

GOVERNANCE**New Initiatives in Building Energy Efficiency**

Recently, "Aiming for Sustainable Habitat: New Initiatives in Building Energy Efficiency 2021" was launched by the Bureau of Energy Efficiency (BEE). These initiatives seek to enhance energy efficiency in the building sector and were launched as part of 'Azadi Ka Amrut Mahotsav'.

Bureau of Energy Efficiency

- The BEE is a statutory body established through the Energy Conservation Act, 2001 under the Union Ministry of Power.
- It assists in developing policies and strategies with the primary objective of reducing the energy intensity of the Indian economy.
- BEE coordinates with designated consumers, designated agencies, and other organizations to identify and utilize the existing resources and infrastructure, in performing its functions.

Key Points**Initiatives Launched:**

- **Eco Niwas Samhita 2021:**

1. It is an Energy Conservation Building Code for Residential Buildings (ECBC-R) to give a further fillip to India's energy conservation efforts.
2. It specifies code compliance approaches and minimum energy performance requirements for building services, and verification framework with Eco Niwas Samhita 2021.

- **Hand Book for Learning:**The web-based platform 'The Handbook of Replicable Designs for Energy Efficient Residential Buildings' as a learning tool, which can be used to create a pool of ready-to-use resources of replicable designs to construct energy-efficient homes in India.

- **Online Directory of Building Materials:**Creating an Online Directory of Building Materials that would envisage the process of establishing standards for energy efficient building materials.

- **NEERMAN Awards:**NEERMAN Awards, (National Energy Efficiency Roadmap for Movement towards Affordable & Natural Habitat) were announced, with the goal of encouraging exceptionally efficient building designs complying with BEE's Energy Conservation Building Codes.

- **Online Star Rating Tool:**

1. It provides performance analysis to help professionals decide the best options to pick for energy-efficiency of their homes.
2. It was launched for Energy Efficient Homes, created to improve energy-efficiency and reduce energy consumption in individual homes.

- **Training:**Training of over 15,000 Architects, Engineers and Government officials on Energy Conservation Building Code (ECBC) 2017 and Eco Niwas Samhita 2021.

Significance:

- The building sector is the second largest consumer of electricity after industry but it is expected to become the largest energy consuming sector by 2030.
- These initiatives will help enhance the energy-efficiency levels in residential buildings across the country, thereby leading to sustainable habitation. The initiatives will go a long way to make India more energy-efficient.

Energy Efficiency in India**Energy Efficiency:**

- Energy efficiency means using less energy to perform the same task – that is, eliminating energy waste.
- Energy efficiency brings a variety of benefits: reducing GreenHouse Gas (GHG) emissions, reducing demand for energy imports, and lowering our costs on a household and economy-wide level.

Transition:

- India's energy sector is set for a transition with recent developmental ambitions of the government e.g. 175 GW of installed capacity of renewable energy by 2022, 24X7 Power for all, Housing for all by 2022, 100 smart cities mission, promotion of e- mobility, electrification of railway sector, 100% electrification of households, Solarization of agricultural pump sets, and promotion of clean cooking.

Potential of Energy Efficiency:

- Energy Efficiency has the maximum GHG abatement potential of around 51% followed by renewables (32%), biofuels (1%), nuclear (8%), carbon capture and storage (8%) as per the World Energy Outlook (WEO 2010). World Energy Outlook (WEO) is the flagship publication of the International Energy Agency.
- India can avoid building 300 GW of new power generation up to 2040 with implementation of ambitious energy efficiency policies.

Positives: Successful implementation of Energy Efficiency Measures contributed to electricity savings of 7.14% of total electricity consumption of the country and emission reduction of 108.28 million tonnes of CO₂ during 2017-18.

