

**Improving national space programme**

1562. SHRI PAUL MANOJ PANDIAN: Will the PRIME MINISTER be pleased to state:

(a) whether the year 2016 is all set to see the national space programme slowly shift gears towards large satellites, a heavy lift launcher and improved earth observation capabilities, if so, the details thereof; and

(b) whether the space agency would complete on priority the Seven-Satellite Regional Navigational Loop, in the first three months?

THE MINISTER OF STATE IN THE DEPARTMENT OF SPACE (DR. JITENDRA SINGH): (a) In the year 2016, Indian Space Research Organisation (ISRO) plans to realise (i) the constellation of Indian Regional Navigation Satellite System, (ii) two earth observation satellites with improved capabilities viz. Cartosat-2C and Resourcesat-2A, (iii) an advanced communication satellite GSAT-18, (iv) two weather satellites namely INSAT-3DR for meteorological observations and SCATSAT-1 for wind vector measurements and (v) development of heavy lift launcher GSLV Mk III to build indigenous capability in launching 4-tonne class satellites.

(b) Out of the 7 navigation satellites required in the Indian Regional Navigation Satellite System (IRNSS) constellation, five navigation satellites (IRNSS-1A, 1B, 1C, 1D and 1E) have already been operationalised in the orbit. The sixth satellite 'IRNSS-1F' is scheduled for launch on March 10, 2016. The seventh satellite 'IRNSS-1G' is likely to be launched by April, 2016.

**ISRO developing station in Vietnam**

1563. SHRI AMAR SHANKAR SABLE: Will the PRIME MINISTER be pleased to state:

(a) whether Indian Space Research Organisation (ISRO) is developing a station in Vietnam;

(b) whether India would allow other nations to access pictures from our satellites;

(c) if so, the safeguards that are being put in place to ensure that Indian data is not accessed by other nations; and

(d) if not, the reasons therefor and consequences thereof?

THE MINISTER OF STATE IN THE DEPARTMENT OF SPACE (DR. JITENDRA SINGH): (a) As part of Space Cooperation between India and Association of South

East Asian Nations (ASEAN), Indian Space Research Organisation (ISRO), at the behest of Government of India, is working towards the establishment of a Satellite Tracking and Data Reception Station and Data Processing Facility in Vietnam for ASEAN Member countries. This facility is intended to acquire and process Indian Remote Sensing Satellite data pertaining to ASEAN region and disseminate to ASEAN Member countries.

(b) Yes Sir. Under this initiative, all ASEAN Member countries will be allowed to access processed remote sensing data pertaining to their country.

(c) Ground facility is designed in such a way that it will not allow Indian data to be accessed and processed by the system.

(d) Does not arise.

#### **Satellites of other countries launched by ISRO**

1564. SHRI AMBETH RAJAN: Will the PRIME MINISTER be pleased to state:

(a) the details of the satellites of other countries which were launched by Indian Space Research Organisation (ISRO) during last three years;

(b) the details of the revenue earned through these launches; and

(c) the details of the revenue earmarked from this revenue earning for Cryogenic Rocket Development Programmes?

THE MINISTER OF STATE IN THE DEPARTMENT OF SPACE (DR. JITENDRA SINGH): (a) During the last three years starting from January 2013 until December 2015, a total of 28 International customer satellites belonging to 9 countries were launched *viz.* Austria (2), Canada (5), Denmark (1), France (1), Germany (1), Indonesia (1), Singapore (7), UK (6), USA (4). These satellites were launched onboard India's Polar Satellite Launch Vehicle (PSLV) under the commercial arrangement entered into between Antrix Corporation Limited (Antrix), the commercial arm of ISRO and the international customer. The details of the satellites are given in the Statement (*See below*).

(b) Antrix has earned revenue of 80.6 million Euros through launching of these 28 international customer satellites.

(c) The Cryogenic Rocket Development Programme is funded by the Government.