



SPACE TOURISM ACTIVITIES OVERVIEW OF INTERNATIONAL LAW

Ratih Dara Ayu Dewily

Universitas 17 Agustus 1945 Surabaya, Indonesia

Tomy Michael

Universitas 17 Agustus 1945 Surabaya, Indonesia

Received: Nov 30, 2020

Accepted: Feb 02, 2021

Published: June 15, 2021

Abstract:

Space tourism activity is one example of commercialization activity in space. Currently this activity is still in a development session which is better for the future. Thus, the description of space tourism activities is a matter that deserves to be known from history to all of its details and seen from the growth and difficulty in increasing space tourism activities, of course it must be supported by laws or regulations governing space. Not only that, so far there have been space tourists as well as potential space tourists who have departed for this tourism activity. Thus, this space tourism activity is intended to be an activity that can be tried on a regular basis in the future, so that international and national legal arrangements must be well organized, fair and responsible and with regard to the rapid growth of this activity, it's appropriate for those who participating or having an interest in this activity must be more open in the growth of the activities they are carrying out, so that steps can be taken quickly, it seems like for example, to quickly formulate and ratify a space agreement related to space tourism, protection of parties who participate in activities it's kind of like the private industry. The research objectives, namely

Keywords:

Space Tourism Activities, International Law, National Law

1. Introduction

Initially space tourism offered very little accommodation. For example, if the International Space Station is used as a tourist attraction, guests will not find luxurious hotel rooms like those on Earth. Because this is designed to do research not entertainment. Activities in space are aimed at research exploration activities for the development of science and benefits for humans on Earth, now these activities have created many benefits for many parties including those who daily use advances in science and technology in the field of space. For example, Remote Sensing activities or remote sensing, and Geo Stationary Orbit which must use Satellite resources.

Space tourism is currently one of the activities that attracts the attention of many people, where this activity is intended only for entertainment or recreation in a way that a person must buy a ticket so he can travel back and forth to space. This activity has long been dreamed of by many people because without having to become an astronaut, people with various professions can already feel what it feels like to be in space. The space tourism business opportunity is very profitable, several private companies took this opportunity by starting to move in the business and there are also several ongoing projects to commercialize this space travel.

The success of the space tourists 'trip was a great opportunity for the public to be able to follow in their footsteps, although Dennis Tito and the others' journey can be said to be a normal trip considering that Astronauts and other scientists also do the same thing for their work but in various ways. This trip is unusual and could have a bad impact because this activity is still a new phenomenon and there is no legal regulation or legal aspect that regulates it explicitly. Considering the accident that happened to the Virgin Galactic company in 2014, this activity doesn't mean an activity that is free from all risks, but it can pose a very high risk to the crew, passengers and in the area around the launch of the aircraft.

Method

Normative legal research is legal research that places law as a norm system building. The norm system built is regarding the principles, norms, rules of legislation, court decisions, agreements, and doctrine (teachings)(Michael, 2019)

2. Research Results and Discussion

2.1. Space Law

When we hear the word space, which first appears in our minds, it's an infinite empty space on the surface of the earth which is very large and even countless. Space law is a part of legal science related to outer space, or law science that makes space the object of its study. Space is broadly defined as space that is generally agreed upon based on certain criteria considered to be above the airspace of a country's territorial territory and above the air space of the common (international) nations.(Pranidita, Rosidawati and Rahmatullah, 2019) Space is stated on the basis of the nationality of agrarian law which has been formulated in Article 1 of the Basic Agrarian Law, namely the Indonesian Territory which consists of earth, water, space, and natural resources contained therein, which is one of the Indonesian commitments of the Indonesian people who are united as Indonesian nation.

Currently conceptualized by countries in the world that space is a shared space that is free from claims of ownership by anyone. Conservatively it can be interpreted that all countries in the world have the same rights to space. In reality this is not true, because:

- a) Not all positions in space have the same economic value, thus space can be classified as economic goods/objects for which sacrifice is required.
- b) Only a few countries can currently use space for it's national interests.

