

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE**

**LOK SABHA  
UNSTARRED QUESTION NO.71**

**TO BE ANSWERED ON WEDNESDAY, JULY 18, 2018**

**NavIC RECEIVERS**

- 71. SHRI G. HARI: Will the PRIME MINISTER be pleased to state:**
- (a) whether ISRO currently has 42 satellites of different types in space and if so, the details thereof;**
  - (b) whether ISRO is trying to synergize the data obtained from communication, navigation and remote sensing satellites, so that it can be used in innovative ways for the social good and if so, the details thereof;**
  - (c) whether ISRO is considering to provide NavIC receivers to fishermen so that they can access ISRO's navigation system for boat navigation and locating fishing areas on high seas and if so, the details thereof;**
  - (d) whether ISRO has asked industry to mass produce NavIC receivers for desi GPS; and**
  - (e) if so, the details thereof and the response thereon?**

**ANSWER**

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

**(DR. JITENDRA SINGH):**

- (a) Yes, Madam. ISRO has a total of 42 satellites currently operational in orbit. These satellites include fifteen Communication satellites (INSAT-4A, 4B & 4CR and GSAT-6, 7, 8, 9, 10, 12, 14, 15, 16, 17, 18 & 19); eight Navigation satellites (IRNSS-1A, 1B, 1C, 1D, 1E, 1F, 1G & 1I); fifteen Remote Sensing satellites (Cartosat-1, 2, 2A, 2B, 2C, 2D, 2E & 2F; RISAT-2; Oceansat-2; Resourcesat-2 & 2A; SCATSAT-1; SARAL & Megha-Tropiques); two meteorological satellites (INSAT-3D & 3DR); and two Space Science satellites (Mars Orbiter Mission & Astrosat).**
- (b) Yes, Madam. A variety of applications are synergistically utilising the data from communication, navigation and remote sensing satellites. These include (1) crop damage assessment, planning crop-cutting experiments & crop yield estimation for Crop Insurance programme and crop production forecasting; (2) monitoring watershed development activities under Integrated Watershed Management Programme (IWMP); (3) crowd sourcing during natural disasters for damage assessment; (4) monitoring of mining activity with respect to the lease boundary; (5) national monuments' regulatory zones and online construction approval mechanism; (6) automated warnings at unmanned railway crossings; and (7) potential fishing zones & weather alert messages to fishermen at sea.**

**(c) Yes, Madam. ISRO has developed and is providing NavIC receivers to fishermen, which can be utilised to find out their location on high seas. These receivers can also be utilised for navigating their boats and disseminating messages about potential fishing zones and alerts for high wave, cyclone and tsunamis.**

**(d) Yes, Madam.**

**(e) Industries are actively involved in fabricating NavIC receivers addressing the requirements of various applications. Six industry partners have taken up the technology to produce NavIC receivers for the same.**

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