



International Legal Protection of The Impact of State Activities In Space For Other Countries

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Abstract

Introduction: Remote sensing is a natural identification system method or determination of the condition of objects on the earth's surface as well as goods beneath or above it, with suggestions for observations from the air and space. The consequences that are detrimental to the country in the absence of regulation in the use of data and information from remote sensing results from satellites in the economic field are closely related to welfare issues.

Purposes of the Research: The purpose of this research is to know and understand the regulation of remote sensing in international law and the impact of its use on other countries.

Methods of the Research: This research is a normative study using a statutory approach with the source of legal materials used primary legal materials and secondary legal materials and tertiary legal materials with qualitative analysis with deductive and inductive methods.

Results of the Research: The impact of state activities in space, in this case, remote sensing activities, is very beneficial for human life because remote sensing with satellites can cover large areas in a short time. However, on the other hand, these activities can cause a detrimental effect on the countries being sensed, or the under-country, whether in the economic, political, or state defense and security (military) fields because they are related to the sovereignty of the under-country based on international law.

A. INTRODUCTION

The attention of mankind to the natural world around them, namely land, sea, air space, and outer space as well as other celestial bodies such as the moon, stars, and the sun has been going on for thousands of years. Humans observe birds that can fly freely in the sky, then generate dreams and desire to imitate them. Now humans are not only able to fly in air space, but also in space. These efforts are the result of scientific progress, especially aviation technology, namely the science of how to use space¹. The Soviet Union's "Sputnik I" satellite was launched on October 4, 1957, as the first human success, which was followed by the United States' efforts to focus the international community's attention on space activities. The desire and urge of the human heart to research things that are not yet known and find ways to further improve their welfare

¹ Priyatna Abdurrasyid, *Pengantar Hukum Ruang Angkasa Dan Space Treaty 1967*, (Bandung: Binacipta, 1977), p 1

through technological advances enhance space exploration².

Activities in space are growing rapidly after being able to show the benefits generated by helping solve various problems faced by humans in the world³. Simultaneously with the commencement of space utilization activities, regulations or laws governing space utilization activities also emerge. The resolutions of the United Nations (UN) gave birth to the 1967 Outer Space Treaty and its elaboration in the form of agreements and/or international conventions. treaty On Principles Concerning The Activities Of State In The Exploration And Use Of Outer Space, including The Moon and Other Celestial bodies, or abbreviated Outer Space Treaty 1967, is known as the basic law in the field of space law. In essence, it regulates human endeavors and activities and establishes rights and obligations for states⁴. Article II of the Outer Space Treaty reads: "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."

There are activities in space that provide countless benefits for human life in the world, so developed countries are competing to launch space objects to carry out exploration and exploitation in space. Space object placement activities are carried out by countries with various functions and objectives. This is done by creating a space station that allows humans to conduct experiments in space for a long time or by placing an artificial satellite for mass communication tools, remote sensing, or the military field. Rapid technological advances not only provide benefits but due to the development and competition of countries to launch superior space technology, the competition for activities in space does not only bring positive impacts. A problem that arises due to the use of outer space is known as "remote sensing".

Remote sensing is a natural identification system that involves the method or determination of the condition of objects on the earth's surface as well as goods beneath or above it, with suggestions for observations from the air and space⁵. Thus, remote sensing can be carried out in airspace by using aircraft (for example, the United States' U2 aircraft), or it can also be carried out in outer space by using satellites. The remote sensing satellite system (remote sensing by satellites) is a further development and application of space technology⁶. The ability of humans to place platforms in space is used for observation and data collection, providing information about objects or phenomena around, on, or under the earth's layers. Remote sensing has been around for a long time, but the equipment used is still in the form of aircraft, Currently, the use of satellites is more commonly used as remote sensing device, and space satellite technology does not stop being developed continuously⁷.

