Prelim Bits 21-07-2021 | UPSC Daily Current Affairs

Impact of Climate Change

- People around the world have been doubly hit by the pandemic and extreme weather events which have been fuelled by climate change.
- **2021 is a Year of Extreme Weather Events** - Among the extreme weather events across the world this year are,
    1. Unprecedented heat wave that drove temperatures across Canada and parts of the US to a record high,
    2. Extreme floods in Germany that killed over 180 people;
    3. Cyclones Tauktae and Yaas that hit India's west and east coasts;
    4. New South Wales (Australia) floods were the worst flooding on the mid-north coast since 1929.
- Extreme weather events like more powerful heat waves, extreme rainfall, droughts, etc., are likely to become more frequent or more intense with rising anthropogenic climate change.
- Rising temperatures will have far-reaching consequences, like impact on food security, health, the environment and sustainable development.

Reports

- Carbon dioxide in the atmosphere at 419 parts per million (ppm) in May 2021 was the highest level in 63 years. This was recorder in the NOAA's Mauna Loa Atmospheric Baseline Observatory using Keeling Curve.
- According to the NOAA's Climate Extremes Index, the area in the Southwest are experiencing extremely high temperatures in summer over the last 20 years, with very little relief in the last six years.
- According to the Climate Science Special Report, global temperatures are likely to continue to increase due to the release of greenhouse gases.
- According to a report, temperatures at the Earth's poles are rising at two to three times the temperature at the equator. This weakens the jet stream of the mid-latitudes, situated over Europe.
- During summer and autumn, the weakening of the jet stream has a causal effect resulting in slower-moving storms. This can result in more severe and longer-lasting storms with increased intensity.
- A 2016 study stated that human-induced global warming has contributed to the increased frequency and intensity of cyclonic storms over the Arabian

Sea.
    - Indian Ocean is heating up at a faster pace in comparison to the Pacific or the Atlantic.
    - Western parts of the Indian Ocean are warming up even more.
- Many studies have found that a rise in the temperature of the sea surface is related to the changes in the intensity and frequency of cyclones.

SMILE Scheme

- Ministry of Social Justice and Empowerment has framed the SMILE scheme (Support for Marginalized Individuals for Livelihood and Enterprise scheme).
- This Scheme includes a sub scheme - 'Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging'.
- This Scheme covers several comprehensive measures including welfare measures for persons who are engaged in the act of begging.
- The focus of the scheme is extensively on rehabilitation, provision of medical facilities, counselling, basic documentation, education, skill development, economic linkages and so on.
- **Implementation** - The scheme would be implemented with the support of State/UT Governments/Local Urban Bodies, Voluntary Organizations, Community Based Organizations (CBOs) and others.
- **Shelter Homes** - Scheme provides for the use of the existing shelter homes available with the State/UT Governments and Urban local bodies for rehabilitation of the persons engaged in the act of Begging.
- In case of non-availability of existing shelter homes, new dedicated shelter homes are to be set up by the implementing agencies.
- **Pilot projects** are initiated on Comprehensive Rehabilitation of Persons engaged in the act of Begging in ten cities.
- The ten cities are Delhi, Bangalore, Chennai, Hyderabad, Indore, Lucknow, Mumbai, Nagpur, Patna and Ahmadabad.

Pradhan Mantri Gram Sadak Yojana

- Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched as a one-time special intervention to provide **rural connectivity**, by way of a single all-weather road.
- **Main features of PMGSY** -
    1. Decentralized and evidence based planning, standards and specifications as per Indian Road Congress (IRC) and Rural Roads Manual,
    2. Dedicated implementation mechanism at central, state and district level,
    3. Scrutiny of Detailed Project Reports (DPRs) at multiple levels,
    4. Strong IT backbone for monitoring and implementation of the

programme,
5. Three-tier quality management system, unbroken flow of funds,
6. Inbuilt mechanism for consultation with public representatives at planning, selection of roads and monitoring stages, etc.

