Prelim Bits 24-08-2021 | UPSC Daily Current Affairs

Eco Sensitive Zone

Government of India has recognised the reserve forest area on the fringes of Nagarjunasagar Srisailam Tiger Reserve (NSTR) as an Eco-Sensitive Zone (ESZs).

- Also known as Ecologically Fragile Areas (EFAs), ESZs are areas notified around the Protected Areas, National Parks and Wildlife Sanctuaries by the MoEFCC under the Environment (Protection) Act, 1986.
    - But the word "Eco-Sensitive Zones" was not mentioned in this Act.
- **Coverage** - An ESZ could go up to 10 kms around a protected area as provided in the Wildlife Conservation Strategy, 2002.
- In the case of where sensitive corridors, connectivity and ecologically important patches are crucial for landscape linkage are beyond 10 km width, they should be included in the ESZs.
- **Permitted activities** - Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.
- **Regulated activities** - Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, widening of roads.
- **Prohibited activities** - Commercial mining, saw mills, industries causing pollution, establishment of major hydroelectric projects (HEP).
- It also prohibits commercial use of wood, Tourism activities, discharge of effluents or any solid waste or production of hazardous substances.
- **Benefits** - ESZs are created to prevent ecological damage caused due to developmental activities around the Protected Areas.
- They act as a transition zone from areas of high protection to that of lesser protection.

Nagarjunasagar Srisailam Tiger Reserve

- **Location** - NSTR is India's largest tiger reserve that is present in the Nallamala ranges of the southern Eastern Ghats (AP and Telangana).
- River Krishna cuts the basin of this reserve.
- Most area is hilly terrain with plateaus, ridges, gorges and deep valleys that support the tropical mixed dry and moist deciduous forests.
- **History** - NSTR was notified in 1978 and became a tiger reserve under the protection of Project Tiger in 1983.
- In 1992, it was retitled as Rajiv Gandhi Wildlife Sanctuary.
- Two wildlife sanctuaries constitute the reserve's core area,
    1. Rajiv Gandhi Wildlife Sanctuary and
    2. Gundla Brahmeswaram Wildlife Sanctuary (GBM).
- Multipurpose reservoirs in the reserve - Srisailam and Nagarjunasagar.

National Monetisation Pipeline (NMP)

This asset monetisation pipeline of Central ministries and public sector entities has been launched by the Ministry of Finance.

- NMP aims to enable **'Infrastructure Creation through Monetisation'** wherein the public and private sector collaborate to deliver socio-economic growth and quality of life to the citizens.
- It will serve as a medium-term roadmap to identify monetisation-ready projects, across different infrastructure sectors.
- It has been developed by NITI Aayog, in consultation with infrastructure line ministries, based on the mandate for 'Asset Monetisation' under Union Budget 2021-22.

Asset monetisation is a funding mechanism, based on the philosophy of Creation through Monetisation, aimed at tapping private sector investment for new infrastructure creation.

- NMP's objective is to **unlock the value of investments in brown-field public sector assets** by tapping institutional and long-term patient capital, which can be leveraged for further public investments.
- Such unlocking can be done by way of structured contractual partnership as against privatization or slump sale of assets.
- **Instruments** - Assets and transactions identified under the NMP are expected to be rolled out through a range of instruments.
- These include direct contractual instruments such as
    1. Public private partnership concessions and
    2. Capital market instruments like Infrastructure Investment Trusts (InvIT).
- Choice of instrument will be determined by the sector, nature of asset, timing of transactions, target investor profile and level of operational/ investment control envisaged to be retained by the asset owner etc.

NMP estimates aggregate monetisation potential of Rs 6.0 lakh crores through core assets of the Central Government, over a 4-year period (FY 2022 to FY 2025).

- **Framework** - Currently, only assets of central government line ministries and CPSEs in infrastructure sectors have been included for monetization.
- Monetization through disinvestment and monetization of non-core assets have not been included in the NMP.
- Process of coordination and collation of asset pipeline from states is currently ongoing and the same will be included in due course.
- The framework for monetisation of core asset monetisation has 3 key imperatives.



