PIB YOJANA KURUKSHETRA COMPILATION

JANUARY 2021

PIB

Index

General Studies Paper II

General Studies Paper III

India's Foreign Policy

Short Liners

Organizations

GENERAL STUDIES PAPER II

Project of Sagarmala Seaplane Services (SSPS)

Why in News
- Ministry of Ports, Shipping and Waterways is initiating the process of commencing operations of the Seaplane services, on the select routes, under a Special Purpose Vehicle (SPV) framework through prospective airline operators.
- The project execution and implementation would be through Sagarmala Development Company Ltd (SDCL), which is under the administrative control of the Ministry.
- Several destinations are envisaged for seaplane operations.

About the Project
- The proposed Origin-Destination pairs under Hub and Spoke model include various islands of Andaman & Nicobar and Lakshadweep, Guwahati Riverfront & Umranso Reservoir in Assam, Yamuna Riverfront / Delhi (as Hub) to Ayodhaya, Tehri, Srinagar(Uttrakhand), Chandigarh and many other tourist places of Punjab & HP; Mumbai (as Hub) to Shirdi, Lonavala, Ganpatipule; Surat (as Hub) to Dwarka, Mandvi & Kandla; Khindsi Dam, Nagpur & Erai Dam, Chandrapur (in Maharashtra) and/or any other Hub & Spoke suggested by the Operator.

PROPOSED LOCATIONS FOR SAGARMALA SEAPLANE SERVICE

Background
- One such Seaplane Service is already in operation between Kevadia and Sabarmati Riverfront in Ahmedabad, which was inaugurated on 31st October 2020.
- To run more such services in the coastal areas or proximity to water bodies, SDCL is keen to associate with the interested scheduled / non-scheduled airline operators.
- The joint development and operation of "Sagarmala Seaplane Services (SSPS)" will be undertaken by forming a Special Purpose Vehicle (SPV) with Sagarmala Development Company Limited (SDCL).

Objective
- To provide connectivity and easier accessibility to remote locations, SDCL is exploring plans to leverage the potential of the vast coastline and numerous water bodies/rivers across India by commencing seaplane operations.

- Sea Plane will utilize the nearby water bodies for take-off and landing and thus connect those places in a much economical way as conventional airport infrastructure like a runway and terminal buildings are not required for seaplane operations.

Way Forward
- The seaplanes services will be a game-changer providing a supplementary means of faster and comfortable transportation across the nation.
- Apart from providing air connectivity to various remote religious/tourist places, it will boost tourism for domestic and international holidaymakers.
- It will save travel time and stimulate localized short distance travelling especially in the hilly regions or across the rivers/lakes etc.
- In addition to the infrastructural enhancements at the places of operations, it will enormously boost tourism and business activities.
- It will generate employment opportunities and stimulate tourism on these new locations, which will consequently contribute to the country's GDP in the long run.

Special Assistance to States for Capital Expenditure

Why in News
- All the States except Tamil Nadu have availed benefits of the newly announced scheme for "Special Assistance to States for Capital Expenditure".
- The scheme was announced by the Finance Minister on 12th October, 2020 as a part of the Aatma Nirbhar Bharat package.

Background
- The Scheme is aimed at boosting capital expenditure by the State Governments who are facing difficult financial environment this year due to the shortfall in tax revenue arising from the COVID 19 pandemic.
- Capital Expenditure has a higher multiplier effect, enhancing the future productive capacity of the economy, and results in a higher rate of economy growth.
- Therefore, despite the adverse financial position of the Central Government, it was decided to extend a special assistance to the State Governments in respect of capital expenditure, in financial year 2020-21.
- The Scheme has got very warm response from the State Governments. So far capital expenditure proposals of Rs. 9,879.61 crore of 27 States have been approved by the Ministry of Finance.
- An amount of Rs. 4,939.81 crore has already been released to the States as the first instalment under the scheme. State-wise allocation, approval granted and funds released is attached.

About the Scheme
The Scheme has three parts.
- **Part –I** of the scheme covers the north-eastern region.
  - Under this part, Rs.200 crores is allocated to 7 north-eastern States (Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura).
  - In view of higher population and geographical area, Assam has been allocated Rs.450 crores under the scheme.

Part-II of the Scheme is, for all other States not included in Part-I.
  - An amount of Rs.7,500 crores is earmarked for this part.
  - This amount has been allocated amongst these States in proportion to their share of central tax as per the interim award of the 15th Finance Commission for the year 2020-21.

Part-III of the Scheme is aimed at pushing various citizen-centric reforms in the States.
  - Under this Part, an amount of Rs.2000 crores is earmarked.
  - This amount will be available only to those States who carry out at least 3 out of the 4 reforms specified by the Ministry of Finance.
  - The 4 reforms are - One Nation One Ration Card, Ease of doing Business Reform, Urban Local Body/ Utility Reform and Power Sector Reform.

Conclusion

- Capital Expenditure has a higher multiplier effect, enhancing the future productive capacity of the economy, and results in a higher rate of economy growth.
- The capital expenditure projects have been approved in diverse sectors like, health, rural development, water supply, irrigation, power, transport, education, urban development.
- As part of the AatmaNirbhar Bharat Package, the government had announced that the Centre will offer ☐12,000 crore special interest-free 50-year loan to states, exclusively for capital expenditure.

Crop Insurance Scheme

Why in News

- 5 years ago, on 13th January 2016, the Government of India took step towards strengthening risk coverage of crops for farmers of India and approved the flagship crop insurance scheme - the Pradhan Mantri Fasal Bima Yojana (PMFBY).
- The scheme was conceived as a milestone initiative to provide a comprehensive risk solution at the lowest uniform premium across the country for farmers.
- The Government of India is committed towards protecting the interests of the farmers.

About the Scheme

- Under this scheme, Premium cost over and above the farmer share is equally subsidized by States and GoI. However, GoI shares 90% of the premium subsidy for North Eastern States to promote the uptake in the region.
- The average sum insured per hectare has increased from ☐15,100 during the pre-PMFBY Schemes to ☐40,700 under PMFBY.
- As an end to end risk mitigation mechanism for farmers, the scheme extends coverage for the entire cropping cycle from pre-sowing to post-harvest including coverage for losses arising out of prevented sowing and mid-season adversities.
- Individual farm level losses arising out of localized calamities and post-harvest losses are also covered due to perils such as inundation, cloudburst and natural fire.

Important events

- Some notable examples of these covers include
  o prevented sowing claims over Rs 500 crore in Andhra Pradesh and Karnataka during the Kharif 2019
  o dry spell, localized calamity claims of over Rs 100 crore in Haryana during Kharif 2018
  o hailstorm, mid-season adversity claims of nearly Rs 30 crore in Rajasthan during Rabi 2019-20
  o locust attack, and claims to the tune of Rs 5000 crore in Maharashtra during the Kharif 2019 unseasonal rainfall.
- The scheme makes it easier for the farmer to report crop loss within 72 hours of occurrence of any event through the Crop Insurance App, CSC Centre or the nearest agriculture officer.

> **Key Features of the Scheme**
> 1. Integration of land records with the PMFBY portal.
> 2. Crop Insurance mobile-app for easy enrollment of farmers.
> 3. Usage of technology such as satellite imagery.
> 4. Remote-sensing technology, drones, artificial intelligence, machine learning to assess crop losses

Latest Intervention

- As an endeavor to constantly bring about improvements, the scheme was made voluntary for all farmers, post its revamp in February 2020.
- Further the States have also been provided flexibility to rationalize the sum insured so that adequate benefit can be availed by farmers.

Way Forward

- The Scheme covers over 5.5 crore farmer applications year on year. Till date, claims worth Rs 90,000 crores have already been paid out under the Scheme.

- Aadhar seeding has helped in speedy claim settlement directly into the farmer accounts.
- Even during COVID lock down period nearly 70 lakh farmers benefitted and claims worth Rs. 8741.30 crores were transferred to the beneficiaries.
- The Government of India urges farmers to take advantage of the scheme by associating themselves to become self-sufficient in times of crisis and support the creation of an Aatmanirbhar Kisan.

New Foreign Trade Policy 2021-26

Why in News
- Recently the Meeting of the Parliamentary Consultative Committee of the Ministry of Commerce and Industry on the subject "New Foreign Trade Policy 2021-26" was held.
- The meeting was chaired by the Minister of State for Commerce and Industry Shri Hardeep Singh Puri, and attended by Hon'ble Members of Parliament and senior officers of the Ministry.

Background
- India's FTP has conventionally been formulated for five years at a time.
- The FTP 2015-20 came into effect on 1st April 2015 and the same was extended by one year till 31st March 2021, due to Covid-19 pandemic.
- For the formulation of new Foreign Trade Policy, meetings have been held with stakeholders. In December 2020, Board of Trade meeting was held where State Governments and other stakeholders' inputs were received.
- Further meetings were held with the Chambers of Commerce, Industry Associations and Export Promotion Councils to provide their inputs.
- A Trade Notice, inviting suggestions from various stakeholders was issued and more than 2000 suggestions have been received. All the suggestions will be examined while formulating the new FTP.
- The new FTP will come into effect from 1st April 2021 for a period of five years and will strive to make India a leader in the area of international trade and channelize the synergies gained through merchandise and services exports for growth and employment with a goal to make India a USD 5 Trillion economy.

Present Scenario
- A key driver for India to achieve the USD 5 Trillion mark in an expedited time frame would be boosting exports, both merchandise and services, through systematically addressing domestic and overseas constraints related to the policy, regulatory and operational framework for
  - lowering transactions costs and enhancing ease of doing business
  - creating a low cost operating environment through efficient, cost-effective and adequate logistical and utilities infrastructure.
- Improvements in the operations of the domestic manufacturing and services sector in combination with efficient infrastructure support by the government would result in correcting the imbalances within India and feed into the trade policy.

New Framework
- It was informed that the District Export Hubs initiative will form an important component of the new FTP.
- The Department of Commerce through the Regional Authorities of DGFT has engaged with State / UT Governments to take forward this initiative in the districts and enable its implementation in a phased manner, with the objective of mobilizing the potential of each district of the country to achieve its potential as an export hub.

"AYU SAMVAD" Campaign
- "AYU SAMVAD" (My Health My Responsibility) is one of the largest public awareness campaign program on AYURVEDA and COVID 19 PANDEMIC, organized by All India Institute of Ayurveda New Delhi, as envisioned & supported by Ministry of AYUSH.
  - More than 5 lac lectures will be organized across the nation by Ayurveda Physicians for citizens of India.

Objective of the Campaign

- The main objective of the campaign is to create awareness through Lecture series to make common people aware about the theme "Ayurveda for COVID 19 Pandemic".
- This campaign ensures the uniformity of information through a structured PPT delivered to approximately 01 crore target audience across India through 05 Lakh lectures.
- This campaign will be immensely beneficial in understanding the importance of Ayurveda & in the fight against COVID 19 & also for Post Covid Management.
- This campaign will specifically focus on the Role of Preventive, Promotive, Curative and Rehabilitation in Management of COVID 19 through Ayurveda.

Launch of Regulatory Compliance Portal

Why in News

- Recently the Regulatory Compliance Portal was launched by DPIIT.
- The objective of this portal is to act as a bridge between citizens, industries and the Government in order to minimize burdensome compliances.
- It will also act as a first-of-its-kind central online repository of all Central and State-level compliances.

Background

- India's commitment to reforms is evident from the width and scale of reforms undertaken at pan- India level since 2014 under the visionary leadership of Hon. Prime Minister.
- This is reflected in the meteoric rise of India's rank in World Bank's Ease of Doing Business Report from 142nd in 2014 to 63rd in 2019.
- In order to translate the Atmanirbhar Bharat Abhiyan into a reality, the next generation of reforms relating to minimizing regulatory burden on businesses and citizens are being taken up by Central Ministries and States/UTs on a mission mode.
- Making Government to Business and Government to Citizen interfaces online, transparent and time bound are among the key priorities of the Government of India.
- A systematic exercise across Central Ministries/Departments and States/UTs is being undertaken by DPIIT to eliminate/reduce compliances which have an adverse impact on time and cost of businesses.

About the Initiative

- All Central Ministries/Departments and States/UTs would :
    o Examine laws/regulations/rules under their purview and implement an Action Plan to rationalize and simplify all the processes.
    o Remove burdensome compliances.
    o Decriminalize laws.
    o Repeal redundant Acts.
- These details would be captured and tracked on the Regulatory Compliance Portal.
- Industry stakeholders from Trade bodies such as CII, FICCI and ASSOCHAM would also be able to submit compliances and proposed recommendations.
- This will be assessed by concerned Government authorities and suitable action would be undertaken to minimize the regulatory compliance burden.

Monitoring

- Performance of activities on this portal would be closely reviewed by the senior Government officers.
- Cabinet Secretary would have real-time comprehensive view of all compliances and status of all requests raised across Central Ministries/Departments and States/UTs. Customized reports of action taken by each Ministry/Department and State/UT also gets generated for monitoring and evaluation.
- **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry has been directed by Cabinet Secretary to act as the nodal department for coordinating the exercise of minimizing regulatory compliance burden for citizens and businesses.**

Conclusion

- The Regulatory Compliance Portal will be instrumental in achieving the vision of a truly Atmanirbhar Bharat and help usher ease of doing business for industry and ease of living for citizens.

GENERAL STUDIES PAPER III

Antarctica Expedition

Why in News

- India has recently launched the 40th scientific expedition to Antarctica. This Indian expedition marks four decades of country's scientific endeavour to the southern white continent.
- It will be flagged off from Goa on January 5, 2021, with 43 members onboard.
- The chartered ice-class vessel MV Vasiliy Golovnin will make this journey and will reach Antarctica in 30 days.
- After leaving behind a team of 40 members, it would return to India in April 2021.
- On return, it will also bring back the winter team of the preceding trip.

Background

- Antarctic expeditions by India began in 1981. The first trip comprised of a team of 21 scientists and support staff led by Dr SZ Qasim.
- The Indian Antarctic programme has now credited to have built three permanent research base stations in Antarctica—named Dakshin Gangotri, Maitri, and Bharati.
- India currently has two operational research stations in Antarctica named Maitri and Bharati.
- The National Centre for Polar and Ocean Research (NCPOR), Goa, manages the entire Indian Antarctic program.
- **The 39th Indian Scientific Expedition to Antarctica was launched in November 2019.**

MV Vasiliy Golovnin

- It mounted 27 scientific projects, focusing on climate process and its linkages with climate change, crustal evolution, environmental processes and conservation, the ecosystem of terrestrial and near shore regions, observational research, and polar technology.
- **Two additional collaborative projects with the National Institute of Polar Research, Japan were also undertaken. After completing its mission mandate, it returned to India in May of 2020.**
- It also replenished the annual supplies of food, fuel, provisions, snowmobiles, and spares for operations and maintenance of life support systems at Maitri and Bharati.
- It cruised a team of 48 members to Antarctica for winter operations.

About India's National Antarctic Program

Dakshin Gangotri

Maitri Station

Bharati Station

- India began its National Antarctic Program under the aegis of Department of Ocean Development (DOD) of the Government of India in 1981.

- A Centre dedicated to Antarctic Expeditions, named as **'Antarctic Study Centre (ASC)'** was established at Goa in 1988.
- The ASC was subsequently upgraded into an autonomous institute 'National Centre for Antarctic and Ocean Research (NCAOR) under DOD (now known as Ministry of Earth Sciences).
- In August 2018, the Ministry of Earth Sciences changed the name of NCAOR to the National Centre for Polar & Ocean Research (NCPOR).
- The main goals of the NCPR are to plan, promote and execute the entire gamut of polar sciences and logistic activities of the country in Antarctica, the Arctic and in the Southern Ocean.
- NCPOR is also responsible for construction on new research stations and maintenance of existing stations in Polar Regions.
- The year round station, Maitri was built in 1989 on the Schirmacher Oasis in Queen Maud Land. Previously, India operated the station Dakshin Gangotri from 1983 – 1989 which was abandoned after being buried in ice.
- India extended its Antarctic presence by building a new station in the Larsemann Hills region about 3,000 kilometers from Maitri.
- The new station is named Bharati and has been operational since 18th March 2012.
- **NCPR also manages India's flagged Oceanographic Research Vessel Sagar Kanya.** This vessel was commissioned in 1983 and has an endurance of approximately 45 days.
- It is a versatile ocean research platform equipped with advanced scientific equipment and related facilities for carrying out marine geological and geophysical surveys, meteorological, biological, physical and chemical oceanographic research in the deeper parts of the Indian Ocean region.
- The NCPR also charters different research vessels from local and international operators for its multifarious oceanographic research in coastal, tropical and Southern oceans.
- The activities of NCPOR in Polar Regions and other mandated spheres are fully met by the Grant-in-aid by the Government of India.

About 40th Expedition
- The scientific and logistic activities of the 40thIndian Antarctic expedition are limited due to the existing challenges associated with COVID-19 pandemic.
- The focus is to support the ongoing scientific projects on climate change, geology, ocean observations, electric and magnetic flux measurements, environmental monitoring; resupplying of food, fuel, provisions and spare; and accomplishing the return of the winter crew.
- India is committed to maintaining the continent of Antarctica free of COVID-19. The expedition will duly follow all protocols for the deployment of men and material as per Council of Managers of National Antarctic Programs(COMNAP).
- Extra precautions of sanitizing the cargo, mandatory fourteen days of quarantine (pre-, and post-expedition), and RT-PCR testing before boarding the ice-class vessel is also being conducted.

Earthquake Monitoring and Delineation of Subsurface Structures

Why in News
- According to the National Centre for Seismology of the Ministry of Earth Sciences:
- The National Capital Region of Delhi experienced 4 small earthquakes during April – August 2020, with the first event of magnitude 3.5 on 12 April 2020 in the northeastern boundary of NCT Delhi, during the prevailing lockdown time.
- These earthquakes were followed by a dozen of micro-events (M<3.0) including, a few aftershocks.
- All these events were located by the National Seismological Network (NSN), being operated and maintained by National Seismological Centre (NCS), Ministry of Earth Sciences. The epicenter of these events falls in three different areas, viz., north-east Delhi border, ~15 km south-east of Rohtak (Haryana) and ~17 km east of Faridabad (Haryana).

Background
- Soon after the second event of M3.4 on 10 May 2020, Ministry of Earth Sciences (MoES) had a detailed discussion with experts to address the ongoing earthquake activity and it was felt that it is necessary to characterize the

earthquake sources in Delhi and surroundings through strengthening of local seismic network and delineation of sub- surface features such as fault, which may cause earthquakes.
- A fault is a fracture or discontinuity in a volume of rock.

What is found out
- NCS initiated the following activities-
  - The seismic network in Delhi and surroundings was strengthened by deploying 11 temporary additional stations covering the known faults in the region to precisely locate the earthquakes and their aftershocks for a better understanding of the causative sources.
  - Data from these stations are received in near real-time and used for locating the micro and small earthquakes in the region.
  - The expanded network has now improved the accuracy of the epicenter location to ~2 km.
- A geophysical survey, namely, Magneto-telluric (MT) is also being conducted over the Delhi region.
- **Magneto-telluric (MT)** is a geophysical method which uses natural time variation of the Earth's magnetic and electric fields to understand geological(underground) structure and processes.
  - These measurements are conducted across three major seismic sources, namely Mahendragarh-Dehradun Fault (MDF), Sohna Fault (SF) and Mathura Fault (MF), These measurements will ascertain the presence of fluid, which generally enhances the possibility of triggering of earthquakes.
- This survey is carried out in collaboration with Wadia Institute of Himalayan Geology (WIHG), Dehradun.Analysis and interpretation of satellite imageries and geological field investigations for locating the faults are also carried out.
  - This information along with the results of MT survey will be useful in accurate assessment of seismic hazard. This information can also be used for designing the earthquake resistant buildings, industrial units and critical structures like, hospitals and schools etc.
  - The study is being conducted by NCS in collaboration with Indian Institute of Technology (IIT), Kanpur.
  - Both the field surveys, geophysical and geological, are progressing well and are expected to be completed by March 31, 2021.

About Wadia Institute of Himalayan Geology (WIHG)
- Wadia Institute of Himalayan Geology, Dehradun is an autonomous research institute for the study of Geology of the Himalaya under the Department of Science and Technology, Ministry of Science and Technology, Govt. of India.
- It was established in June, 1968 in the Botany Department, Delhi University, the Institute was shifted to Dehradun, Uttrakhand during April, 1976.
- The institute also has three field search stations, at Naddi-Dharamshala, Dokriani Bamak Glacier Station and at Itanagar in Arunachal Pradesh.

Human-Wildlife Conflict

Why in News
- The Standing Committee of National Board of Wildlife(SC-NBWL) in its 60th meeting , has approved the advisory for management of Human-Wildlife Conflict(HWC) in the country. The advisory makes important prescriptions for the States/ Union Territories for dealing with Human-Wildlife conflict situations and seeks expedited inter-departmental coordinated and effective actions.

What is Human Wildlife Conflict
- Human–wildlife conflict (HWC) refers to the negative interactions between people and wild animals, with consequences for both people and their resources and wildlife and their habitats (IUCN 2020).
- HWC, caused by competition for shared natural resources between people and wildlife, influences food security of people and the well-being of both people and animals.
- In many regions these conflicts have intensified over recent decades as a result of human population growth and the transformation of land use.
- HWC is a serious global threat to sustainable development, food security and conservation in urban and rural landscapes alike.

- In general, the consequences of HWC include: destruction of crops, reduced farm productivity, competition for grazing lands and water, livestock predation, injury and death to farmers, damage to infrastructure, and increased risk of disease transmission among wildlife and livestock.