The massive liberalization of the world economy with its free market mechanism has resulted in the globalization of the world economy, where control of production sources, technology and information is very important and is due to the growth and development of large (private) corporations in the world. The corporation is currently using space effectively and efficiently as a source of income. Whereas if it's true that space belongs to the countries in the world, then the space capitalization process should refer to the interests and /or benefits for as many countries as possible in the world, not to be used by large (private) corporations exist in the world only. Currently, thinking is developing about the existence of countries in space. If this happens, then in fact the neutrality of space and the jurisdiction of a legal community will be void.(Lyall and Larsen, 2013)

2.2. Agreement Regulating Activities and Use in Space

The formation of international space law has undergone a process of formation that sequentially starts from soft law (1958-1966), then hard law (1967-1984) and back to soft law (1985-present).(Hukum et al., 2020) Space treaty or formally an agreement on the principles governing the activities of the state in the exploration and use of outer space, including the moon and other space bodies, is an agreement that forms the basis of international space laws. This agreement was opened for signature in the United States, Britain, and the Soviet Union now called Russia on January 27, 1967, and entered into force on October 10, 1967. As of June 2019, 109 countries participated in the agreement, while 23 others have signed agreement but the ratification has still not been completed.(UNODA, no date)

The Outer Space Treaty is the main framework for the basic law of international space law. Among it's principles are prohibiting states parties to the agreement from placing weapons of mass destruction in Earth's orbit, mounting them on the Moon and other celestial bodies, or installing them in outer space. This agreement also states that space exploration must be carried out to benefit all countries and free space for exploration by all countries.

In 1972 the convention on liability for damages caused by space objects took effect. Likewise, within four years a convention on the registration of objects launched into space appeared again. (Hutahaean, 2008)

2.3. Tourists and Prospective Tourists for Space Tourism Activities

This activity began to be noticed by many people when there was a businessman and scientist from the United States named Dennis Tito who became one of the first people to become a tourist on the trip.(Wall, 2011) On April 28, 2001 Dennis Tito paid for himself when on the International Space Station (ISS) aboard the Russian Soyuz spacecraft.

Apart from Dennis Tito, there are still space tourists who travel using the Russian Soyuz spacecraft, here is a list of space tourists traveling using the Russian Soyuz aircraft, as in the table below.

Tabel 1.1

NO	Name	Country of Origin	Profession / Job	Departure Year
1.	Dennis Tito	United States	Engineers	28 April 2001
2.	Mark Richard Shuttleworth	South Africa and England	Enterpreneurs	25 April 2002
3.	Gregory Olsen	United States	Enterpreneurs, engineers and scientists	1 October 2005
4.	Anousheh Ansari	Iran	Engineers	18 September 2006
5.	Charles Simonyi	Budapest, Hungary	Architects at Microsoft Companies	7 April 2007 and March 2009
6.	Sheikh Muszaphar Shukor	Malaysia	Doctor, astronauts	10 October 2007
7.	Yi So Yeon	South Korea	Scientists	8 april 2008
8.	Richard Gariot	United States	Computer games business	12 October 2008

List of Space Tourists Using Russian Soyuz Aircraft (Hutahaean, 2008)

Prospective Virgin Galactic passenger, a 61-year-old business school professor named Ketty Maisonrouge, re-enrolled in 2005 for her promise to be at Zero G or Zero Gravity because Ketty had waited 15 years for this trip, paying her \$ 250,000 or Rp.3,700,000.000 to travel beyond Earth's atmosphere. The company that sold the tickets, Virgin Galactic, said it would finally schedule its flights in 2020. But the journey will be preceded by Sir Richard Branson, the founder or founder of Virgin Galactic, but his departure is not too far away.(Thomas, no date)

2.4. Rocket Launching Companies That Build Business Activities in Space Tourism

Space tourism is currently one of the activities that attracts the attention of many people, where this activity is intended only for entertainment or recreation in a way that a person must buy a ticket so he can travel back and forth to space. This activity has long been dreamed of by many people because without having to become an astronaut, people with various professions can already feel what it feels like to be in space. The space tourism business opportunity is very profitable, several private companies took this opportunity to start moving in business and there are also several projects that are currently underway to commercialize this space travel such as:

- a. Virgin Galactic

On February 22, 2019, SpaceShipTwo was successfully flown by reaching an altitude of more than 88.5 kilometers.

