Space Policy, Sustainability and Legal Aspects (11)
Space Policy, Sustainability and Legal Aspects - Session 4 (4)

Author: Ms. SIA DAS
High Court of Delhi/Supreme Court of India, India

Ms. Ria Das
High Court of Delhi/Supreme Court of India, India

TOWARDS A SUSTAINABLE COSMOS: INTEGRATING INDIGENOUS KNOWLEDGE IN SPACE SUSTAINABILITY POLICIES TO COMBAT SPACE DEBRIS.

Abstract

With the rapid expansion of human activities in space and the growing number of active satellites and space missions, the issue of space debris poses significant risks to both current and future activities in Earth's orbital environment. The thousands of abandoned satellites, leftover rocket stages, and other items in orbit around the planet pose a threat to the space industry by making vital orbits unusable for many generations.

This paper proposes the integration of indigenous knowledge systems into policy tools surrounding space sustainability, particularly in combatting space debris. This paper recognizes that indigenous knowledges and practices are in parallel with systems-thinking and transdisciplinary approaches to space and sustainability. The aim of this paper is to describe how current actions can have long term impacts on using and accessing space commercially, scientifically, and culturally. The paper begins by outlining the current challenges posed by space debris, including environmental, legal and safety concerns. Many Indigenous communities are based on the principles of community responsibility, intergenerational justice, and respect for natural cycles, which can be used to develop more comprehensive and holistic approaches for space debris mitigation policies. Traditional knowledge systems highlight the need of balance, environmental preservation, stewardship, custodianship and the safeguarding of shared resources, aligning with the need for international cooperation in space governance. Furthermore, Indigenous resource management and sustainable design methods that emphasize circularity, waste minimization, and ecological harmony, might serve as an inspiration for advancements in debris removal technology and sustainable spaceship design. By integrating Indigenous knowledge into global space governance, policies can be made to be more inclusive, culturally sensitive, and focused on long-term environmental conservation in outer space. This paper will focus on case study of Aboriginal communities and how their careful observation of local natural systems govern actions in response to climate change. It suggests that the "principles and tenets of indigenous knowledge to come back into balance with existence" and how it can be highly applicable in the space domain.

Ultimately, this integration could be achieved through consultations with Indigenous peoples, collaborative decision-making, and the adoption of sustainable design standards for space technologies. This partnership might reduce the amount of space debris produced and lessen the effect on astronomical observations. Ultimately, Indigenous knowledge can contribute to a more responsible, worldwide approach to space debris management and ensuring that the space environment is protected for future generations.

KEYWORDS: Indigenous knowledge, space debris, space sustainability, space governance