Mains Practice Question

Q. “Private players can bring in the innovation needed for developing space-based applications and services”. In the light of this statement, highlight the role of private sector in India’s space science and technology. (150 words)

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Approach

- Start your answer by briefly describing the status of space industry in India.
- Discuss the role of private sector in India’s space sector.
- Discuss various initiatives related to the private sector in the space industry.
- Conclude accordingly.

Introduction

- As of 2021, according to Space Tech analytics, India is the sixth-largest player in the industry internationally having 3.6% of the world’s space-tech companies. US accounts for 56.4% of all companies in the space-tech ecosystem.
    - Other major players include U.K. (6.5%), Canada (5.3%), China (4.7%) and Germany (4.1%).
- The Indian Space Industry was valued at $7 billion in 2019 and aspires to grow to $50 billion by 2024. The country’s standout feature is its cost-effectiveness.

Body

- **Role of private sector in India:**
    - **Bolster Innovation:** Private players can bring in the innovation needed for developing space-based applications and services. Additionally, the demand for these services is soaring worldwide and in India, with satellite data, imageries and space technology being used across most sectors.
        - Moreover, ISRO would have to expand 10x the current level to meet this rising demand. According to industry estimates, India currently has 40+ start-ups working on space and satellite projects and this number is likely to increase.
    - **Cost-effective:** The private sector would ensure that the newer technology makes it more effective in terms of price as well as efficiency.
    - **Large infrastructure of conglomerates:** Large corporations have capabilities such as testing infrastructure, manufacturing capabilities and assembly lines, but space manufacturing is only a small fraction of their total industrial output. As the space sector is a capital-intensive business, the initial step to increase private sector participation must be taken by these conglomerates.
- **Recent Example of Private Space Launch in India:**
    - Recently, India’s first privately developed rocket**, Vikram-S** was **successfully launched in a sub-orbital mission** from the Sriharikota spaceport marking a new era in India’s space programme.
- **Related Initiatives:**
    - **IN-SPACE:**

        - IN-SPACe was launched to provide a level playing field for private companies to use Indian space infrastructure.
        - It acts as a single-point interface between Indian Space Research Organisation (ISRO), and everyone who wants to participate in space-related activities or use India's space resources.
    - **New Space India Limited (NSIL):**
        - Announced in Budget 2019, its aim is to use research and development carried out by ISRO over the years for commercial purposes through Indian industry partners.
    - **Indian Space Association (ISpA):**
        - ISpA aspires to be the collective voice of the Indian Space industry. ISpA will be represented by leading domestic and global corporations that have advanced capabilities in space and satellite technologies.

Conclusion

There is a need for a new policy that ends ISRO's monopoly of the space sector in India, by sharing knowledge and technology, such as manufacturing rockets and satellites, to all those who want to.

With India having one of the best space programs in the world, the move to allow private sector in space will make India a bigger player in the global space economy.

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