Research Report

Leiden Model United Nations 2016
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Forum: *General Assembly Fourth Committee*
Issue: *The regulation of future human habitation in outer space*

Position: *Chairs*

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Introduction

Regulating future human habitation in outer space is mainly connected to standardizing laws in order to create possible living conditions in space, and also it directly relate to space colonisation. There are many ideas on how living in space would look like, many organisations and corporations are creating more and more advanced projects which visualise what they have in mind however there are people who share many concerns when it comes to such development.

Because space is an area without defined boundaries, there are many questions about legal jurisdiction on spacecraft orbiting Earth and other celestial bodies. Space-faring nations have agreed to a variety of policies and treaties that concern activities in space exploration. The field of space law evolved to deal with questions such as property rights, weapons in space, protection of astronauts and other matters. However, space law remains a challenging field to define. While there are treaties that have been voluntarily signed by many nations, technological advances mean that private companies can now take part in space exploration, and these entities may not be covered under some existing treaties. Also, national priorities change over time, and those priorities may not be reflected in treaties that were created decades ago.[1]

Definition of Key Terms

Space Law, can be described as the body of law governing space-related activities. Much like general international law it comprises a variety of international agreements, treaties, conventions, and United Nations General Assembly resolutions as well as rulesand regulations of international organizations.[2]

COPUOUS (The Committee on the Peaceful Uses of Outer Space), was set up by the General Assembly in 1959 to govern the exploration and use of space for the benefit of all humanity, in means of peace, security and development.

Common Heritage of Mankind is also known as the Common Heritage of Humanity. This states that some parts of Earth and Space, some parts of Antarctica, the seabed, and all of outer space, are common property to all of humankind. This means that no

[1] http://www.space.com/33440-space-law.html
[2] http://www.unoosa.org/oosa/en/ourwork/spacelaw/index.html

party cannot legally belong to anyone, be appropriated for everyone, must be shared; have no weaponry installment; preserved for later generations. This principle has been currently established in existing space law.

Outer Space: Given that there is no strict boundary of space. The question of dividing between 'atmosphere' and 'space' has been tackled before.

1. The Kármán line, which sets 100 km as the altitude boundary; proposed by Theodore Von Karman and currently accepted by the Fédération Aéronautique Internationale [FAI].

2. The definition of international law, as the 'lowest perigee attainable by an orbiting space vehicle.'

2.1. The US Army Space Institute has analyzed this to be between a 129 km and 150 km altitude.

3. The proposal by the Search for Extraterrestrial Intelligence [SETI] institute which places the height as the point in space in which Earth's gravity is no longer dominant, about 21 million km (21,000,000 km).

General Overview

Space colonization also called as space settlement is a permanent human habitation off planet Earth. Many arguments have been made for and against space colonization and habitation. The two most common in favor of it are survival of human civilization and the biosphere in case of a planetary-scale disaster (natural or man-made), and the vast resources in space for expansion of human society. The most common objections to colonization include concerns that the commodification of the cosmos may be likely to enhance the interests of the already powerful, including major economic and military institutions, and to exacerbate already existing detrimental processes such as wars, economic inequality, and environmental degradation. The problem is about distributing the land equally for all nations. Would the powerful nation take all? Or would the lands of space be equally distributed for all nations?

The space colonization can be stated that it has stated from the beginning of the Space Race. The space race was a race between the two powerful nations, United States and Russia. This race began in 1955 when the United States and Soviet Union announced to launch a scientific satellite. At 1957, Soviet Union sent up the first satellite in space, Sputnik I. Yuri Gagarin from the Soviet Union became the first astronaut. The United States was the first nation to send a man vehicle to the moon on 1969.

No space colonies have been built so far. Currently, the building of one would present a set of huge technological and economic challenges. Space settlements would have to provide for nearly all- or possibly all- the material needs of hundreds or thousands of humans, in an environment out in space that is very hostile to human life. They would involve technologies, such as controlled ecological life support systems, that have yet to be developed in any meaningful way. They would also have to deal with the as yet

unknown issue of how humans would behave and thrive in such places long-term.[3] The technology that is required for the space colonies may seem like a distant future, but it is a question of when.

The fundamental treaty that helped to establish aims concerning regulating future of the outer space is the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, or simply the "Outer Space Treaty". It was ratified in 1967, largely based on a set of legal principles the general assembly accepted in 1962.