Other initiatives to Promote Energy Conservation and Energy Efficiency:

- **PAT Scheme:**
 1. Perform Achieve and Trade Scheme (PAT) is a market based mechanism to enhance the cost effectiveness in improving the Energy Efficiency in Energy Intensive industries through certification of energy saving which can be traded.
 2. It is a part of the National Mission for Enhanced Energy Efficiency (NMEEE), which is one of the eight missions under the National Action Plan on Climate Change (NAPCC).
- **Standards and Labeling:** The scheme was launched in 2006 and is currently invoked for equipments/appliances Room Air Conditioner (Fixed/Variable Speed), Ceiling Fan, Colour Television, Computer, Direct Cool Refrigerator, Distribution Transformer, Domestic Gas Stove, General Purpose Industrial Motor, LED Lamps, Agricultural Pumpset, etc.
- **Energy Conservation Building Code (ECBC):**
 1. It was developed for new commercial buildings in 2007.
 2. It sets minimum energy standards for new commercial buildings having a connected load of 100kW (kilowatt) or contract demand of 120 KVA (kilovolt-ampere) and above.
- **Demand Side Management:**
 1. DSM is the selection, planning, and implementation of measures intended to have an influence on the demand or customer-side of the electric meter.

2. Geospatial Technologies for the Water Sector in India

Recently, the Association of Geospatial Industries released a report titled “Potential of Geospatial Technologies for the Water Sector in India”. The report mentions opportunities in the Water sector that can benefit from the use of Geospatial technologies. As the severity of the water crisis in India increases every year, central and state government agencies are using a variety of resources to tackle the water crisis. One among them is the adoption of Geospatial technologies.

Key Points

Overview of Water Sector in India:

- **Demand-Supply Mismatch:** India has about 17% of the world population, but only about 4% of the world’s freshwater reserves, and is currently facing a severe water challenge. Further, total capacity of India’s reservoirs stands at 250 billion cubic meters (bcm), while its total water bearing capacity over the surface is around 320 bcm.
- **Low Rate of Collection:** India receives 3,000 billion cubic metres of water every year through rainfall or other sources such as glaciers; of this, only 8% is collected.
- **Over-extraction & Over-reliance on Groundwater:** India fills groundwater aquifers at the rate of 458 bcm per year, while it extracts around 650 bcm of water from the earth.
 1. 89% of India’s water resources are used for agriculture, out of which 65% is withdrawn from under the ground.
 2. Thus, one of India’s biggest challenges is to conserve groundwater.
- **Water Stress:** As per a NITI Aayog report, currently nearly 820 million people in 12 major river basins of India face extreme water stress.
- **Qualitative Issue:** Adding to the issue of lack of water availability is the issue of water quality.
 1. Groundwater in one-third of India’s 600 districts is contaminated mainly through fluoride and arsenic.
 2. Further, there has been a 136% increase in the number of grossly polluting industries between 2011- 2018, according to the State of India’s Environment report, 2019.

Need to Conserve Water:

- Given the population density and requirement of water for agriculture, India is heavily dependent on groundwater and is one of the worst hit countries as far as the water crisis is concerned.
- Availability of clean water to all for personal, industrial, and agricultural use will not only ensure India reaches its vision of becoming a USD 5 Trillion economy but will also enable it to achieve the United Nations Sustainable Development Goals.

About Geospatial Technologies:

- Geospatial technologies is a term used to describe the range of modern tools contributing to the geographic mapping and analysis of the Earth and human societies.
- The term 'geospatial' refers not to one single technology, but a collection of technologies that help to collect, analyse, store, manage, distribute, integrate, and present geographic information.
- Broadly speaking, it consists of the following technologies:
 1. Remote Sensing
 2. GIS (Geographic Information System)
 3. GNSS (Global Navigation Satellite System)
 4. Survey
 5. 3D modelling
- **Benefits:** Geospatial technology enables better measurement, management, and maintenance of assets, monitoring of resources and even providing predictive and prescriptive analysis for forecasting and planned interventions.

Geospatial Technology for Water Sector: Geospatial and digital technologies like Satellite Based Remote Sensing, GPS Based Equipment and Sensors, Artificial Intelligence, Big Data Analytics, Internet of Things, 5G, Robotics and Digital Twin, can be effectively used to combat the water crisis.