² *Ibid.* p. 44

³ E.Saefullah Wiradipradja dan Mieke Komar Kantaatmadja, *Hukum Angkasa Dan Perkembangannya*, (Bandung: Remadja Karya, 1988), p. 181.

⁴ Priyatna Abdurasyid, *op.cit.* p 48

⁵ K. Martono, *Hukum Udara, Angkutan Udara Dan Hukum Angkasa*, (Bandung: Alumni, 1987), p 439.

⁶ Priyatna Abdurasyid, *Kedaulatan Negara Di Ruang Udara*, (Jakarta: Pusat Penelitian Hukum Angkasa, 1972), p 131.

⁷ Yasidi Hambali, *Hukum Dan Politik Kedirgantaraan*, (Jakarta: Pratnya Paramita, 1994), p.95.

The use of satellites as a means of remote sensing is more profitable than using aircraft because the use of satellites is not affected by changes in the natural environment, such as changing seasons, does not require a lot of fuel, and can be used continuously. The advantage of using satellites to carry out remote sensing is that all activities can be carried out, and being able to cover large areas at once and repeatedly is an activity that is impossible to do through aerial photography. Remote sensing satellites operate in space from an orbit line with the greatest elevation angle⁸. The results of remote sensing with satellites in the form of photographs can be studied by various experts in fields such as oceanography, geology, and hydrography, as well as for mapping activities, regional planning, and so on.

The consequences that are detrimental to the state due to the absence of regulation in the use of data and information from remote sensing results from satellites in the economic field are closely related to welfare issues. This field is inherent in the strategic interests of countries, this is important because remote sensing with satellite does not recognize the country's political borders, so the sensing country will have data and information about the country's natural wealth under it without the permission and knowledge of the country. Data and information obtained by the sensing country can then be provided to third countries, also without the permission and knowledge of the country owning the natural resources or the country under it. This concern is caused by a fear of the state under the remote sensing data and information if it is used by unauthorized third parties with the intent to harm their country.

B. METHOD

The method used is Normative Juridical, in which the issues to be discussed are more focused on international law and space law in particular, without putting aside other non-juridical factors. The collection of primary and secondary legal materials relating to international legal protection against the impact of state activities in space will be reviewed with literature studies, and analyzed normatively in order to obtain solutions that are in accordance with positive law, theory, and legal principles, according to experts.

C. RESULT AND DISCUSSION

1. Remote Sensing In International Law

According to E. Suherman, the term Space Law is used in a narrow sense, namely, only the field of law that regulates outer space and its utilization, as the equivalent of the term Space Law or Outer Space Law. As is the case with aviation and air law, which have three main elements. In space and space law activities, there are also three main elements, namely⁹: a) Space or outer space; b). Human-launched spaceships and celestial bodies; c). *space activitie*.

In contrast to space law, air law is a legal regime that applies in the air space

⁸ Priyatna Abdurrasyid, *Hukum Antariksa Nasional (Penempatan Urgensinya)*, (Jakarta: Rajawali Press, 1989), p 26.

⁹ E. Suherman, *Aneka Masalah Hukum Kedirgantaraan*, (Bandung: Mandar Maju, 2000), p 347-349.

above the land area and/or waters or oceans of a country. Air law regulates human activities and other legal subjects in the air. Related to this, it is necessary to distinguish it from the space law regime that applies in space and regulates human activities and other legal subjects in space. Outer space is the space outside the air that is above and covers the entire surface of the earth¹⁰. Based on the description above, the determination of the boundary between air space and outer space is found from various measurement points of view, and the provisions of applicable international law can be separated into air law and space law. Air law clearly defines the boundaries between the airspace of each country in contrast to space law, which prohibits ownership of space, and there are no limits for any country to use space as long as it does not violate international law.

