Geospatial Technology

GEOSPATIAL TECHNOLOGY

GT facilitates the process of capturing/storing/ processing/ displaying/ disseminating information tied to a location (static or dynamic)

TECHNOLOGIES UNDER GT

- **Remote sensing** – Detecting/monitoring the physical characteristics of an area typically from satellite or aircraft
- **Global Positioning System (GPS)** – A satellite navigation system to determine the ground position of an object
- **Geographic Information System (GIS)** – Computer system for capturing, storing and displaying data related to positions on Earth's surface
- **3-D Modelling** – Creating three-dimensional representations of an object or a surface

APPLICATIONS OF GT

- Climate Change and Disaster Management (Ex - Advance Warnings)
- Earth Observation Capabilities (Ex- Vegetaion, water quality)
- Healthcare (Ex- Monitoring contact tracing)
- Societal Problems (Ex-Education, livelihood, financial inclusion)
- Logistics (Ex- Tracking goods)
- Real estate (Ex- Analyzing real estate objects remotely)

INDIA'S GEOSPATIAL SECTOR

- *GEOSPATIAL ECONOMY*
  - ◆ Expected to cross ₹63,000 crore by 2025
  - ◆ Growth rate of 12.8%
- *National Geospatial Policy 2022*
  - ◆ **Geospatial Data Promotion and Development Committee** (apex body to be formed)
  - ◆ **DST to be the nodal dept.** of GT; GDPDC will recommend DST
  - ◆ **Milestones to Achieve:**
    - By 2030 - High resolution topographical survey and mapping
    - By 2035 - National Digital Twin (virtual replica) of major cities/towns

The **Digital India** vision areas has a specific focus on leveraging Geospatial Information Systems (GIS) for decision support systems & development

The **Smart Cities** and **AMRUT (500 cities)** both have a prospective centralised information system based on GIS that would integrate every aspect from conceptualisation, planning and development to maintenance.

National Afforestation Programme clearly mandates use of Remote Sensing and Geographic Information Systems for planning and subsequent project monitoring

The **National Mission for clean Ganga** deals with extensive spatial data and analysis for the Ganga basin

Geospatial Technologies provide a holistic approach to **interlinking of rivers** based on existing geoinformatics tools and techniques

North Eastern Region Urban Development Programme talks about extensive use of Geospatial Technologies for planning & management of water supply, sewerage and sanitation as well as solid waste management.

Delhi Mumbai Industrial Corridor Project is implementing Remote Sensing, GIS and ITES for perspective planning and nodal planning of the Corridor.