

**GOVERNMENT OF INDIA
SPACE
LOK SABHA**

UNSTARRED QUESTION NO:1979
ANSWERED ON:08.03.2006
SPACE DEBRIS
Singh Kunwar Rewati Raman

Will the Minister of SPACE be pleased to state:

- (a) whether more than 9000 pieces of space debris orbiting the earth pose dangers that can get worse in the next few years;
- (b) if so, the details thereof;
- (c) whether the Government has formulated any plans to address the said problem; and
- (d) if so, the details thereof?

Answer

MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI PRITHVIRAJ CHAVAN):

(a)&(b) About 9000 catalogued objects, which are objects larger than 10-20 cm in diameter for Low Earth orbits and about 1 m in the higher orbits, are in orbit. Out of these, only 5% are operational spacecraft and the rest constitute the space debris. The catalogued objects have grown nearly at a linear rate of about 210 objects per year. In addition, there is a much larger number of smaller sized debris (less than 10 cm. in diameter) which have the potential to cause harm to the operational spacecraft. However, the probability of risk to satellites and launch vehicles is very small.

(c)&(d) Yes, Sir. In the case of launch vehicles, the probability of collision is evaluated just prior to launch and the launch window is accordingly adjusted. Close approaches of the catalogued space debris with our active satellites are evaluated and satellites are appropriately manoeuvred out of collision path, if so required. Moreover, measures such as passivating the launch vehicle spent stages, minimising operational debris by design, and re-orbiting of satellites at the end of useful mission to the grave-yard orbit are also undertaken to reduce the creation of space debris.