

SPACE ACTIVITY AND SOCIETY (E5)
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SPACE TECHNOLOGY AND ENVIRONMENTAL CONSERVATION

Abstract

Population explosion, fossil-fuel depletion and environmental degradation are undoubtedly some of the greatest problems that haunt humanity today. The terrible repercussions of the above problem is ubiquitous, and perhaps the most glaring is global warming.

Space Technology today plays a pivotal role in environmental conservation. The present remote sensing satellites and climate-forecasting satellites have provided crucial data for environmental conservation, thereby revolutionizing our understanding of land, ocean and the atmosphere.

However, with its present capabilities, space technology can only play a “passive-role” in providing solutions to the above problems. It is widely believed that, over the next 50-100 years, space technology can play an active role in solving energy problems and global warming. It has been proposed that solar-power-satellites (SPS) and solar-farms in space beaming power to the earth, solar-shades blocking a small portion of solar radiation (proposed by Angel et al), natural resource exploitation from moon, mars and beyond, colonization of moon mars etc may all become viable options with the advent enabling technologies. However, several technological, economical and social barriers have to be overcome before any of the above solutions materialize.

A survey was conducted by our team last year which indicated that the environmentalists in India had an overwhelmingly positive opinion on the role of space technology in solving environmental crisis (**IAC-08.E5.I.10**). The survey would be expanded to understand the opinion of a wider range of environmentalists from various parts of the world.

This paper would analyze the results of the extended survey. It would also, apart from discussing the impact of some of the major remote-sensing/climate-study satellites, look at future options available so that space technology can provide some of the much needed answers to the above problems.