

India's Space Development: Joining Other Scorpions in a Bottle?

Perception & Perspectives

Joan Johnson-Freese*
January 21, 2011
joanjohnsonfreese@gmail.com

* Disclaimer: The views presented are strictly my own

Security dilemma: a situation in which actions by a state intended to heighten its security, such as increasing its military strength or making alliances, can lead other states to respond with similar measures, producing increased tensions that create conflict, even when no side really desires it

The Problem

- Scorpions in a Bottle: The capability to deny another country its space assets increases the sense of security for the possessing country, but lowers it for others. When many countries possess that capability, tensions heighten for all.
 - Actions based on changing geopolitical situation
 - Analogy to nukes
 - When is a technology a deterrent?
 - Increasingly recognized goal of space sustainability

India's Expanding Space Efforts

The screenshot shows the ISRO website header with the logo, the text 'Department of Space Indian Space Research Organisation SPACE TECHNOLOGY IN THE SERVICE OF HUMAN KIND', and the Government of India emblem. A navigation menu includes 'ABOUT ISRO', 'ISRO CENTRES', 'LAUNCH VEHICLES', 'SATELLITES', 'GROUND FACILITIES', and 'OUR CHAIRMAN'. A search bar and 'GO' button are present, along with 'ISRO' and 'WWW' links.

[Home](#) >> [Space Vision India 2025](#)

Space Vision India 2025

Indian space programme driven by vision of **Dr Vikram Sarabhai** considered as the father of Indian Space Programme.



There are some who question the relevance of space activities in a developing nation. To us, there is no ambiguity of purpose. We do not have the fantasy of competing with the economically advanced nations in the exploration of the moon or the planets or manned space-flight. But we are convinced that if we are to play a meaningful role nationally, and in the community of nations, we must be second to none in the application of advanced technologies to the real problems of man and society.

Indian Space Vision 2025

- Satellite based communication and navigation systems for rural connectivity, security needs and mobile services
- Enhanced imaging capability for natural resource management, weather and climate change studies
- Space science missions for better understanding of solar system and universe
- Planetary exploration
- Development of Heavy lift launcher
- Reusable Launch Vehicles - Technology demonstrator missions leading to Two Stage To Orbit (TSTO)
- Human Space Flight

EXCEPTIONALISM: Manned Space is Difficult in Democracies

Dual-Use Technology

- Technology that has both civilian and military applications; with difficulty distinguishing between offensive & defensive use within the military applications



INTENTIONS: Technology doesn't tell intentions...so how do outsiders determine?

Regimes
Actions

Why Might India Expand Its Space Activities?

Broadly Based Security Needs

Asian Space Race?...

Techno-nationalism

- Techno-nationalism is the 21st century equivalent of earlier developmental nationalism stemming from colonial subjugation. (China's one child policy) In today's version national power is enhanced through technological achievement.
 - “Now people will realize we don't only make clothes shoes” Yan Xuetong, 2003
 - “India and China are vying for leadership in a competitive marketplace of people & knowledge industries. It's about developing technology, talent & markets, all of which has stimulated Chinese technology: sensors built for space have ended up in GPS systems, washing machines & other products.” 2008
 - “It was a historic event that gave pride to the Indian public.” Indian PM Singh after lunar launch in 2008.

Force Enhancement: Militarization...Weaponization?

- India possesses multiple rocket/missile systems
- Less (perceived) separation between civil-military programs
- India has its own reconnaissance satellites
- Naval Communications Satellite
- Space Command Efforts (Space Cell)
- ASATs? (Contradictory statements/Rhetoric)

Expanded U.S. -India Cooperation: An Exceptionalist Position?

U.S.

- Access to \$30 Billion defense market

India

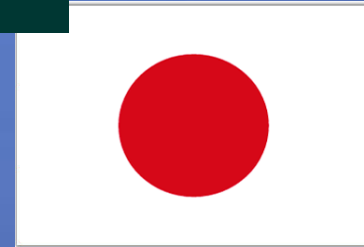
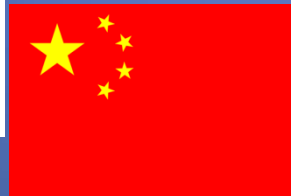
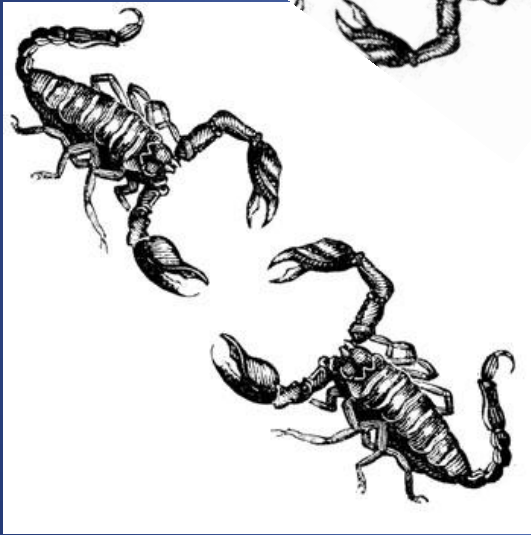
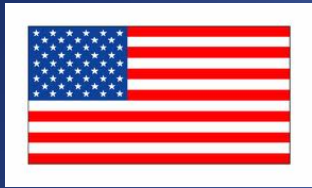
- Technology w/o the non-proliferation norms required of other countries

- Post 9/11 – sanctions against India in place since 1998 lifted; export items restricted to India reduced from 159 to 2.
- “We are not members of the NPT and we are not subscribers of the MTCR. Yet, if there is to be nuclear and space cooperation, how does America cooperate with a country like India, even if they see merit in it? Since we are not party to the instruments that exist to deal with nonproliferation or missile technology, there is a conundrum. Our answer is we are what we are.” Former Indian Foreign Secretary Kanwal Sibal, 2002

What We (Think We) Know

- India's expanded space program going beyond utilitarian
- Manned spaceflight
- Dual-use technology with military applications
 - U.S. facilitating without usual requirements

Concern: How to Avoid Unintended Consequences



- * Protection of Global Commons – Regimes
- * India has been reluctant to join Regimes
- * So, perceived options?