

ANALYSIS OF EQUATORIAL STATES' SOVEREIGN RIGHTS OVER GEOSTATIONARY ORBIT UNDER OUTER SPACE TREATY

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Abstract

Until 2024, equatorial countries are going to stand for the right to sovereignty and even the right to fair and proportional use of geostationary orbit. Equatorial states, despite their geographical advantages, face unequal access and disadvantages when it comes to the geostationary orbit. The prevailing procedures in place actually pose challenges for these states. This research employs normative legal methods to examine the rights and sovereignty claims of equatorial countries in relation to the utilisation of the geostationary orbit. Based on the findings of this study, it is evident that equatorial countries' assertions of sovereignty lack justification under current international legal frameworks. However, this research also provides a solution to revamp the mechanism for governing the utilisation of geostationary orbits. This solution is built upon the principle of special and differential treatment, which has been adopted by the World Trade Organisation (WTO). By embracing this principle, there is optimism that equatorial countries will have a better chance at accessing the geostationary orbit in a just and balanced manner. This will enable them to fully utilise their geographical advantages while staying within the boundaries of international regulations.

Keywords: *Equatorial States; Fair and Proportional Claim; Geostationary Orbit; The Principle of Special and Differential Treatment; Sovereignty Claim.*

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1. Introduction

From a technical perspective and as a natural resource, the geostationary orbit undeniably possesses significant strategic worth and offers immense advantages, particularly for those who put the communication satellites in this orbit.¹ However, in reality, only advanced nations with significantly superior resources and knowledge of technology can effectively employ and take advantage of Geostationary orbit.² In addition, the utilisation of the Geostationary orbit is governed by The Outer Space Treaty, as well as two international bodies, namely the International Telecommunication Union (ITU) and the United Nations Committee on Peaceful Uses of Outer Space (UNCOPUOS). These bodies have established strict regulations and mechanisms for the use of the geostationary orbit.

¹ Yaries Mahardika Putra, Ridha Aditya Nugraha, and Taufik Rachmat Nugraha, "Geostationary Orbit Slot Reconceptualization in Accommodating the South," *Indonesian Journal of International Law* 19, no. 3 (2022), <https://scholarhub.ui.ac.id/ijil/vol19/iss3/2/>.

² Rafał Kopeć, "Geostationary Belt – State's Territory or Province of Mankind?," *Review of Nationalities* 8, no. 1 (2018): 167–78, <https://doi.org/10.2478/pn-2018-0011>.

The strict regulations imposed by both bodies³ regarding the use of geostationary orbit, have become a significant challenge for equatorial countries, most of which are developing countries. A geostationary orbit, which is situated directly above the equator, is a strategic location for communications satellites due to its ability to maintain a consistent position in relation to the Earth's surface.⁴ However, the allocation and management of slots in these orbits are rigorously regulated by ITU and UNCOPUOS to prevent interference and ensure fair use. Developing countries frequently lack the technical and financial resources to contend with developed countries in the utilisation of these restricted slots.

In Fact, restricted access might impede the progress of communication technology in tropical nations, as they heavily depend on satellites to extend telecommunications coverage and provide internet access to isolated regions. Insufficient access to geostationary orbit could impede the development of digital infrastructure, which is crucial for economic and social progress in these countries.⁵ The laws established by ITU and UNCOPUOS, with the objective of promoting the organised and harmonious utilisation of outer space, frequently fail to consider the disparities in technological capabilities between industrialised and poor nations. Thus, by adopting this law, rather than attaining equitable geostationary utilisation, it actually introduces a new form of inequity.

Consequently, the discrepancy in usage also prompted equatorial countries to assert their sovereign rights in the Bogota Declaration. Equatorial nations perceive a significant disadvantage resulting from the distribution of resources and rules that primarily favour industrialised nations. Consequently, they assert their claim for acknowledgment of their sovereign rights over the airspace situated above their geographical region. The Bogota Declaration, issued in 1976, highlighted the principle that countries located on the equator had exclusive rights to the segment of the geostationary orbit situated above their country.⁶ This request aims to guarantee that equatorial countries, which are also developing nations, may access and benefit from the economic and technological advantages of utilising the geostationary orbit.