Major Ongoing Water Projects in India:

Recognising the water crisis in India, the government of India formed a single ministry i.e Ministry of Jal Shakti. Previously, water was a subject which was dealt with by almost nine Ministries.

1. Jal Jeevan Mission
2. Dam Rehabilitation and Improvement Project (DRIP)
3. Namami Gange
4. National River Linking Project (NRLP)
5. Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
6. National Hydrology Programme
7. Pradhan Mantri Krishi Sinchayi Yojana (PMKSY)
8. National Aquifer Mapping and Management Programme (NAQUIM)
9. River Basin Management
10. Atal Bhujal Yojana (ABHY)
11. National Water Mission
12. Digital Twin

Way Forward

- **Long-term Geospatial Vision:** In order to derive maximum benefit from geospatial technology implementation in various programmes, user departments need to build a long-term vision of the outcomes of geospatial implementation.
- **Integrated Geospatial Platform:** An integrated collaborative platform to connect the data and technology used by various organizations need to be developed for seamless access to information both locally and nationally and enable decision making.
- **Data and System Integration:** Various datasets including demography, socio-cultural, economic, and other parameters need to be integrated with spatial and non-spatial data related to water, like soil moisture, annual rainfall, rivers, aquifer, groundwater levels, water quality etc.
- **Improving Water Use Efficiency:** Agriculture sector is the largest user of water resources in our country.
 1. They use 80-85% of water resources, while have only about 30-35% efficiency of water use.
 2. Geospatial technologies can be used for increasing water use efficiency, so that this can be increased to at least 50%.

- **Sharing of Best Practices:** A lot of good work has taken place in pockets within state governments or within programmes related to the water sector.
 1. A lot of knowledge exists that can help stakeholders to leverage from and not reinvent the wheel.
 2. A central repository of such a knowledge base, in the form of a Knowledge Portal can be created and maintained by the Ministry of Jal Shakti that includes case studies, best practices, tools, information on data sources etc.

SOCIAL ISSUE

Fighting Drug Menace

India has signed 26 bilateral pacts, 15 memoranda of understanding and two agreements on security cooperation with different countries for combating illicit trafficking of narcotic, drugs and psychotropic substances, besides chemical precursors.

Key Points

Drug Menace In India:

- The menace of drug addiction has spread fast among the youth of India. India is sandwiched between two largest Opium producing regions of the world that is the Golden triangle on one side and the Golden crescent on other. The golden triangle area comprises Thailand, Myanmar, Vietnam and Laos. The golden crescent area includes Pakistan, Afghanistan and Iran.
- According to the World Drug Report 2021, prescription drugs and their ingredients or 'precursors' are being increasingly diverted for recreational use in India--the largest manufacturer of generic drugs in the world. India is also linked to shipment of drugs sold on the 19 major darknet markets analysed over 2011-2020.
- As per the report Magnitude of Substance Use in India released by All India Institute Of Medical Science (AIIMS) in 2019:
 1. Around 5 crore Indians reported to have used cannabis and opioids at the time of the survey (conducted in the year 2018).
 2. It has been estimated that there are about 8.5 lakh people who inject drugs.
 3. Of the total cases estimated by the report, more than half of them are contributed by states like Punjab, Assam, Delhi, Haryana, Manipur, Mizoram, Sikkim and Uttar Pradesh.
 4. About 60 lakh people are estimated to need help for their opioid use problems.

Various Steps taken:

