Prelim Bits 03-04-2019

MH 60R Multi Mission Helicopters

- The United States Department of State has approved the sale of 24 MH-60R multi-mission helicopters to India under its Foreign Military Sales (FMS) program.
- MH 60R helicopters will provide India the capability to undertake anti-surface and anti-submarine warfare missions.
- These helicopters will also provide India the ability to perform secondary missions, including vertical replenishment, search and rescue, and communications relay.
- It is to be noted that India was granted with USA's unique Major Defense Partner (MDP) designation in 2016, a step towards India accessing U.S. military technology at a level on a par with those of the U.S.'s closest allies.
- In 2018 India was then given Strategic Trade Authorisation-1 (STA-1) status by the U.S and became the third Asian country after South Korea and Japan (and 37th country globally) to acquire it.

COMCASA Agreement

- India has signed the Communications Compatibility and Security Agreement (COMCASA) agreement with the U.S.
- The agreement will providing a legal basis for the U.S. to transfer secure communication equipment to India, increasing military equipment interoperability and real time data sharing.
- COMCASA is an India-specific version of the Communication and Information on Security Memorandum of Agreement (CISMOA).
- Few other agreements signed by India with US are General Security of Military Information Agreement (GSOMIA) and Logistics Exchange Memorandum of Agreement (LEMOA) in 2016.
- India is yet to sign Basic Exchange and Cooperation Agreement for Geo-spatial Cooperation (BECA) with USA.

Terra Instruments

- NASA's Terra Instruments collects data about the Earth's bio-geochemical and energy systems using five sensors that observe the atmosphere, land surface, oceans, snow and ice, and energy budget.

- Each sensor has unique features that enable scientists to meet a wide range of science objectives.
- The five Terra onboard sensors are:

1. ASTER (Advanced Spaceborne Thermal Emission and Reflection Radiometer)
2. CERES (or Clouds and Earth's Radiant Energy System)
3. MISR (Multi-angle Imaging SpectroRadiometer)
4. MODIS (Moderate-resolution Imaging Spectroradiometer)
5. MOPITT (Measurements of Pollution in the Troposphere)

- All five instruments will be placed on a same satellite and make simultaneous observations, through which scientists are able to compare different aspects of Earth's characteristics over time.

MODIS

- MODIS is ideal for monitoring large-scale changes in the biosphere that are yielding new insights into the workings of the global carbon cycle.
- MODIS measures the photosynthetic activity of land and marine plants (phytoplankton) to yield better estimates of how much of the greenhouse gas is being absorbed and used in plant productivity.
- MODIS' bands are particularly sensitive to fires; they can distinguish flaming from smoldering burns and provide better estimates of the amounts of aerosols and gases fires release into the atmosphere.
- Due to this feature Forest Survey of India uses MODIS for detecting forest fires in India.
- MODIS also sees changes in the Pacific phytoplankton populations that may signal the onset of the famous El Niño/La Niña climatic siblings well ahead of their arrival.

List of ISRO's Satellite

- **RISAT -** Radar Imaging Satellite (RISAT) is a series of all-weather earth observation satellites.
- **GISAT -** GEO Imaging Satellite or GISAT is a planned Indian geo-imaging satellite for providing images quickly during disasters.
- **GSAT -** The GSAT satellites are India's indigenously developed communications satellites, used for digital audio, data and video broadcasting.
- **IRNSS -**Indian Regional Navigation Satellite System, with an operational name of NAVIC, is an autonomous regional satellite navigation system that provides accurate real-time positioning and timing services.
- **CARTOSAT -**The Cartosat series is a part of the Indian Remote Sensing Programme.

- They were specifically launched for Earth's resource management and monitoring.

Satellites Developed by DRDO

- **EMISAT -** Electro-Magnetic Imagining Satellite, will intercept radar signals and detect the kind of radar and its location.
- **Microsat R -**Microsat-R was an earth observing satellite manufactured for military use.

KandhamalHaldi

- Recently Odisha's KandhamalHaldi (turmeric) has received GI tag.
- The golden yellow spice, named after the district where it is produced, has been cultivated since time immemorial and is known for its medicinal value.
- Apart from medicinal value this turmeric is also used for cosmetic and domestic purposes.
- Turmeric is the main cash crop of tribal people in Kandhamal.
- About 50% of Kandhamal population are engaged in growing the variety.
- Few other important GI items of Odisha are Kotpad's handloom fabric, Konark stone work, Sambalpur Bandhasaree.

Source: PIB, The Hindu, Hindustan Times

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