The 1967 Treaty Principles Governing Activities of the State Regarding the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, is the basic law for creating laws in matters of human activity in outer space, including the moon and other celestial bodies. On the basis of the principles contained in the 1967 Outer Space Treaty, until now the United Nations, through the United Nations Committee on the Peaceful Uses of Outer Space, has created an international legal rule regarding space activities, namely¹¹: a). *Treaty Banning Nuclear Weapon Test in the Atmosphere, Outer Space and Underwater*; b). *Agreement on the Rescue of Astronauts, the return of Astronauts and the return of Objects launched into Outer Space / Rescue Agreement*; c). *Convention of International Liability for Damage Caused by Space Object / Liability Convention*; d). *Convention concerning the Registration of Objects launched into Space for Exploration or Use of Outer Space / Registration Convention*; e). *Agreement Governing the Activities of State in the Moon, adn Other Celestial Bodies*.

This means that, until now, all activities carried out using outer space by countries in the world must comply with the rules of international law that have been mentioned. For example, in the Astronaut Rescue Agreement, there is an obligation to help and provide assistance to astronauts who are in trouble both in the jurisdiction of the launch country and in other countries, such as in the event of an accident or other dangerous situation, it is permissible to make an emergency landing in the jurisdiction of another country. This reflects the influence of space law as the foundation for regulating all human activities and other international legal subjects in outer space, regardless of countries' freedom to use and exploit space.

In addition to remote sensing with satellites, remote sensing can also be carried out with aircraft. Remote sensing by aircraft is subject to the national laws of the sensed country. Therefore, remote sensing by aircraft is not carried out before obtaining approval from the sensed country. This is in accordance with the provisions of Article 1 of the 1944 Chicago Convention, which confirms as follows: "*The contracting State recognize that every State has complete and exclusive sovereignty over their air space above its territor*". *The consequence of the provisions of Article 1 of the 1944 Chicago Convention above is that each country can prohibit all aviation activities, including remote sensing (by aircraft) over its territory*. The provisions of air law above do not apply to the implementation

¹⁰ E. Saefullah Wiradipradja, *Pengantar Hukum Udara dan Ruang Angkasa (Buku I Hukum Udara)*, (Bandung: Alumni, 2014), p 5.

¹¹ Priyatna Abdurasyid, *Op.Cit*, p. 23

of remote sensing by satellite. This is important because remote sensing with satellites is done from space, which is outside the sovereign territory of a country.

2. State Activities in Space and the Impact of Their Use

The development of the times demands cooperation between countries in the context of improving the national and state life sectors in the political, economic, social, cultural, defense, and security fields. One of the efforts made by the government to answer the demands of that era was to enter into an international treaty to establish relations between countries so as to foster good cooperation¹². Spaceflight is the physical exploration of extraterrestrial bodies and usually involves the technology, science, and politics associated with outer space. Currently, space flight is also used to place satellites, repair satellites, bring satellites to earth or space stations, provide transportation to space stations or the moon, land on a planet, and conduct interplanetary and intergalactic exploration. Today, the development of space science and technology has connected the whole world through satellites, especially communication and broadcasting satellites. A satellite placed in orbit can receive signal waves from a ground station, then amplify the sound and retransmit the signal to the receiving station¹³.

The use of satellites to carry out remote sensing is more profitable when compared to remote sensing by aircraft. This is in accordance with the opinion of H. Zalbawi Soejoeti in his inaugural speech as a main researcher expert at the National Aeronautics and Space Institute, who stated that "remote sensing with space satellites (sensing technology) is able to provide data on natural resources and the environment that includes a large area in a short time, which has become a necessity in many countries that have large areas¹⁴. Remote sensing with satellites can also be used in the context of eradicating diseases and germs, conducting experiments, and monitoring oil and other chemical pollution. Remote sensing can be used for cloud guidance, which is useful for maritime weather forecasts, and can also be used to determine seasonal variations in certain crops and determine vegetable fertility and reforestation. In this case, remote sensing with satellites is very beneficial for the welfare of the country using it. This system is used for various purposes, such as gathering information on natural resources, forest and water resource management, mapping, marine information, natural disaster detection, and so on.