- **Coordination with Various International Organisations:**
 1. The Narcotics Control Bureau (NCB) coordinated with various international organisations for sharing information and intelligence to combat transnational drug trafficking.
 2. They included the SAARC, BRICS, Colombo Plan, ASEAN, BIMSTEC, United Nations Office on Drugs and Crime, and the International Narcotics Control Board.
- **Coordination among Various Central and State Agencies:**
 1. For this, the Narco Coordination Centre (NCORD) mechanism was set up by the Ministry of Home Affairs (MHA) in 2016 for effective drug law enforcement. This NCORD system was restructured into a four-tier scheme up to district level in July 2019, for better coordination.
 2. A Joint Coordination Committee with the NCB Director General as its chairman was set up in July 2019, to monitor the investigation into cases involving large seizures.
- **SIMS (Seizure Information Management System) Portal:** For digitisation of pan-India drug seizure data, the MHA launched an e-portal called 'SIMS' in 2019 for all the drug law enforcement agencies under the mandate of Narcotics Drugs and Psychotropic Substances Act (NDPS).
- **National Fund for Control of Drug Abuse:** It was constituted to meet the expenditure incurred in connection with combating illicit traffic in Narcotic Drugs; rehabilitating addicts, and educating the public against drug abuse, etc.
- **National Drug Abuse Survey:** The government is also conducting the Survey to measure trends of drug abuse in India through the Ministry of Social Justice & Empowerment with the help of National Drug Dependence Treatment Centre of AIIMS.
- **Project Sunrise:** It was launched by the Ministry of Health and Family Welfare in 2016, to tackle the rising HIV prevalence in north-eastern states in India, especially among people injecting drugs.
- **The Narcotic Drugs and Psychotropic Substances Act, (NDPS) 1985:**

1. It prohibits a person from producing, possessing, selling, purchasing, transporting, storing, and/or consuming any narcotic drug or psychotropic substance.
2. The NDPS Act has since been amended thrice – in 1988, 2001 and 2014.
3. The Act extends to the whole of India and it applies also to all Indian citizens outside India and to all persons on ships and aircraft registered in India.
- **‘Nasha Mukh Bharat’, or Drug-Free India Campaign:**It focuses on community outreach programs.

International Treaties and Conventions to Combat Drug Menace:

- **India is signatory of the following International treaties and conventions to combat the menace of Drug Abuse:**
 1. United Nations (UN) Convention on Narcotic Drugs (1961)
 2. UN Convention on Psychotropic Substances (1971).
 3. UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)
 4. UN Convention against Transnational Organized Crime (UNTOC) 2000

Way Forward

- While steps must be taken to stop supply by tamping down on cross-border trafficking, imposing harsher penalties under the NDPS Act, or improving drug enforcement, India must also address the problem on the demand side.
- Addiction should not be seen as a character flaw, but as an ailment that any other person could be struggling with. Therefore, the stigma associated with drug taking needs to be reduced. Society needs to understand that drug-addicts are victims and not criminals.
- Certain crop drugs which have more than 50% alcohol and opioids need to be contained. Strict action is required from police officers and the excise and narcotics department to curb the problem of drug menace in the country.
- Education curriculum should include chapters on drug addiction, its impact and also on de-addiction. Proper Counselling is another alternative.

INTERNATIONAL RELATION

China-led South Asian Initiative

Recently, Bangladesh has invited India to join the China-led South Asian initiative for Covid-19 vaccines and poverty alleviation. It includes the creation of the China-South Asian Countries Emergency Supplies Reserve, and a Poverty Alleviation and Cooperative Development Centre set up in China.

Key Points

About China-South Asian Initiative:

- **Members:** China, Afghanistan, Bangladesh, Nepal, Pakistan and Sri Lanka. India, Bhutan and the Maldives are the other SAARC countries that are not part of this initiative.
- **Intended Vision:** China has different kinds of strategic, maritime, political and ideological interests with different South Asian nations so it is increasing its engagements with each country on equal footing to counterbalance India.
- **India’s Stand:** Given continuing tensions over Chinese PLA aggression at the Line of Actual Control in Ladakh, India’s stand is that other bilateral relations cannot move ahead without a resolution of the boundary stand-off.

Associated Issues: This initiative seems to be China’s strategy to contain and undermine India’s role in South Asia. This can be reflected in the following arguments:

- **Minus-India Initiative:** Combinations of all SAARC member countries (other than India, Bhutan and Maldives) led some experts to suggest this was meant to be a “Minus India” initiative.
- **Diluting India’s Role in South Asia:** This initiative is one of China’s attempts to make inroads into South Asia. The Chinese push to this regional grouping comes also at a time when India has been reluctant to revive SAARC, turning its focus more on yet another regional bloc– BIMSTEC.
- **Countering Quad:** The China-led bloc could be its plan to create what some call a northern Himalayan Quad aimed at countering the US-led Quad of which India is an active member.