Management of Human-Wildlife Conflict
- Previously, conflict mitigation strategies utilized lethal control, translocation, population size regulation, and endangered species preservation. Recent management now uses an interdisciplinary set of approaches to solving conflicts.
- These include applying scientific research, sociological studies, and the arts to reducing conflicts.
- As human-wildlife conflict inflicts direct and indirect consequences on people and animals, its mitigation is an important priority for the management of biodiversity and protected areas.
- Resolving human-wildlife conflicts and fostering coexistence requires well-informed, holistic, and collaborative processes that take into account underlying social, cultural and economic contexts

Steps Proposed by the Standing Committee of National Board of Wildlife(SC-NBWL)
- The advisory envisages empowering gram panchayats in dealing with the problematic wild animals as per the section 11 (1) (b) of Wild Life (Protection) Act, 1972.
- Utilising add-on coverage under the Pradhan MantriFasalBimaYojna for crop compensation against crop damage due to HWC and augmenting fodder and water sources within the forest areas are some key steps envisaged to reduce HWC.
- Payment of a portion of ex-gratia as interim relief within 24 hours of the incident to the victim/family.
- The advisory also envisages prescribing inter-departmental committees at local/state level, adoption of early warning systems, creation of barriers, dedicated circle wise Control Rooms with toll free hotline numbers which could be operated on 24X7 basis, Identification of hotspots and formulation and implementation of special plans for improved stall-fed farm animal etc.

Steps Taken
- Some of the other important approvals took place during the meeting are, inclusion of Caracal, a medium size wild cat found in some parts of Rajasthan and Gujarat, into the list of critically endangered species for taking up conservation efforts with financial support under Centrally sponsored Scheme-Development of Wildlife Habitat. Now, there are 22 wildlife species under recovery programme for critically endangered species.
- The Standing Committee also recommended the construction of causeway across Jampannavagu to Muthapur of Govindaraopet and between Jampannavagu to Motlagudem in Mulugu District of Telengana with certain mitigation measures.
    - It also recommended the proposal for Tinaighat-Castlerock-Caranzol Railway doubling of South Western Railways, Karnataka with certain mitigation measures as advised by the Wildlife Institute of India, Dehradun.
- The other decisions taken at the meeting are construction of a bridge and canal with an aim to augment the water supply and irrigation facilities in villages Madharwa, Thakurapur, Jamdhara and Sugaon in Balrampur District of Uttar Pradesh under the National SaryuNaharPariyojna with certain mitigation measures and the construction of Integrated Bus Terminus cum Commercial complex in Vashi, Navi Mumbai in Thane district with certain mitigation measures.
- The redeveloped facility will pave way for 17 bus bays and approximately 3,300 bus trips shall be operational, which will greatly benefit in transportation of people in and around Mumbai.

Way Forward
- Management of Human wildlife conflict in India is an urgent and important issue. It is necessary to address the issue in a holistic manner, and co-create the mitigation solutions, with full engagement of all the relevant stakeholders.
- The project takes the approach of harmonious coexistence, by ensuring that both – human and wildlife – are protected from conflicts.
- This approach follows the modern wildlife conservation principles to balance the needs of people with the conservation of nature.

National Baseline Geoscience Data Generation Programmes (2020-2024)

Why in News

- To expedite exploration activities in the country, Geological Survey of India (GSI), has embarked upon an ambitious scheme to complete some major National level surveys by 2024:
  - National Geochemical Mapping (NGCM)
  - National Geophysical Mapping (NGPM)
  - National Aero Geophysical Mapping Program (NAGMP).
- GSI is also going to adopt sophisticated deep penetration geophysical techniques such as Magneto-Telluric Surveys and Deep Seismic Reflection Surveys (DSRS) in order to define the crustal architecture for deep seated mineral targeting.

About the Projects

- **NGCM:** GSI envisages completion of NGCM programme by 2024 by extensive outsourcing and engaging private agencies.
- A total of 11.72 lakh sq.km has been completed by NGCM Programme till March 2020.
  - This also involves coverage of 7.44 lakh sq.km of accessible part of Obvious Geological potential' (OGP) (8.13 lakh sq.km).
  - It is an all India programme to cover the entire surface area of the country by geochemical sampling.
  - The NGCM work will generate distribution pattern of 62 elements (samples collected at 1km x 1km grid) for use in managing and developing natural resources; for application in environmental, agricultural, human health, other social concerns and to search for hidden mineral deposits.
- **NGPM:** The Program have been systematically generating basic and derived maps of Bouguer (Gravity) Anomaly and IGRF corrected magnetic total field maps of the country by conducting ground gravity and magnetic surveys in 1: 50,000 scale with an approximate observation density of one station in 2.5 sq. Km., to cover the entire country with preference to Obvious Geological Province (OGP) areas.
  - The anomaly maps derived from the processed gravity and magnetic data provides all stakeholders a framework to design exploration strategies.
- **NAGMP:** Its objectives are to delineate concealed, deep seated structure/ litho-units capable of hosting mineralization, delineate extension of the existing mineralized zone and understating of shallow crustal architecture in the context of mineral occurrence.
  - The first phase of work involved collection of data over selected areas (12 Blocks) of Obvious Geological Potential (OGP).
  - As of now, data acquisition over first four blocks (Blocks 1 to 4) is completed which resulted in carving out of more than 100 potential mineral exploration areas.
  - Owing to the success of the project, 10 more blocks (Blocks 13 to 22) are to be covered by multi sensor aero geophysical mapping.
  - It is for the first time that the multi-sensor aero-geophysical surveys (magnetic gradiometry and spectrometric) are being carried out by adopting such large regional scale survey parameters of 300 m traverse line spacing with aircraft flown at 80 m above ground level.

Other Initiatives Taken

- GSI has also initiated its flagship initiative of National Geoscience Data Repository (NGDR) for collation of all the geoscience data of the country involving GSI, other national organizations with geoscience as a focused activities, all the state directorate of mines and geology, the academia engaged in research and development in the domain, the CPSEs engaged in exploration and geoscientific pursuits, and private sector agencies working in the domain.
- It aims at integrating the collected data by GSI and the similar organizations to build a repository on the digital medium entailing multiple user access.
- It is planned that all the stakeholders from India and across the globe who are willing to participate in the current auction regime for allocation of mineral acreages will be able to use the NGDR.
- Further, the planned Baseline Geoscience Data Collection campaign would also lead to a huge database, which will be the primary inputs for future exploration programs.

- GSI is in consultation with BISAG-N, a national institute under Ministry of Information & Technology for development of NGDR.

Way Forward

- The collation, assimilation and integration of the data generated from the above projects and further interpretation will lead to identification of more areas for mineral exploration in the country.
- The increased investment in mineral exploration will build a robust pipeline of prospective mineral blocks for auction.
- This will ensure long-term viability and continuity of mining in the country taking India towards the cherished goal of 'Atmanirbhar Bharat'.
- The data generated through this mapping activity has helped to build up the knowledge database for National Geo-scientific information, which helps in boosting mineral exploration activities, and other earth science related socio-economic activities and programmes.

Green Tax

Why in News

- Union Minister for Road Transport and Highways Sh. Nitin Gadkari has approved a proposal to levy a "Green Tax" on old vehicles which are polluting the environment. The proposal will now go to the states for consultation before it is formally notified.

About the Scheme

- The main principles to be followed while levying the Green Tax are :
  1. Transport vehicles older than 8 years could be charged Green Tax at the time of renewal of fitness certificate, at the rate of 10 to 25 % of road tax.
  2. Personal vehicles to be charged Green Tax at the time of renewal of Registration Certification after 15 years;
  3. Public transport vehicles, such as city buses, to be charged lower Green tax.
  4. Higher Green tax (50% of Road Tax) for vehicles being registered in highly polluted cities
  5. Differential tax, depending on fuel (petrol/diesel) and type of vehicle;
  6. Vehicles like strong hybrids, electric vehicles and alternate fuels like CNG, ethanol,LPG etc to be exempted;
  7. Vehicles used in farming, such as tractor, harvestor, tiller etc to be exempted;
  8. Revenue collected from the Green Tax to be kept in a separate account and used for tackling pollution, and for States to set up stateof-art facilities for emission monitoring

Benefits

- To dissuade people from using vehicles which damage the environment
- To motivate people to switch to newer, less polluting vehicles
- Green tax will reduce the pollution level, and make the polluter pay for pollution.

Conclusion

- The Minister also approved the policy of deregistration and scrapping of vehicles owned by Government department and PSU, which are above 15 years in age. It is to be notified, and will come into effect from 1st April, 2022.
- It is estimated that commercial vehicles, which constitute about 5% of the total vehicle fleet , contribute about 65-70% of total vehicular pollution.
- The older fleet, typically manufactured before the year 2000 constitute less that 1 % of the total fleet but contributes around 15% of total vehicular pollution.
- These older vehicles pollute 10-25 times more than modern vehicles.

Geo-hazard Management

Why in News
- Defence Research and Development Organisation (DRDO) has recently entered into a framework memorandum of understanding (MoU) with the Ministry of Road Transport & Highways (MoRTH) to strengthen collaboration in the field of technical exchange and co-operation on sustainable geohazard management.
- The MoU was signed today between Dr G Satheesh Reddy, Secretary DDR&D & Chairman DRDO and Shri Giridhar Aramane Secretary MoRTH. As per the agreement, DRDO and MoRTH will co-operate in various mutually beneficial areas related to geohazard management.
- The initiative will ensure safety against the adverse effects of landslides and other natural calamities on national highways in the country.

About the MoU
- Some of the areas identified for collaboration include detailed investigation of the critical avalanches/geo hazards, planning, designing and formulation of sustainable mitigation measures for geo-hazards on national highways including tunnels, monitoring and supervision of mitigation measures etc.

What is Geo-Hazard
- A geohazard is a geological state that may lead to widespread damage or risk. Geohazards are geological and environmental conditions and involve long-term or short-term geological processes.
- Geohazards include earthquakes, volcanic activity, landslides, tsunamis, etc. and can range from local events such as a rock slide or coastal erosion to events that threaten humankind such as a supervolcano or meteorite impact.
- Earth scientists undertake research to better understand these hazards and contribute to risk management policies related to social and technical issues associated with geohazards as well as disaster mitigation.

Geo Hazard Reduction
- UNESCO's work on Geohazard Risk Reduction operates in accordance with the four Priorities for Action of the Sendai Framework for Disaster Risk Reduction 2015-2030:
  - Priority 1: Understanding disaster risk
  - Priority 2: Strengthening disaster risk governance to manage disaster risk
  - Priority 3: Investing in disaster risk reduction for resilience
  - Priority 4: Enhancing disaster preparedness for effective response and to
  - Build Back Better in recovery, rehabilitation and reconstruction.

Initiatives taken
- DRDO's Defence Geo-Informatics Research Establishment (DGRE) is working for the development of critical technologies for enhancing combat effectiveness in various kinds of terrains and avalanches.
- The expertise of DGRE in mapping, forecasting, control and mitigation of landslides and avalanches in Himalayan
- terrain will be utilized for designing national highways including tunnels.
- Terrain and modelling simulation is an important asset with DGRE, which will play an important role in planning and building robust road infrastructure in difficult terrains.
- MoRTH is responsible for development & maintenance of National Highways across the country.
  - It has been agreed that the expertise of DRDO will be utilized in providing sustainable mitigation measures to damages caused by landslides, avalanche and other natural factors on various National Highways in the Country.

Ratle Hydro Electric (HE) Project

Why in News
- The Union Cabinet has given its approval for the investment of Rs.5281.94 crore for 850 MW Ratle Hydro Electric (HE) Project located on river Chenab, in Kishtwar district of Union Territory of Jammu and Kashmir, by a new Joint Venture Company (JVC) to be incorporated between
  - National Hydroelectric Power Corporation (NHPC)
  - Jammu & Kashmir State Power Development Corporation Ltd (JKSPDC) with equity contribution of 51% and 49% respectively.

Salient Features
- Government of India is also supporting the Union Territory of Jammu and Kashmir by providing grant of Rs. 776.44 crore for Equity contribution of JKSPDC in the JVC to be set up for construction of Ratle HE Project (850 MW).
- NHPC shall invest its equity Rs.808.14 crore from its internal resources.
- The Ratle Hydro Electric Project shall be commissioned within a span of 60 months.
- The Power generated from the Project will help in providing balancing of Grid and will improve the power supply position.

Implementation Strategy
- Government of Union Territory of Jammu and Kashmir, to make the Project viable:
  - will extend exemption from levy of Water Usage Charges for 10 years after commissioning of the project.
  - reimbursement of State's share of GST (i.e. SGST).
  - waiver of free power to the Union Territory of Jammu and Kashmir in a decremental manner, i.e., the free power to the Union Territory of Jammu and Kashmir would be 1% in the 1st year after commissioning of the Project and rising @1% per year to 12% in the 12th year.

Objectives
- The construction activities of the Project will result in direct and indirect employment to around 4000 persons and will contribute in overall socio-economic development of the Union Territory of Jammu and Kashmir.
- Further, Union Territory of Jammu and Kashmir will be benefitted by getting free power worth Rs. 5289 crore and through levy of Water Usage Charges worth Rs.9581 crore from Ratle Hydro Electric Project, during project life cycle of 40 years.

About Ratle Hydro Electric
- The Ratle Hydroelectric Plant is a run-of-the-river hydroelectric power station currently under construction on the Chenab River.
- The main power station will contain four 205 MW Francis turbines and the auxiliary power station will contain one 30 MW Francis turbine.
- The installed capacity of both power stations will be 850 MW.

INDIA'S FOREIGN RELATIONS

Serial No	Country	Details
1	India and Japan	1. Union Cabinethas approved the signing of a Memorandum of Cooperation between the Government of India and Government of Japan, on a Basic Framework for Partnership for Proper Operation of the System Pertaining to "Specified Skilled Worker". 2. Skilled Indian workers from fourteen sectors viz. Nursing care; Building cleaning; Material Processing industry; Industrial machinery manufacturing industry; Electric and electronic

			information related industry; Construction; Shipbuilding and ship-related industry; Automobile maintenance; Aviation; Lodging; Agriculture; Fisheries; Food and beverages manufacturing industry and Food service industry would have enhanced job opportunities to work in Japan.
2	India and UAE	1.	The Union Cabinethas given its approval to the Memorandum of Understanding (MoU) on Scientific and Technical Cooperation between National Centre of Meteorology (NCM), United Arab Emirates (UAE) and Ministry of Earth Sciences (MoES) India.
		2.	The MoU provides for sharing of knowledge, data and operational products for meteorological, seismological and oceanic services, such as Radar, Satellite, Tide gauges, seismic and Meteorological stations.
3	5th India – Singapore Defence Ministers' Dialogue	1.	5th Defence Ministers' Dialogue (DMD) between India and Singapore was successfully held on 20 January 2021 through a video conference and continues the substantial increase in bilateral cooperation and defence partnership over the years.
		2.	Indian Navy and Republic of Singapore Navy successfully conducted the 27th edition of Singapore-India Maritime Bilateral Exercise (SIMBEX) and also participated in the second edition of the Singapore-India-Thailand Maritime Exercise (SITMEX); both held in November 2020.
4	India and Uzbekistan	1.	The Union Cabinet apprised of signing of Memorandum of Understanding(MoU) between India and Uzbekistan for cooperation in the field of Solar Energy.
		2.	The main area of work under is to identify research/demonstration/pilot projects between the National Institute of Solar Energy (NISE), Ministry of New & Renewable Energy, India and the International Solar Energy Institute (ISEI), Uzbekistan in the following mutually identified areas:
		a.	Solar Photovoltaic
		b.	Storage Technologies
		c.	Transfer of Technology

SHORT LINERS

1. **Mr. Suneet Sharma**, has recently taken over the charge of new Chairman & Chief Executive Officer (CEO), Railway Board (Ministry of Railways) and ex-officio Principal Secretary to Government of India.
- The appointments committee of the Cabinet has approved the appointment of Shri Suneet Sharma as Chairman & CEO of Railway Board.
- Prior to this, Shri Suneet Sharma worked as General Manager, Eastern Railway.

2. **Disability Compensation :** Government has decided to extend "Disability Compensation" for all serving employees, if they get disabled in the line of duty while performing their service and are retained in service in spite of such disablement.
- The old service rule did not provide such compensation to those government servants who were appointed on or after 1.1.2004 and covered under National Pension System (NPS).
- However, with the new order issued by the Department of Pensions in the Ministry of Personnel, the employees covered under NPS will also get benefits under Rule (9) of Extra Ordinary Pension (EOP).

3. Ministry of Personnel recently did away with minimum qualifying service of 10 years for pension, if a government servant is incapacitated due to bodily or medical infirmity and retired from government service.

- Accordingly, Rule 38 of CCS (Pension) Rules was amended to provide Invalid Pension at 50% of the last pay, even if the employee had not completed minimum qualifying service of 10 years.
- A decision was also taken to amend the rule and provide pension at enhanced rate to the family of an employee who died during service before completing the requisite service of minimum 7 years.
- As a result, now the family pension of 50% of the last pay is also admissible to the family of employees who die even before completing 7 years of service.

4. **Asian Development Bank (ADB)** and the Government of India has recently signed a $100 million loan to modernise and upgrade the power distribution system to enhance the quality and reliability of electricity supply in Bengaluru city in the state of Karnataka.
- Beside the $100 million sovereign loan, ADB will provide a $90 million without sovereign guarantee loan for the project to Bangalore Electricity Supply Company Limited (BESCOM), one of five state-owned distribution utilities in Karnataka.

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 68 members—49 from the region.

5. **The 51st edition of International Film Festival of India has announced its International Jury with eminent filmmakers from across the world.**
- The Jury will comprise Pablo Cesar (Argentina) as Chairman, Prasanna Vithanage (Sri Lanka), Abu Bakr Shawky (Austria), Priyadarshan (India) and Ms. Rubaiyat Hossain (Bangladesh).

6. **Council of Scientific and Industrial Research(CSIR) -National Physical Laboratory (CSIR-NPL), New Delhi, is one of the few premier laboratories established under Council of Scientific and Industrial Research(CSIR) before independence on January 04, 1947.**
- As a beginning of the Platinum Jubilee year and to commemorate this special day as its NPL Foundation Day Celebrations, CSIR-NPL organised a National Metrology Conclave.
- The theme of the conclave was 'Metrology for the Inclusive Growth of the Nation'.

CSIR-NPL which is the National Metrology Institute (NMI) of India; Member of the General Conference of Weight and Measures (CGPM), BIPM an International Intergovernmental organisation constituted by diplomatic treaty i.e. 'The Metre Convention'; and Founder Member of the Global Regional Metrology Organisation i.e., Asia Pacific Metrology Program (APMP), has the mandate to realize, establish, upgrade, maintain and disseminate the measurement standards by Act of Parliament.

7. **Metre Convention :** The Metre Convention (Convention du Mètre) is the treaty that created the International Bureau of Weights and Measures (BIPM), an intergovernmental organization under the authority of the General Conference on Weights and Measures (CGPM) and the supervision of the International Committee for Weights and Measures (CIPM).
- The Convention was signed in Paris on 20 May 1875 by representatives of seventeen nations.
- As well as founding the BIPM and laying down the way in which the activities of the BIPM should be financed and managed, the Metre Convention established a permanent organizational structure for member governments to act in common accord on all matters relating to units of measurement.
- The Convention follows a format used at the turn of the nineteenth century and is based on the understanding of the governance of international organisations at that time.
- The Convention, modified slightly in 1921, remains the basis of international agreement on units of measurement.

8. The **Mission Olympic Cell**has recently cleared financial proposals of athletes who are a part of the Target Olympic Podium Scheme.
- Bhavina Patel, a Para Table Tennis player belonging to Gujarat who was included in the TOPS Scheme in November 2020 had financial proposals of Rs. 7.04 Lakhs sanctioned by the committee.
- Patel is ranked 8th in the world and by virtue of her current world ranking is well positioned to qualify for the Tokyo Paralympics and thus become the first Indian to do so in the sport of Para Table Tennis.

9. Vice President of India, Shri M. Venkaiah Naidu, has recently said that while India produces the highest percentage of women STEM graduates in the world (about 40 percent), their share in STEM jobs in India is very

low at 14 per cent and needs to be improved. He further added that under-representation in post-graduate and doctoral studies too needs to be rectified expeditiously.

- **STEM stands for Science, Technology, Engineering and Mathematics Education.**

10. **Toycathon 2021 :** It is aimed to conceptualize innovative toys based on the Indian value system which will inculcate the positive behaviour and good value among the children.
- India imports 80 per cent of toys and the government is working towards promoting the indigenous toy industry for making the country self-reliant in this sector.
- The size of toy market in India is about one billion USD but unfortunately 80% of the toys are imported.
- The Toycathon is based on nine themes viz. Indian Culture, History, Knowledge of India and Ethos; Learning, Education and Schooling; Social and human values; Occupations & specific fields; Environment; Divyang ; Fitness and sport; Out of the box, creative and logical thinking and Rediscovering/redesigning traditional Indian toys

11. **Udyog Manthan :** Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry, Govt. of India is organizing Udyog Manthan - a marathon of focused sector-specific webinars for promoting Quality and Productivity in Indian Industry in association with Quality Council of India, National Productivity Council, and Industry bodies.
- It is being held from January 4, 2021 to March 2, 2021.
- Udyog Manthan will identify challenges, opportunities; draw upon solutions and best practices.
- The conversations will enable learning across industries and sectors for enhancing quality and productivity to promote 'Vocal for Local' and realizing the vision of 'Aatmanirbhar Bharat'.

12. The Minister for Science & Technology, Health & Family Welfare and Earth Sciences Dr. Harsh Vardhan inaugurated one of the seven labs of the world called as the centralized network lab of Coalition for Epidemic Preparedness Innovations (CEPI) established at Translational Health Science & Technology Institute (THSTI), Faridabad, through virtual platform in New Delhi today.
- THSTI is an institute of the Department of Biotechnology (DBT).
- This is the only laboratory of such kind in India and is also accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL).

13. **SwasthVayu :**CSIR-NAL scientists along with medical professionals from CSIR-IGIB came forward to address the shortages of ventilators in the beginning of the Covid-19 pandemic and indigenously designed and developed the non-invasivebilevel positive airway pressureventilator –SwasthVayu, with additional features to treat Covid-19 patients and make the country self-reliant.
- It is a microcontroller based precise closed-loop adaptive control system with a built-in biocompatible "3D printed manifold and coupler" with HEPA filter (Highly Efficient Particulate Air Filter).
- These unique features help to alleviate the fear of the virus spread. It has features like CPAP, Bi-Timed, Spontaneous / AUTO modes with provision to connect Oxygen concentrator or Enrichment unit externally.