Furthermore, it is crucial to emphasise that the demands made by equatorial countries in the Bogota Declaration are still ongoing at now. Despite the passage of several decades after the proclamation was made in 1976,⁷ this matter continues to be significant as developed countries still hold the majority control over the allocation and use of geostationary orbit. Equatorial nations perceive the existing global system as unjust and disadvantageous to them due to their lack of equitable access to the orbit, a crucial resource for satellite communications.⁸ Consequently, they persist in advocating for the acknowledgment and safeguarding of their rights in relevant international regulations.

In addition to the claims for sovereign rights stated in the Bogota Declaration, there are currently further demands for the equitable and proportionate utilisation of the geostationary orbit. This demand arises not only from countries located along the equator, but also from a number of

³ Huiliang Liu, Qian Sun, and Siyuan Han, "The Compliance Issues with Regard to the Registration Procedure of Satellite Constellations," *Space: Science and Technology (United States)* 4 (2024), <https://doi.org/10.34133/space.0117>.

⁴ Phillip Post et al, "An Analytical Comparison of Geostationary (GSO) and Non-Geostationary (NGSO) Satellite Filings Submitted to the Federal Communications Commission (FCC) Between 2012 to 2022," *Electronical Journal* (2023), <https://dx.doi.org/10.2139/ssrn.4528719>.

⁵ Berna Akcali Gur and Joanna Kulesza, "Equitable Access to Satellite Broadband Services: Challenges and Opportunities for Developing Countries," *Telecommunications Policy* 48, no. 5 (June 1, 2024), <https://doi.org/10.1016/j.telpol.2024.102731>.

⁶ Siavash Mirzaee, "The Geostationary Orbit in the Light of the Common Heritage of Mankind (International Legal Aspects)," *Legal Concept*, no. 1 (May 2018): 152–57, <https://doi.org/10.15688/lc.jvolsu.2018.1.25>.

⁷ Pauline Pic, Philippe Evoy, and Jean-Frédéric Morin, "Outer Space as a Global Commons: An Empirical Study of Space Arrangement," *International Journal of the Commons* 17, no. 1 (2023): 288–301, <https://doi.org/10.5334/ijc.1271>.

⁸ Anjar Supriadhi, "Rezim Hukum Khusus Atas Orbit Geostasioner (GSO) (Prospek dan Tantangan)," *Pandecta: Research Law Journal* 13, no. 1 (August 2, 2018): 63–75, <https://doi.org/10.15294/pandecta.v13i1.9220>.

countries in the process of development. The countries expressed a desire for a fairer distribution of access to the geostationary orbit, which plays a crucial role in communications and broadcasting technology. Presently, it is not solely countries located along the equator that are grappling with the challenges posed by the Bogota Declaration.⁹ This is predicated on the prevailing assumption that underdeveloped countries face challenges in obtaining sufficient slots. This demand aims to advocate for policy changes that promote inclusivity in the use of geostationary orbit. The objective is to ensure that all countries, irrespective of their economic development, have equal opportunities to utilise this technology for mutual progress.¹⁰

As a result, the current inquiry pertains to the significance of this inherent authority, provided that it is derived from the outer space treaty. The utilisation of this orbit does not acknowledge the presence of a distinct orbit, as it exclusively concentrates on industrialised nations. If the relevance is not established, what is the underlying justification for the demands outlined in the current Bogota declaration? Do equatorial countries, classified as developing countries, have the right to get proportional usage rights for this orbit? Furthermore, what is the optimal approach to bridge this divide? In order to answer these issues, conducting thorough research on this subject is of utmost importance.