As already explained, sensing has many useful benefits. The use of satellites for remote sensing can benefit both the sensing country and the sensed country (under the country), but it can also have a negative impact, particularly on the under country, because it involves the issue of state sovereignty. In this case, international law

¹² Riry, W. A., Baadilla, E., Leatemia, W., Hattu, V. V., & Rumalalak, J. M. (2021). Perjanjian Kerjasama Internasional dalam Konstruksi Negara Kesatuan Republik Indonesia. *Balobe Law Journal*, 1 no (1): 25-32.

¹³ Sutarto, Agustus 2016, *Satelit Dan Penerbangan Luar Angkasa*, <http://sutartogeo.blogspot.com/2016/08/-satelit-dan-penerbangan-luar-angkasa.html>, (accessed 19/02/2023).

¹⁴ Satria Diaz Pratama Putra, Agus Pramono, H.M. K. Supriyadhie; 2019, Analisis Yuridis Eksistensi Yurisdiksi Satelit Ruang Angkasa Menurut Hukum Internasional, *Diponegoro Jurnal Law*, 8 no (1).

recommends that every country must respect the sovereignty of all countries both on land, sea, and in the air space. Consequences that are detrimental to the undersea country due to the absence of regulation in the use of data and information from remote sensing results with satellites are a concern for developing countries, especially equatorial countries where satellite placement is often carried out in the orbit of the equatorial country. The results of misused sensing can have an impact on the economic sector as well as the field of national defense and security.

From a defense and security perspective, the use of satellites for remote sensing can be detrimental to the country being sensed. This relates to the use of remote sensing via satellite for military purposes by carrying out espionage activities in the form of collecting data and information on military strength from the sensed country. Thus, the right of the state to maintain secrecy in the field of defense and security can no longer be maintained. Such technological progress without being aware of the legal provisions that regulate it will result in unimaginable catastrophe for mankind, and laws that are not adapted to the development of society will be useless. Therefore, law and technology must develop together. Ideally, even the law must be able to envision technological developments in the future or at least be able to detect and regulate legal issues related to various aspects of technological development as early as possible, namely, foreseeable legal problems, so that there will continue to be the notion that the law is always behind the real facts in society.¹⁵

International law establishes an obligation for countries in the world not to intervene in the territorial sovereignty of other countries. Based on the concept of sovereignty, developing countries argue that the operation of remote sensing using space satellites without asking for the consent of the sensed country is a form of intervention¹⁶. This means that the use of space technology, in this case, remote sensing can indeed be used for military purposes, especially since the use of this technology cannot be controlled by any party except the launching countries because there are no binding provisions governing the use of remote sensing and space technology. renewable. In fact, to ensure that activities in space are carried out for the sake of peace, it is necessary to determine international quality standards. This international quality standard is intended to measure and determine the function of space technology that is orbited by a country, this is important because if each country determines its own standard, it will cause gaps and problems that affect the direction of future use of space technology by countries in the world.

D. CONCLUSION

The impact of state activities in space, in this case, remote sensing activities, is very beneficial for human life because remote sensing with satellites can cover large areas in a short time. However, on the other hand, these activities can cause a detrimental effect on the countries being sensed, or the under-country, whether in the economic, political, or state defense and security (military) fields because they are

¹⁵ Mieke Komat Kantaatmadja, *Berbagai Masalah Hukum Udara Dan Angkasa*, (Bandung: Remadja Karya), p 104.

¹⁶ Martinus Omba, 2014, Prinsip Kebebasan Di Ruang Angkasa Menurut "Outer Space Treaty 1967" Dan Perkembangannya, *Docplayer*, .44 no (3).

related to the sovereignty of the under-country based on international law. Until now, space technology has continued to develop, and the use of space in aspects of national security has become important enough that space technology races have arisen. This is often driven by external and internal conditions, one of which is remote sensing, a form of technological competition related to national security and defense.

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