

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE**

LOK SABHA

UNSTARRED QUESTION NO. 329

TO BE ANSWERED ON WEDNESDAY, JULY 24, 2024

INITIATIVE TO STUDY THE ASTEROIDS

329. SHRI T R BAALU:

Will the PRIME MINISTER be pleased to state:

- (a) whether ISRO has launched a new initiative to study the asteroids in space and if so, the details thereof;**
- (b) the extent to which the studies would help India and the world to avert the asteroids that are threatening to hit Earth in the near future; and**
- (c) the details of progress made so far in this regard?**

ANSWER

**MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC
GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE**

(DR. JITENDRA SINGH):

- a) ISRO, as part of IS40M (ISRO System for Safe and Sustainable Space Operations Management) activities, has initiated efforts for capacity building in the area of asteroid observation and planetary defence, the latter aims to protect the planet Earth against any catastrophic asteroid impact threat. Preliminary**

observational campaigns have been conducted to observe the asteroids using the existing astronomical telescopes within India. Ultimately, dedicated telescopes for asteroid observations, subsequent analysis to determine the asteroid's path and characterisation of the asteroid's composition, size shape etc. for impact risk analysis and advance warning are envisaged as part of this efforts. ISRO also looks forwards to join IAWN (International Asteroid Warning Network) and SMPAG (Space Mission Planning Advisory Group), these two entities function under the auspices of the United Nation for engaging in scientific research related to the impact potential of asteroid and to coordinate a global level effort for mitigating any impact hazard, respectively. Through the memberships, ISRO will benefit from the interactions with professionals and have access to the latest technological developments related to asteroid study and impact risk mitigation.

As part of awareness raising and engage academic community, the international asteroid day was celebrated at ISRO headquarters where 100 students participated in the interactive sessions and several eminent experts from JAXA and ESA delivered technical talks.

- b) India's geographic location offers a unique vantage point for asteroid observation which can help bridge existing gap in asteroid observation. There is a host of Indian astronomical observatories which has the capability to detect asteroid, though dedicated facilities are desirable. ISRO can significantly contribute by detecting new asteroids as well as**

by providing follow-up observations that are crucial to refine the knowledge of asteroids' paths. With its matured technical prowess, ISRO can significantly contribute to global planetary defence efforts by providing scientific payloads, tracking support, analysis support, etc. In future, ISRO has plans to collaborate with other space agencies like NASA, ESA and JAXA on planetary defence related activities.

- c) ISRO participated as observers in IAWN and SMPAG annual meetings and showcased its potential capabilities which were well received.**

Discussion for collaboration with ESA (European Space Agency) for RAMSES (Rapid Apophis Mission for Security and Safety) for Apophis flyby monitoring is also in progress. Subsequent meetings involving the respective teams of scientists are expected to firm up the specific areas where the organisations can complement each other's strengths.