14. **UnnatJyoti by Affordable LEDs for All (UJALA)**
Recently the scheme has marked it's 6th anniversary. It is being implemented by Energy Efficiency Services Limited (EESL), a joint venture of PSUs under the Ministry of Power, Government of India since their inception.
- Under UJALA, EESL has distributed over 36.69 crore LED bulbs across India. This has resulted in estimated energy savings of 47.65 billion kWh per year with avoided peak demand of 9,540 MW and estimated GHG emission reduction of 38.59 million tonnes CO2 per year.
- Additionally, over 72 lakh LED tube lights and over 23 lakh energy efficient fans have also been distributed at affordable price under this programme.
- The domestic LED market has grown significantly beyond the UJALA programme, with the industry selling over 1.15 billion LEDs, far exceeding the UJALA programme's target of 700 million LED units.

15. **Street Lighting National Programme (SLNP)**
With SLNP, EESL has installed about 1.14 crore LED streetlights across India.
- This has resulted in an estimated energy savings of 7.67 billion kWh per year with avoided peak demand of 1,280 MW and estimated GHG emission reduction of 5.29 million tonnes CO2 per year.

- Moreover, there have been an estimated annual monetary savings of INR 5,210 crore in electricity bills of municipalities.

16. World Bank

- Recently, Government of India, the Government of West Bengal and the World Bank have signed a $105 million project to improve the inland water transport infrastructure in Kolkata, West Bengal.
- The West Bengal Inland Water Transport, Logistics and Spatial Development Project will facilitate passenger and freight movement across the Hooghly river; undertake spatial planning to improve accessibility in the Kolkata Metropolitan Area; enhance the quality of life of its residents; and contribute to the growth of the state's logistics sector.
- In the first phase, the project will enhance the capacity and improve the safety of the Inland Water Transport system; including rehabilitating existing jetties, buying new ferries with enhanced design; and installing electronic gates in 40 locations.
- In the second phase, it will support long-term investments for passenger movements, including in terminals and jetties; improve the design of the inland water transport vessels; ensure night navigation on the most hazardous and trafficked routes and crossing points; and encourage the private sector to invest in Ro-Ro vessels that will allow easier movement of trucks across the Hooghly river.
- West Bengal's ferries can provide an efficient, flexible mode of public transport for both passengers and freight, saving on operating costs and travel time when compared with road journeys. The existing ferry system, operational for decades, caters to less than 2 percent of the passenger traffic and a small portion of the freight movement.

17. RashtriyaKamdhenuAayog (RKA) has been constituted by the Government of India for the conservation, preservation, protection and development of cows and their progenies and for giving directions for the cattle development programmes.

- RKA is a high-powered permanent body to formulate policies and to provide directions for the implementation of schemes related to cattle so as to lay more emphasis on livelihood generation for small & marginal farmers, women and youth entrepreneurs.

18. The **Central Pollution Control Board (CPCB)**has recently convened a meeting with the officials of Delhi Pollution Control Committee(DPCC), Haryana State Pollution Control Board (HSPCB), Delhi Jal Board (DJB), Irrigation & Water Resources Department, Haryana and Irrigation and Flood Control Department, Delhi, to discuss the recurring issue of increase in Ammonical Nitrogen in River Yamuna and short and long term remedial actions required.

- The long deliberations on the issue identified and agreed that possible reasons could be discharge of untreated sewage from upstream towns in Haryana, discharge from industrial units, Common Effluent Treatment Plants (CETPs) and Sewage Treatment Plants (STPs), illegal discharge of sewage from unsewered colonies in outer Delhi through tankers, lean flow in the River Yamuna and anaerobic decomposition of accumulated sludge on river bed.

19. **Khadi and Village Industries Commission (KVIC)**has recently signed a MoU with ITBP for supply of 1.72 lakh cotton durries every year.

- The agreement was signed by Deputy CEO KVIC and DIG, ITBP, in presence of KVIC Chairman Shri Vinai Kumar Saxena and Additional Secretary (Home) Shri Vivek Bhardwaj and other officials of CAPFs.
- As per the specifications, KVIC will provide blue-colour durries of 1.98 m length and 1.07 m width. The cotton durries will be produced by Khadi artisans in Uttar Pradesh, Haryana and Punjab.
- KVIC developed the cotton durries as per the samples provided by ITBP and the same has been approved by agency.
- The cotton durries prepared by KVIC have also been certified by Northern India Textile Research Association (NITRA), a unit of the Textile Ministry recognized by the Department of Scientific and Industrial Research.

20. **Indian Air Force and Institute of Defence Studies and Research (IDSR)**, an autonomous Institution of Gujarat University under the patronage of Government of Gujarat signed a Memorandum of Understanding (MoU) on 29 Dec 20.

- The MoUwill enable Officers of IAF to undertake Doctoral Research, Post-Graduate Programme and Post Graduate Diploma covering various areas of interest that includes Defence studies, Defence Management, National Security, Aerospace &Aviation Science and other areas of Defence Technology.

21. **Project Akashdeep :** IGNOU Akashdeep program is for Airmen in Indian Airforce.
- Project 'Akashdeep' was launched to recognize the Basic and In-service training imparted to the airmen and Non-Combatants Enrolled (NCs (E)) of the Indian Air Force for award of civil qualifications.
- As part of Project Akashdeep, Indian Air Force has entered into such partnership with various prestigious Academias to promote research by Officers and create a pool of think tanks with strategic knowledge and intellectual skills.

22.**Government of India, the Government of Andhra Pradesh, and the New Development Bank (NDB) has recently signed loan agreements of up to USD 323 million each for two projects.**
- The first project – Andhra Pradesh Roads and Bridges Reconstruction Project – comprises widening 1,600 km of State Highways to double lane and reconstructing dilapidated bridges on the State Highway network.
- The second project – Andhra Pradesh Mandal Connectivity and Rural Connectivity Improvement Project – comprises widening 1,400 km of district roads to double lane and reconstructing dilapidated bridges on the district road network.
- The Government of Andhra Pradesh will implement the Projects through the Roads and Buildings Department.

23.Madhya Pradesh and Andhra Pradesh have become the first group of States to complete three out of the four citizen centric reforms stipulated by the Department of Expenditure, Ministry of Finance.
- The two States have completed the One Nation, One Ration Card Reforms, Ease of Doing Business Reforms, and Urban Local Bodies Reforms.
- Consequent upon completion of reforms in the three sectors, the Department of Expenditure, Ministry of Finance has decided to provide additional financial assistance amounting to Rs.1004 crore to these States under the newly launched Scheme of "Special Assistance to States for Capital Expenditure".

24.International Film Festival of India has announced that the Country in Focus for the 51st IFFI is Bangladesh. The Country in Focus is a special segment that recognizes the cinematic excellence and contributions of the country. This section at the 51st IFFI will showcase four films
- Jibondhuli
- Meghmallar
- Sincerely Yours, Dhaka

25.**The Ministry of Road Transport and Highways has issued a notification on 7th Jan 2021 to facilitate the issuance of International Driving Permit (IDP) for Indian citizens whose IDP has expired while they are abroad.**
- There was no mechanism for its renewal while citizens were abroad and their IDP had expired.
- Now, with this amendment, it is proposed that Indian citizens can apply for renewal through the Indian Embassies / Missions abroad, from where these applications would move to the VAHAN portal in India, to be considered by the respective RTOs.
- IDP would be couriered to the citizen at his/her address abroad by the respective RTOs.
- This notification also removes the conditions of a Medical Certificate and a valid visa at the time of making the request for the IDP in India.
- Further, there are countries where the Visa is issued on arrival or Visa is issued at the last moment: in such cases, VISA is not available when applying for the IDP in India before travel.
- Hence , IDP application can be made without VISA now.

26.**Light Combat Aircraft Mk-1A : The Cabinet has recently approved procurement of 73 LCA Tejas Mk-1A fighter aircrafts and 10 LCA Tejas Mk-1 Trainer aircrafts at the cost of Rs. 45,696 Crore along with Design and Development of Infrastructure sanctions worth Rs.1,202 Crore.**
- It is an indigenously designed, developed and manufactured state-of-the-art modern 4+ generation fighter aircraft.

- This aircraft is equipped with critical operational capabilities of Active Electronically Scanned Array (AESA) Radar, Beyond Visual Range (BVR) Missile, Electronic Warfare (EW) Suite and Air to Air Refuelling (AAR) would be a potent platform to meet the operational requirements of Indian Air Force, IAF.
- It is the first "Buy (Indian-Indigenously Designed, Developed and Manufactured)" category procurement of combat aircrafts with an indigenous content of 50% which will progressively reach 60% by the end of the programme.
- The Cabinet has also approved infrastructure development by IAF under the project to enable them handle repairs or servicing at their base depot so that the turnaround time would get reduced for mission critical systems and would lead to increased availability of aircraft for operational exploitation.
  ➢ This would enable IAF to sustain the fleet more efficiently and effectively due to availability of repair infrastructure at respective bases.

27. **APEDA is closely interacting with Indian Institute of Millet Research (IIMR) and other stakeholders like National Institute Nutrition, CFTRI and Farmer Producer Organizations (FPOs) for perspective planning of five years for promotion of Millets and Millet products.**

28. **CollabCAD Software:** National Informatics Centre (NIC), MeitY along with Central Board of Secondary Education (CBSE), Ministry of Education is jointly launching CollabCAD Software, a collaborative network, computer-enabled software system, providing a total engineering solution from 2D drafting & detailing to 3D product design for students and faculty of Engineering Graphics Curriculum.
- National Informatics Centre (NIC), CBSE, and Atal Innovation Mission (AIM), NITI Aayog will also jointly release a comprehensive e-book on CollabCAD 3D modeling.
- This initiative aims to provide a great platform to students across the country to create and modify 3D digital designs with a free flow of creativity and imagination. This software would also enable students to collaborate over designs across the network and concurrently access the same design data for storage and visualization.

29. **Bharat Parv 2021 :** It is a mega event organized every year to coincide with the republic Day Celebrations.
- The event envisages generating patriotic fervor and showcases the rich and varied cultural diversity of the country.
- Bharat Parv 2021 is scheduled from January 26 – 31, 2021
- It will be organized on a virtual platform by Ministry of Tourism, due to Covid pandemic situation.
- The Virtual platform will include theme pavilion for States, UT's and various Ministries. The overall theme of Bharat Parv will also be focused towards Aatmanirbhar Bharat and Ek Bharat Shrestha Bharat.
- **Publications Division** will participate in the first Virtual "Bharat Parv 2021" echoing the theme of विरासतशब्दोंकी , भावभारतीयताका . Celebrating the diversity and spirit of India, DPD's Virtual pavilion will exhibit a rich display of books on Art & culture, history and heritage, biographies of Builders of Modern India as also books from 'Ek Bharat Shrestha Bharat' series.
- **Bureau of Outreach Communication** is bringing content from Exhibition on 150th anniversary of Mahatma Gandhi to this edition of Bharat Parv.

30. **Considering the importance of Bridges and structures in Highways development, and to spread awareness about their safety aspects, ING-IAIAB is organizing a series of Webinars during the National Road Safety Month.**
- The Indian National Group of International Association for Bridge and Structural Engineering (ING- IABSE) is engaged in dissemination of knowledge in bridge planning, design, construction & maintenance.
- Shri I. K. Pandey is the present Chairman of ING-IABSE.

31. **11th National Voters' Day was celebrated across the country today on January 25, 2021.**
- The theme for NVD 2021 is 'Making Our Voters Empowered, Vigilant, Safe and Informed.'
- This is a reiteration of the commitment of Election Commission of India (ECI) to conduct COVID-safe elections, as well as to make each voter informed, ethical and vigilant.
- National Voters' Day is celebrated all over the country on January 25 every year since 2011 to mark the Foundation day of Election Commission of India, which was established on this day in the year 1950.
- The main purpose of the NVD celebration is to encourage, facilitate and maximize the enrollment, especially for the new voters. Dedicated to the voters of the country, the Day is utilized to spread awareness among voters for promoting informed participation in the electoral process.

32. **'Radio Hello Voters' :** Hon'ble President of India launched 'Radio Hello Voters' - a 24x7 online digital radio service that will stream voter awareness programmes accessible on the Election Commission of India website. Radio Hello Voters has been envisaged to provide information on electoral processes through songs, drama, discussions, podcasts, spots, parodies etc. in Hindi, English and different regional languages from all over the country.

33. **Union Budget Mobile App :** Finance Minister Smt. Nirmala Sitharaman has launched the "Union Budget Mobile App" for hassle-free access of Budget documents by Members of Parliament (MPs) and the general public using the simplest form of digital convenience.
   ➢ The mobile App facilitates complete access to 14 Union Budget documents, including the Annual Financial Statement (commonly known as Budget), Demand for Grants (DG), Finance Bill etc. as prescribed by the Constitution.
   ➢ The Budget documents will be available on the Mobile App after the completion of the Budget Speech by the Finance Minister in Parliament on 1st February, 2021.

34. **Akash-NG Missile :** DRDO conducted the successful maiden launch of Akash-NG (New Generation) Missile from Integrated Test Range off the coast of Odisha on 25 January 2021.
   • Akash-NG is a new generation Surface to Air Missile meant for use by Indian Air Force with an aim of intercepting high maneuvering low RCS aerial threats.
   • The Akash-NG system has been developed with better deployability compared to other similar systems with canisterized launcher and much smaller ground system footprint.

35. **AMPHEX – 21:** A large-scale tri-service joint amphibious exercise AMPHEX – 21 was conducted in Andaman & Nicobar group of islands from 21 – 25 Jan 2021. The exercise involved participation of Naval ships, amphibious troops of the Army and different types of aircraft from the Air force.
   • The exercise was aimed at validating India's capabilities to safeguard the territorial integrity of it's island territories.
   • It also sought to enhance operational synergy and joint warfighting capabilities amongst the three Services.
   • Ex KAVACH for defence of Andaman & Nicobar Islands formed a part of AMPHEX – 21.

36. **Ex Desert Knight 2021 :** The Indian Air Force and French Air and Space Force participated in Ex Desert Knight 2021 at Air Force Station Jodhpur.
   • A first of its kind bilateral exercise (Ex DK-21), Rafale aircraft from both sides along with Su-30 MKI and Mirage 2000 aircraft of the IAF undertook complex missions including Large Force Engagements.

37. **DRDO has successfully conducted captive and release trial of indigenously developed Smart Anti-Airfield Weapon (SAAW) from Hawk-I of Hindustan Aeronautics Limited (HAL) off the Odisha coast on 21 January 2021.**
   • The smart weapon was successfully test fired from Indian Hawk-Mk132 of HAL.
   • SAAW is indigenously designed and developed by DRDO's Research Centre Imarat (RCI) Hyderabad. This is 125 Kg class smart weapon, capable of engaging ground enemy airfield assets such as radars, bunkers, taxi tracks, and runways etc. up to a range of 100 kms.

38. **Golden Peacock Award:** World War II film Into the Darkness (De forbandede år) which portrays the story of a Danish electronics factory owner who is forced to produce for the occupying Nazi forces, has won the coveted Golden Peacock Award at the just-concluded 51st edition of the International Film Festival of India.
   • The Golden Peacock Award consists of a cash prize of Rs. 40 lakhs (Rs. 4 million) to be shared equally between Director Anders Refn and Producer Lene Børglum, both of whom have also been presented with a certificate each as well.
   • The Silver Peacock for the Best Director goes to Taiwanese Director, writer and producer Chen-Nien Ko, for her 2020 Mandarin drama film The Silent Forest.
   • The IFFI 51 Special Jury Award for a film goes to Bulgarian Director Kamin Kalev for his 2020 film February.

39. Veteran actor Biswajit Chatterjee crowned as Indian Personality of the Year at IFFI 51 Closing Ceremony.

40. **CSIR-Central Mechanical Engineering Research Institute, Durgapur unveiled the first-ever WasteWater Treatment Technology Model which purifies Waste Water for Irrigation/Farming purposes.**

- It is an Integrated Waste Water Rejuvenation Model which has Six-Stage purification profile for comprehensive treatment of Waste Water, based upon diverse purification parameters.
- The approx. 24,000 litres of Water that can be rejuvenated using ARP will be sufficient for almost 4 acres of Agricultural Land (barring seasonal variations in water requirements).
- The used filtration media have been specially developed to handle Indian Sewage Water Parameters and based upon Geographical Variations they may be modified.

41. IIT Bombay has come up with 'Shaft with Multiple Outlets' as an intervention for improving the performance of existing piped water distribution networks. The intervention consists of a new strategy of optimal water supply operation by use of scheduling and decentralizing infrastructure.

- With support from the Department of Science and Technology (DST)-Water Technology Initiative, IIT Bombay & IIT Madras, with participation of local gram panchayat, implemented the solution in the towns of Saphale, and Umerpada, in Palghar district, Maharashtra, which is currently provided with water from a multi village water supply system.

42. Two new species of a rare ant genus have been discovered in India. The species of the ant genus Ooceraea found in Kerala, and Tamil Nadu add to the diversity of this rare genus. They differ from others of the same genus on the basis of the number of antennal segments.

- **One of them found in the Periyar Tiger Reserve of Kerala**, has been named Ooceraea joshii, in honour of Prof. Amitabh Joshi, a distinguished evolutionary biologist from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) an autonomous institute of the Department of Science & Technology (DST), Government of India.
- New species are typically named after some distinguishing attribute or location but are often named after scientists as a means of honouring their research contributions to biology, especially in the fields of evolutionary and organismal biology, ecology or systematics.

43. **Rapid Assessment System (RAS**

It is a platform developed by Ministry of Electronics & IT (MeitY) for taking feedback from those who get vaccinated.

- This initiative to utilize RAS platform is aimed at improving the vaccination experience for citizens, while ensuring that all norms are being followed during the vaccination process at all vaccination centres.
- This feedback system will help the Government to make the vaccination process more citizen-friendly.

44. A tripartite agreement was signed between Mineral Exploration Corporation Limited (MECL), Rajasthan State Mines & Minerals Limited (RSMML) and the Department of Mines & Geology (DMG), Govt. of Rajasthan for taking up feasibility studies of Solution Mining of Potash in the state of Rajasthan.

- Rajasthan has huge Potash and Halite resources spread across 50,000 sq. kms in the Nagaur – Ganganagar basin in the northwest.
- MECL has been assigned as the program manager for taking up the feasibility study in the state with the help of an international consultant.

45. **An MoU between the Indian Army & Society of Indian Defence Manufacturers (SIDM) was signed on 21 January 2021 to provide further impetus to indigenisation and to achieve strategic independence by reducing dependence on foreign origin equipment.**

- This MoU was signed on the occasion of 25 Years of Army-Industry Partnership with Confederation of Indian Industry (CII). Collaboration between the Indian Army and industry started in 1995 with the indigenisation of spares and has progressed to major defence platforms and a wide range of weapons and equipment.

46. **The first consultative meeting on asset monetization was held here today, organized by Department of Investment and Public Asset Management (DIPAM) in partnership with World Bank.**

- Asset monetization is a stated objective of the Government and DIPAM is mandated to facilitate monetization of non-core public assets.
- The monetization process is complex and requires close cooperation and collaboration with all stakeholders. The meeting provided a platform for such an engagement.

47. **Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi based DRDO laboratory, handed over Rakshita, a bike-based casualty transport emergency vehicle to Central Reserve Police Force (CRPF).**
- The bike ambulance will help in overcoming the problems faced by Indian security forces and emergency healthcare providers.
- It will provide life-saving aid for evacuation of injured patients from low intensity conflict areas.

48. **Khadi and Village Industries Commission (KVIC) and the Ministry of Tribal Affairs has recently signed two MoUs.**
- While one MOU is regarding the purchase of Khadi fabric for tribal students, the other MOU is on partnering of Tribal Affairs Ministry with KVIC as an implementing agency for Prime Minister Employment Generation Program (PMEGP).
- Under the second MoU, National Scheduled Tribe Finance Development Corporation (NSTFDC), an agency of the Tribal Affairs Ministry responsible for economic development of tribals in India, will be roped in as a partner to implement PMEGP Scheme.

49. **TRIFED and Indian Farm Forestry Development Co-operative Ltd (IFFDC) have entered into a Memorandum of Understanding (MoU) recently to work together for tribal livelihood generation.**
- The two organizations have agreed to partner with each other to organise training programmes for tribal artisans in the area of entrepreneurship skill and business development.
- They will also collaborate further to identify and implement CSR initiatives and tribal development efforts. Other areas of association have been identified through which IFFDC promoted PFFCS/SHGs/CBOs will be linked with TRIFED for collection and marketing of NTFPs/MFPs.
- IFFDC will also assist in promoting tribal FPOs and will provide trainings to TRIFED promoted/linked Community Organisations/Members. The scope of the agreement will also include any other activity that can be taken up to strengthen tribal livelihoods and entrepreneurship development.

50. **SAKSHAM :** With a view to create awareness among the consumers of fossil fuels, Petroleum Conservation Research Association (PCRA), Ministry of Petroleum and Natural Gas has recently launched a month long campaign,highlighting the adverse health and environmental impacts of increasing carbon footprints.
- The key drivers include moving towards a gas-based economy, cleaner use of fossil fuels, greater reliance on domestic sources to drive bio-fuels, achieving renewable targets with the set deadlines, increased use of electric vehicles to decarbonize mobility, increased use of cleaner fuels like Hydrogen, and digital innovation across all energy systems.

ORGANISATIONS/BODIES/INSTITUTIONS

Council of Managers of National Antarctic Programs (COMNAP)
- COMNAP is the international association, formed in 1988, which brings together its Members, who are the National Antarctic Programs.
- National Antarctic Programs are those organizations that have responsibility for delivering and supporting scientific research in the Antarctic Treaty Area on behalf of their respective governments and in the spirit of the Antarctic Treaty.
- COMNAP consists of 30 National Antarctic Program Members.
- Each Member program is represented by the Manager of that National Antarctic Program and/or the Deputy Manager of that program.
- National Antarctic Programs collectively have the greatest first-hand experience of living and working in the Antarctic.

