

GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
**RAJYA SABHA**

**UNSTARRED QUESTION NO. 2210**

TO BE ANSWERED ON THURSDAY, AUGUST 04, 2022

**INDIAN REGIONAL NAVIGATION SATELLITE SYSTEM**

2210. SHRI PRABHAKAR REDDY VEMIREDDY:

Will the PRIME MINISTER be pleased to state:

- (a) whether it is not a fact that India's satellite-based navigation system, NavIC, is as good as GPS of the United States;
- (b) whether it is also not a fact that India's NavIC can help in navigation on land, air, sea and also in disaster management and is placed at a higher orbit than the US's GPS;
- (c) whether it is also a fact that NavIC uses dual frequency bands which makes our NavIC more reliable and accurate;
- (d) if so, reasons for NavIC covering only Indian territory and surrounding 1500 kms of Indian borders; and
- (e) efforts that are being made to increase its coverage?

**ANSWER**

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

- (a) Yes, Sir. India's satellite-based navigation system, NavIC, is as good as GPS of the United States in terms of position accuracy and availability in its service region.
- (b) Yes, Sir. NavIC can help in navigation on land, air, sea and also in disaster management. NavIC satellites are placed at a higher orbit than the US's GPS. NavIC satellites are placed in geostationary orbit (GEO) & geosynchronous orbit (GSO) with an altitude of

about 36,000 km; GPS satellites are placed in medium earth orbit (MEO) with an altitude of about 20,000 km.

- (c) Yes, Sir. NavIC uses dual frequency bands. This improves accuracy of dual frequency receivers by enabling them to correct atmospheric errors through simultaneous use of two frequencies. It also helps in better reliability and availability because the signal from either frequency can serve the positioning requirement equally well.
- (d) At the time of inception, an indigenously developed satellite navigation system was conceptualised to cater to requirements of critical national applications, including those of defence and commercial establishments. Hence the coverage area was designed to cover Indian Territory and surrounding 1500 km of Indian borders.
- (e) The needs of critical national applications do evolve with time. Efforts are continuously made to meet these requirements, including from the point of view of coverage.

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