

**GOVERNMENT OF INDIA
MINISTRY OF CIVIL AVIATION
LOK SABHA
UNSTARRED QUESTION NO. : 3367
(To be answered on the 10th August 2015)**

GAGAN SYSTEM

**3367. SHRI C. MAHENDRAN
 DR. C. GOPALAKRISHNAN
 SHRI RAM CHARITRA NISHAD
 SHRI B. SENGUTTUVAN**

Will the Minister of CIVIL AVIATION

नागर विमानन मंत्री

be pleased to state:-

- (a) whether the Government has recently launched GPS-Aided Geo Augmented Navigation (GAGAN) system which offers seamless and trouble-free space-based satellite navigation to the aviation industry;
- (b) if so, the details thereof along with its salient features and the names of the airports identified for installation of this system;
- (c) whether the GAGAN system has been indigenously developed by Indian Space Research Organisation and Airports Authority of India;
- (d) if so, the details thereof along with the expenditure incurred thereon and the time taken to develop the said system; and
- (e) whether the airlines operating in the country are equipped to receive the GAGAN coded signals to make optimum use of this facility and if so, the details thereof?

ANSWER

Minister of State in the Ministry of CIVIL AVIATION

नागर विमानन मंत्रालय में राज्य मंत्री

(Dr Mahesh Sharma)

(a) & (b): Yes, Madam. GPS- Aided Geo Augmented Navigation (GAGAN) system has been fully operationalized from May 2015 and is capable of providing Navigation Services to Departure, en-route and landing operations to suitably equipped aircrafts. The GAGAN System provides very accurate and high level of integrity satellite signals for precision air navigation over the entire Indian airspace. The details of GAGAN system installations are as follows:

(i) GAGAN system consists of 15 Indian Reference Stations (INRES), 2

Indian Master Control Centre (INMCC) and 3 Indian Land Uplink Station (INLUS), 2 Geostationary Satellites

(ii) The fifteen INRES are installed at various airports in India at Delhi, Ahmedabad, Bengaluru, Thiruvananthapuram, Kolkata, Guwahati, Portblair, Jammu, Gaya, Jaisalmer, Nagpur, Dibrugarh, Bhubaneswar, Porbandar and Goa.

(iii) The two INMCCs are located in Bengaluru.

(iv) The two INLUS are located in Bengaluru and one INLUS in Delhi.

(c) & (d): The GAGAN system has been jointly developed by Airports Authority of India and Indian Space Research Organisation in collaboration with M/s. Raytheon with an estimated cost of Rs.774 crores. The Project completed in 8 years.

(e): No, Madam.