- Many of the National Antarctic Programs have operated in the Antarctic since the International Geophysical Year (IGY) of 1957/58.
- The headquarters for COMNAP is the COMNAP Secretariat, hosted by the University of Canterbury in Christchurch, New Zealand.
- The COMNAP Executive Committee (EXCOM) is composed of the elected officers of COMNAP and the Executive Secretary (as an appointed, non-voting member). There is a Chair and up to five Vice Chairs, each with a term of three years.
- Kelly Falkner is the present Chairperson of COMNAP.
- COMNAP's purpose which can be found in its Constitution is to "develop and promote best practice in managing the support of scientific research in Antarctica". It does this by:

Coalition for Epidemic Preparedness Innovations (CEPI)

- It is a foundation that takes donations from public, private, philanthropic, and civil society organisations, to finance independent research projects to develop vaccines against emerging infectious diseases (EID).
- **It was conceived in 2015 and formally launched in 2017 at the World Economic Forum (WEF) in Davos, Switzerland.**
- **CEPI is headquartered in Oslo, Norway.**
- **CEPI is incorporated under Norwegian law.**
- **Richard J. Hatchett is the present Chief Executive of CEPI, while Jane Halton is presently holding the Chair.**
- It was co-founded and co-funded with US$460 million from the Bill and Melinda Gates Foundation, The Wellcome Trust, and a consortium of nations, being Norway, Japan, Germany; to which the European Union (2019) and Britain (2020) subsequently joined.

Area Of Working

- CEPI is focused on the World Health Organization's (WHO) "blueprint priority diseases", which include: the Middle East respiratory syndrome-related coronavirus (MERS-CoV), the Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the Nipah virus, the Lassa fever virus, and the Rift Valley fever virus, as well as the Chikungunya virus and the hypothetical, unknown pathogen "Disease X".

India and CEPI

- The Department of Biotechnology, Ministry of Science & Technology, Government of India is implementing the Ind-CEPI mission titled 'India Centric Epidemic Preparedness through Rapid Vaccine Development: Supporting Indian Vaccine Development Aligned with the Global Initiative of the Coalition for Epidemic Preparedness Innovations (CEPI)'.
- The clinical sample testing laboratories selected for this collaborative vaccine network are:
a. Nexelis (Canada) and Public Health England (PHE; UK),
b. VisMederiSrl (Italy)
c. Viroclinics Biosciences BV (The Netherlands)
d. Q2 Solutions (USA)
e. International Centre for Diarrhoeal Disease Research Bangladesh (ICDDR-B, Bangladesh)
f. National Institute for Biological Standards and Control (NIBSC, UK)
g. Translational Health Sciences and Technological Institute (THSTI, India).
- Ind-CEPI Mission aims to strengthen the development of vaccines for the diseases of epidemic potential in India as well as build coordinated preparedness in the Indian public health system and vaccine industry to address existing and emergent infectious threats in India.
- The major focus at present is to help evaluating new Covid-19 vaccines, using standard analysis and same reagents in all labs so that vaccine produced has global acceptance and repeatability of the results, for global use.

National Board of Wildlife

- During the 1970's the Government of India appointed a committee for recommending legislative measures and administrative machinery for ensuring environmental protection.

- Accordingly, a comprehensive central legislation was enacted in 1972 called the Wildlife (Protection) Act for providing special legal protection to our wildlife and to the endangered species of fauna in particular.
- The Wildlife (Protection) Act, 1972 was subsequently amended during 1991 and last during 2002.
  - As per the amendment of the Act in 2002, a provision was incorporated for the constitution of the National Board for Wildlife, replacing the Indian Board for Wildlife.
  - National Board for Wildlife (NBWL) is constituted by the Central Government under Section 5 A of the Wildlife (Protection) Act, 1972 (WLPA).
- The National Board for Wildlife came into existence with the Gazette Notification dated 22nd September 2003.
- A copy of the Notification along with the rules framed under the National Board for Wildlife is enclosed for ready reference as Annexure-1.
- The National Board for Wildlife has 47 members with the Prime Minister in the Chair.
- The Minister in charge of the Ministry of Environment & Forests in the Central Government is the Vice-Chairperson.
- The Additional Director General of Forests (WL) & Director, Wildlife Preservation is the Member-Secretary to the Board.
- The Board is responsible for promotion of conservation and development of wildlife and forests.

New Development Bank
- The NDB was established based on the Inter-Governmental agreement among the BRICS countries (Brazil, the Russian Federation, India, China, and South Africa) signed on July 15, 2014.
- The Bank's purpose is to mobilize resources for infrastructure and sustainable development projects in BRICS and other emerging market economies and developing countries.
- The tenor of each loan is 32 years, including a moratorium period of 5 years.

Bureau of Energy Efficiency (BEE)
- BEE is a statutory body under the Ministry of Power, Government of India.
- It assists in developing policies and strategies on energy conservation and efficiency with the primary objective of reducing the energy intensity of the Indian economy.
- BEE coordinates with designated consumers, designated agencies of the states, and other related organization to identify and utilize the existing resources and infrastructure, in performing the functions assigned to it under the Energy Conservation Act, 2001.

Geological Survey of India (GSI)
- The Geological Survey of India (GSI) is a scientific agency of India.
- It was founded in 1851, is a Government of India Ministry of Mines organisation, one of the oldest of such organisations in the world and the second oldest survey in India after Survey of India (founded in 1767),
- for conducting geological surveys and studies of India, and
- As the prime provider of basic earth science information to government, industry and general public,
- Official participant in steel, coal, metals, cement, power industries and international geoscientific forums.

GSI, headquartered at Kolkata, has six Regional offices located at Lucknow, Jaipur, Nagpur, Hyderabad, Shillong and Kolkata and State Unit offices in almost all States of the country. Presently, Geological Survey of India is an attached office to the Ministry of Mine.

National Disaster Response Force (NDRF)
- The National Disaster Response Force (NDRF) is an Indian specialized force constituted "for the purpose of special response to a threatening disaster situation or disaster" under the Disaster Management Act, 2005.
  - The responsibility of managing disasters in India is that of the State Government. The 'Nodal Ministry' in the central government for management of natural disasters is the Ministry of Home Affairs (MHA).

POWERGRID

- **POWERGRID is a 'Maharatna' CPSE under Ministry of Power, Government of India and Central Transmission Utility (CTU) of India.**
- It is India's principal power transmission company and also one of the largest power transmission utilities in the world. POWERGRID's vast transmission network comprises of ~168,140 circuit kilometers of transmission lines, 252 EHVAC & HVDC substations with transformation capacity of about 420,630 MVA, spread across the country.
- This network has been consistently maintained at an average availability of >99%. The Company's shares are listed on the BSE and the NSE and are a part of S&P BSE SENSEX and NIFTY.

YOJANA

INDEX

75 years of Independence

Introduction
- After centuries of subjugation and struggle, when India attained independence on August15, 1947, it was new dawn filled with hope and promise of a better future. But challenges were enormous-poverty, illiteracy, malnutrition, and lack of any worthwhile industrial and scientific base, to name a few.

Present Scenario
- We have come along way since those days of want and scarcity. India is now recognized as an Emerging World Power.
- Presently, we are the third-largest economy in terms of Purchasing Power Parity.
- As we seek to transform India into a developed and prosperous nation, the lives and thoughts of great souls like Mahatma Gandhi, Sardar Patel, Netaji Bose continue to inspire us.

Demographic Dividend and Future Demand
- With a median age of less than 30 years, India is a young nation in an aging world. This youthful energy needs to be channelized constructively for nation building.
- If our youth are sufficiently motivated and equipped with necessary skills, they can become change-makers of the society.
- The youth should be at the forefront of fighting social evils like corruption, casteism, communalism and gender discrimination. They should take lead in the transformation of nation.
- India needs to grow at a rapid pace to raise the standard of living of the people. But this growth has to be inclusive. This growth has to be environment-friendly and sustainable.
- We are duty-bound to leave a liveable planet for our future generations.
- Our ancient culture teaches us to live in harmony with nature and all other beings.
- Our development model should also be balanced.
- We should strive to bridge the disparities that still exist among people, communities or regions.
- We should endeavour to bridge the rural-urban divide and the emerging digital divide.

Way Forward
- India is a vibrant parliamentary democracy that is emerging as an important player on the world stage and continues on its developmental journey with greater confidence, competence and commitment. Our aim is to build an ecosystem where everyone can reach his or her full potential and lead a fulfilling and meaningful life.
- However, Governments alone cannot fulfil this task. Private sector will also have to join hands. Public-Private Partnership is the way forward for India's development.
- Equally important is people's participation in the developmental programs. The success of Swachh Bharat Abhiyan has demonstrated that government programs should become mass movements, owned and led by the people.

Democracy, Polity& Governance

Introduction
- **India's democracy is the largest in the World**. Our freedom is a result of century long revolutionary activity, bloodshed and battles. India has attained it's freedom after various fights, revolutionary activities and relentless movements.
- After much discussion and debates, our forefathers and pro- founder laboured in drafting a Constitution in the form and style of federalism, a Union Government   in the Centre and provincial Governments (State Assemblies or Assemblies of the Union Territory).
- Amidst the complicacies, pluralistic diversities, differences and confrontations, we ultimately adopted a Constitution on November 26, 1949, opting federal form of Government with the Preamble, "Sovereign, Socialist, Secular, Democratic Republic".
- **Our Constitution in its Preamble aspires to build a Sovereign, Socialist, Secular, Democratic Republic dedicated to ideas of justice, liberty, equality and fraternity.**

Present Situation

- Unfortunately, people of the country, more often than not, experience ram pan tine qualities, in justice or non-fulfilment of social expectations as assured in the Indian Constitution.
- Therefore, the original concept, public perception and philosophy behind the term "Democracy" has been degraded because of the misuse, abuse and misinterpretation of the same to fulfil ulterior motives of the vested interests.

Idea of Democracy and its Present State

- Democracy as a system of Governance is supposed to allow extensive representation and inclusiveness of as many people and views as possible to feed into the functioning of affair and just society.
- The definition of democracy is incomplete unless it is defined in social and individual contexts.
- Nevertheless, in the recent years in our country, it becomes phenomena that the attitudes and behaviour of the politicians and elected persons and the actions of the political parties, their way of functioning, organisation and the modes of campaigns dilute the concept and philosophy of "Democracy".
- Democratic ideals represent various aspects of the broad idea of "Government of the people, by the people and for the people."
  - They include political characteristics that can be seen to be intrinsically important in terms of the objective of democratic social living, such as :
  - ✓ freedom of expression
  - ✓ participation of the people in deciding the factors governing their lives
  - ✓ public accountability of leaders
  - ✓ equitable distribution of power.
- Therefore, when we say Indian democracy, we mean not only that its political institutions and processes arc democratic but also that the Indian society and every Indian citizen is democratic, reflecting basic democratic values of equality, liberty, fraternity, secularism and justice in social sphere and individual behaviour.

Challenges

1. **Corruption in Public Life** is a big threat that dilutes the very idea behind democracy. The unwanted nexus between the Political, Bureaucrats and the Industrialists have only made the base of corruption stronger. Quality of Governance in India is facing huge challenge due to the prevalent corrupt practices.
2. **Criminalisation** has also tarnished the image of Indian electoral politics.
3. **Rampant false promises** by the candidates and political parties are also vividly visible in their election rallies and manifestoes. Even after the elections, the practices of unnecessary and unreasonable horse-trading have also been alarmingly increasing during the last few years.
4. **Disunity among the different communities of the country.**

Conclusion

- Good Governance does not occur by chance.
- It is associated with responsible political leadership, enlightened policy-making and a civil service imbued with a professional ethos.
- To have a good governance is a collective effort and not individual. However, a team of dedicated and honest public-leaders from every field is quite indispensable at this critical juncture.
- **The presence of a strong civil society** including a free press and independent judiciary are also the pre-conditions for such good governance. It must be demanded by citizens and nourished explicitly and consciously by the Nation-State.
- At this critical juncture, we the people of India need dedicated, selfless and honest rulers/ administrators in order to see the real democracy, polity and good governance. All the citizens of our country should always remember that India is a Nation of "Unity in Diversity".
- We all should always unitedly uphold the value of "Democracy, Polity and Governance".

Industry@75

Introduction

- Industrial growth in has gone through various phases of development over the years. The advent of Britishers in India led to the decay of the Indian Handicraft industry and machine-made goods started flooding into the Indian markets post-Industrial revolution in Britain.
- The policies of the British encouraged the imports of their goods and exports of raw materials from India. But soon after Independence, things started changing, and through the subsequent five-year plans government shifted its focus on industrialisation.

Different Phases

- **The First Five-year Plan** mainly focused on the development of both the private and public sectors, **the second plan on Mahalanobis Model** gave priority to Industrialisation.
- **The third plan** along with the first and second ones helped build up the capital goods industries in India. Between 1965-1980, industrial growth saw a decline mainly due to the negligence of the consumer goods sector in the earlier plans.
- **Between 1980-1991** industries recovered from downfall due to an increase in the productivity of Indian Industries and improvement in manufacturing and capital goods sector.
- **During Post-1991** era economic liberalisation of India has led to many reforms brought which helped shape the future of industries in India.

Improvement in Different Parameters Through Government Initiatives

a. **Ease of Doing Business**
- **India has moved 14 places to be 63rd among 190 nations in the World Bank's ease of doing business ranking.**
- The country was 77th among 190 countries in the previous ranking last year, an improvement by 23 places. The report assess improvement in ease of doing business environment in Delhi and Mumbai.
- The latest reforms are in the Doing Business areas of Starting a Business, Dealing with Construction Permits, Trading Across Borders and Resolving Insolvency.
- India still lags in areas such as enforcing contracts (163rd) and registering property (154th).

b. **Foreign Direct Investment (FDI):FDI inflows between April 2014 - September 2019 stood at $319 bn** which is nearly 50% of total FDI inflow in the last 20 years. During FY 2020-21, the total FDI inflow of 35.73 billion dollars is the highest ever for the first five months of a financial year.
- Recently, the government has also approved 100 percent FDI through the automatic route in coalmining, 100 percent FDI through the direct route in contract manufacturing, and 74 percent through automatic route in the Defence sector.
- FDI in India is estimated to reach $100 billion inflow per annum by 2022.
- This will further boost our domestic manufacturing and will also help in employment generation.

c. **Start-Up India Scheme**: The start-up culture in India has seen massive growth with more than 40 thousand start-ups recognised December 2020 by the Department for Promotion or Industry and Internal Trade (DPIIT) under the Start-Up India scheme launched in 2016.

d. **Atal Innovation Mission (AIM):** The government's flagship initiatives like Atal innovation Mission (AIM), have helped advance India's position in the Global Innovation Index from 81 in 2015 to 48 in 2020.
- Through this initiative, the promotion of a culture of innovation and entrepreneurship across the length and breadth of our country has been started right from school education through setting up of 4870+ operational Atal Tinkering Labs in 660+ districts impacting around 2.5 million students.

e. **National Institution for Transforming India (NITI Aayog)** is playing a big role in tackling development challenges in the country through policy advocacy.

- In December 2019, NITI Aayog had released the second edition of the Sustainable Development Goals (SDG) India Index and an online dashboard to track the progress on 17 SDGs of all the States and Union Territories (UTs) on a set of 100 National Indicators.
- India has made considerable progress especially in SDG 6: Clean water and sanitation by constructing over 11 crore toilets to become open defecation-free (ODF) in five years through Swachh Bharat Abhiyan launched in 2014.

f. **The Digital India campaign** launched in 2015 has ensured the creation of a digitally empowered society and knowledge economy. Development of broadband highways, universal access to mobile connectivity, public internet access programmes, e-governance among others have seen considerable growth with Aadhaar. Smart Cities Mission, BHIM UPI, RuPay, GSTIN, GeM (Government e-Marketplace), DigiLocker coming under the aegis of the Digital India programme.

- Through the **Bharat Net programme** which is also the world's largest rural broadband connectivity programme, 2.5 lakh gram panchayats are being connected by a fiber-optic network of which around 1,48,000 connections have been achieved so far.
- India's **Aadhaar** has become the world's largest biometric database with almost 125 crore Aadhaar cards being issued so far and is playing a pivotal role in preventing leakages via its integration with the **Direct Benefit Transfer (DBT) scheme**. This has helped in reducing poverty in India. According to the 2019 global Multidimensional Poverty Index India bas lifted 271 million people out of poverty between 2006 and 2016.

g. **Mudra loan scheme**, launched in 2015 is helping by providing credit up to 10 lakh to non-farming and non-corporate micro and small enterprises. It has helped enable every last mile finance to lend credit to all types of businesses in the country.

h. **Pradhan Mantri Kisan Sarnman Nidhi Yojana** launched in 2019 is providing 6,000per year as minimum income support to all farmers.

Way Forward amidst Pandemic

- Today India faces some major problems like tackling the covid-19 pandemic, cross border terrorism, and the competition from the Global markets. But it is important to note that India is dealing strategically with all these challenges as it has a specially dealt with the pandemic better than all the other countries in the world.
- Aatmanirbhar Bharat economic stimulus relief package of 20 lakh crore amounting to 10% of India's GDP was released this year to combat the pandemic.
- Pm Garib Kalyan Yojana: under this scheme 80 Crore people were given free food grains till November 2020.
- 20 crore women Jan-Dhan holders were given 500 rupees per month for 3 months.
- MNREGA wage rate was increased to Rs. 202 to per person per day and it is benefiting 13.6 2 crore of families.
- Through Swayam portalthe government is bridging the digital divide for the students who have limited access to the digital Revolution and have not been able to join the mainstream of the knowledge economy.

Education for new India

Introduction

- Education develops cognitive social and soft skills including cultural awareness and empathy, Perseverance and grit, teamwork, leadership, communication among others.
- Therefore by 2022, new India will provide a strong foundation for an education system based upon the principles of accessibility, equity, quality affordability and accountability.
- The education of new India will enable learners to Foster character making while preparing for the gainful and fulfilling employment.

Background

- From ancient times our education system has focused on the pursuit of knowledge (gyan) wisdom (Pragya) and truth (Satya) as the highest human goal.
- Institutes like Takshashila, Nalanda, Vikramshila, Vallavi had set the highest standards of multidisciplinary teaching and Research while fostering internationalisation at home.

- However the indigenous institutes became extinct by the late 19th century. The British School catered to very few.
- The education imparted mainly on reading even the skills of writing and arithmetic were cultivated in few. The system was entirely alien and ruthless as used by **Lord Macaulay.**

Steps Taken and Progress Made

- The concerns were addressed in several commissions and committees like the
  o University Education Commission(1948-49)
  o Secondary Education Commission(1952-53)
  o National Education Policy in 1968
  o National Commission on Teachers(1983-85)
  o National Policy on Education in 1986 (which was modified in 1992)
  o National Curriculum Framework in 2005.

- Enactment of Right of Children to Free and Compulsory Education Act 2019 has led to significant development.
- The literacy rate presently stands at 74.04 % compared to 14% at the time of independence.
- Number of schools colleges and Universities have also increased by huge number if we compare our position during independence full stop as per AISHE Report 2018-19 India is having the second largest education system in the world.
  o As per the latest edition of the Quacquarelli Symonds (QS) world university rankings, India has 26 departments in top 100 list for their subjects.
  o Moreover it has also seen an increase in the number of Indian programs ranking among the Global top 50.
  o **For the first time India is among the 50 countries with a rank of 48 in the Global innovation index**. India stood at 81st position in the year 2015 in this ranking. In the employability ranking 2020 India has improved its ranking from 23 in 2010 to 15 in 2020.

National education policy

- The policy is introduced in response of the changes that have happened in the past three decades since the last education policy.
- It aims to cater to the many growing developmental imperatives of this country along with the objective to create just and equitable Society.
- It lays special emphasis on the development of the creative potential of each individual. It will enable students to move towards learning to learn with the spirit of critical enquiry problem solving and creativity.
- Students will be provided with a platform to evolve themselves in a culture of multidisciplinary education and innovation.
- This will enable holistic and well-rounded development of students nurturing realisation and Liberation of the self.

Successful Endeavour in Space

Introduction

- The Indian space programme implemented by ISRO has enabled the pursuit of various frontier areas of space research besides facilitating the country's overall development and technological advancement.
- ISRO sprawls across the country with huge launch stations, tracking centers, R&D facilities and manufacturing and data processing units, all engaged in highly sophisticated and complex technological activities.

Background

- **Indian space programme began in 1962 with the formation of the Indian National Committee on Space Research (INCOSPAR),** barely five years after the launch of the Earth's first artificial satellite Sputnik-I, that heralded the space age.
- The formal beginning of the Indian space programme can be traced to the launch of a Nike-Apache sounding rocket on November 21,1963 from Thumba.
- During the time of Dr Vikram Sarabhai Space Science and Technology Centre at Thumba was set up for the development of Technologies necessary for space research.
- In the year 1969 ISRO was formed.

- On April 19 1975 India's first satellite Aryabhatta was launched from the centre in the former Soviet Union.
- Bhaskara 1 and 2 were the two experimental Earth observation satellites.
- **Additionally, APPLE, India's first experimental communication satellite was launched by European Ariane Rocket.**

Indigenous Satellites

- All the satellites were launched free of cost which is reflecting a successful International Space Cooperation Policy.
- An indication of India's ability to design, build and maintain a complete the Remote Sensing Satellite was demonstrated in 1988, when IRS-1A, the first operational satellite built in India started imaging the Earth from orbit.
- During 1990 ISRO began building INSAT-2 series of multipurpose satellites indigenously.
- Today India has a fleet of Advanced Remote Sensing satellites equipped with high resolution and multispectral camera dedicated to the themes of Cartography, Resource Survey and Ocean and Atmospheric applications.
- High throughput satellites like GSAT 11, GSAT 29 and GSAT 19 are supporting the digital India campaign by boosting the broadband connectivity to the rural and inaccessible gram panchayats in the country.