The research holds great significance, as it addresses a gap in prior studies by examining the factors driving the desire for sovereignty in equatorial countries. In 2020, Ruman Sudradjat and Sri Endah Wahyuningsih did research titled "Jurisdiction Problems For The Indonesian National Aerospace" in the International Journal of Innovative Research and Advanced Studies (IJIRAS). In this research, we analyse and elucidate the concept of sovereignty from the viewpoint of Indonesia.¹¹ In addition, the research performed by Anél Ferreira-Snyman, titled "Challenges to the Prohibition on Sovereignty in Outer Space - A New Frontier for Space Governance," is currently focused solely on advocating for sovereignty. Currently, the demand for geostationary orbit extends beyond the scope of sovereign sovereignty. Research employing Normative legal approaches will expand the investigation of the calls for equitable utilisation of these orbits, rather than solely concentrating on sovereign rights.¹²

2. Method

The research was carried out using normative legal methodologies. This study employed a conceptual method and a statutory regulatory approach¹³ to examine the sovereign rights of equatorial nations with respect to the geostationary orbit, as outlined in the Outer Space Treaty. The data comprised of primary legal sources, including the text of the Outer Space Treaty, the Bogota Declaration, and International Telecommunication Union (ITU) regulations, with secondary legal sources such as academic literature and legal journals.¹⁴ The employed methodology was qualitative analysis, which involving gathering, examining, and integrating data to assess the sovereignty assertions of equatorial nations and their significance within the existing international legal framework. Additionally, this analysis explores how these claims of sovereign

⁹ Deden Habibi Ali Alfathimy, Totok Sudjarmiko, and Euis Susilawati, "Ketimpangan Pemanfaatan Orbit Geostasioner (GSO) dalam Lingkungan Sistem Dunia," *Intermestic: Journal of International Studies* 4, no. 1 (November 29, 2019): 88, <https://doi.org/10.24198/intermestic.v4n1.6>.

¹⁰ Agung Prayuda Yahya Putra, "The Urgency of Sui Generis Arrangements for Equatorial Countries, especially Indonesia," *Jurnal Legalitas* 14, no. 1 (2021): 18-40, <http://dx.doi.org/10.33756/jelta.v14i01.10209>.

¹¹ Ruman Sudradjat and Sri Endah Wahyuningsih, "Jurisdiction Problems for the Indonesian National Aerospace," *International Journal of Innovative Research and Advanced Studies (IJIRAS)* 7, no. 6 (June 2020), www.ijiras.com.

¹² Anél Ferreira-Snyman and A Ferreira -Snyman, "Challenges to the Prohibition on Sovereignty in Outer Space-A New Frontier for Space Governance," *PER / PELJ* (2021), <http://dx.doi.org/10.17159/17273781/2021/v24i0a8685>.

¹³ Tunggal Ansari Setia Negara, "Normative Legal Research in Indonesia: Its Origin and Approaches," *ACLJ* 4, no. 1 (2023): 1-9, <http://dx.doi.org/10.22219/aclj.v4i1.24855>.

¹⁴ Ervina Dwi Indriati and Nunung Nugroho, "Philosophy of Law and the Development of Law as a Normative Legal Science," *International Journal of Educational Research & Social Sciences* 3, no. 1 (2022): 314-321, <https://doi.org/10.51601/ijersc.v3i1.293>.

rights translate into equitable and proportionate utilisation of the geostationary orbit. The objective of this research is to offer a comprehensive comprehension of the legal dynamics that control the geostationary orbit and its consequences for emerging nations.

3. Results and Discussion

3.1. Analysis of Bogota Declaration Claims

The demand for the Bogota declaration is intricately linked to the geostationary orbit. The geostationary orbit is a circular orbit that lies on the equator and has the same revolution period as the Earth's sidereal rotation period. In other words, it takes the satellite the same amount of time as the Earth to complete one full rotation. Additionally, the satellite moves in the same direction as the Earth's rotation.¹⁵ A satellite is considered to be geostationary when it follows a specific orbit that causes it to seem immobile in the sky when observed from Earth. This type of satellite is positioned directly above a particular point on the Equator, with its longitude specified by the spacecraft's location. These orbits are crucial regions of space where satellites are positioned in close proximity to the Earth's surface, facilitating uninterrupted connection, data transmission, and early detection of signals.¹⁶ This geostationary satellite occupies a strategically advantageous orbital position, particularly suitable for the deployment of communication and military satellites. The distinctive attributes of these satellites render them both economically and politically advantageous, hence sparking discussions on the regulations governing space development.