The treaty has several major points to it. Some of the principal ones are that space is free for all nations to explore, and sovereign claims cannot be made. Space activities must be for the benefit of all nations and humans. Nuclear weapons and other weapons of mass destruction are not allowed in Earth orbit, on celestial bodies or in other outer-space locations. Individual nations (states) are responsible for any damage their space objects cause. Individual nations are also responsible for all governmental and nongovernmental activities conducted by their citizens. These states must also avoid harmful contamination due to space activities.[4]

The UN also passed many other legal principles, treaties, and strucures after the Outer Space Treaty: Rescue Agreement (1968), Liability Convention (1972), Registration Convention (1975) and Moon Agreement (1979). The other declarations and legal principles that were established: Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space (1963), and Principles Governing the Use by States of Artificial Earth Satellites for International Direct

Television Broadcasting (1982), Principles Relating to Remote Sensing of the Earth from Outer Space (1986), Principles Relevant to the Use of Nuclear Power Sources in Outer Space (1992), Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, and Taking into Particular Account the Needs of Developing Countries (1996)

Major Parties Involved

United Nations Office for Outer Space Affairs, main goal is to promote international cooperation in the peaceful uses of outer space. The office within United Nations 'responsible for promoting international cooperation in the peaceful uses of outer space.' Acts as the secretariat for the United Nations Committee on the Peaceful Uses of Outer Space (COPOUS), which in turn is a part of the General Assembly.

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[3] https://en.wikipedia.org/wiki/Space_colonization

[4] http://www.space.com/33440-space-law.html

National Aeronautics and Space Administration [NASA] was established in 1958, partially as a reaction to Sputnik I. During the 1960s, the organization focused on sending a man to the moon with the Apollo program, which was accomplished in 1968. After the Apollo program, NASA continues the research on space.

United States of America (USA) was a former participant in the Space Race. America is still investing money own their space program, NASA. The country is one of the original creators and the contemporary joint participant country for the ISS (International Space Station). American companies are attempting to use space as an area of venture and profit.

Russian Federation (Russia) was a former participant in the Space Race. The country is one of the original creators and the contemporary joint participant country for the ISS. Roscosmos, the Russian Federal Space Agency, is still operating under the Russian government's funding.

People's Republic of China (China) is another country that takes a big part in the outer space developments. China wasn't in part of the Space Race, and China has started their space program later on compared to Russia and US. Despite the late start, China has successfully completed a manned spaceflight program and maintains the China National Space Administration.

Timeline of Events

October 1942	The first test flight for V2 is successful, the start of the Space Age
July 29, 1955	U.S. President Eisenhower announces that US will start building a scientific satellite; the beginning of the Space Race
October 4, 1957	USSR sends Sputnik I, the first satellite, into orbit.
October 1, 1958	NASA is effectively established.
December 13, 1958	General Assembly establishes the UNOOSA.
October 10, 1967	The 'Outer Space Treaty' is ratified, the first in a long line of treaties.
July 21, 1969	Armstrong steps on the Moon; the effective end of the

	Space Race.
December 13, 1996	The Declaration on International Cooperation... is passed as the last major international agreement since the Outer Space Treaty.
2000	The International Space Station (ISS) was completed.
2001	Space Adventures Ltd. send first customers to space.

Possible Solutions

Solutions to theses problems have focus on continuing and creating laws that will make the future habitation in space easier. The laws have to help develop though they have to be strict in specific cases of course. Answering questions such as to what extent if any would the people govern themselves in space and who would supervise the colony of an Earth nation may help while creating various ideas. Regulations have to also focus on colonies that can multiply and in that case if they would be a part of one entity.

One specific point that has to be addressed is the clear boundary of space. As previously mentioned, there is no specific definition for the boundary. Defining the boundary of space may provide the basis for the continuing debate. Other point to take in consideration is that the solution should strengthen the previous conventions about sharing the space. There were solutions to this problem, but it isn't clearly established yet. The governments aren't only the parties that are taking in part of this space colony. Civilian industries are also taking part in the space colony as the source of profit in the future.

The delegates should ask questions to themselves whether the government should be the only participant in this space colony project or not. Should the governments who spend and research take all the land and profits? Such answers more questions are necessary to create a solid resolution that will not be disputed in the near future when space colonies are being built.

Useful documents or/and links

http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html

http://www.space.com/33440-space-law.html

http://www.affs.org/html/existing_space_law_concepts.html