

Chang e 5

January 13, 2021

In News

- The manoeuvre part of the ambitious Chang'e-5 mission – named after a mythical Chinese Moon goddess – **to bring back the first lunar samples in four decades.**
- A successful landing in Inner Mongolia would make China **only the third country to have retrieved lunar samples after the United States and the Soviet Union.**

Key Points

- **Launch:** The Long March-5 Y5 rocket, carrying the Chang'e-5 spacecraft, was launched from Wenchang Space Launch Center (China).
- The spacecraft is set to return to Earth around December 15, 2020.
- **Key Task of the Mission:** To drill 2 meters beneath the moon's surface and scoop up about 2 kilograms of rocks and other debris to be brought back to Earth.
- It will help scientists learn about:
 - Moon's origins,
 - Volcanic activity on its surface and its interior, and
 - When its magnetic field, key to protecting any form of life from the sun's radiation dissipated.

About Chang'e-5 probe:

- It is an unmanned spacecraft by China.
- The probe is named after the mythical Chinese moon goddess.
- The rocket comprises four parts: an orbiter, a returner, an ascender and a lander.
- The Chang'e-5 mission is expected to realize four "firsts" in China's space history:

- The first time for a probe to take off from the surface of the Moon.
- The first time to automatically sample the lunar surface.
- The first time to conduct unmanned rendezvous and docking in lunar orbit.
- The first time to return to Earth with lunar soil samples in escape velocity.

Significance Of Mission

If the mission is completed as planned, it would make China only the **third country to have retrieved lunar samples, joining the United States and the Soviet Union.**

- **The Apollo programme** (which first put men on the moon), the United States landed 12 astronauts over six flights from 1969 to 1972, bringing back 382 kg of rocks and soil.
- **The Soviet Union Lead Luna:** Deployed three successful robotic sample return missions in the 1970s. The last, the Luna 24, retrieved samples in 1976 from Mare Crisium, or “Sea of Crises” – a lunar basin.
- **The Apollo-Lunar sample zone of the moon**, while critical to our understanding, was undertaken in an area that comprises far less than half the lunar surface.
- **Subsequent data from orbital remote sensing missions** have shown a wider diversity of rock types, mineralogies and ages than represented in the Apollo-Luna sample collections.

Do you know?

- Early in 2019, China’s Chang’e-4 probe successfully transmitted images from the far side of the Moon, also referred to as the dark side.
- This was the first probe to land in this portion of the Moon.