Subsequently, geostationary orbit satellites were also equipped with features like thermal deformation isolation, which allows them to alter their shape, area, and volume in response to fluctuations in temperature. Aluminum doors, windows, and facades will undergo expansion when exposed to heat and contraction when exposed to cold, as long as there is enough space available. This is done to fulfill the need for precise load detection and to address the issue of thermal deformation between the satellite platform and the load. These cutting-edge satellite systems in space employ sophisticated optical systems to achieve high-resolution monitoring imaging capabilities, surpassing the constraints of conventional imaging systems and enabling active search discovery, continuous tracking, and monitoring capabilities.¹⁷

In addition to maintaining a satellite in a permanent location above the equator, Geostationary Orbit satellites also provide significant capabilities for a range of applications, such as communications, navigation, and meteorology. This satellite, located at a high altitude, offers extensive coverage and reliable communication connections because it rotates synchronously with the Earth's surface.¹⁸ Nevertheless, there exist obstacles such as disputes in allocating spectrum with radio astronomy equipment, which necessitate the development of inventive methods for sharing spectrum in order to minimise interference and enhance data transmission capacity. In addition, advancements in satellite systems include the incorporation of High Throughput Satellites to enhance data rates and improve the quality of service. This may be observed in the development trend of the Intelsat EPIC solution.¹⁹ Real-time identification of space debris in Geostationary orbit is crucial for ensuring spacecraft safety. Efficient methods for recognising and tracking junk in the orbital belt include photoelectric detection algorithms and the phenomenon of electron release from metal owing to light beams.

¹⁵ Aryuni Yuliantiningsih, "Rethinking the Urgency of Geo Stationary Orbit for Indonesia (the Case of Privatization of Indosat in Space Law Perspective)," *AIP Conference Proceedings* 2573 (American Institute of Physics Inc., 2022), <https://doi.org/10.1063/5.0104151>.

¹⁶ Roy Balleste, "Space Horizons: An Era of Hope in the Geostationary Orbit," *J.ENVTL. Law and Litigation* 35, no. 165 (2020).

¹⁷ Yuanzhi He et al., "Distributed Satellite Cluster Laser Networking Algorithm with Double-Layer Markov DRL Architecture," *Space: Science and Technology (United States)* 3 (2023), <https://doi.org/10.34133/space.0012>.

¹⁸ Annette Froehlich et al., "Space Supporting Latin America," *Studies in Space Policy* 25 (2020).

¹⁹ T. Narytnyk and S. Kapshtyk, "Prospects for the Development of Geostationary Satellite Communications Systems in the World," *UKRMICO* (2019): 146–66, https://doi.org/10.1007/978-3-030-16770-7_7.

Presently, the prevailing geostationary slot proprietors include of non-equatorial nations, specifically developed countries.²⁰ Nations situated on the equator possess distinct benefits and difficulties, specifically in the domains of space legislation, global diplomacy, and economic progress. Countries located along the equator encounter limitations in asserting control over outer space, although they can leverage their equatorial position to deploy satellites, thereby influencing their national interests. In recent times, the petroleum discoveries and cultural influences in Equatorial Guinea have played a significant part in shaping projects like the "Red Heifer Project to Africa." This project has highlighted the economic opportunities and difficulties encountered by countries in the equatorial region. In addition, the metaphorical lens of the equator, as previously said, underscores the intricate nature of position and privilege in global research, thus accentuating the indistinct borders between insider and outsider positions. In general, the equator represents the point where opportunities and limitations converge, impacting a country's position in different global contexts.

The Equatorial States assert their sovereignty over the geostationary orbit segment by arguing that geostationary synchronous orbits are a physical reality resulting from the gravitational forces of the Earth. They contend that since these orbits are intrinsically linked to Earth, it should not be classified as part of outer space. The aforementioned declaration firmly expressed a definitive viewpoint that reached its peak in the Declaration - the announcement of their national authority over every portion of the geostationary orbit as their inherent asset (SDA). Consequently, as stated in the Declaration, the positioning of equipment in certain sections necessitates obtaining the explicit and previous consent of the relevant State. The Bogota Declaration and its supporting arguments assert that Equatorial States have the right to consider certain portions of the geostationary orbit as part of their national sovereignty. This is justified by the fact that these segments, which are connected to their terrestrial territory through the Earth's gravity, are recognised by the United Nations General Assembly Resolution as a resource belonging to these states.