India’s Initiatives for South Asia:

- In early 2021, India - driven by its ‘Neighbourhood First’ policy and in its understanding of its role as the ‘net security provider’ of the region began providing Covid-19 vaccines on a

priority basis to its immediate neighbours (Vaccine Diplomacy). India is also helping with the training of health workers in some of these countries and the setting up of the infrastructure to administer the shots.

- Recently, India, Japan and Australia have formally launched the Supply Chain Resilience Initiative (SCRI). It aims to reduce dependence on China amid a likelihood of re-churning of supply chains in the Indo-Pacific region amid the Covid-19 pandemic.
- However, India for years has struggled to match the pace of Chinese investment in countries such as Sri Lanka, Nepal and the Maldives, where China is building ports, roads and power stations as part of its Belt and Road Initiative. Recently, the Regional Comprehensive Economic Partnership (RCEP), a mega trade bloc comprising 15 countries led by China has come into existence. It has kept the doors for India open.

Way Forward

- **Establishing a Border Commission:** Demarcation of Indian external boundaries is yet to be completed. Resolution of border disputes will pave way for stable regional integration. Thus, India must strive for resolution of borders by establishing a border commission.
- **Broader Lens of Foreign Policy Goals:** Integrating India's regional economic and foreign policy remains a major challenge. Therefore, India should resist compromising bilateral relationships with neighbours for short economic interests.
- **Improving Regional Connectivity:** Regional connectivity must be pursued with greater vigour while security concerns being addressed through cost-effective, efficient and reliable technological measures which are in use in other parts of the world.
- **Implementing Gujral's Doctrine:** India's neighbourhood policy should be based on the principles of Gujral Doctrine. This would ensure India's stature and strength cannot be isolated from the quality of its relations with its neighbours and there can be regional growth as well.

BIODIVERSITY & ENVIRONMENT

Polluted River Stretches

The Central Pollution Control Board (CPCB) in 2018 identified 351 polluted river stretches in India. CPCB study reveals that discharge of untreated wastewater is one of the main causes of river pollution. The assessment of water quality for identification of polluted river stretches found that 31 states and Union territories (UT) had rivers and streams that did not meet the water quality criteria.

Key Points

Findings of CPCB:

- **Concentration of Polluted River Stretches:** Almost 60% of polluted river stretches exist in eight states: Maharashtra, Assam, Madhya Pradesh, Kerala, Gujarat, Odisha, West Bengal and Karnataka. Maharashtra has the maximum number of polluted river stretches in the country.
- **Disproportionate Sewage Treatment:** The National Green Tribunal (NGT) in 2019 directed that 100% treatment of sewage needed to be ensured before 31st March, 2020. However, these states have sewage treatment capacity disproportionate to the sewage generated. According to the CPCB report National inventory of sewage treatment plants 2021, about 72,368 million litres per day (MLD) of sewage was generated against which operational treatment capacity was only 26,869 MLD in 2021.
- **Increasing Biological Oxygen Demand:** This huge amount of sewage is left untreated/partially treated and discharged directly into rivers and pollutes rivers by increasing the biological oxygen demand.

Biological Oxygen Demand

- Biological Oxygen Demand is the amount of dissolved oxygen needed by microorganisms to decompose organic matter (waste or pollutants) under aerobic reaction (in the presence of oxygen).
- The more organic matter there is (e.g., in sewage and polluted bodies of water), the greater is the BOD.
- Greater BOD, the lower the amount of dissolved oxygen available for higher animals such as fishes.
- The BOD is therefore a reliable gauge of the organic pollution of a water body.
- One of the main reasons for treating wastewater prior to its discharge into a water resource is to lower its BOD i.e. to reduce its need of oxygen and thereby lessen its demand from the streams, lakes, rivers, or estuaries into which it is released.

Dissolved Oxygen

- It is the amount of dissolved oxygen present in the water which is needed for aquatic life to survive. The quality of water increases with an increase in DO levels.
- A DO level of 5 mg/l or above is the recommended level for bathing in a river.