Launch Vehicle

- Perfecting the launch vehicle Technology is an immensely difficult and challenging task.Only a few countries possess it.
- Till now ISRO has developed 5 launch vehicles - SLV 3, ASLV, PSLV, GSLV and GSLV MK III. ISRO has master the technology of Rockets that use solid liquid as well as cryogenic propellants.
- Geosynchronous satellite launch vehicle Mark II is fourth generation launch vehicle having three stages with four liquid strap ons.
- Cryogenic Technology involves storage of liquid hydrogen liquid oxygen at very low temperatures.
- Materials used to operate at this very low temperatures sealing processes interplay of engine parameters make the development of cryogenic stage a very challenging and complex task. ISRO has developed this also.

Type of Launch Vehicle	Generation	Details
SLV3	1st generation launch vehicle	Developed in 1970s
ASLV	2nd generation launch vehicle.	Developed during 1980 and 90s
Polar Satellite Launch Vehicle (PSLV)	3rd generation launch vehicle	PSLV created a world record by successfully placing 104 satellites in Orbit during a single launch on February 15, 2017.
Geosynchronous satellite launch vehicle Mark II (GSLV MK II)	4th generation launch vehicle	1. It has three stages with four liquids troponins. 2. From January 2014 the vehicle has achieved six consecutive successes.
GSLV MK III	5th generation launch vehicle	1. It has to solid strap ons, Accord liquid booster and a cryogenic upper stage 2. It is designed to carry 4 Ton class of satellites into Geosynchronous Transfer Orbit (GTO) or about 10 Tons of Low Earth Orbit (LEO).

- India's **Reusable Launch Vehicle Technology Demonstrator (RLV TD)** was successfully flight tested in 2016 and several critical Technologies were successfully validated.

Chandrayan-I

- Chandrayaan-1 was the first Indian lunar probe under Chandrayaan program. It was launched by the Indian Space Research Organisation in October 2008, and operated until August 2009.

- The mission included a lunar orbiter and an impactor. India launched the spacecraft using a PSLV-XL rocket on 22 October 2008 from Satish Dhawan Space Centre, at Sriharikota, Andhra Pradesh.
- The mission was a major boost to India's space program,as India researched and developed its own technology in order to explore the Moon.
- The vehicle was inserted into lunar orbit on 8 November 2008.

Mars Orbiter Mission (MOM)

- It is a space probe orbiting Mars since 24 September 2014.It was launched on 5 November 2013 by the Indian Space Research Organisation (ISRO).
- **It is India's first interplanetary mission and it made it the fourth space agency to reach Mars, after Roscosmos, NASA, and the European Space Agency.**
- It made India the first Asian nation to reach Martian orbit and the first nation in the world to do so on its maiden attempt.
- **Astrosat :** Astrosat is India's first dedicated multi-wavelength space telescope. It was launched on a PSLV-XL on 28 September 2015. With the success of this satellite, ISRO has proposed launching AstroSat-2 as a successor for Astrosat.
- **Chandrayaan-2 :** Chandrayaan-2 is the second lunar exploration mission developed by the Indian Space Research Organisation (ISRO), after Chandrayaan-1.
- It consists of a lunar orbiter, and also included the Vikram lander, and the Pragyan lunar rover, all of which were developed in India.
- The main scientific objective is to map and study the variations in lunar surface composition, as well as the location and abundance of lunar water.
- The spacecraft was launched on its mission to the Moon from the second launch pad at the Satish Dhawan Space Centre in Andhra Pradesh on 22 July 2019 by a GSLV Mark III M1.
- The "**Gaganyaan Programme**" approved by the Government of India in 2018isa point of inflection in the growth profile of India's space endeavour, marking a seminal foray into the new age of human space exploration.
- The Human Space Flight Centre (HSFC) was constituted in ISRO in January, 2019forimplementingthevision on human space flight programme.
- **Crew Escape System**: It is an emergency escape measure to quickly pull the crew module — the astronaut cabin — along with astronauts out to a safe distance from the launch vehicle in the event of a launch abort.
  - **PAT (pad abort test)**is the first in a series of tests to qualify a crew escape system technology of a manned mission in the future.

Recent Initiative

- Recently, the space sector was opened upto promote, handhold, regulate and authorize private enterprises and start-ups to undertake space activities by creation of the Indian National Space Promotion and Authorization Center (IN-SPACc).
- This will enhance the diffusion of space technology and boost space economy within the country.

Conclusion

- Indian space programme implemented by ISRO has enabled the pursuit of various frontier areas of space research besides facilitating the country's overall development and technological advancement.

Fiscal Federalism

Introduction

- 'Fiscal Federalism' refers to the financial relations between the country's Central Government and other units of Government.
- It essentially represents how expenditure and revenue are allocated across different layers of Government administration.
- Fiscal federalism helps Government realize cost efficiency by economies of scale in providing public services, which correspond most closely to the preference of the people.

Background

- Evolution of Fiscal Federalism can be traced back to 18th century when **Alexander Hamilton** in his federalist papers, written in 1780s, stated that a Multi-layered Government (Federal) permits various functions to be assumed by different layers, potentially improving the efficiency of Government since different activities have different optimal scales.
- The evolution of fiscal federalism in India has its roots from1858, when the British Government assumed direct sovereignty over the Indian territory.
- At that time, there was no standardised system of accounting and annual budgets did not exist. Central Government retained the entire control on finances and made grants of money at its discretion to meet the demands of the local governments.
- Local governments collected revenue as agents of Central Government resulting into no direct interest in the result of the collection.
- However the need to be centralise the financing system was an inevitable necessity in a country as diverse and vast as India.
- Substantive efforts in the freedom struggle, led to the British Government's declaration in 1917 of gradually introducing responsible Government in India.
- In **Government of India Act 1919** which was based on **Montagu Chelmsford Reforms** a system of diarchy was introduced. It divided administrative subjects and sources of revenue into two categories-central and provincial.
  - The first category was administered by the councillors appointed by the Crown.
  - The second category was administered by the ministers who were chosen by the Governor from the elected members of the provincial legislature. This led to the process of decentralization.
- **In 1927, Simon Commission** reviewed the Government of India Act, 1919 and recommended the establishment of a federation of Indian States and provinces.
  - Thereafter, **the Expert Committee of 1931 with Lord Viscount Peel** as the Chairman, examined the fiscal relations between the Centre and Provinces and suggested sharing of income tax between Centre and Provinces while fixing the share of Provinces for a period of five years.
  - Based on these recommendations, the **Government of India Act, 1935**was brought forth which established a federal system with Provinces and Indian States as two distinct units.
  - Therefore the act of 1919 and 1935 established the basic structure of Fiscal federalism in India. Act of 1919 provided for a separation of revenue heads between the Centre and the Provinces, and the Act of 1935 allowed for sharing of Centre's revenues and for the provision of grants-in-aid to Provinces.
- The **Indian Constitution adopted in 1950**, defines India as 'Secular, Federal, Socialist Union of States.' Both Centre and State have separate legislative, executive and judicial arms.
  - The **Seventh Schedule** of the Constitution demarcates the powers and functions of the Union and the States viz, Union List, State List and Concurrent List.
  - The subjects in Union List include atomic energy, defence, national highways, railways, airways and those having significant scale of economies.
  - The subjects in the State list include matters with significant developmental potential within the States.
  - The Constitution also specifies taxation powers of both the Centre and the State and the principles governing the sharing of revenue and certain other resources. Post implementation of Goods and Services Tax (GST) which is shared between Centre and States, Central Government retains the exclusive right for income tax (corporates and individuals) while States have the right to collect stamp due, excise duty on alcoholic beverages, registration/ commercial use of vehicles, and a few other minor taxes.

Finance Commission

- In order to the community in implementing correct the vertical and horizontal imbalance and for equitable and efficient development, the Central Government transfers funds to State Governments as General Purpose transfers and Specific Purpose transfers.
- The General Purpose Transfers are untied funds devolved to the State Governments via the Finance Commission.
- Finance Commission that constitute substantial share of the total central transfers, is appointed every five years since 1951 under **Article 275-278** of the Constitution with the purpose of addressing the horizontal and vertical imbalance.
- It recommends the criteria for devolution of central taxes to States and the principles for distribution of grants-in-aid.

- **So far, fourteen Finance Commissions have completed their term and 15'" Finance Commission has already made recommendations for 2020-21.**
- Remaining Central transfers to States arc in the form of Specific Purpose Transfers which may also be termed as tied transfers, as these transfers are tied for specific purposes mostly in social sector areas such as health, education, labour, skill development etc. that govern a part of national development agenda and cut across state boundaries.
- These transfers are made by the concerned Central Ministries/Departments.

Transfer to Local Bodies

- The devolution of powers to the states without any further decentralisation at the level of sub state (local) government bodies was very weak before the 1990s.
- It was only after **73th and 74th Constitutional Amendment** Acts passed in 1992, the two tiered Indian federal structure evolved into three-tiered structure giving constitutional status to the rural and urban local bodies respectively.
- Under this, the State legislatures are expected to devolve responsibilities, powers and authorities to the Panchayats and Municipalities in order to bring about greater decentralisation and to increase the involvement of the community in implementing schemes, bringing transparency in decision-making, ensuring accountability and monitoring of outcomes.
- **Article 243 (I) & Article243 (Y)** further necessitated constitution of State Finance Commissions at regular interval of five years, to decide distribution of net proceeds of taxes between State and Panchayats, determination of taxes, duties, tolls etc. to be assigned to Panchayats and Municipalities, grant in aid to be provided to the Panchayats and Municipalities.

Contemporary Initiatives

- While the basic principle of federalism remains the same, a number of developments over the years such as, liberalisation in 1991, introduction of VAT in 2005 and more recent changes like introduction of GST in 2017scrapping of Planning Commission and constitution of NITI Aayog in 2015 and also rationalisation of Centrally Sponsored Schemes, have led to increased devolution of untied funds which has constantly changed the Centre-State fiscal relations.
- These have brought about structural changes in the Centre-State financial relations: -
  1. Increase in untied funds devolved to States.
  2. Rationalisation of Centrally Sponsored Schemes.
  3. End to Centralised Planning Era and Discretionary Grants: Plan and Non-Plan distinction in the budgeting exercise was done away with by the Union Budget 2017-18.
  4. Introduction of Goods and Services Tax (GST).
  5. Outcome Based Budgeting.

About NITI Aayog

- **NITI Aayog substituted erstwhile Planning Commission with effect from January 1, 2015, and has since engaged itself in strengthening cooperative and competitive federalism for rapid economic transformation.**
- The Governing Council of NITI Aayog, comprising Chief Ministers of all the States and Union Territories with Legislatures and Lt. Governors of other Union Territories provides a platform whereby the Centre and Aayog has also established models and programmes for development of infrastructure and to reignite and establish private-public partnership, such as the Centre-State partnership model.
- In a unique initiative, NITI Aayog has endeavoured to promote competitive federalism by facilitating
- improved performance of States/UTsby encouraging healthy competition through Education Index; Health Index; Composite Water Management Index; SDG Index; and Delta Rankings for Performance of Aspirational Districts.

Way Forward

- Centre and State relations have important fiscal implications for country finances such as sharing ratio of total debt among centre and state, fiscal marksmanship, empowerment of Centrally Sponsored Schemes, efficient government procurement policy, transparent financial reporting, uniform accounting procedures, Direct Benefits Transfer and integrated lists of beneficiaries across the States.

- There must be mechanisms in place to reward best performers, be it States or districts or even at block levels.
- Two way communication channels need to remain open all the time so that the issues get resolved quickly and development is not hampered. Only then the vision of a developed India can be realised in its truest sense.

Public Health Innovation

Introduction

- The idea behind 'Health for All' is intrinsically interlinked with the idea of **Universal Health Coverage (UHC)**which envisages, that everyone, everywhere, has access to essential health care services without facing financial hardship- meaning that people are protected from the financial consequences of paying for costly health care that might push them into poverty.
- This concept is also outlined in the Sustainable Development Goals (SDGs)- to which India is a signatory-given the interdependence of health and global development.
- SDG 3 aspires to ensure health and well-being for all, along with tackling epidemics and selected communicable diseases by 2030.
- It also aims to achieve universal health coverage and provide access to safe and effective medicines and vaccines for all.

Indian Scenario

- In a country like India, with a population of over 1.3 billion people, providing affordable health care in an equitable way comes with its own set of challenges. Accessibility and affordability of health care, particularly, is a serious preposition for the vast majority of the population, especially at the tertiary level.
- Recognising this gap, the Government of India in 2018 introduced the **Ayushman Bharat programme**-the largest such healthcare programmes in the world, with the aim to bolster the two pillars of Health for All-strengthening primary health care and providing health coverage.
- Along with it, the **Universal Immunisation Programme**, which is one of the largest health programmes
- of the world has achieved stellar results such as the eradication of smallpox and polio along with ensuring coverageto millions of people in the over 3decades of its functioning.
- Various National programs on health ranging from **Reproductive, Maternal, Neonatal, Child and Adolescent health (RMNCAH)**, nutritional programmes, communicable and non-communicable diseases to health system strengthening programs have been designed and implemented by the Health Ministry which cover a wide range of health care needs of the population and focus on improving various aspects of a person's health and well-being, all of which are fundamental for improving life expectancy in India.
- Prime Minister gave a clarion call to end TB and Malaria by 2025 and 2030 respectively and launched the National Strategic Plans (NSP) to this end. It is critical to note that 2025 is five years ahead of the global target of TB elimination by 2030.
- Indian Council of Medical Research (ICMR) developed and validated the indigenous Covid Kawach Elisa test for antibody detection of the virus, which can be produced at lower manufacturing cost and makes it easy to use in resource-limited settings.

Way Forward

- For a sustainable and effective model for Health for All, maintaining synergy between cost, quality and access to essential health care services is crucial.
- Alongside efforts to strengthen primary health care, raise public health expenditure and provide greater financial coverage, we also need an enabling environment for public health innovation through collaborative action to provide affordable tools to those who need it the most.
- Unless everyone is protected, no one is left behind for essential health care, we cannot dream of achieving the target of 'Health for All'.

Infrastructure Development

Introduction

- Regulatory infrastructure has come a long way, both through instruments and institutions. There are eight dimensions that enable infrastructure development: Project Structuring, Project Evaluation: Financial, Economic

and Risks, Sourcing of Funds, Tendering and Bidding Process, Agreements, Project Management, Post-Project Issues, and Regulation and Dispute Resolution.

- At a generally accepted level, infrastructure sectors are those that address energy, communication, transportation, housing, water, and sanitation. Many of these have also to be developed in a manner that they synergise while serving a context like urban, rural, industrial, export- import.
- Over the past twenty-five years, we have actively brought in Public Private Partnerships (PPPs), not just for financial additivity, but for increased stake holding to deliver higher quality customer-oriented infrastructure.

Recent Initiatives

- The recently announced **National Infrastructure Pipeline (NIP)** by the Ministry of Finance envisages an investment of Rs 11 I lakh crore in infrastructure in the six fiscal years until 2020-25.
- The telecom sector created a **Universal Obligation Fund**, by sourcing a percentage of commercially viable calls into this fund, from which subsidies would be provided for the rural and remote segments. Aviation tried to do it by having a cross-subsidy model, forcing every airline to follow 'route dispersal guidelines'.
- In the road sector, initial PPP structuring was attempted on the **Build-Operate-Transfer model**. When projects were not taking off, a capital subsidy based bid model was structured, called Viability Gap Funding.
  - A structuring called **Hybrid Annuity Model** was brought in, where the concessionaire was no longer vulnerable to toll based revenue risks, but had to build(and hence take on construction risks) and maintain the roads for an annuity income.
- Over the years, the documentation and processes have gotten more structured. The documentation brings multiple stakeholders together, and with a focus on anticipating issues. The bidding process is also more consultative, and manages expectations.
- **Project Management:** While greater professionalism and technologies have come in, vulnerability to land acquisition and environmental clearances have affected this.
  - Construction management has evolved as a discipline, with professionals being trained at the post- graduate level.
- **Regulation and Dispute Resolution:** Many regulatory institutions have been set up-The Telecom Regulatory Authority of India, the Central and State Electricity Regulatory Commissions, Tariff Authority for Major Ports, and Airport Economic Regulatory Authority.
  - There is also an Appellate for each regulator, so that appeals against any regulator's act can be heard and resolve. However, not all aspects and sectors are covered.
  - There are still under-regulated areas like Railways and Road Safety. Ideally, a regulator should be empowered sufficiently, that they can be proactive in formulating regulations, of course through a transparent process.
- **Conflicts of interest have been recognised**: policy maker versus regulator, regulator versus operator, policy maker versus operator, level playing field with a strong incumbent, though need to be addressed.

Way Forward

- The project structuring, risk allocation, CA, and regulator you look are still vulnerable to crony capitalism. Transparency, mature media attention and regulatory oversight can address this. Regulatory infrastructure has come a long way, both through instru-ments and institutions.
- However, further progress is required to cover more domains, strengthen staffing, independence and processes.

Sports

Biologically, our bodies are designed for physical exercise, like the hunters and gatherers in the past, and we need that exercise to have our vital organs function optimally. Development has seen people reduce physical exercise and this has caused diseases to multiply. Sports provides that necessary exercise to keep the blood flowing and the body healthy.

- From sports, we learn sportsman spirit and that acts as a lubricant in our social life.
- Sports teach an individual decision-making and humility too.

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Cinema for a New India

Cinema is an art form - basically an art of story- telling - fiction or non-fiction. As a medium, it's the strongest and the most popular one compared to any other medium of communication. Yet, it is the one which has remained the most neglected art form since Independence of our nation.

- The initial years of post-Independent India were invested in. pressing issues of education, agriculture and development for obvious reasons. Therefore, the steel frame of the Indian Administrative Service had very little time for training in the arts and culture.
- Cinema took a back seat because the overwhelming impression prevailing then was that it was a medium of entertainment and that it could not be seen in any other way.
- Cinema may be a far practical way to connect the policy-makers with the Ground Reality.
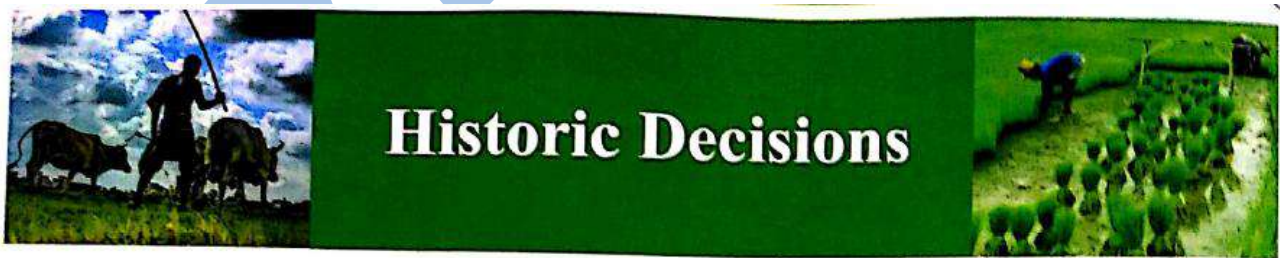
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Agriculture: The Road Ahead

Introduction

- **India has 1.3 billion people or approximately 17.9% of the global population which lives on 2.4% land and 5% water resources of the world.**
- With 11 % of total global agriculture, India ranks second in the world in agriculture production as the leading producer of several commodities including food grains, cotton. cane, horticultural crops, dairy, poultry, Aqua-culture and spices.

Background and Issues

- **Agricultural production in 2019was valued at USD 459 billion** and the country's global trade in agriculture produce fetches more revenue that the services or even manufacturing.
- Agricultural GDP rose from USD 101 billion in 2001 to USD 459billion in recent years showing remarkable growth and that too with substantial reduction in the work force in agriculture.
- However, the growing population poses a challenge to food and nutritional securities when there is pressure on land due to urbanisation, improved standard of living, changed food habits etc., generating great demand for diversified agricultural commodities.
- These challenges are further exacerbated by declining soil health, low nutrient content, occurrence of new biotic stresses and frequent droughts and floods due to climate change.
- In recent years, the unprecedented change in the climatic conditions has posed a serious threat to crop, animal and fish productivity.