States, particularly developing nations, establish their 'full and permanent sovereignty'. The second argument in favor of this Declaration is derived through logical reasoning based on the absence of any explicit definition of outer space in the 1967 Outer Space Treaty.²¹ Moreover, the attempts made by the Bogota Declaration to establish control over the geostationary orbit have mostly been abandoned, mostly because they have not received sufficient recognition and backing from the international community. Furthermore, a key finding derived from the aforementioned statement is that the solutions put forth by the International Telecommunication Union and related documents, which aim to improve the utilisation of geostationary orbits in order to prevent saturation, are presently unachievable. Once more, this approach is not practical, unjust, and will significantly raise the expenses associated with utilising these resources. This is particularly burdensome for developing nations that lack the same technological and financial capabilities as industrialised countries, which currently hold a monopoly on resource exploitation. Additionally, the use of geostationary synchronous orbit further compounds these challenges.²²

Moreover, these States argue that the geostationary orbit cannot be classified as part of outer space under the terms of this Treaty because the Treaty does not provide a specific definition of outer space. The signatories or members of the Bogota Declaration inferred from the absence of a clear definition that Article II of the Treaty, which forbids national ownership of outer space, does not actually extend to the geostationary orbit. This statement was made in reaction to the growing utilisation of satellites in geostationary orbit, which holds a highly advantageous position as these satellites can maintain a stationary position above a specific place on the Earth's

²⁰ Stefano Gallozzi, Marco Scardia, and Michele Maris, "Concerns about Ground Based Astronomical Observations: A Step to Safeguard the Astronomical Sky," *ArXiv* (January 29, 2020), <http://arxiv.org/abs/2001.10952>.

²¹ Richo Wembi Nafis, M. Kabul Supriyadhie, and Adya P., "The Utilization of GSO by Indonesia as a Subjacent State Based on Space Treaty 1967," *ICST/AMI* (2021): 17-18, <https://doi.org/10.4108/eai.17-7-2019.2303333>.

²² Bekim Nuhija and Stefani Stojchevska, "Legal Aspects of Satellite Telecommunication within Geosynchronous Orbital Slots Regarding International Organizations," *Institute for Sociological, Political and Juridical Research XLIII*, no. 2 (2019), <https://www.researchgate.net/publication/377002502>.

surface. Countries situated on the equator assert their entitlement to the portion of the orbit that is positioned above their territory. During the ITU World Radio Conference held in Geneva in January-February 1977, the Equatorial countries restated their assertions on certain portions of the geostationary orbit.

Nevertheless, a number of countries included in the Conference issued official statements affirming that the allocation of places in geostationary orbit for satellite transmission is fully compliant with universally acknowledged norms and regulations of international law. The United Nations Subcommittee on Outer Space Law deliberated on matters pertaining to the Bogota Declaration during its Sixteenth Session in New York, which took place from 14 March to 8 April 1977. The discussion took place in relation to two topics on the agenda: 'Development of guidelines regulating the utilisation of artificial earth satellites by nations for direct television transmissions' and 'Issues pertaining to the clarification and/or restriction of outer space and operations conducted in outer space.' Colombia, Ecuador, and Guyana, which were not then part of the UN Committee on the Peaceful Uses of Outer Space and its Scientific, Technical, and Legal Subcommittees, were granted permission to attend the formal meeting of the latter committees upon their request.

In 1976, during a summit in Bogota, eight countries located near the equator adopted a declaration asserting their ownership of the geostationary orbit section situated at an altitude of 36,000 km above sea level.²³ The Bogota Declaration of 1976 was a significant proclamation issued by eight nations, namely Colombia, Ecuador, Congo, Indonesia, Kenya, Uganda, and Zaire, with Brazil participating as an observer. The declaration emphasised their entitlement to the geostationary orbit (GSO).²⁴

For almost 250 years, people have made assertions of possessing the Moon and other heavenly entities. Instances when individuals or entities assert ownership over the Moon and other celestial bodies include:

