

**GOVERNMENT OF INDIA
SPACE
LOK SABHA**

UNSTARRED QUESTION NO:4697

ANSWERED ON:22.04.2015

INDIGENEOUS NAVIGATION SYSTEM

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Will the Minister of SPACE be pleased to state:

- (a) whether our country has taken any new steps to further strengthen its navigation system;
- (b) if so, the details thereof;
- (c) the time by which navigation system is likely to operationalise at its maximum capacity and capability;
- (d) the manner and the area in which this navigation system is likely to accrue benefits;
- (e) whether any other country has expressed its willingness to take benefit from this system and if so, the details thereof; and
- (f) the details of the expenditure incurred on this project and funding and participation from private sector, if any?

Answer

MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

(a) Yes Madam.

(b) In the area of satellite navigation, India has already established GPS Aided Geo Augmented Navigation (GAGAN) system primarily for the use by aviation sector. GAGAN provides improved position accuracy over the Indian region. This system is based on Global Positioning System (GPS) of USA.

Further, Indian Space Research Organisation (ISRO) has undertaken a project for developing an indigenous regional positioning system for India known as Indian Regional Navigation Satellite System (IRNSS). IRNSS consists of seven satellites in a constellation, three satellites in geostationary orbit (GEO) and four satellites in geosynchronous orbit (GSO). IRNSS will provide positioning and navigational services in Indian mainland and surrounding region upto 1500 Km. Out of the 7 satellites required in the constellation, four satellites namely, IRNSS-1A, 1B, 1C and 1D have already been successfully placed in the orbit.

(c) GAGAN System has already been certified by Directorate General of Civil Aviation (DGCA) to provide Non-Precision Approach services for "En-route Navigation" over Indian Airspace and it is expected to operationalise in the year 2015.

IRNSS is expected to operationalise in the year 2016.

(d) The Satellite Navigational System will benefit the country in the areas of civil aviation, high sea and inland waterway navigation, rail transport, patrol services and vehicle tracking & fleet monitoring. The navigation system provides precise position & location information and accurate timing information to the users which will benefit the user by way of improved efficiency of operations, cost and time saving, enhanced safety of people, etc.

(e) Australia, Japan, Republic of Korea and Russia have expressed interest for cooperation in satellite navigation and applications. The cooperation will be pursued on receiving specific proposals from these countries.

(f) For GAGAN, expenditure incurred by ISRO is ` 170 Crores and by Airports Authority of India is ` 604 Crores. For IRNSS project, the expenditure incurred till end 2014-15 is ` 1101.45 Crores. There is no direct participation of Private Sector in funding. However, the participation of Indian Private sector is expected in the areas of developing ground receivers in large scale and integrating the application specific services to the end users.