Other Reasons for Polluted Rivers:

- **Urbanization:** Rapid urbanization in India during the recent decades has given rise to a number of environmental problems such as water supply, wastewater generation and its collection, treatment, and disposal. Many towns and cities which came upon the banks of rivers have not given proper thought to the problem of wastewater, sewerage, etc.
- **Industries:** Unrestricted flow of sewage and industrial effluents into the rivers has adversely affected their purity. All these industrial wastes are toxic to life forms that consume this water.
- **Agricultural Runoff and Improper Agricultural Practices:** Traces of fertilizers and pesticides are washed into the nearest water-bodies at the onset of the monsoons or whenever there are heavy rains.
- **Amount of Flow of Rivers:** Impact on river water quality resulting from discharges of treated or untreated wastewater into the river will depend on the dilution offered by the quantum of flows in the river.
- **Religious and Social Practices:** Religious faith and social practices also add to the pollution of the rivers, especially Ganga.
 1. Dead bodies are cremated on the river banks. Partially burnt bodies are also flung into the river.
 2. Mass bathing in a river during religious festivals is another environmentally harmful practice.

Government Initiatives to Tackle Water Pollution:

- Recently, the National Green Tribunal (NGT) directed the Ministry of Jal Shakti to devise an appropriate National River Rejuvenation Mechanism for effective monitoring of steps to curb pollution and for rejuvenation of all polluted river stretches across the country.
- **National Water Policy (2012):** It aims to take cognizance of the existing situation, to propose a framework for creation of a system of laws and institutions and for a plan of action with a unified national perspective.
 1. Started by the Ministry of Water Resources, it highlights the importance of water for human existence as well as for economic development related activities.
 2. It suggests frameworks to conserve water resources through optimal, economical, sustainable and equitable means.
- **National Water Mission (2010):** It ensures integrated water resource management leading to water conservation, less wastage, equitable distribution forming better policies.
- **National Mission for Clean Ganga (NMCG):** It envisages a five-tier structure at national, state and district level to take measures for prevention, control, and abatement of environmental pollution in river Ganga. It aims to ensure continuous adequate flow of water so as to rejuvenate the river Ganga.
- **Namami Gange Project:** It integrates the efforts to clean and protect the Ganga River in a comprehensive manner.

Way Forward

- **Maintaining Minimum Flow of the River:** To maintain and restore the wholesomeness of the river (Aquatic ecosystem), there is a need to maintain the minimum flow. Minimum flow of the river is also important to discharge treated sewage.
- **Comprehensive Waste Management Policy:** There is a need for a comprehensive waste management policy that stresses the need for decentralised garbage disposal practices as this will incentivise private players to participate.
- **Bioremediation:** It is important that Bioremediation (i.e. use of microbes to clean up contaminated soil and water) is made compulsory for areas wherever they can be applied.
- **Behavioural Change:** To overhaul the waste management sector and induce the necessary behavioural change, citizen participation and engagement is the key.

IMPORTANT FACTS FOR PRELIM

Akash Missile System

Recently, the Defence Research & Development Organisation (DRDO) successfully flight-tested the New Generation Akash Missile (Akash-NG) and the Man Portable Anti Tank Guided Missile

(MPATGM). In June 2021 a new generation nuclear capable ballistic missile Agni-P (Prime) was successfully test-fired by the DRDO. In February 2021 India also successfully test-fired indigenously-developed anti-tank guided missile systems 'Helina' and 'Dhruvastra'.

Defence Research & Development Organisation

- It is the Research & Development wing of the Ministry of Defence, Govt of India, with a vision to empower India with cutting-edge defence technologies.
- It was established in 1958 after combining the Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).

