

GOVERNMENT OF INDIA
MINISTRY OF CIVIL AVIATION
RAJYA SABHA

UNSTARRED QUESTION NO. : 1614
TO BE ANSWERED ON THE 3rd August 2026

**EXPANSION OF SATELLITE-BASED LANDING SYSTEM IN THE
COUNTRY**

1614. DR. MEDHA VISHRAM KULKARNI

Will the Minister of CIVIL AVIATION be pleased to state:-

- (a) whether Government proposes to promote Satellite-Based Landing System (SLS) approaches using the indigenous GAGAN system as an alternative or supplementary navigation aid to conventional ground-based systems, if so, the details thereof;
- (b) the number of airports where GAGAN-enabled approach procedures have been approved, operationalised or are under implementation;
- (c) whether regional and remote airports are proposed to be prioritised for deployment of GAGAN-enabled navigation facilities, if so, the details thereof; and
- (d) the funds allocated and targets fixed for expansion of GAGAN-based aviation infrastructure during the next three years?

ANSWER

Minister of State in the Ministry of CIVIL AVIATION (Shri Murlidhar Mohol)

(a): GAGAN (GPS Aided GEO Augmented Navigation) is India's Satellite-Based Augmentation System (SBAS), jointly developed by the Indian Space Research Organisation (ISRO) and the Airports Authority of India (AAI), integrated with aviation infrastructure to enhance navigation precision, air traffic management and safer aircraft operations. Suitably equipped aircraft can utilise GAGAN system as an alternative or supplementary navigation aid to conventional ground-based systems at airports having published approach charts. To facilitate precision satellite-based flight operations, the Directorate General of Civil Aviation (DGCA) has mandated that all aircraft registered in India with effect from 1st July, 2021 shall be equipped with GAGAN-compatible avionics.

(b) & (c): At present, 23 GAGAN-based landing approach procedures have been published for 15 airports across India including 09 airports operationalised under the Regional Connectivity Scheme (RCS), namely Kadapa, Kishangarh, Deoghar, Jalgaon, Kandla, Belagavi, Porbandar, Pantnagar and Kolhapur where suitably equipped aircraft can utilise these procedures.

(d): The existing GAGAN infrastructure is adequate to meet the present operational requirements and no expansion of the infrastructure is envisaged at present. However,

upgradation of the existing infrastructure is planned to address obsolescence-related issues and to prepare the GAGAN system for Dual Frequency Multi-Constellation (DFMC) operations, in line with other Satellite-Based Augmentation System (SBAS) service providers globally.