1. The 1976 Bogota Declaration stated that eight equatorial countries asserted their sovereignty over the geosynchronous orbit. These nations asserted that orbit is a physical phenomenon that occurs naturally and is dependent on gravity. Therefore, they argue that it should not be classified as part of outer space. Consequently, they assert that the orbit is an essential component of their territory and can be subjected to their sovereignty.
2. Dennis M., a citizen of the United States, has officially submitted a declaration of ownership to the United States, the United Nations, and the Soviet Union, asserting his rights of ownership over the surface of the Moon. Upon receiving no response to his claims, he presumed himself to be the rightful owner and proceeded to establish a company named "Moon Embassy." He asserted ownership of the Moon's land based on the stipulation that the Outer Space Treaty solely forbade nations from appropriating the Moon and other celestial entities. Nevertheless, this Agreement does not restrict or forbid any individual or corporation. He went to the extent of selling 1 acre of land for \$19, as well as selling the planets Mercury, Venus, and Mars.

Regarding this claim, the question arises as to how it is feasible for an individual to vend lunar dirt despite not having personally acquired it. How can someone claim ownership of property when they did not physically transport it themselves? Is the claim accurate? Alternatively, might it be a legal gap inside the Outer Space Treaty that permits persons to exploit the situation? Indeed, the Outer Space Treaty does contain certain loopholes.²⁵ The Outer Space Treaty has ambiguities that present difficulties in effectively regulating the military utilisation of space and ensuring environmental preservation. The lack of clarity in the treaty articles concerning the

²³ Ekta Rathore and Biswanath Gupta, "Emergence of Jus Cogens Principles in Outer Space Law," *Astropolitics The International Journal of Space Politics & Policy* 18, no. 1 (January 2, 2020): 1–21, <https://doi.org/10.1080/14777622.2020.1723353>.

²⁴ Ferdinand Onwe Agama, "Effects of the Bogota Declaration on the Legal Status of Geostationary Orbit in International Space Law," *Nnamdi Azikiwe University Journal of International Law and Jurisprudence* 8, no. 1 (2017),

²⁵ Amany Shree Gangawat, "Re-Exploring Terra Nullius and Property Rights in Space: Could a Lunar Settlement Claim the Lunar Estate?," *Advanced Space Law* 6 (2020), <https://doi.org/10.29202/asl/6/2>.

military utilisation of space has given rise to possibilities for the militarisation and arming of space.²⁶ In addition, the imprecise wording of Article IX of the treaty, which refers to 'harmful contamination,' has not been adequately clarified, resulting in gaps in the regulation of pollution and environmental preservation in outer space.²⁷

The General Report of the Independent Expert Advisory Group on the Data Revolution for Sustainable Development, titled "A World that Matters: Mobilising the Data Revolution for Sustainable Development" by Andries and Morse (2022), encompasses the following:

- (1) Utilising technology, innovation, and analysis, we aim to establish a network of data innovation networks for the purpose of sharing and utilising data and data research.
- (2) Enhancing capacity and resources in areas such as capacity building, technology transfer, data literacy, and resource mobilisation through novel financing structures in collaboration with the business sector;
- (3) The focus is on the governance and leadership aspects of partnerships and coordination among government, commercial sector, non-governmental organisations, media, and academia. The goal is to promote good practices and principles in data sharing, open data, and data rights. The Statistical Commission adopted the Cape Town Global Action Plan for Sustainable Development Data (E/CN.3/2017/3) and the outcome document of the regional conference on the Transformative Agenda (E/CN.3/2017/5) during its 2017 session -48 in March 2017. The Cape Town Global Action Plan for Sustainable Development Data emphasises the need for the global statistical community to take action in specific areas. These areas include modernising and strengthening national statistical systems by focusing on improving governance and institutional frameworks. Additionally, the plan emphasises the importance of implementing new statistical standards and data architectures to facilitate data sharing, exchange, and integration. Lastly, the plan encourages the use of new technologies and data sources in the statistical production process.

