Data from Chandrayaan-2 Released: ISRO

Why in News

Recently, the **Indian Space Research Organisation (ISRO)** has released the first set of data from the country's second mission to the Moon, the Chandrayaan-2, for the general public.

- India launched **Chandrayaan-2**, its second lunar exploration mission after **Chandrayaan-1,** from Satish Dhawan Space Centre, Sriharikota on **22nd July 2019.**
- **ISRO** is planning mission **Chandrayaan-3** in late 2021 or early 2022.

Key Points

- **Standard Requirement for Public Release of Data:**
  - The **Chandrayaan-2 data** is required to be in the **Planetary Data System-4 (PDS4) standard,** and is **required to be peer reviewed scientifically and technically** before acceptance as PDS archives and declared ready for sharing with the global scientific community and the general public.
  - This **activity has been completed** and hence the first set of data from the Chandrayaan-2 mission is now **being released for the wider public use through the PRADAN portal hosted by Indian Space Science Data Centre (ISSDC).**
    ISSDC is the nodal centre of planetary data archive for the planetary missions of **ISRO.**
- **Current Data:**
  The **ISRO Science Data Archive (ISDA)** currently holds data sets acquired by Chandrayaan-2 payloads from **September-2019 to February-2020** from seven instruments.
  ISDA is the **long-term archive** for ISRO planetary missions.
- **Data Implies:**
  All experiments have been performing well and the data received suggests excellent capability to deliver on the pre-launch promises.

Chandrayaan-2

- It is an integrated **3-in-1 spacecraft** of around 3,877 kg consisting of an **Orbiter** of the Moon, **Vikram** (after Vikram Sarabhai) - the lander and **Pragyan** (wisdom) - the rover, all equipped with scientific instruments to study the moon.
    - The Chandrayaan-2 was India's **first attempt to land on the lunar surface.**
    - ISRO had planned the **landing on the South Pole of the lunar surface.** However, **the lander Vikram hard-landed in September last year.** Its orbiter, which is still in the lunar orbit, has a **mission life of seven years.**
- **Objective:**
    - Try and build on the evidence of water molecules shown by Chandrayaan-1 and **study the extent and distribution of water on the Moon.**
    - Study **topography, seismography, composition of lunar surface and the lunar atmosphere.**
        - The study of **ancient rocks and craters** can offer indications of **origin and evolution of the Moon.**
        - The South Pole region of the Moon also contains clues to the fossil records of early solar systems. Thus, it can **improve our understanding of the early solar system as well.**
    - Map the lunar surface and prepare 3D maps of it.

Source:TH