Initiatives

Historic Decisions

- To empower farmers for engaging with processors, aggregators, large retailers, exporters etc. without any fear of exploitation
- Enable farmers to access modern technology & better inputs, will reduce cost of marketing & improve their income
- Will act as a catalyst to attract private sector investment for supply of Indian farm produce to global markets
- Allow direct marketing of farm produce thereby eliminating intermediaries resulting in full realization of price
- Adequate protection & effective dispute resolution mechanism provided to farmers with clear timelines

- Historic-step to unlock the vastly regulated agricultural markets in the country and create One India, One Agriculture Market
- Promote barrier-free interstate & intrastate trade and commerce outside State APMC premises
- Will open more choices for farmers, reduce marketing costs & help them in getting better prices
- Electronic trading platform for ensuring a seamless trade electronically proposed

Present Scenario

1. Globally agriculture sciences are experiencing series of innovations and development of technologies that could mitigate the effects of climate change, better the yields, reduce the effects of salinity, drought, flooding and biotic stresses etc.
   - For example, the science of genomics has seen exploratory changes where many crops are improved through genomics assisted breeding, transgenic, and now through the CRISPR-C as 9 technology.
2. Research and development in India after independence has helped risen the per capita production and has gone a long way casing the pressure on meeting the food and nutritional requirement.
3. The Government of India for the first time introduced the long pending reforms in agricultural marketing through the legislation of three major Bills-
   - **Farmers Produce Trade and Commerce (Promotion and Facilitation) Act 2020 (Trade and Commerce Act)**
   - **Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020 (Contract Fanning Act)**
   - **Essential Commodities (Amendment) Act, 2020.**

Conclusion

- India has done a remarkable job in enhancing the agricultural production in nearly all the key areas. However, the current challenges are looming large over the coming years as the population is increasing.
- The country needs to step up production of many commodities by around 30% to feed the expected 1.7 billion people by 2050.
- Naturally strengthening research and development and innovations to create new technologies will be an important step for Indian agriculture as a road ahead. Simultaneously like the current reforms in farm produce marketing, series of policy changes needed to give emphasis on technology and skill-intensive agriculture.
- Suitable policy reforms will certainly act as the confidential building mechanism amongst all the stakeholders of agriculture.
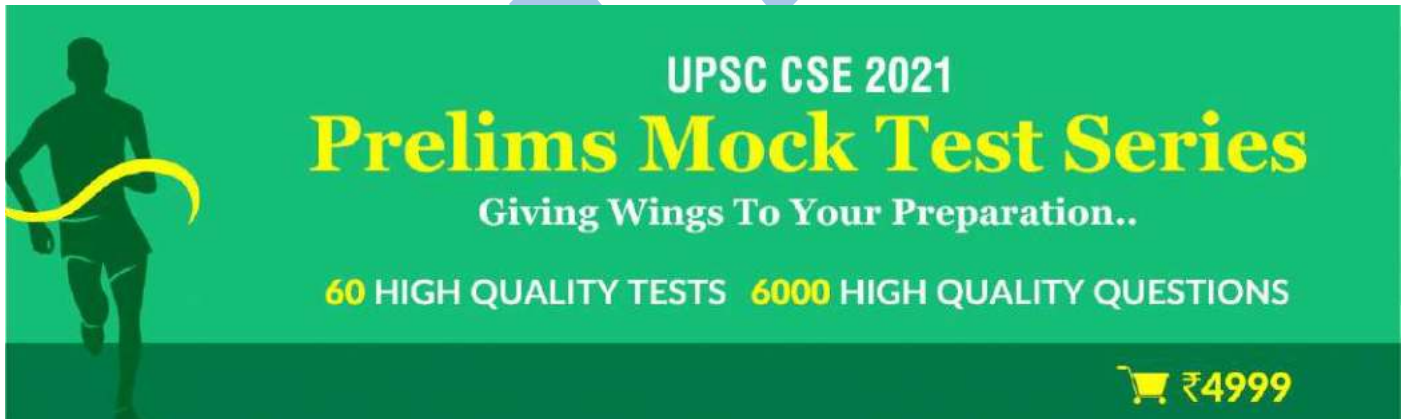
Indian Art & Culture

Introduction

- Indian philosophy values beauty and aesthetic experiences and this informs Indian art & culture at every stage.
- The purpose of art has been to temporarily take one away from the mundane earthly domain of routine chores and sorrows to provide alternative visions of an ideal, heavenly, healing beauty.
- The central courtyard in temples was often used for classical music or dance offerings to God.
- Devotees getting pleased in the process were only a by-product, not the aim of the performance.
- With Rajas and Nawabs becoming patrons of the arts, the performing space shifted from temple courtyards to court halls.
- The European influx of Portuguese, French, Dutch and British shifted the performing space from royal courts to smaller halls for their entertainment and introduced chamber music to India where the artist was now performing to please the listener sitting on chairs with their shoes on.

Important phases

- The Moghuls introduced new instruments to India like the khamanche, rabab (which we know as the sarod today), ek-tar, du-tar, se-tar (3 strings), which we know as the sitar today in its modified version.
- Tabla is also said to have been introduced at this time.
- North Indian classical music got more deeply influenced by khayal, qawwali, zikir-zari, sufi and folk. Thumri was added in the Kathak repertoire by Nawab Wajid Ali Shah of Awadh.
- Folk paintings started off with being done on the walls of people's house, often depicting their everyday life like in:
  - Warli painting from Maharashtra
  - Madhubani painting from Bihar
  - Gond painting from Madhya Pradesh.
- Some paintings tell religious stories on cloth like
  - Pichhwai or Phad from Rajasthan
  - Mata-ni-pachedi from Gujarat

- o Kalamkari painting from Andhra Pradesh
- o Thangka painting from the Himalayan region.
- Emergence and sustenance of folk culture is a symbol of India's plurality in expression.
- In ancient India, temples were scientific and architectural wonders. After understanding the north south energy pull-push factors, the deity would be placed where vibrations of positive energy were highest, so that they would radiate healing energy to the devotees.
  - o The Meenakshi Amman Temple in Madurai has one thousand pillars in perfect alignment.
  - o The Konark Sun Temple in Odisha, Rani ki Vav in Patan, Gujarat, the Buddhist stupas built by Asoka the Great are examples of aesthetics coupled with excellence, scientific and architectural prowess.
- Temples had exquisite display of art-walls filled with paintings, murals, fine sculptures that spell attention to detail. **Dry frescoes in the Ajanta caves near Aurangabad, Maharashtra show stories from the Jataka tales.**
- The **Belur-Halebidu temples** built by the Hoysala kings in Karnataka have fine stone sculptures that clearly show a hair pin in a woman's ornate bun or the folds of her clothes or a hole in the flute being played by Krishna.
- **Ranakpur Jain temple in Rajasthan** has intricate carvings in white marble, there are the finest sculptures in the Jain Dilwara Temples, or Khajuraho temple in Madhya Pradesh;
- **Mahabodhi Temple Complex in Bodh Gaya, Bihar** has fine brick work, Brihadeswara temple in Thanjavur has sculptures of dancers showing 81 of the 108 karanas of Bharatanatyam as mentioned in the Natya Shastra by Bharata Muni.
- The Moghuls brought interesting application of scientific understanding.
  - o **The Gol Gumbaz in Vijaypura, Karnataka** made by Adil Shah which has one of the largest domes built at that time.
  - o **Whispering Gallery** which picks up the lightest sound made on one side heard by people standing far away on the other side.
  - o Persian aesthetics reflected greater use of motifs from nature, geometrical designs, colourful tiles, carving on expensive materials like marble, lattice work, domes, minarets on 4 corners as seen in ltimad-ud-daulah and Taj Mahal in Agra, Uttar Pradesh. Or palaces with large halls,

KURUKSHETRA

INDEX

Adopting a Holistic Approach towards Rural Development

Introduction
- India has **over 1.3 Billion people** spread over 650,000villages, 4000+ small towns and cities, 715 aspirational districts, and 8 Tier-1 metro cities.
- The diversity of India in terms of demography, language, culture, customs, traditions, capabilities, skills and vocations is unparalleled across anywhere in the world.
- India also enjoys a demographic dividend that is the envy of many a country with over **65% of its population under 35 years.**
- India is also well known globally for its rapidly growing digital prowess, technological capabilities and its innovative spirit.
- With 55000+startups, 400+incubators and over 34 unicorns India is rightly being perceived as one of the fastest growing start-ups Nations of the world.
- Yet **over 70% of the population of India are in Tier-2, Tier-3, cities and in rural agriculture** dominant India.
- Over **70% of the formal and informal labour workforce** of India is associated with the micro, small and medium enterprises **(MSMEs)** of rural India.
- Since ancient times, the Indian rural ecosystem has been an agrarian economy which has been predominantly dependent on Agriculture and allied activities.
- The rural workforce has always been dependent on agriculture as its primary source of income. But now, a shift in the recent few years has been witnessed, as the rural youth have started engaging themselves in various sectors which are not directly aligned to the agriculture sector.

Background
- In 1800s, Prussians came up with the idea of a 'factory model of education'. **The factory model of education** states that the schools are built to train the future factory workers and that the students should essentially be trained to become efficient factory workers.
- Inspired by this the industrial Revolution aimed at "manufacturing" employable workers for the huge pool of opportunities that had opened by the industrial Revolution.
- The focus then was to create as many human resources as possible to meet the gap in demand and supply of labour.
- This model created a huge impact in the way industrial revolution prospered and was propelled over the years, and thus lead the growth of economies.

Start-ups in other Countries
- The United States of America, start-ups are creating more new job opportunities per year as compared to the jobs generated by established firms.
- In Israel, unemployment rate tumbled from 9% in 2000s to 5.5% in 2010s due to newly established firms growing at 23% in that period.
- In contrast, Japan has lost its significance in the growing global economy due to stagnation in entrepreneurial activity.
- The global economy is galloping towards growth by leveraging emerging technologies like 3D printing, robotics, IoT and sensor technologies augmented and virtual reality that are becoming advanced yet affordable, accessible and available.
- Automation of mundane tasks leading to higher productivity, and technology driven growth will soon become key enabler which will inevitably change the way we interact, communicate, transact and reach global markets.
- The current education system needs game changing radical transformations in its approach and methodologies keeping pace with rapidly changing trends and digital capabilities of technology.
- As per a study recently, percolation of the start-up environment and innovation has been fragmented and has not reached the rural, Tier III and Tier IV cities due to various factors. The focus of these less percolated regions has been to create job seekers rather than encouraging/ enabling new entrepreneurs and job creators.
- It is time that we drive a focussed approach in all such regions by providing them with basic factors viz. start-up capital, skill building institutions to boost innovator confidence, risk appetite culture etc. Some of the factors

which would contribute in create a sustainable approach to solving this problem holistically are been highlighted here.

Delivering Quality Education
- The need for technology driven practical education **has been started in the New Education Policy (NEP) 2020.**
- The NEP strives to make us realise the importance of experiential learning and also emphasises on the importance of developing relevant skill sets for an agile world that we live in today.
- The Indian education ecosystem took a leap when computers were introduced and today, we are standing at a similar cusp. **Tomorrow's world shall be focussed on data driven approaches** to solve the problems at hand.
- The education ecosystem thus needs to incorporate and grow, keeping these incoming changes in mind.
- The demographic dividend is on our side and we must focus on building experiential model of learning for the school kids.
- One such programme that has created waves in the country are the Atal Tinkering Labs (ATLs) launched by the Atal Innovation mission, NITI Aayog.

Atal Tinkering Labs
- Atal Tinkering Labs are state of the art labs created in schools where children are introduced to new emerging technology toolkits.
- These toolkits are miniaturised electronics devices, 3D printers, sensors, Robotics, Arduino Kits etc.
- It introduce the kids to a whole new world which runs on data and emphasises importance of computational thinking along while driving creativity.

Developing Youth as Change makers
- The focus of this decade is to achieve the Sustainable Development Goals (SDG) 2030 and this can be achieved by enabling the youth of the country to be at the front and centre of the solutions that are being created.
- There has been low penetration of the self-employment and start-up ecosystem in the rural, Tier-III and Tier-IV cities of the country and an even lower penetration of the understanding of the SDGs.
- India is a big market and provides a lot of opportunities and with this also come frugal jugged innovations that are created in our country.
- We should now focus on providing an institutional based structure to these young innovators and support them in their journey of solving community challenges through replicable scalable innovations, and in the process, potentially creating solutions for global markets.
- The institutional structures formed for developing the youth innovators with an equitable opportunity that currently exists with the urban youth via incubators/accelerators and encourage them to try without the fear of fail to achieve sustainable results. This way they will become agents of change and drive the economy.
- There has to be a focussed approach in spreading awareness about the SDGs and showcasing the solutions created by the local youth to the community leaders thus igniting more minds and making drive the needs change.
- One such effort is being done by the Atal Innovation Mission of NITI Aayog by establishing Atal Community Innovation Centres (ACICs) in the underserved/unserved regions of the country.
- These ACICs will focus on creating awareness about the SDGs and focus on providing young innovators with an opportunity to grow and make a difference.
- A similar effort is to be carried out by creating a rural community youth fellowship program focussing on harnessing the talent of a young innovator and creating a viable solution to a local SDG challenge. The programme can be implemented as an extension of an existing incubator or by creating a separate space, exclusively for pre-incubation like the ACICs.
- It is also imperative that this fellowship program is strongly supported by a public private partnerships (PPP) network. The private sector may drive the fellowship by providing the fellows through the entire process of developing and implementing the solution.

Digital Push and Transformation of the Agrarian Economy
- Since decades, the rural economy has been revolving around agriculture and allied activities. Farm mechanisation and creation of sustainable value chains has been a pain point that not many innovators have been able to solve.

- With the advent of new technologies like the AI and block chain, the entrepreneurs can solve the farming woes of the country. These technologies will not only provide inputs on the growing patterns of the crops but also provide farmers with the knowledge of domestic and global demands of the market.
- The start-ups can provide the farmers with quality seeds, technology driven irrigation and precision agriculture mechanisms, water conservation, and demand forecast based market opportunities in the pre-harvesting phase.
- They can support the farmers by providing them with technology driven solutions for quick harvesting and with proper storage facilities.
- The start-ups can provide the farmers a direct market linkage or may decide to become the buyer of the farm product.
- The start-up and the farmers can also enter into an agreement to make value-added product from the farm product and sell the product in the market together. All of the above opportunities exist for start-ups to and create a real change in the agrarian economy.
- It is appropriate here to applaud the efforts taken by the local civil society organisations/NGO's which are helping in the formation of local Farmer Producer Organisation (FPOs). These FPO's also can work with the start-ups in all the above-mentioned activities.
- The FPOs provide the farmer with an added opportunity of creating a bigger value adding network and driving an integrated approach towards creating a vibrant rural economy.
- All these efforts stated shall not only be beneficial for the holistic development of the rural economy today but also will have sustainable future for an Atma Nirbhar Bharat that can serve the world.

Swachh Bharat Mission Phase II aims for Sampoorna Swachhata

Introduction
- Sanitation by nature is a continuous work. Swachh Bharat Mission (Grameen)in its first phase devoted itself in making India open defecation free (ODF).
- However, there was still a lot to be done for effective solid and liquid waste management etc.
- Thus, achieving ODF status was the first great peak conquered, in a series of many more such peaks.
- The Government of India, in February 2020, approved the Phase II of the Swachh Bharat Mission-Grameen (SBM-G) with a total outlay ofRs.1,40,88, crore to focus on the solid and liquid waste management (SLWM) and on the sustainability of ODF status.
- At about same time the 15th Finance Commission report for the year 2020-21 was released. It also provided much-needed tied grants for sanitation to rural local bodies.
- Thus, the Phase II of the SBM(G) is planned to be a novel model of convergence between different verticals of financing and various schemes of the Central and State governments.
- The Department of Drinking Water and Sanitation is implementing it in Mission Mode from 2020-21 to 2024-25.
- The Phase II will provide impetus to the rural economy through construction of household toilets and need based community sanitary complexes, as well as the infrastructure for solid and liquid waste management such ascom post pits, soak pits, waste stabilisation ponds, bio-gas plants, material recovery facilities etc.

Objectives of the SBM Phase II
- An ODF Plus village is defined as a village that sustains its open defecation free (ODF) status and also ensures solid and liquid waste management and is visually clean.
- The key objective of the SBM Phase II became to make villages across India ODF Plus villages.
- **Components of the SBM Phase II:** To declare a village ODF Plus following checklist is provided in the guidelines:
1. All households to have access to a functional toilet facility.
2. All schools, Anganwadi centres and Panchayat Ghars have access to a functional toilet, with separate toilets for female and male.
3. Public places to be visually clean.
4. At least 80% households and all public institutions have arrangements for managing biodegradable solid and liquid waste.
5. The village has a plastic segregation and collection system.
6. At least five ODF Plus IEC wall paintings per villages on five key themes of ODF sustainability, hand washing with soap, biodegradable waste management through compost pits, grey water management through soak pits and plastic waste management.

In the Phase II guidelines, visual cleanliness has been defined

- A village is called visually clean if at least 80 percent of its households and all its public places have minimal litter and minimal stagnant water, and the village does not have any plastic wasted dump.

Guiding Principles for Implementation

1. Ensuring that no one is left behind
2. Promotion of Reduce, Reuse and Recycle to reduce the generation of waste at source.
3. Operation and maintenance to be an obligatory component of planning.
4. Encouragement of technologies with low operation and maintenance costs.
5. States will have the flexibility in deciding appropriate implementation mechanism and to choose technologies best suited to their conditions.
6. Clustering of villages for maximum economic efficiency.
7. Convergence with other schemes:
   - The programme is designed for convergent action and the co-financing of assets and services.
   - For example, Finance Commission funds for co-financing of assets; Jal Jeevan Mission for grey water management; MGNREGS for dovetailing of funds and functionaries; and Ministry of Skill Development and Entrepreneurship for skill development of field functionaries etc.
8. Creating self-sustainable revenue models.
9. Priority to villages on the bank of Ganga.

Planning

- Swachh Bharat Mission promotes decentralized sanitation interventions. Therefore, it is required that each Gram Panchayat prepares Village Action Plans for all of its villages in a convergent manner for the SBM(G) and the Jal Jeevan Mission, in a participatory manner, especially involving women and marginalized people, so that everyone could get equally benefitted from the implementation of the village action plan.
- The plan should be presented in the Gram Sabha and endorsement of the Gram Sabha should be obtained and recorded.
- At the district level, each district is required to prepare a District Swachhata Plan after consolidating its Village Action Plans.
- Districts are expected to develop the plan as per a date decided by the State Water and sanitation Committee every year and upload it on MIS after obtaining approval of the State Government.

Information, Education and Communication (IEC)

- Claimed as the world's largest behaviour change communication programme, IEC of the Swachh Bharat Mission campaign had seen thousands of behaviour change campaigns, iconic mass media campaigns and participation of millions of students, women, teachers, cadets, celebrities, political leaders, faith leaders and people from all walks of life; making it a true jan andolan.
- SBMPhase II also aims at behavior change of the masses to adopt better sanitation and hygiene practices. Therefore, IEC is the key for success of the SBM.
- Apart from the components of SBM phase II mentioned above, other key IEC messages for ODF Plus are: Waste Segregation and Source, Menstrual Waste Management and Hygiene Promotion. SBM Phase II has done commendable IEC work for hygiene promotion, use of masks and maintaining physical distance during the COVID-19pandemic.
- **Capacity Building:** Capacity of the keys take holders at the state, district, block and village levels is required to be built to plan, implement and monitor ODF Plus activities.

Institutional Arrangements

- There is a National Scheme Sanctioning Committee (NSSC) under the chairpersonship of the Secretary, DOWS for approval and revision of Project Implementation Plan (PIP) for the States/ UTs, and also the Annual Implementation Plans (AIPs).
- At State level, there is State Water and Sanitation Mission.
- At district level there are District Water and Sanitation Missions headed by the District Collector or CEO Zila Panchayat.

Role of Panchayati Raj Institutions (PRls)

- As per the Constitution 73rd Amendment Act, 1992, sanitation is included in the 11th schedule. Therefore, the role of Gram Panchayat (GP) is pivotal in implementing SBM (G).
- At cutting edge, PRls play even a greater and very important role in Phase II, especially after the earmarked provision for sanitation activities by the 15th Finance Commission. All institutions and committees working within the GP framework have to prioritize sanitation within their programmes.
- Each Gram Panchayat is expected to develop a village swachhata plan for each financial year and feed it as per GPDP planning principles in the designated Plan Software, as well as into the SBM (G)MIS.
- Receiving funds, subject to conformity with State arrangements, and contributing from their own resources for the financing of community toilets and SLWM infrastructure are some of the important roles of the PRls.
- With the support from the District, the GPs are expected to engage with business, corporate, social organizations and financial institutions for creation of assets and their operation and maintenance (O&M).

Financial Planning and Programme Funding

- **SBM (G) is a centrally sponsored scheme with fund sharing pattern between Centre and States being 90:10 for North-Eastern States, Himachal Pradesh, Uttarakhand and UT of Jammu and Kashmir; 100 percent from Centre for remaining UTs and in a ratio of 60:40 for other States.**
- The SBM(G) Phase II funds are released to States/UTs based on their performance and ability of achieve programme results.

Research and Development

- At the Government of India level, a technical committee headed by the Principal Scientific Advisor to the Prime Minister, has been set up to consult for new technologies and innovations in the sector.
- A Research and Development Advisory Committee under the chairpersonship of Joint Additional Secretary of the Department works to promote research and development activities for the sanitation.
- State governments are also encouraged to establish Research and Development cells with adequate manpower and infrastructure.

Way Forward

- Swachh Bharat Mission in its second phase is committed to achieve Sampoorna Swachhata by transforming the Mission into a Jan andolan. It has to generate a bigger momentum than it did in Phase I and that's a great challenge.

Panchayati Raj System towards Changing Rural India

Introduction

- Panchayati Raj system has existed since ancient times in India. Villages used to have Panchayat (council office persons) who would have both executive and judicial powers or authority to settle disputes in the village.
- The institution of Panchayat used to represent not only the collective will, but also the collective wisdom of the entire rural community.
- Father of the Nation Mahatma Gandhi advocated Panchayati Rajas the foundation of India's political system where a decentralized form of governance structure is established at each village.
- The term 'Gram Swaraj' (village self-governance) was the vision of Gandhiji. He advocated empowerment of panchayats for the development of rural areas.

Panchayats in Indian Constitution

- Recognising the importance of panchayats, the Constitution makers included provision of panchayats in the part IV (Directive Principles of State Policy) of the Indian Constitution.
- The Article 40 of the Constitution conferred the responsibility upon the state to take steps to organize village panchayats and endow them with such power and authority as may be necessary to enable them to function as units of self-government.
- Just prior to India's independence, Bihar was the first to adopt the Panchayati Raj System in 1947 which was a similar system of local self-government started by Lord Ripon in British era.

Committees and recommendation

Balwant Rai Mehta Committee
- In the post-independence phase, the Balwant Rai Mehta Committee, headed by Member of Parliament Balwant Rai Mehta, was appointed by the Government in January 1957 to examine the work of the Community Development Programme (1952) and the National Extension Service (1953), to suggest measures to improve their work.
    - ✓ The formal organisation and structure of Panchayati Raj was firstly recommended by Balwant Rai Committee.
    - ✓ The committee, in 1957, recommended the establishment of the scheme of' democratic decentralisation', which ultimately came to be known as Panchayati Raj.
    - ✓ It recommended a three-tier system at village, block and district level and it also recommended direct election of village level panchayat.
    - ✓ On October 2, 1959, Rajasthan (Nagaur district) became the first state to introduce the panchayat system in India.

Ashok Mehta Committee
- In 1977, Ashok Mehta Committee on Panchayati Raj was appointed and in 1978 submitted its report with various recommendations to revive and strengthen the declining Panchayati Raj system in the country.
- Its key recommendations included
    - ✓ Two tier system of panchayat
    - ✓ Regular social audit
    - ✓ Representation of political parties at all levels of panchayat elections
    - ✓ Provisions for regular election
    - ✓ Reservation to SCs/STs in panchayats
    - ✓ Minister for panchayati raj in state council of ministers.