Key Points

Akash Missile (Akash-NG):

- **About:**
 1. It is a surface-to-air Missile. It is a new variant of the Akash missile that can strike targets at a distance of around 60 km and fly at a speed of up to Mach 2.5.
 2. Once deployed, the Akash-NG weapon system will prove to be a force multiplier for the air defence capability of the Indian Air Force.
- **Development & Production:**
 1. Developed by Defence Research & Development Laboratory (DRDL), Hyderabad in collaboration with other DRDO laboratories.
 2. It is being produced by Bharat Electronics Limited (BEL) and Bharat Dynamics Limited (BDL).
- **Akash Missile:**
 1. Akash is India's first indigenously produced medium range Surface to Air missile that can engage multiple targets from multiple directions. The missile is unique in the way that it can be launched from mobile platforms like battle tanks or wheeled trucks. It has nearly 90% kill probability. The missile is supported by the indigenously developed radar called 'Rajendra'. The missile is reportedly cheaper and more accurate than US' Patriot missiles due to its solid-fuel technology and high-tech radars.
 2. It can engage targets at a speed 2.5 times more than the speed of sound and can detect and destroy targets flying at low, medium and high altitudes.
 3. The Akash missile system has been designed and developed as part of India's 30-year-old Integrated Guided-Missile Development Programme (IGMDP).

Man Portable Anti Tank Guided Missile:

- It is an indigenously-developed anti-tank guided missile. Anti Tank guided missile is a medium or long-range missile whose primary purpose is to destroy tanks and other armoured vehicles.
- It is a low weight, fire and forget missile. It is incorporated with state-of-the-art Miniaturized Infrared Imaging Seeker along with advanced avionics.
- It is launched using a tripod designed for a maximum range of 2.5 km with a launch weight of less than 15 Kg.
- Its successful test marked a major boost for the government's Atmanirbhar Bharat campaign and would strengthen the Indian Army.

Integrated Guided-Missile Development Programme :

- It was conceived by Dr. A.P.J. Abdul Kalam to enable India attain self-sufficiency in the field of missile technology.
- The 5 missiles (P-A-T-N-A) developed under this program are:
 1. **Prithvi:** Short range surface to surface ballistic missile.
 2. **Agni:** Ballistic missiles with different ranges, i.e. Agni (1,2,3,4,5)
 3. **Trishul:** Short range low level surface to air missile.
 4. **Nag:** 3rd generation anti-tank missile.
 5. **Akash:** Medium range surface to air missile.

2. New Vintage Vehicles Policy

Recently, the Ministry of Road Transport and Highways (MORTH) has made amendments to the Central Motor Vehicles Rules 1989. It has some special provisions for vintage vehicles that are over 50 years old.

Key Points

Definition of Vintage Vehicles: All two- and four-wheelers that are 50+ years old and have been maintained in their original form and which have not undergone any substantial overhaul, shall be defined as Vintage Motor Vehicles.

Regulation:

- These will not be driven for regular and commercial purposes and will have to get a special registration.
- Other than that, the owners can use their vintage cars in any way they wish - such as an exhibition, or a ride from time to time.
- The new registration rules say vehicles that are already registered can retain their original Registration Mark and fresh registrations will take place under a unique VA (Vintage) series.
- 1. Registration information will be on the Parivahan portal of the MORTH.
- 2. The registration certificate will be valid for 10 years, renewable thereafter.
- Sale and purchase of vehicles registered as vintage is permissible; the buyer and seller have to inform their respective State Transport Authorities.
- Vintage vehicles are insulated from the scrappage policy. If a vehicle is more than 15 years old but within 50 years, the owner can continue to keep it by passing fitness tests every five years.

Significance:

- No existing rules for regulating the process of registration across different states for Vintage Vehicle.
- The new rules will provide a hassle-free process for fresh registration.
- This is aimed at preserving and promoting the heritage of old vehicles in India.

DAILY ANSWER WRITING PRACTICE

Qns. Disasters are not an ‘act of God’ alone, but are also determined by human interventions. Comment. (250 Words)

Ans:

Introduction

- A disaster is a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources. Disasters such as earthquakes, Cyclones, Flood, Drought are natural and an act of God.
- However, concluding from events such as Chamoli Flash Floods 2021 and flood in Kedarnath in 2013, it wasn't actually the god but human interventions with the natural environment that led to severe losses.