- Rural connectivity is provided to the eligible unconnected habitations of designated population size in the core network for uplifting the socio-economic condition of the rural population.
    - Population size is 500+ in plain areas and 250+ in North-Eastern States, Himalayan States and Himalayan Union Territories (as per the 2001 Census).
- **Relaxation** has been provided to the Tribal (Schedule V) areas and Selected Tribal and Backward Districts (as identified by the Ministry of Home Affairs and the Planning Commission)
    - Unconnected habitations in these areas with a population of 250 persons and above in the Core Network are eligible for connectivity
- In the critical Left Wing Extremism affected blocks (identified by Ministry of Home Affairs), additional relaxation has been given to connect habitations with population 100 persons and above.
- **PMGSY- II** was launched in 2013, with a target to upgrade 50,000 Kms of the existing rural road network to improve its overall efficiency as a provider of transportation services for people, goods and services.
- **RCPLWEA** - Road Connectivity Project for Left Wing Extremism Affected Areas (RCPLWEA) was launched in 2016.
- RCPLWEA was launched for construction/upgradation of strategically important roads chosen in the 44 worst affected LWE districts and adjoining districts in the 9 States.
- [Nine States - Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Telangana and Uttar Pradesh.]
- **PMGSY-III** (2019) was launched for consolidation of 1,25,000 Km through Routes and Major Rural Links connecting habitations, to Gramin Agricultural Markets (GrAMs), Higher Secondary Schools and Hospitals.
- The implementation period of PMGSY-III is up to March, 2025.

National Livestock Mission

- National Livestock Mission (NLM) proposes to bring sharp focus on entrepreneurship development and breed improvement in rural poultry, sheep, goat and piggery including feed and fodder development.
- It was launched to ensure quantitative and qualitative improvement in livestock production systems and capacity building of all stakeholders in 2014-15.
- It is being implemented as a sub scheme of White Revolution - Rashtriya

Pashudhan Vikas Yojana from April 2019.

- The NLM is organised into the following four Sub - Missions:
  - Sub -Mission on Livestock Development,
  - Sub - Mission on Pig Development in North-Eastern Region,
  - Sub - Mission on Feed and Fodder Development and
  - Sub -Mission on Skill Development, Technology Transfer and Extension.
- Rural Poultry Entrepreneurship component will give direct employment to 1.5 lakh farmers for sheep goats and poultry development.
- Livestock Census and Integrated Sample Survey component will support states for undertaking Livestock Census and for bringing out production estimates of milk, meat, egg and wool.
- Livestock Health and Disease Control will be implemented to,
  - Reduce risk to animal health by prophylactic vaccination against diseases of livestock and poultry,
  - Capacity building of Veterinary services, disease surveillance and strengthening veterinary infrastructure.
- During the next 5 years, Mobile veterinary clinics will be set up to deliver animal health services at doorstep of farmers engaged in Animal Husbandry.

National Project on Organic Farming

- National Project on Organic Farming (NPOF) is a Central Sector Scheme approved by the 10th Five Year Plan. The objectives of the NPOF are,
  1. Promotion of organic farming in the country through technical capacity building of all the stakeholders.
  2. Statutory quality control of bio-fertilizers and organic fertilizers under the Fertilizer (Control) Order (FCO), 1985.
  3. Capacity building for soil health assessment, organic input resource management, technology development through support to research and market development.
  4. Capacity Building for low cost certification system known as “Participatory Guarantee System”.
- **Implementation** - NPOF is being implemented by National Centre of Organic Farming at Ghaziabad and its six Regional Centres at Bangalore, Bhubaneshwar, Hisar, Imphal, Jabalpur and Nagpur.
- Besides working for realisation of targets under NPOF, NCOF and RCOFs also performs specific roles in promotion of organic farming.
- **CISS** - The Capital investment Subsidy Scheme (CISS) is a sub scheme under the National Project on Organic Farming (NPOF).
- Under CISS, 100% assistance is provided to State Government / Government agencies for setting up of mechanized fruit/vegetable market Agro waste compost production unit up to a maximum limit of Rs.190.00 lakh /unit (for

3000 Total Per Annum (TPA) capacity).
- For individuals/ private agencies, assistance up to 33% of cost limit to Rs 63 lakh/unit as capital investment is provided.

High Strength Metastable Beta Titanium Alloy

- This Alloy was developed by the Defence Metallurgical Research Laboratory (DMRL), a premier Hyderabad based laboratory of DRDO.
- It contains Vanadium, Iron and Aluminium (Ti-10V-2Fe-3Al) on industrial scale for applications in aerospace structural forgings.
- It is already being used by many developed nations as beneficial substitute for the relatively heavier traditional Ni-Cr-Mo structural steels to achieve weight savings.
- It is unique due to their higher strength, ductility, fatigue, and fracture toughness - making them attractive for aircraft structural applications.
- Their relatively lower lifetime cost, owing to superior corrosion resistance in comparison to steels, is an effective trade-off to justify the use of this expensive material in India too.
- Aeronautical Development Agency (ADA) has identified over 15 steel components which may be replaced by high strength-to-weight ratio Ti-10V-2Fe-3Al alloy forgings in the near future.
- The excellent forgeability of the alloy facilitates manufacture of intricately configured components for **aerospace applications** with potential for **40% weight savings**.

Source: PIB, The Indian Express

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