- b. Space X
- c. Blue Origin
- d. Orbital ATK
- e. SpaceDev

f. Bigelow Aerospace(Muviola, 2018)

Formed by the owner of the Budget Suites of America hotel, Robert Bigelow hopes to create an affordable habitable space station for the corporate community.

g. Space Island Group

They will build a commercial space infrastructure shaped like a rotating ring to resemble the spacecraft Discovery in the 2001 film: A Space Odyssey. Space Island said it would build a space city from NASA's empty former space fuel tank, and place it some 400 miles (644 km) above Earth. The Space City will rotate once per minute to create a gravitational pull that is one-third as strong as Earth.

h. The X Prize

It is a national contest offering \$ 10 million to the first private company to develop a reusable or repeatable launch vehicle (RLV) capable of taking the general public into space.

i. Space Adventures

According to their statements, Space Adventures plans to “successfully fly tens of thousands of people into space over the next 10-15 years and beyond, both orbital and suborbital, around the moon and back, from spacecraft both on Earth and in space ..”

j. Hilton Hotels

In fact, they are also showing an interest in the space tourism industry and are likely to build or co-finance hotels in space. However, the company said they believed that such a space hotel would be successful in the next 15 to 20 years.(Bonsor, no date) In this space tourism trip, of course, it requires a lot of money, from the private companies that build this space tourism business that have different price benchmarks. The following is a price comparison for each company which will be explained in the table below.

Table 1.2. Comparisons of Travel Ticket Prices of Each Private Company

No.	Nama Perusahaan	Harga
1.	Virgin Galactic	\$250,000 / Rp3.700.000.000,00(Grush, 2020)
2.	SpaceX	\$55 million / Rp814.000.000.000,00(O’Kane, 2020)
3.	Blue Origin	\$200,000 / Rp2.960.000.000,00 (O’Callaghan, 2019)
4.	International Space Station / ISS	\$52 million / Rp769.600.000.000,00 (Sheetz, 2019)

3. Conclusion

This space tourism activity is still relatively new and the laws and regulations don’t regulate too explicitly, with this the parties involved, such as tour operators, and potential ticket buyers must know what consequences must be borne during this tourism activity. And with the price offered so great that the organizers should be able to provide safety assurance services for the crew on board the spacecraft.

References

- Bonsor, K. (no date) How Space Tourism Works, Howstuffworks.
- Grush, L. (2020) Virgin Galactic lost \$60 million in first quarter, announces new NASA partnership for supersonic tech, THE VERGE.
- Hukum, J. et al. (2020) 'SUI GENERIS DALAM PENGGUNAAN GEO STATIONARY ORBIT BERDASARKAN PRINSIP DAN HUKUM RUANG ANGKASA Pendahuluan Indonesia telah mengesahkan Traktat Mengenai Prinsip-Prinsip Yang Mengatur Kegiatan Negara-Negara dalam Eksplorasi dan Penggunaan Antariksa , Termasu', 3, pp. 163–178.
- Hutahaean, P. (2008) 'Bisnis komersial wisata antariksa'.
- Lyall, F. and Larsen, P. B. (2013) Space law: A treatise, Space Law: A Treatise. doi: 10.1016/j.spacepol.2009.11.010.
- Michael, T. (2019) 'KORELASI HUKUM DOCUMENT ON HUMAN FRATERNITY FOR WORLD PEACE AND LIVING TOGETHER DENGAN UNDANG-UNDANG REPUBLIK INDONESIA NOMOR 24 TAHUN 2007 TENTANG PENANGGULANGAN BENCANA', Jurnal Hukum Magnum Opus. doi: 10.30996/jhmo.v2i2.2178.
- Muviola, S. P. (2018) 6 Perusahaan Swasta Ini Berlomba Tawarkan Wisata ke Luar Angkasa, KumparanSAINS.
- O'Callaghan, J. (2019) Blue Origin Launches Its First Space Tourism Rocket In Seven Months - And Hopes To Take Humans To Space In 2020, Forbes.
- O'Kane, S. (2020) SpaceX will send three tourists to the International Space Station next year, THE VERGE.
- Pranidita, N., Rosidawati, I. and Rahmatullah, T. (2019) Teori Hukum Ruang Angkasa. Sleman: CV Budi Utama.
- Sheetz, M. (2019) A trip to the International Space Station will cost tourists \$52 million, CNBC.
- Thomas, Z. (no date) The woman who paid \$250,000 to go into space, BBC NEWS.
- UNODA (no date) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, UNODA (United Nations Office for Disarmament Affairs).
- Wall, M. (2011) First Space Tourist: How a U.S. Millionaire Bought a Ticket to Orbit, SPACE.com.