3.2. Analysis of Sovereignty Demand According to Outer Space Treaty

Geostationary orbit is encompassed by an intricate international legal framework, particularly regulated by the Outer Space Treaty, ITU, and UNCOPUOS. The Outer Space Treaty, enacted in 1967, serves as the fundamental legal framework that guarantees the equitable and advantageous exploration and utilisation of outer space, including geostationary orbit, for the collective benefit of humanity.²⁸ The International Telecommunication Union (ITU), functioning as a specialised agency of the United Nations, is responsible for the allocation and regulation of orbital slots and frequencies. Its primary objective is to prevent interference and ensure equitable access for all nations.²⁹ UNCOPUOS, through its policies and guidelines, actively encourages international collaboration and the non-military utilisation of outer space. It focuses on managing space traffic and ensuring the long-term viability of space activities.³⁰ Collectively, these institutions establish a comprehensive legal framework that ensures the organised and equitable utilisation of geostationary orbit, harmonising technological advancement with the values of global collaboration and fairness.

²⁶ Danylo Stonis -Mgr and Danylo Stonis, "Ambiguities in Space Law as Path towards Weaponization of Space: The Case of the Outer Space Treaty. Remarks on Regulation of Weaponization of Outer Space by Space Law," *Political and Legal Studies* 1, no. 4 (2022): 74–74, <https://doi.org/10.15804/CPLS.20224.08>.

²⁷ Biswanath Gupta and Tamoghna Agasti, "The Curious Case of Article IX and Outer Space Environment," *Journal of Environmental Impact and Management Policy* 02, no. 02 (2022), <https://doi.org/10.55529/jeimp22.7.25>.

²⁸ Matjaž Nahtigal, "Outer Space Treaty Reform and the Long-Term Sustainability of Space Exploration," *Teorija in Praksa* 59, no. 1 (2022): 42–59, <https://doi.org/10.51936/tip.59.1.42-59>.

²⁹ Gabriele Balbi and Andreas Fickers, "Introduction: The ITU as Actor, Arena, and Antenna of Techno-Diplomacy," *The Gruyter Oldenbourg* (2020): 1–12, <https://doi.org/10.1515/9783110669701-001>.

³⁰ Ade Meirizal, Putu Prisca Lusiani, and Sarah Nurhalizah, "United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) dalam Upaya Antisipasi Militerisasi di Luar Angkasa," *Jurnal Ilmiah Hubungan Internasional Fajar* 2, no. 1 (2023), <https://journal.unifa.ac.id/index.php/jihif/article/view/638>.

Within the framework of this international regulation, there is the "Province of all mankind" Principle, which emphasises that outer space, including geostationary orbit, is an area that must be utilised for the benefit of all mankind. ITU, oversees the allocation of radio frequencies and orbital slots to provide equitable and unbiased access for all nations, fostering worldwide collaboration.³¹ The Outer Space Treaty, ratified in 1967, mandates that the exploration and utilisation of outer space must be conducted in the best interests of all nations, irrespective of their economic or technological advancement. The principle highlights the significance of solidarity and fairness in the governance and utilisation of resources in outer space.³² Furthermore, according to Article 2 of The Outer Space Treaty of 1967, it is explicitly stated that no nation has the right to assert ownership over any portion of Outer Space.

Indeed, considering these three legal frameworks especially Outer Space Treaty, the assertion of sovereignty appears both irrelevant and impossible. Nevertheless, if it explore from the standpoint of a country located on the equator, then this assertion may be considered logical. Geostationary orbit is a special orbit that can only be found on the equator.³³ Therefore, it is very suitable to be classified as a limited natural resource. Consequently, countries situated within this orbit should own more entitlements to exploit this orbit, at the very least by asserting sovereignty over their respective orbital slots. This statement aligns with United Nations General Assembly Resolution No. 2692 (XXV) of 1970, which addresses the concept of "permanent sovereignty over the natural resources of developing countries and expansion of internal accumulation sources for economic development"³⁴ Therefore, this assertion of sovereignty would ensure that equatorial countries have exclusive and uninterrupted access to satellite slots, eliminating concerns about waiting lists for countries using Geostationary Orbit (GSO) satellites.

The submission of this demand through the Bogota Declaration is justified, given that the usage of geostationary orbit is frequently perceived as inequitable due to its domination by technologically advanced wealthy nations with sufficient resources to reach it. Based on statistics from the Union of Concerned Scientists Satellite Database, it is projected that developed countries such as the United States, Europe, and Japan will have the highest satellite usage from 2021 to 2023.³⁵ Conversely, developing nations face significant constraints in terms of their access to digital and technology resources, resulting in a pronounced disparity. The ITU research reveals that advanced nations frequently secure larger portions of orbital slots,³⁶ leaving limited opportunities for developing nations to enhance their telecommunications infrastructure. This inequity impedes economic and technical advancement in numerous developing nations. Therefore, it is logical that equatorial countries advocate for exclusive rights to the geostationary orbit due to its scarcity as a limited natural resource.