G.V.K Rao Committee
- In1985, G.V.K. Rao Committee recommended measures to strengthen Panchayati Raj Institutions (PRls).
- In1986, for the first time recommended for the constitutional status of PRls and suggested for constitutional provisions to ensure regular, free and fair elections to the Panchayati Raj Bodies.
- A legislation was introduced in the Lok Sabha by the then Prime Minister Shri Rajiv Gandhi led government in 1989 to constitutionalize PRls, but the bill was not passed in Rajya Sabha.
- Subsequently, Prime Minister P V Narashima Rao led government introduced a bill for providing constitutional backing to PRls in Lok Sabhain September, 1991. This bill was eventually known as the 73rd Constitutional Amendment Act, 1992 and came into force on 24th April, 1993.

Key Elements of 73rd Amendment Act 1992
- A new part-IX to the constitution was added under the 73rd Amendment enacted in 1992.
- The Article 243G of the Constitution intended to empower the Gram Panchayats (GPs) by enabling the State Governments to devolve powers and authority in respect ofall29Subjects listed in the Eleventh Schedule for local planning and implementation of schemes for economic development and social justice.
- Some provisions of this amendment are binding on the States and others have been left to be decided by respective' State Legislatures at their discretion.

Organisation of Gram Sabhas
1. Creation of three-tier Panchayati Raj structure at the District (Zila), Block and Village levels.
2. Most of these posts at three levels to be filled by direct elections
3. Minimum age for contesting elections to the PRIs is 21 years
4. Only the post of Chairman at the District and Block levels should be filled by indirect election
5. Provision for reservation of seats for SCs and STs in Panchayats, in proportion to their population, and for women in Panchayats up to one-third seats.
6. State Election Commission to be set up in each state to conduct election to PRIs.
7. The tenure of PRIs is five years, if dissolved earlier, fresh elections to be held within six months, and
8. Creation of a state Finance Commission in each state every five years.

- **Some of the provisions which are not binding on the States, however, considered as only guidelines include giving representation to the members of central and State legislatures in district and middle-level PRIs, provisions of reservation for backward classes and financial powers to PRIs such as taxes, levy fees etc.**

Composition of Panchayats

- PRIs were established as a three-tier structure based on direct elections at all the three tiers-village (gram panchayat), intermediate (panchayat samiti) and district (Zila Parishad).
- ✓ Exemption from the intermediate tier is given to the small States having less than 20 lakhs population.
- The State Legislatures were expected to empower Panchayats with such powers and authority as maybe necessary to enable the Panchayats to become institutions of self-government at the level.
- The functions which could be devolved to PRIs include preparing plans for economic developmentand social justice.
- Schemes of economic development and social justice with regard to29important matters mentioned in XI schedule such as agriculture, primary and secondary education, health and sanitation, drinking water, rural housing, the welfare of weaker sections, social forestry etc.

Three-tier Structure of Panchayati Raj

Gram Panchayat

- The civic functions relating to sanitation, cleaning of public roads, minor irrigation, public toilets and lavatories, primary health care, vaccination, the supply of drinking water, constructing public wells, rural electrification, social health and primary and adult education, etc. are obligatory functions of village panchayats.
- Functions like preparation of annual development plan of panchayat area, annual budget, relief in natural calamities, removal of encroachment on public lands and implementation and monitoring of poverty alleviation programmes were expected to be performed by panchayats.

PanchayatSamiti

- The second and middle tier of Panchayati Raj is Panchayat Samiti, which provides a link between Gram Panchayat and Zila Parishad.
- The strength of a Panchay Samiti also depends on the population is a Samiti area. In Panchayat Samiti some members are directly elected. Sarpanchs of Gram Panchayats are ex-officio members of Panchay Samiti. Panchayat Samitis are the main hub of developmental activities.
- Some functions are entrusted to them like agriculture, land improvement. Watershed development, social and farm forestry, technical and vocational education, etc.

ZilaParishad

- Zila Parishad or District Panchayat is the uppermost tier of the PRIs.
- This institution has some directly elected members whose number differs from state to state as it is also based on population. Chairpersons of Panchayat Samitis are ex-officio members of Zila-Parishads.
- Members of Parliament, Legislative Assemblies and Council of belonging to the districts are also nominated members of Zila Parishads.
- It prepares district plans and integrates Samiti plans into district plans for submission to the state government.
- Zila Parishad looks after development works in the entire district.
- Since the passage of 73rd constitutional amendment, there has been substantial progress in terms of implementing the key aspects of the legislation.
- All the states and UTs have passed conformity acts
- State Election Commissions have been established and regular elections have been conducted under their supervision in all States.
- State Finance Commissions have been constituted in all States and their recommendations obtained.
- Infrastructure and governance systems in Panchayats across the country have improved significantly.

Devolution of Funds, Function and Functionaries to PRIs

- A devolution report published by the Ministry of Panchayati Raj in 2015- 16, stated that devolution has two main aspects: the operational core that includes funds, function, functionaries, and the support system that includes

capacity building of PRls, operationalising constitutional mechanisms and introducing systems of transparency and accountability.

- In terms of devolving function, functionary and finance. Kerala, Tamil Nadu, Maharashtra, and Karnataka have performed better than other states.
- Another critical aspect of legislation following the 73rd amendment was insertion of a clause under the **article 280 (3) (bb)** of the constitution that the Union Finance Commission would recommend measures to supplementing the resources of the Panchayats in the state on the basis of the recommendation of Finance Commission of the state.
- For the period FY 2020-21, the Fifteenth Finance Commission has awarded a grant of Rs. 60,750crore, for Rural Local Bodies (RLBs) in 28 states which has been the highest annual Finance Commission allocation for the RLBs so far.

Contemporary Development and Conclusion

- On April, 24 (National Panchayati Raj Day), 2020, Prime Minister had launched a unified e-GramSwaraj Portal and mobile application and Swamitya scheme.
- The e-GramSwaraj helps prepare and execute Gram Panchayat Development Plans.
- The portal will ensure real time monitoring and accountability. The portal is a major step towards digitization down to the GramPanchayat level.
- The Swamitva scheme which is launched in pilot mode in six states helps to map rural inhabited lands using drones and latest survey methods.
- The scheme will ensure streamlined planning, revenue collection and provide clarity over property rights in rural areas.
- Since getting Constitutional status in 1992, PRls have played a critical role in the development process of the villages. With the government relying more and more on PRls for implementation of mega development programmes, PRls have cemented their position in the rural governance structure.

Rural Healthcare in India

Introduction

- India's traditional medical practices like Ayuryeda and Unani with services of Vaidya and hakims were neglected for an exceptionally long time and suffered due to lack of funds and were constantly projected as inferior by western medicine practitioners.
- The Government of India Act of 1935 gave more power to the provinces where provision of medical care and preventative health services became state subjects, but once again, the actual implementation suffered due to lack of funds and poor capacity.

Background

- Despite years of reform and efforts, in 1983, the Government of India's first National Health Policy acknowledged that the efforts to expand western healthcare services had benefited only the upper- class people and failed to serve the urban poor or those in rural India.
- The policy recommended a decentralised health care system, encouraged community participation, and invited private sector participation.
- Moreover, inequality in access to health services increased where women, young children, and elderly were found to have higher levels of morbidity rates. Level of education was found to be inversely related with prevalence of morbidity among different classes of people.
- Empirical evidence also suggests that poor socio-economic conditions, low education levels, limited exposure to media and lack of health services in rural India were the reasons why they had lower and under-reported morbidity numbers.

National Rural Health Mission

- **National Rural Health Mission was launched in 2005** after careful deliberation and thought. Because health care is a state responsibility, the central government can play a supplementary role only.
  - This was also the time when the Millennium Development Goals (MDG) were declared.

- o The Central Government took this opportunity to provide a guideline to states for the proper allocation of funds to health expenditures to help them meet the MDG targets at a national level while also decrease inter-state disparities in health outcomes in rural India (Berman and Ahuja 2008). It also aimed to strengthen the financial management structure and accounting systems at all levels. (NAHC 2013).
- The principles were to provide states with adequate and flexible financing and allow them to design their own health interventions for health service delivery in rural India towards common, defined goals.
- The idea was to communities, i.e., devolve funds, functions, and functionaries to local community organisations and Panchayati Raj Institutions (PRls); improve capacity and management of rural healthcare systems; monitor progress of states against standard health parameters; and encourage innovation inhuman resource management in the sector.
- The socio-economically backward states of Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttaranchal, and Uttar Pradesh, known as the **Empowered Action Group (EAG) states**, the north-eastern states, Himachal Pradesh and the then state of Jammu and Kashmir were the focusstates.In2013, NRHM became a sub-mission under the over-arching National Health Mission with the addition of National Urban Health Mission(NUMH) as the other sub-mission of the programme.

Coverage and Access for Rural Healthcare
- Rural healthcare delivers services through a three-tier system of sub-centres (SC), primary health care centers (PHC) and community health centers (CHC).
  - o While SCs are the first point of contact in the primary health care system and the community in a rural set-up, PHCs serve as the first point of contact between the community and a medical officer.
  - o The CHCs provide specialised medical care through surgeons, obstetricians and gynaecologists, physicians, and paediatricians.
  - o Coverage of population with adequate health care centers was improved through an increase in the number of sub-centers (SC), primary health care centers (PHC) and a community health centers (CHC).
  - o Access to health care agents was another big challenge that was addressed through NRHM.

Accredited Social Health Activist (ASHA)
- Accredited Social Health Activist (ASHA) Is a grass root level health worker who is selected from a village to serve that village.
- The success of several programmes under the NRHM lies on the shoulders of ASHA network.
- The ASHA works as a liaison between the local rural community and the public health system.
- They are educated, young members of the rural community who undergo rigorous and continuous training and development to serve the rural community better.
- They share information on basic health and hygiene practices; counsel women on child birth and related issues and act as the first point of repository of basic health kits.

Some Programmes for Rural Health Care

Janani Suraksha Yojana
- Janani Suraksha Yojana is a cash incentive programme designed to encourage women to use formal healthcare services for institutional deliveries.
- The objective is to reduce neonatal and maternal mortality among poor, pregnant women, especially those in rural India.
- For this initiative, the focus states, called Low Performing States are Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Orissa, and Jammu and Kashmir.
- All other states are called High Performing States (HPS).
- In rural areas, the cash Incentive amounts to Rs.1400 In LPS and Rs.700 In HPS. Additional aid through designated ASHA workers amounts to Rs.600 more.

Janani Shishu Suraksha Karyakram
- Janani Shishu Suraksha Karyakram was launched in 2011 to eliminate the out-of-pocket expenditure for both pregnant mothers and sick Infants upon accessing Institutional health care.
- High out-of-pocket expenditures often dissuaded women from seeking formal health services post-delivery or for neonatal care.

- This programme provides free drugs, consumables, free diagnostic, free blood and free diet for 3 days during normal delivery and 7 days for caesarean section deliveries.
- This initiative also covers all ante-natal and post-natal emergencies.

Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)

- Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) was a similar programme launched in 2016 to provide quality antenatal care, free of cost and universally to all pregnant women on the 9th of every month in their 2nd and 3rd time sters of pregnancy, that can be availed at all government facilities.
- It also engages with the private sector to create campaign awareness and participation. Under this programme, a minimum package of free antenatal care services is provided to
- pregnant women in their 2nd or 3rd trimesters, by OBGY specialists/ Radiologist/ Physicians at Govt. health facilities, with voluntary support from private Practitioners at Govt. Health Facilities, to ensure that every pregnant woman has a risk free pregnancy.

Laqshya or the Labour Room and Quality Improvement

- Laqshya or the Labour Room and Quality Improvement initiative was launched in 2017 to as a focused and targeted approach to strengthen key processes related to the labour rooms and maternity operation theatres.
- The objective was to achieve time bound targets and ensure desired outcome of an institutional delivery that ensured new mothers and new born babies were safe and health.

Special New born Care Units (SNCUs)

- Special Newborn Care Units (SNCUs) were established at district levels and sub-district level hospitals with an annual load of more than 3000 to provide care for sick new-borns who did not need assisted ventilation or major surgeries.
- At the PHC level, this initiative provides new born care corner, which Is a designated space within the health facility where deliveries are taking place i.e. Labour Room and Operation Theatres.
- In addition, there are new born stabilising units provide for resuscitation, oxygen, suction, warmth through trained medical staff for all referral cases from SCs, PHCs and CHCs.

The Rashtriya Kishore Swasthya Karyakram

- The Rashtriya Kishore Swasthya Karyakram targets adolescents between the age of 10 to 19 years.
- This group constitutes 22 percent of the Indian population. Investments in this group are to ensure their proper physical, biological and psychological development along with psycho-social, behavioral and sexual education relevant and needed for this age.
- The aim is to provide adolescent-friendly health care services to improve nutrition, mental health, sexual and reproductive health, prevent injuries and violence, substance abuse and non-communicable diseases.

The Rashtriya Bal Swasthya Karyakram

- The Rashtriya Bal Swasthya Karyakram screens children under the age of 18 for four birth deficiencies-Defects at birth, Diseases, Deficiencies and Development Delays including Disabilities.
- It has made significant impact on reducing the child mortality rates under the NRHM by ensuring timely interventions and at the same time reducing the out-of-pocket expenditures.
- Its key objectives are
  o Assessment of health status of the child
  o Early detection of children with defects at birth, disease, deficiency in nutrition and disability,
  o Management of the identified children at primary, secondary and tertiary level
  o Effective referraI system by involving parents, proper and complete follow-up.
  o Health awareness among parents and children.
  o Trainings and capacity building of health providers, and convergence with stake holder departments (Education, SSA, RMSA, WCD and Social Justice and Empowerment).

Teeka Express

- To strengthen the national immunisation programme, the government has initiatives like the Teeka Express, which is a mobile van that provides vaccine services in far reaching areas along with construction, and safe

operation of cold chains points for storing vaccines; routine immunisation and training of field volunteers and medical staff, among other provisions.

Anemia Mukt Bharat

- It targets new barns and infants, school age children, adolescent boys and girls, women of reproductive age, pregnant and lactating women.
- It uses 6 interventions - provision of folic acid supplements, deworming, year-round behavior change initiatives, communication campaigns, text alerts, mandatory provision of folic acid fortified foods in public health programmes and addressing non-nutritional causes of anemia in endemic pockets like malaria and fluorosis.

Conclusion

- The National Rural Health Mission of 2005 has been rightly expanded to provide healthcare services to the urban poor who are under-nourished and under-served as well. However, the rural focus of the programme has gaps that must be bridged.
- To begin with, focus on incentivising medical staff to serve the rural community is a starting point to ensure all programmes are efficiently delivered.
- Moreover, instead of launching new programmes frequently, the mandates and budgets of existing programmes can be expanded instead. This creates an opportunity for better fund allocation and staff management.
- ASHA network, that has played a crucial role in health care delivery to rural areas has to be optimally compensated and trained.
- Private sector participation options, for service delivery and management services have to be explored.
- Majority of the Indian population continues to live in rural areas.
- Healthcare is like a public good that is highly associated with a country's economic growth. As we move towards gaining from our demographic dividend in the next 20-30 years, we must ensure quality and timely delivery of services across the country.

Education in Rural India: Schemes for Women and Youth

Introduction

- The vision of a modern India, free from poverty, rests heavily on the growth and development of rural India. While many a developmental programme and sincere intervention by the government and civic society attempt to mitigate the challenge, education for children and skill training for adults is ultimately the only way to help rural Indians escape the poverty trap they find themselves in and make them self-reliant.
- **Regarding the condition of Rural Women**, though there has been enhanced access to education over the years, those who are more educated remain unemployed because of the unavailability of formal jobs and low wages.
- Thus, lasting change in India's villages can come only when the objectives of eradicating poverty and unemployment are fulfilled. It requires a three-pronged strategy of education, infrastructure and empowerment.
- The **Right to Education Act, 2009** has been successful in achieving near universal enrolment in elementary in education, however retaining children remains a challenge for the schooling system.

Statistics

- According to government data, in 2015-16, **Gross Enrolment Ratio (GER)** was 56.2% at senior secondary level as compared to 99.2% at primary level. (GER denotes enrolment as a percent of population of corresponding age group.)
- Data for all socio-economic groups indicates decline in GER as we move from primary to senior secondary for all groups.
- Further, the decline in GER is higher for certain socio-economically disadvantaged groups, based on:
    1. Gender identities (female, transgender persons)
    2. Socio-cultural identities (SCs, STs)
    3. Geographical identities (students from small villages and small town)
    4. Socio-economic identities (migrant communities and low income households)
    5. Disabilities.

- As per the **National Sample Survey Report**, more than 12% of rural households in India did not have secondary schools within 5 km whereas in urban areas this percentage is less than one percent.
  - According to the 2018-19 data, 0.53% colleges are located in rural areas while 11.04% colleges are exclusively for females.
  - According to the PLFS survey, unemployment rate in India was 5.8% in 2018-19.
  - It was 5.6% among males and 3.5% among females in rural areas, while the rates were 7.1% among males and 9.9% among females in urban areas.
- Incomplete and poor quality education translates into a workforce that is unable to find remunerative work, and survives on low paid, unstable jobs.

Initiatives Taken

Samarga Shiksha Scheme
- The Government of India has launched Samagra Shiksha- an integrated scheme for school education with effect from 2018-19.
- It envisages the 'school' as a continuum from pre-school, primary, upper primary, secondary to senior secondary levels and subsumes the three erstwhile centrally sponsored schemes-
  1. Sarva Shiksha Abhiyan (SSA)
  2. Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
  3. Teacher Education (TE).
- **Bridging gender and social category gaps** at all levels of school education is one of the major objectives of the scheme. The scheme reaches out to girls and children belonging to SCs, STs, minority communities and transgender. The scheme also gives attention to urban deprived children, children affected by periodic migration and children living in remote and scattered habitations.
- Under the scheme, provision has been made for giving preference to Special Focus Districts (SFDs), Educationally Backward Blocks (EEBs), Left Wing Extremism (LWE) affected districts, and aspirational districts.
- Acknowledging that issues such as lack of toilets in schools and unavailability of school dropouts, especially among girls, the scheme supports states for strengthening of school infrastructure including in rural areas.
- The scheme provides for infrastructural strengthening of existing government schools based on the gaps determined by **Unifies District Information System for Education (UDISE)** and proposals received from respective states/UTs.
- In addition, there is a provision for twinning of schools under which well-functioning private or government schools in urban or semi-urban areas are linked with schools located in rural areas for interaction and exchange of experience.
- Under the exchange programme, the students from rural schools are brought to schools in urban areas for one week and vice-versa, for greater exposure. The department of school Education and Literacy is also implementing the component of vocational skills training under the umbrella of Samagra Shiksha.
- Further, for promoting the merit/capacity of students, including those in rural areas, meritorious students belonging to the economically weaker sections can avail the benefit of scholarship under **National Means-cum-Merit Scholarship Scheme.**

Jawahar Navodaya Vidyalayas (JNVs)
- The main objective of the Jawahar Navodaya Vidyalayas is to provide good quality modern education-including a strong component of inculcation of values, awareness of the environment, adventure activities and physical education-to talented children predominantly from the rural areas without regard to their family's socio-economic condition.
- The Navodaya Vidyalaya Scheme envisages opening of one JNV in each district of the country.
- Altogether, 642 JNVs have been established in the country so far.

Eklavya Model Residential Schools (EMRS)
- Eklavya Model Residential Schools were introduced in 1997-98 to provide quality upper primary, secondary and senior secondary level education to ST students in remote areas to enable them to access the best opportunities in education and to bring them at par with the general population.

Mid-Day Meal Scheme

- Though the Mid-Day Meal Scheme is targeted at young children studying up to Class VIII, it needs to be mentioned as it been one of the most successful programmes for keeping young children from disadvantaged sections like poor, dalits, tribals, girls and children of labour work force in schools.
- As per NSS 71st round, 70% children studying in class I to VIII in Government and aided schools, Special Training Centers (STCs) and madras as and maqtabs supported under Samagra Shiksha, get nutritious mid-day meals in rural areas.
- Since it is not possible to provide hot cooked meals due to COVID19, State governments and UT administrations are providing Food Security Allowance (FSA) comprising food grains, pulses, oil, etc., (equivalent to cooking cost) to all eligible children till such time their schools are closed due to the pandemic.
- **Targeted intervention for Girls :**Under Samagra Shiksha, various targeted interventions are made for girls, including those in educationally backward blocks (EBBs).
- **Kasturba Gandhi BalikaVidyalayas :**Kasturba Gandhi Balika Vidyalayas (KGBVs) have been sanctioned in Educationally Backward Blocks (EBBs) under Samagra Shiksha, which are residential schools from class VI to XII for girls belonging to disadvantaged groups such as SC, ST, OBC, Minority and Below Poverty Line (BPL).

BetiBachao BetiPadhao

- The Beti Bachao Beti Padhao (BBBP) scheme works to develop an enabling environment for girl child education.
- It addresses the issues relating to declining Child Sex Ratio (CSR) and aims to change the mindset of peoples as to make them appreciate the value of girl child.
- It is a tri-ministerial, convergent effort of the Ministries of Women and Child Development, Health and Family Welfare and Human Resource Development.
- **The specific objectives of the scheme are**
  - Prevent gender biased sex selective elimination.
  - ensure survival and protection of the girl child
  - ensure education and participation of the girl child through coordinated and convergent efforts.
- While the BBBP Scheme does not enroll girls for any type of benefits from any segment of the society including rural areas, its biggest impact is in rural India where discrimination against the girl child is entrenched due to social attitudes, structural imbalances in society, and impediments in the education and empowerment of women and girls.

Evaluation of BBBP Scheme

- It is carried out by National Council of Applied Economic Research (NCAER) in August2020hasindicated a positive behavioural change towards the value of girl child.
- The sex ratio at birth (as per Health Management Information System of the Ministry of Health and Family Welfare) has been set as a parameter for monitoring the progress of this scheme.
- The sex ratio at birth has shown an improvement of 16 points at national level from 918 (2014-15) to 934(2019-20).

Empowering the Rural Woman

Mahila Shakti Kendra Scheme

- The Government approved in November 2017 the Mahila Shakti Kendra (MSK) Scheme as a centrally sponsored scheme under Ministry of Women and Child Development to empower rural women through community participation.
- The scheme aims to facilitate inter-sectoral convergence of schemes and programmes meant for women both at the Central and State/ UT level.