Body

Disaster not only an act of God but human induced

- **Environmental degradation:** Removal of trees and forest cover from a watershed area have caused soil erosion, expansion of flood plain area in upper and middle course of rivers and groundwater depletion.
- **Developmental process:** Exploitation of land use, development of infrastructure, rapid urbanization and technological development have caused increasing pressure over the natural resources.
- **Political issues:** War, nuclear power aspirations, fight between countries to become super power and conquering land, sea and skies. These have resulted into a wide range of disaster events such as Hiroshima nuclear explosion, Syrian civil war, growing militarisation of oceans and outer space.
- **Industrialization:** This has resulted in warming of earth and frequency of extreme weather events has also increased.
- **No Stringent Policies:** Studies have flagged ice loss across the Himalayas has been rapidly melting thus increasing the dangers to densely populated catchments, but any hard and fast policy response has been lacking.
- **Lack of Proper Training Programs:** There were no awareness programs or training provided to the people about disaster management by the government in case of the recent Uttarakhand floods.
- **Ignorance by Government:** A 2012 expert group appointed by the government had recommended against the construction of dams in the Alaknanda-Bhagirathi basin, including on the Rishiganga and in “the periglacial zone,” but the recommendations were ignored. Similarly, ignorance of the Kerala government in terms of regulation of mining, quarrying and dam construction in ecologically sensitive places, led to massive floods and landslides in 2018 and 2019.
- **Ineffective Satellite Monitoring:** Despite possessing remarkable satellite capabilities, India still hasn't been able to use such imagery effectively for advance warning.

Way Forward

- **Budgetary Allocation:** A vital step should be explicitly including policies for climate mitigation in the government budget, along with energy, roads, health and education. Specifically, growth targets should include timelines for switching to cleaner energy.
- **Climate Adaptation:** Even if major economies speed up climate mitigation, such catastrophes will become more frequent due to the accumulated carbon emissions in the atmosphere. Climate adaptation is the way forward here.
- India's Central and State governments must increase allocations for risk reduction, such as agricultural innovations to withstand droughts.
- In case of fire prone areas, an area can be divided into pockets so as to prevent any massive spread of fire.
- **Detailed Studies:** Detailed studies should be conducted to understand which of the regions are prone to disasters. Such research should feed into Environmental Impact Assessment reports and guide decisions on developmental projects.
- **Setting up Early Warning Systems:** This has to be coupled with plans to quickly evacuate local communities to safer regions. Any disaster events do not occur all of a sudden; there are ample indications which, if monitored earlier, can help save a significant number of lives and other damages.

Conclusion

Disasters can not be stopped but well-preparedness and strong climate change mitigation policies can definitely help prevent a huge amount of loss.

DAILY QUIZ

Q1. Recently, 'Article 43 B' and 'Part IX B' of the Constitution of India were in news are related to:

- Uniform civil code
- Direct benefit transfer
- Local bodies general election
- Cooperative societies**

Q2. In the Bhima Koregaon caste violence case, highlighting the issue of undertrials, the Bombay High Court has said that "speedy trial is a fundamental right". Which of the following in the Constitution of India correctly and appropriately imply the above statement?

- Article 19 and the Directive Principles of state Policy in Part IV.
- Article 21 and freedom guaranteed in part III.**
- Article 23 and the provisions under the 42nd Amendment to the Constitution
- Article 24 and provisions under the 44th Amendment to the constitution.

Q3. Consider the following statements:

- The New Shepard is the "reusable suborbital rocket".
- The rocket system is built by Amazon.

Which of the given above statements is/are correct?

- 1 only**
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q4. Which of the following has setup 'Dairy Investment Accelerator' under its Investment Facilitation Cell?

- NITI Aayog
- Indian Council of Agricultural Research
- Department of Animal Husbandry & Dairying**
- None of the above

Q5. Consider the following statements:

- Dal is a lake in Srinagar.
- It is near the source of the Nubra River.

Which of the given above statements is/are correct?

- 1 only**
- 2 only
- Both 1 and 2
- Neither 1 nor 2