

GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE

RAJYA SABHA

**UNSTARRED QUESTION NO. 2694**

TO BE ANSWERED ON THURSDAY, MARCH 23, 2023

**MANUFACTURING OF NISAR SATELLITE**

2694. SHRI BRIJLAL:

Will the PRIME MINISTER be pleased to state:

- (a) whether the National Aeronautics and Space Administration (NASA) and the Indian Space Research Organisation (ISRO) have jointly manufactured an earth science satellite named, NISAR (NASA-ISRO Synthetic Aperture Radar);
- (b) if so, the details thereof; and the main features of the said satellite; and
- (c) the total expenditure incurred on the development/manufacturing of this satellite, along with the ratio-wise expenditure made by NASA and ISRO, respectively?

**ANSWER**

**MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PUBLIC  
GRIEVANCES & PENSIONS AND IN THE PRIME MINISTER'S OFFICE**

**(DR. JITENDRA SINGH):**

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- (a) Yes, Sir. NASA-ISRO SAR (NISAR) is an earth-observation satellite being jointly developed by NASA and ISRO.
- (b) The mission objectives of the satellite are:
  - i. Design, Develop and launch Dual Frequency (L and S band) Radar Imaging Satellite
  - ii. Explore newer applications areas using L & S Band microwave data especially in surface deformation studies, terrestrial biomass structure, natural resource

mapping and monitoring and studies related to dynamics of ice-sheets, glaciers, forests, oil slick etc.

The satellite is configured with I-3K bus and the instrument identified for SAR is based on the innovative Sweep SAR technique configured in both L and S band in polarimetric configuration for wide swath and high resolution.

The spacecraft will orbit the Earth in a sun synchronous orbit of 747 Km with an inclination of 98.4 degree for a 12-day repeat cycle.

(c) NASA is delivering the L-Band SAR payload, high precision GPS and 12m unfurlable antenna.

ISRO is delivering S-band SAR payload, spacecraft bus and facilitating launch. The total expenditure incurred on realization of NISAR satellite by ISRO as on February, 2023 is Rs. 469.40 Crore, excluding launch cost.

Cost incurred by NASA towards their participation in the mission is not known to ISRO/DOS.

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