Adult Literacy Programmes

Saakshar Bharat Programme

- Saakshar Bharat Programme (operational till March 2018) went beyond the '3' R's (i.e. reading, Writing and Arithmetic.

- It also sought to create awareness of social disparities and a person's deprivation on the means for Its amelioration and general well-being.
- This programme was formulated in 2009 with the objective of achieving 80 percent literacy level at national level, by focusing on adult women literacy seeking to reduce the gap between male and female literacy to not more than 10 percentage points.
- It has four broader objectives
  - Imparting functional literacy and numeracy to non-literates
  - Acquiring equivalency to formal educational system
  - Imparting relevant skill development programme
  - Promoting a leaning society by providing opportunities for continuing education.
- As per the 2011 census, literacy rate in rural areas stood at 67.67% with rural male literacy rate 77.15% and rural female literacy rate 57.93%.

Padhna Likhna Abhiyaan

- The Padhna Likhna Abhiyan has been rolled out to replace Saakshar Bharat Scheme, Launched by Prime Minister on Literacy Day this year, it focuses on achieving 100% literacy by 2030.
- Under this scheme, massive literacy projects will be launched in the tribal and forests areas, prisons, slums, etc. with technology as a facilitator.
- It will focus on the basic literacy component in a four-month cycle among adults. For this purpose, the Government think tank, NITI Aayog, has underlined 112 aspirational districts.

Skills Training in Higher Education

- The**NationalEducationPolicy2020**envisages that the school curricula and pedagogy will aim for holistic development of learners by equipping them with key 21st century skills and reduction in curricular content to enhance essential learning and critical thinking.
- The policy emphasises integration between vocational and academic streams in all schools and higher education institutions in a phased manner.
- As per the policy, vocational education will start in school from the 6th grade and will include internship.

Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)

- As education with skills is the need of the hour, the government launched the Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS) in 2019.
- It aims to cover 50 lakh students by 2022 by providing 'on the job work exposure' and stipend.
- SHREYAS is a programme conceived for students in degree courses, primarily non-technical, with a view to introduce employable skills into their learning, promote apprenticeship as integral to education and also amalgamate employment facilitating efforts of the Government into the education system so that clear pathways towards employment opportunities are available to students during and after their graduation.

National Apprenticeship Training Scheme (NATS)

- National Apprenticeship Training Scheme (NATS) instituted by Board of Apprenticeship Training/Practical Training, Ministry of Human Resource Development, provides skill training to fresh graduates, diploma holders in engineering and technology and Plus 2 vocational pass outs, which rural youth can take advantage of.
- In order to integrate vocational education with regular education which would be particularly advantageous for rural youth, the government has proposed to integrate apprenticeship embedded degree programmes to give impetus to vocational training.
- Accordingly University Grants Commission (UGC) has issued Apprenticeship/Internship embedded degree programme guidelines.

Pradhan Mantri Kaushal Vikas Yojana (PMKVY)

- The Ministry of Skill Development and Entrepreneurship is implementing Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 2016-20 with an objective to provide skilling to 1crore people under Short Term Training (STT) and Recognition of Prior Learning (RPL) across the country for four yearsi.e.2016-2020 with an outlay of Rs.12000 crore.

- Under this scheme, post placement support of Rs.1500/-per month per trainee is applicable for special groups including women for 2-3 months post training depending on placement within or outside the district of the domicile of the candidate.

Conclusion

- Any assessment about education in rural India cannot be complete without discussing the various development programmes that have been launched over the years to achieve these all-encompassing objectives.
- The current public (Central Government and State Governments) expenditure on education in India has been around4.43percent of GDP(Analysis of Budgeted Expenditure 2017-18) and around 10 percent of the total government spending towards education (EconomicSurvey2017-18).
- The National Education Policy2020statesthat the Centre and states will work together to increase the public investment in education sector to reach 6percent of GDP at the earliest.
- Within this gigantic exercise, we need to especially track the path that rural women and rural youth have walked in their wake to better understand how these programmes have helped shape their lives, to what extent these have successfully equipped them with the necessary skills and what more needs to be done to further empower them.

Importance of Infrastructure in Rural Development

Introduction

- Rural development means sustained improvement in the well-being of rural people and a strategy designed to improve the economic and social life of a group of people thus the rural poor.
- It involves the extension of benefits of development to the poorest among those seeking livelihood in the rural areas and this group may include small scale farmers, tenants and the landless; and to this many efforts have been made to develop infrastructure in rural areas.
- The government's effort is to reduce poverty and increase the quality of life of the rural poor by introducing various major and minor schemes and programmes related to rural infrastructure.
- This comprises of transport including rural roads bridges; water and sanitation which includes irrigation (dams, channels, embankments, etc.), waste management, water supply etc.; communication including telecommunication and telecom services; and social and commercial infrastructure viz. housing, education, sports, hospitals, tourism and post-harvest storage infrastructure for agriculture.

Roads in Rural India

- Roads in rural parts of the country are very important and critical component of rural development.
- It is the key to success of the rural economy; rural health; education; and for better road connectivity with the rest of the world.
- It is the main component to reduce the rural poverty by increasing the agricultural income.
- As far as construction, maintenance and upgradation of rural roads are concerned, since independence, the major policy decisions had been made only for the highways and urban roads but not for the rural roads.
- On 25 December 2000, the Government of India had launched the Pradhan Mantri Grameen Sadak Yojana (PMGSY)with the aim to provide all weather access to eligible unconnected habitations.
- It is a 100 percent centrally sponsored scheme (CSS) which cover only rural areas, and urban roads are excluded from the preview of this programme.
- **PMGSY-1:** Under PMGSY-1, the aim of the scheme was to provide access to the eligible unconnected habitations in the rural areas with a population of 500 persons and above (census 2001) in plain areas.
- In respect of Special Category States i.e. hilly and desert areas; the tribal areas, the objective is to connect eligible unconnected habitations with a population of 250 persons and above.
- **PMGSY-11**: However, as the programme unfolded, a dire need to consolidate the entire rural roads network by upgradation of selected routes and some major rural links was felt and accordingly a new intervention has been evolved which is namely PMGSY-11.
- **PMGSY-111:**The implementation of on-going PMGSY-1and PMGSY-11as also construction and up-gradation of non-PMGSY rural roads by states under their own programmes has helped immensely in lifting the income of rural masses.
- It has also enabled creation of a regional absorption capacity of rural works departments and state public work department (PWDs), structure and procedure for implementation including quality assurance arrangements.

- The Phase-I llenvisages consolation of the existing rural road network by upgradation of existing through routes and major rural links that connects habitations to Grameen Agricultural Markets (GrAMs), higher secondary schools, and hospitals.
- The government is keen to facilitate easy and faster movements to and from the food processing centres, to Mandis is (Agricultural markets) and other farmer related enterprises.
- This not only helps the farm production, but also yields many direct and indirect benefits such as minimizing the spoilage of perishable goods like fresh fruits and vegetables and ensures adequate remunerative prices for them.
- Affordable and easy access to high schools and higher secondary schools is the need of the hour in the present technological improvements in all sectors.
- Education leads to multiple opportunities. Improved access to education centres helps in better school attendance and the enthusiasm to go for the further higher level of education.
- In a big country like India without the health accessibility, the country cannot achieve the goal of millennium development goals (MDGs) and sustainable development goals (SDGs); affordable and easily accessible health facilities is the prime focus of the government for which road connectivity plays an important role. All-weather roads have shown a very positive correlation to improvement in health indicators.

Energy
Deendayal Upadhyaya Gram Jyoti Vojana (DDUGJY)
- The Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) was launched in 2015 with two components
    1. to separate agriculture and non-agriculture feeders facilitating judicious restoring of supply to agricultural and non-agricultural consumers in rural areas and
    2. strengthening and augmentation of sub-transmission and distribution infrastructure in rural areas, including metering of distribution transformers/feeders/consumers end, and
    3. rural electrification for completion the target laid down under Rajiv Gandhi Grameen Vidutikaran Yojana (RGGVY)for 121h and 13th Plans by subsuming RGGVY in DOUGY.

LPG Connections to Poor Household
- With the tagline "Swachh lndhan, Behtar Jeevan", Union Government launched a social welfare scheme "Pradhan Mantri Ujjwala Yojana" (PMUY) on 1st May 2016.
- The scheme is providing clean cooking fuel to poor households, especially in the rural areas to provide 5 crore to 8 crore deposit free LPG connections to the women of poor households.
- The scheme increases the usage of LPG and helped in reducing health disorders, air pollution and deforestation.
- Use of fossil fuels and conventional fuel like cow-dung, firewood etc. has serious implications on the health of the rural women and children.

The main feature of PMUY scheme are
- LPG connection is released in the name of an adult women of the poor family, subject to the condition that no LPG connection exists in the name of any family member of the family, including the applicant.
- under PMUY, cash assistance up to Rs.1600 is provided for releasing deposit free LPG connection, and (iii) the beneficiary bears the hot plate and the purchase of first refill.
- However, the beneficiary has an option to take the hot plate or the first refill or both on loan basis, from public sector oil marketing companies (OMCs) at zero interest rate.

Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya)
- **'Saubhagya'** a new scheme was launched on 25th September, 2017. Under the Saubhagya, free electricity connections to all households (both APL and poor families) in rural areas and poor families in urban areas will be provided.
- Rural Electrification Corporation (REC) has been designated as nodal agency for the Saubhagya scheme to:
    a. provide last mile connectivity and electricity connections to all un-electrified households in rural areas.
    b. provide Solar Photo Voltaic (SPV) based standalone system for un-electrified households located in remote and inaccessible villages/habitations where grid extension is not feasible or cost effective.

PM-KUSUM

- The "annadata" can be "urjadata" as well. With this noble thought, the PM-KUSUM scheme has the objective of increasing farmers' income, providing reliable source for irrigation and de-dieselize the farm sector, removing farmers' dependence on diesel and kerosene and linking pump sets to solar energy.
- It is also proposed to expand the scheme to provide 20 lakh farmers for setting up stand-alone solar pumps.
- Further the government shall also help another 15 lakh farmers solarise their grid-connected pump sets.
- In addition, a scheme to enable farmers to set up solar power generation capacity on their fallow/ barren lands and to sell it to the grid would be operationalized.

Social and Commercial Infrastructure

Pradhan Mantri Awaas Yojana (Gramin)

- Under the "Housing for All by 2022" slogan, the Government has initiated the Pradhan Mantri Awaas Yojana-Gramin (PMAY-G) scheme w.e.f 1st April, 2016 to provide pucca houses to all rural homeless and those households living in kutcha and dilapidated houses.
- In addition to the rural housing, the Government of India has also aimed at providing a dignified life to the beneficiaries by providing basic amenities such as improved sanitation, piped drinking water, electricity & gas connection, etc. under convergence with existing Central and State sponsored schemes.
- It is to be mentioned that the government of India has given a study to the reputed institute, the National Institute of Public Finance and Policy (NIPFP) to critically examine the scheme at macro as well as micro economic impact of the PMAY-G on the economy as well as on the beneficiaries' livelihood.
- The survey suggests that the introduction of Direct Benefit Transfer (DBT)in the programme has improved the financial inclusion in rural areas. There has been an increase in the use of banking services among the PMAY-G households through the usage of ATM cards and withdrawal slips during the construction period and post-construction as compared to the pre-construction period.
- It was reported that due to pucca house that can withstand all weather conditions, a considerable reduction in open defecation post-PMAY-G, usage of the toilet and floor cleaners, etc., have led to clean and hygienic conditions, which led to an improved health status of the PMAY-G household members.
- It is also reported that there has been an improvement in the schooling of children of the households post-PMAY-G period in terms of both enrolment and performance at school owing to pucca house that can withstand all weather conditions, electricity, and availability of other basic amenities.
- It was also observed that owning a pucca house had a positive impact on the beneficiary's perception about living their lives with dignity and safety, and the majority of the beneficiaries felt a significant improvement in terms of social inclusion as well.

Water and Sanitation

- The government is proposing comprehensive measures for one hundred water stressed districts. A very focused safe water (JalJeevanMission) and comprehensive sanitation program (Swachchh Bharat Mission) have been launched to support the health vision. That would reduce the disease burden on the poor.

JalJeevanMission (HarGharJal)

- JalJeevan Mission, is aiming to provide piped water supply to all households.
- The government has approved Rs.3.60lakh crore for this Mission.
- It envisioned to provide safe and adequate drinking waterthrough individual household tap connections by 2024 to all households in rural India.
- The programme also implements source sustainability measures as mandatory elements, such as recharge and reuse through grey water management, water conservation, rain water harvesting.
- The **JalJeevanMission** will be based on a community approach to water and will include extensive Information, Education and communication as a key component of the mission.

Swachh Bharat Mission (Grameen)

- Under the mission (SBMG), all villages, Gram Panchayats, Districts, States and Union Territories in India declared themselves "open-defecation free" (ODF) by 2"d October 2019, the 150th birth anniversary of Mahatma Gandhi, by constructing over 100 million toilets in rural India.

- To ensure that the open defecation free behaviours are sustained, no one is left behind, and that solid and liquid waste management facilities are accessible, the Mission is moving towards the next Phase-II of SBMG. ODF-Plus.
- ODF Plus activities under Phase-II of Swachh Bharat Mission (Grameen) will reinforce ODF behaviours and focus on providing interventions for the safe management of solid and liquid waste in villages.

Sewage Collection, Treatment and Disposal System
- The Government is committed to open defecation free (ODF) Plus in order to sustain ODF behaviour and to ensure that no one is left behind. Now, more needs to be done towards liquid and grey water management. Focus would also be on solid waste collection, source segregation and processing.

Communication
- The government's vision is that all "public institutions" at Gram Panchayat level such as Anganwadis, health and wellness centres, government schools, PDS outlets, post offices and police stations will be provided with digital connectivity.
- So, Fibre to the Home (FTIH) connections through Bharatnet had linked 100,000 gram panchayats. It was proposed to provide Rs.6000 crore to Bharatnet programme in 2020-21.
- Mapping of India's genetic landscape is critical for next generation medicine, agriculture and for bio-diversity management. To support this development, the government initiated national level Science Schemes, to create a comprehensive database.
- **BharatNet:** BharatNet is the world's largest rural broadband network project which is to provide broadband connectivity to all the 2.5 lakh gram panchayats (GPs)across India.
- The scheme implemented in two phases. The satellite component of Phase-II is being implemented by the Bharat Broadband Network Limited (BBNL) and BSNL. These all have been implemented through PPP model.
- The infrastructure schemes for the rural areas have improved the lives of the rural people in different ways and helped in reducing the poverty. People are connected to the nearest city centres and the district headquarters by road and also connected by electronic communication.
- By providing tap water to the households and rural road connectivity and housing, there is a visible improvement in the health indicators and school enrolment.
- Infrastructure has brought social and economic change among the rural households and empowered them to live their lives with dignity and safety with improved living standards.

Livestock: Key for Doubling Farmers' Income

Introduction
- Animal husbandry has been the most important integral part of Indian agriculture system since ancient time.
- This provides livelihood to two-third of the rural population, especially the landless and marginal farmers.
- That is why livestock is considered as a living bank for livestock owners and act as an insurance against natural calamities and crop failure.
- In the last two decades, livestock sector has emerged as one of the powerful economic engine in regulating Indian economy and livelihood of rural and fast growing semi-urban population.

Background
- The population explosion not only reduced the farm land availability but also has become less profitable for the farmers in India. Under this situation, livestock sector is showing huge potential for growth, investment, income and sustainability.
- Although the sector has only 5 percent share out of the total agricultural investment , still it is viable and exhibiting a promise for rising the income of farmers due to increase in the requirement of animal protein.
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- In the past few decades, it has been observed that the growth of the agricultural sector and the income from it, is not up to the mark indicating a steady decline in the agriculture in contribution to GDP.
  - On the other hand, livestock sector has substantially increased its share in the GDP and also showing further potential of acceleration particularly for the growth of rural economy.
  - India's livestock sector is one of the largest in the world.

- o In 2010-11, livestock generated outputs worth Rs. 2075 billion (at 2004-05 prices) which comprised 4 percent of the GDP and 26 percent of the agricultural GDP.

Recent Initiatives
- To promote livestock and fisheries sector, the Government of India, in 2019, created a new Ministry by merging the Department of Animal Husbandry, Dairy Development and Department of Fisheries and renamed as Department of Animal Husbandry, Dairying and Fisheries.
- To achieve the objectives of doubling the farmer's income through Livestock sector, the Government of India has launched several schemes/programmes viz., Rashtriya Gokul Mission, National Animal Disease Control Programme, Animal Husbandry Infrastructure Development Fund, Dairy Processing and Infrastructure Development Fund and National Programme for Dairy Development.

Challenges in Livestock Sector
- There are several challenges being faced by livestock sector which can be effectively filled to increase farmers' income.
  a. Large population of low-producing cattle (non-descript) is a big challenge, therefore genetic upgradation for improving annual milk yield of these non- descript animals is required.
  b. Breeding strategies with almost negligible pedigree record are the major hurdles of breed upgradation and animal selection for better productivity.
  c. Availability of pedigreed Bulls of indigenous cow.
  d. Infertility in Bovines
  e. Inadequate coverage of artificial insemination services along with qualified technical man power, particularly in rural and hilly areas
  f. Chronic shortage of feed along with quality of fodder is major obstacle for enhancing animal productivity.
  g. Escalating price of feed ingredient like maize
  h. Diversion of animal feed and fodder ingredients for industrial and human use.
  i. Inadequate disease control programmes including deficiency of vaccines of major diseases like FMD, Brucellosis, HS, BQ, PPR, infertility, parasitism and emerging diseases like IBR and Blue Tongue.
  j. Low interest of youth in animal husbandry because of low market place and lack of knowledge in the area of value addition of livestock products.
  k. Lack of proper policy and awareness resulted in reduced participation of rural mass in commercial animal husbandry practices.
  l. Poor policies for investment in livestock sector has been another obstacle.
  m. Low milk price with increased feed cost.
  n. Non-availability of chilling facility of milk in rural areas.
  o. Inadequate availability of credit.
  p. Poor access to organised market.

Future Roadmap
1. Enhancing the unit production of milk, meat and egg with better feeding, breeding and management practices.
2. Availability of affordable and quality feed and fodder through out the year.
3. Use of sex sorted semen for getting female animals.
4. Artificial insemination using semen from pedigreed bulls.
5. Effective and regular health coverage including timely vaccination.
6. Diagnosis of sub-clinical forms of diseases particularly sub-clinical mastitis to reduce the unit cost of animal production and health.
7. Integrated farming system along with implementation of biotechnology and its tool in animal production system.
8. Commercialisation of super ovulation and oestrus synchronisation practices in small animals.
9. Value addition of animal products and their effective marketing.
10. Proper marketing of milk along with establishment of Panchagavya units in rural areas.
11. Extensive establishment of Biogas units and commercialisation of organic farming system.
12. Integration of animal husbandry with fisheries
13. Establishment of cooperative units and ease in marketing and getting proper value of animal products.
14. Introduction of incentive for farmers for animal husbandry practices
15. Treatment of anoestrous and repeat breeders and reducing the inter-calving period

16. Encouraging the rearing of indigenous cow
17. More emphasis on green fodder production
18. Bridging the gap between the farmers and the market; farmers and the government; and farmers-market and the government and private-cooperate involvement
19. Strengthening of veterinary extension services
20. Execution of livestock related schemes run by central/state government for the benefit of farmers.
21. Ensuring marketing of animal products at the best profitable rate.
22. Fast, ease and prompt financial assistance from cooperative society/ banks to livestock farmers
23. Promotion of sustainable dairy farming system that allow proper and efficient use age of the resources, without being over-exploited.
24. Attraction of rural youth and women in animal husbandry enterprises.
25. Strengthening of veterinary and para- veterinary infrastructure.
26. Greenhouse gas management

Conclusion

- Doubling of farmers' income can only be possible if animal husbandry is integrated into agriculture and allied sectors with salient polices and their effective as well as timed implementation. Livestock sector requires adequate funding and its upgradation. There is a need to strengthen animal husbandry practices with more involvement of youth and private units for funding.

Recent Farm Bills

- The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020
  - Post 1991 liberalisation, the gap in the income of the farmers and non-farm worker has been growing wider reflecting that the benefits of the reforms in farm sector were too little and fragmented and could not boost the income of the farmers.
  - The agriculture census 2015-16 has put more than 86 percent farmers under small and marginal category with average holdings of 0.38ha to about 68.5percent farm households.
  - This means the likely surplus with them for offering to sale is low and much low to approach any APMC mandi individually due to lack of economy of scale.
  - **The FPTC Act, 2020 legalises all the transactions which were earlier put under the regulations and restriction by the APMCs. The direct purchase from the farmers at their farm as provided in the FPTC Act, 2020 will be empowering him to decide the price of his produce.**
- The State must encourage FPOs to become aggregators and in due course they will become active price negotiator rather than passive recipients of the price decided by the commission agents in the APMC mandis.
- **The Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Bill, 2020**
  - The APAFS Bill 2020 will facilitate an assured price to the farmers for his produce as mutually agreed between farmers and sponsor before the commencement of production operations, and the technologies, services and inputs on mutually agreed terms and conditions for the production of desired quality produce.
  - Further, the sponsor's role is limited to buy the produce at pre-decided price as agreed in advance and supplying the quality inputs and services to farmers as per the contract.
  - The sponsor neither permitted to lease-in the land of the farmers, nor he/she can erect any assets permanent nature on farmers' land or modifying it or acquiring the ownership rights.
  - The physical boundaries of the farmers land will remain intact so is his ownership rights.
  - The farmers will be the sole custodian 'of all production operations as well.

The Essential Commodities (Amendment) Act, 2020

- The ECA has been modified for agriculture and food stuffs.
- The supply of the commodities enlisted in ECA such as cereals, edible oils and oils can only be regulated under extraordinary circumstances like war, famine, extraordinary price rise and natural calamities.
- The transparent criterion has been laid down on imposing or regulating stock limits.
- The modifications in ECA will encourage the big investment in creating much needed infrastructure like warehouses, cold storages, pack houses, and logistics.