silpaprakasha** is the most famous text describing the Odishan temple architecture which was authored by **Ramachandra Kaulachara** who belonged to the reign of **King Viravarman**.
- A typical Kalinga temple consists of two parts, a **sanctuary** where an idol or linga is placed and a **hall** where pilgrims can view the lord installed in the sanctuary.
- The sanctuary is referred to as **deul** while the hall is known as **jagamohana**. The other components under Kalinga style temple are:
 - ✓ **Pitha** is the platform over which the entire structure of the temple stands
 - ✓ **Bada** is the vertical wall over which the tower is supported
 - ✓ **Gandi** is the lower part of the tower while mastaka is the upper part of the tower.

3) Thotlakonda Buddhist Monastery

About Thotlakonda



- **Thotlakonda Buddhist Complex** is situated on a hill near Bheemunipatnam about 15 kilometres from **Visakhapatnam** in **Andhra Pradesh**.
- The excavations established the existence of a **Hinayana Buddhist complex** which flourished 2000 years ago.
- The excavations revealed **Satavahana dynasty lead and Roman silver coins** indicating foreign trade; **terracotta tiles, stucco decorative pieces, sculptured panels, miniature stupa models in stone, and Buddha**

footprints were also found. The excavations also yielded twelve inscriptions in the **Brahmi script**.

- Thotlakonda's peak activity was between the **2nd century BCE and the 2nd century CE** owing to brisk Roman trade and religious missions sent abroad.
- The site is also home to birds and raptors like the white-bellied sea eagle, Indian rock eagle, Indian spotted eagle, black-shouldered kite, and common kestrel.

Why in News?

- Historians and biologists are campaigning to protect the ancient Buddhist site of Thotlakonda in Visakhapatnam.
- They are against a recent Government Order (GO) that notified only 120 acres of the site as "protected area". Earlier, the Buddhist site under the State Department of Archeology housed 3,143 acres. Historians fear that the GO may lead to commercial exploitation of the heritage site.

Defence

1) Exercise Varuna

What's in the news?

- The 19th edition of the **Indian and French Navy bilateral exercise 'VARUNA-2021'** was held in the Arabian Sea recently.
- VARUNA-21 highlights increased levels of synergy, coordination and interoperability between the two friendly navies.
- These interactions further underscore the shared values as partner navies, in ensuring freedom of seas and **commitment to an open, inclusive Indo-Pacific and a rules-based international order.**

2) Chief of Defence Staff

Recommendations of various committees

- The first proposal for a Chief of Defence Staff (CDS) came from the 2000 **Kargil Review Committee (KRC)**, which called for a reorganization of the entire gamut of national security management and apex decision-making and structure and interface between the Ministry of Defence and the Armed Forces Headquarters.
- A **group of ministers that was formed in 2001** to explore necessary reforms required to improve India's national security had also favoured creating the post of Chief of Defence Staff.
- In **2012 Naresh Chandra task force** recommended the appointment of a permanent chairman of chiefs of staff committee.
- The CDS is also one of the 99 recommendations made by the **Lt. General D.B. Shekatkar (retd.) committee (2016).**
- Taking these recommendations into consideration, the government appointed General Bipin Rawat as

India's first Chief of Defence Staff in 2019.

About CDS

- CDS is a four-star officer and acts as the **single-point principal military adviser** to the Defence Minister on **all tri services matters.**
- In addition to **heading the Department of Military Affairs (DMA)**, the CDS also acts as the **permanent chairman of the Chiefs of Staff Committee.** The three service chiefs are members of the Chiefs of Staff Committee.
- However, **CDS do not exercise any military command** including over three service chiefs.
- Also, the three service chiefs advise the Defence Minister, as done so far, on matters exclusively concerning their respective services.

Role and responsibilities of CDS

- As the head of the DMA, the CDS facilitates restructuring of military commands for **optimal utilisation of resources** by bringing about **jointness in operations**, including through establishment of joint/ theatre commands.
- The key focus of the CDS office involves **procurement of military equipment** for all the three-armed forces.
- CDS is also a **member of Defence Acquisition Council (Refer Pulse December 2020 edition) and Defence Planning Committee.**
- CDS brings about **reforms in the functioning of three Services** with the aim to augment combat capabilities of the Armed Forces by reducing wasteful expenditure.
- CDS also functions as the **Military Advisor to the Nuclear Command Authority.**

Why in News?

- Chief of Defence Staff General Bipin Rawat reviewed the progress of the Indigenous Aircraft Carrier being constructed at the Cochin Shipyard.

Related Information

Defence Planning Committee

- The Defence Planning Committee (DPC) is chaired by the **National Security Advisor (NSA)** to facilitate comprehensive planning for the defence forces besides focusing on military doctrines to deal with emerging security challenges.
- DPC also works on strategy to boost defence exports, and prioritises capability development plans for the armed forces.

Nuclear Command Authority

- India's Nuclear Command Authority includes a **Political Council and an Executive Council**.
- The **Prime Minister** chairs the Political Council, and it is the **only body with authority to order a nuclear strike**.
- The **National Security Adviser** chairs the Executive Council, which advises the Nuclear Command Authority and carries out orders from the Political Council.