GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

RAJYA SABHA

UNSTARRED QUESTION NO. 2207

TO BE ANSWERED ON THURSDAY, DECEMBER 18, 2025

INDIAN SPACE PROGRAMME'S VISION AND CHALLENGES

2207. DR. SASMIT PATRA:

Will the PRIME MINISTER be pleased to state:

(a) the broad contribution of India's space programme to national priorities such as disaster resilience, climate observation, navigation, digital connectivity, agriculture and scientific research;

(b) the key institutional, financial, technological and commercial challenges involved in sustaining mission reliability, cost-effectiveness, global competitiveness and responsible private sector participation;

(c) the long-term policy vision for expanding societal access, commercial applications, international cooperation and strategic autonomy through space-based capabilities; and

(d) the manner in which Government plans to ensure that space technologies remain inclusive, affordable and directly aligned with public welfare and developmental governance needs?

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) The Indian space programme enables space-based inputs to the nodal Ministries/Departments as well as to Central & State disaster management authorities, for effective disaster management and developing disaster resilience. The National Database for Emergency Management (NDEM, Version 5.0) developed by ISRO is part of the Integrated Control Room for Emergency Response (ICR-ER), of MHA, for

emergency response decision support. Satellite data inputs are also used for generation of essential climate variables. Space technology is being used in the Agriculture sector for crop production forecasting, crop surveillance, agro-met advisories, crop insurance programme, Krishi-DSS, etc.

The contribution of India's space program to national priorities, particularly scientific research, is multi-faceted. Far beyond technological prestige, India's space science missions have fundamentally advanced the scientific knowledge base. These programs provide invaluable platforms for conducting research on space sciences. The knowledge thus acquired feeds directly into domestic research institutions and universities, nurturing specialized talent and fostering a robust ecosystem of scientific inquiry. By engaging in dedicated science missions, which are achieved through cost-effective, indigenous solutions, India establishes global credibility, and ensures that Indian scientists are at the forefront of space exploration, driving innovation and providing scientific and technological knowledge essential for National self-reliance.

India’s Space program has contributed immensely for digital connectivity supporting telemedicine, tele-education, e-governance, broadband etc. India’s satellite navigation system, NavIC is providing position Navigation and timing services.

(b) India’s space sector is undergoing a phase of swift expansion which will be able to sustain mission reliability, cost-effectiveness, global competitiveness and responsible private sector participation. Institutional alignment within the space ecosystem is clearly delineated under Indian Space Policy 2023 and it is steadily maturing. All efforts to coordinate among stakeholders is being carried out by the department. Financial challenges remain limited because India has built a highly cost-efficient programme, and new funding channels for private space ecosystem ensure that growth needs are adequately met. Technological gaps are narrowing rapidly as ISRO’s sustained R&D, indigenous manufacturing capabilities and strong industry partnerships continue to deliver reliable, world-class systems. Commercial barriers are modest, with India’s proven mission success rate and expanding global demand giving Indian industry a natural competitive edge. Private-sector participation is progressing responsibly, supported by clear standards, mature regulatory mechanisms and hand-holding by ISRO that minimise risks.

(c) Long-term vision of societal access to space-based services are achievable, given India's established satellite infrastructure and ongoing augmentation plans. The outlook for commercial growth is strong, with India's inherent cost advantage and emerging private-sector capabilities. IN-SPACe has brought out the Decadal Vision and Strategy for India's Space economy, with mission to realize $44 Billion market potential in Space for India, including $11 Billion in exports, and create an ecosystem where private, public and start-up collaborate in whole-of-nation approach. IN-SPACe has catalysed the capabilities such as i) Demand generation, ii) EO Platform, iii) Communication Platform, iv) Navigation Platform, v) Research and Development, vi) Creation of Talent Pool, vii) Access to Finance and viii) International Synergy and Collaboration", to promote exports of hardware, space-based data services, and satellite products globally. International cooperation continues to expand smoothly, with India already regarded as a reliable, neutral and capable partner in both science and space collaboration. India also has successfully accomplished major collaborative mission-NISAR. Bharatiya Antariksh Station (BAS) will provide a platform for further deepening the international collaborations with other major countries. Strategic autonomy is well within reach, as ISRO's technology roadmap covers critical domains, from launch vehicles to satellites, ensuring minimal external dependence. Space-based capabilities will continue to integrate deeply into national development priorities, given the proven success of remote sensing, meteorology, and NAVIC application in governance.

(d) A major step in this direction is Geospatial Governance, where tools like GIS maps and satellite-based Earth observation are used to improve public services. To further strengthen this effort, the Department of Space organised the National Meet 2025 on August 22, 2025, which brought together many Ministries and Government departments. These interactions helped identify each sector's specific data needs. This helps ISRO provide more accurate and timely information so that government decisions are better informed and development becomes faster and more transparent. Inclusivity is inherently built into India's space programme, with most datasets and services already reaching farmers, disaster managers and grassroots planners with minimal barriers. ISRO's globally recognised cost-efficiency ensures that space-based applications remain accessible even as capabilities expand. The ecosystem is naturally inclusive, with MSMEs and start-ups are already involved in significant portions of the supply chain and benefiting from open procurement frameworks. ISRO's mission planning consistently

prioritises public welfare, ensuring that new capabilities directly support national development and remain aligned with citizens' needs.

M/s. Antrix Corporation Limited, a PSU under administrative control of DOS supports these objectives by structuring commercially viable offerings, fostering partnerships with industry and user agencies, and enabling cost-effective access to space derived data and services, so that the economic models remain sustainable.

M/s. NewSpace India Limited (NSIL), commercial arm of DOS has been formulating new projects and applications so as to be inclusive of the public welfare goals and developmental governance needs. Applications are being worked out not only to be commercially beneficial to the industry but also aimed at socio-economic development of common man of this country.

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