- The primary ownership of the assets under these structures continues to be with the Government with the framework envisaging hand back of assets to the public authority at the end of transaction life.
- **Implementation** - An empowered Core Group of Secretaries on Asset Monetization (CGAM) under the Cabinet Secretary has been constituted.

- CGAM was constituted as a part of a multi-layer institutional mechanism for overall implementation and monitoring of the NMP.

Global Hunger Index (GHI)

India's ranking in the GHI has improved consistently over the years.

- GHI is an annual Report brought out by **Concern Worldwide** and **Welthungerhilfe.**
- Four indicators of GHI are,

Indicators	Definition	Calculation	Indicator Reflects
Under nourishment	People whose caloric intake is insufficient	Share of the population that is under nourished	Inadequate food availability
Child Wasting	People who have low weight for their height	Share of the children under the age of 5 who are wasted	Acute under nutrition
Child Stunting	People who have low height for their age	Share of children under the age of 5 who are stunted	Chronic under nutrition
Child Mortality	Mortality rate of children	Mortality rate of children under the age of 5	Both inadequate nutrition and unhealthy environment

- **Scoring** - Based on the values of the four indicators, the GHI determines hunger on a 100-point scale where 0 is the best possible score (no hunger) and 100 is the worst.
- A final score is calculated after giving 33.33% weight each to components 1 and 4, and giving 16.66% weight each to components 2 and 3.
- Each country's GHI score is classified by severity, from low to extremely alarming.

JAXA's Aim to Bring Mars Samples Soon

Japan Aerospace Exploration Agency (JAXA) has planned to bring soil samples from the Mars ahead of the US and China.

- JAXA plans to launch an explorer in 2024 to land on Phobos, a Martian moon, to collect 10 grams of soil and bring it back to Earth in **2029**.
- It believes that about 0.1 % of the surface soil on Phobos came from Mars, and 10 g could contain about 30 granules.
- Collecting samples from multiple locations on Phobos could provide a greater chance of obtaining possible traces of life from Mars than obtaining soil from a single location on Mars.

  JAXA mission is based on the fact that any life forms that may have come from Mars will have died because of harsh solar and cosmic radiation on **Phobos**.

  But, NASA and the European Space Agency missions focus on potential life forms and evolution of the **Jezero crater**, an ancient Martian lake.

- By studying Phobos soil samples including material from Mars, scientists hope to learn about the evolution of the Martian biosphere.

- To know about other Mars Missions (NASA, China, UAE), click here.

Great Unconformity of the Grand Canyon

A new study comes closer to solving a puzzle called the "Great Unconformity" of the Grand Canyon.

- First noted by John Wesley Powell in 1869, the Great Unconformity is one of the most well-known geologic features of the Grand Canyon.
- It is a **missing gap of time** (more than 1 billion years) in the **rock record** of the Canyon that covers almost 2 billion years of Earth's past.
- The new study reports that a series of small yet violent faulting events may have rocked the region during the breakup of an ancient supercontinent called Rodinia.
- The resulting havoc likely tore up the earth around the canyon, causing rocks and sediment to wash away and into the ocean.
- These findings could help fill in missing pieces of what happened during this critical period for the Grand Canyon.

Thermo Chronology

- In the above study, to explore the transition in the rock layers, a method called 'thermo chronology' was employed.
- Thermochronology is the science and practice of inferring thermal histories of minerals and rocks from chemical, isotopic, or physical properties of minerals that are sensitive to both temperature and time.
- It tracks the history of heat in stone.
- When geologic formations are buried deep underground, the pressure building on top of them can cause them to get toasty.
- That heat, in turn, leaves a trace in the chemistry of minerals in those formations.

Source: PIB, The Hindu, The Indian Express, Science Daily, Science Direct

SHANKAR IAS PARLIAMENT
Information is Empowering