Based on depth examination, the starting point of this gap also stems from regulations that are too rigid and seem to benefit countries with a much more advanced technological base. The ITU has established a mechanism for the application process of geostationary orbit slots. According to this mechanism, any country seeking to use a geostationary orbit slot must submit a comprehensive planning proposal. This proposal should include detailed information about the

³¹ Chi Eric Nnadozie and Ibrahim Sule, "The Principle of Common Heritage of Mankind in the Law of Outer Space," *The Asian Institute of Research Law and Humanities Quarterly Reviews* 1, no. 4 (December 30, 2022), <https://doi.org/10.31014/aior.1996.01.04.35>.

³² Alexandra R Taylor, "Law, Ethics, and Space: Space Exploration and Environmental Values," *ETYKA* 56 (2018), <http://10.14394/etyka.2018.0004>.

³³ Jin Choi et al., "Analysis of a Simulated Optical GSO Survey Observation for the Effective Maintenance of the Catalogued Satellites and the Orbit Determination Strategy," *Journal of Astronomy and Space Sciences* 32, no. 3 (2015): 237–45, <https://doi.org/10.5140/JASS.2015.32.3.237>.

³⁴ Ridha Aditya Nugraha and Yaries Mahardika Putro, "Perluakah Indonesia Memperjuangkan Kepentingan Atas Orbit Geostasioner?," *Hukumonline.com* (2022), <https://www.hukumonline.com/berita/a/perluakah-indonesia-memperjuangkan-kepentingan-atas-orbit-geostasioner-lt631fd96c24f01/> (Accessed in July 5, 2024).

³⁵ Laura Grego, "Our Satellite Database Reaches a Milestone. We've Learned Much Along the way," Union of Concerned Scientists (2024), [Our Satellite Database Reaches a Milestone. We've Learned Much Along the Way - Union of Concerned Scientists \(ucsusa.org\)](https://www.ucsusa.org/our-satellite-database-reaches-a-milestone-weve-learned-much-along-the-way) (Accessed in July 5, 2024).

³⁶ ITU, "Statistics," ITU (2024), [Statistics \(itu.int\)](https://www.itu.int/statistics/) (Accessed in July 5, 2024).

intended satellite, its estimated operational period, technical specifications, and related technical matters. Additionally, the proposal should identify the users and operators who will be granted usage rights.³⁷ This method operates on the basis of prioritising countries that submit their bids first, following a first-come, first-served approach for the distribution of orbital slots.³⁸ This implies that this approach exclusively favours nations with sophisticated technology that possess the capacity and resources to efficiently strategise and execute satellite missions. This could result in a disparity in access for countries located near the equator that are likewise in the process of development and may require additional time to strategise and synchronise the utilisation of their orbital slots.

Besides, Article 44 of the ITU stipulates that the utilisation of geostationary orbit must adhere to principles of rationality, efficiency, and economy. Proper implementation of rational use should not be inflexible and favour only a select few. The legal framework should prioritise the geostationary status of this orbit, which holds significance due to its unique location above the equator and distinct characteristics. Without taking this factor into account, the norms and systems of ITU will be rendered ineffective. This aligns with the principle of distributive justice as proposed by Robert Nozick in his book "Anarchy, State, and Utopia." Nozick contends that justice necessitates the consideration of individual contributions and rights in proportion.³⁹ Consequently, systems that exclusively favour a limited number of individuals or groups without regard for proportional justice might be deemed unjust.

As time goes on, equatorial countries are increasingly asserting their desires for independent rights. Several non-equatorial developing countries believe that the utilisation of geostationary orbit is inequitable. The expectations outlined in the Bogota Declaration have now evolved to include requests for proportional and equitable utilisation, as well as the utilisation of geostationary resources.⁴⁰ Nevertheless, it is important to emphasise that the notion of justice proposed in this claim is one that considers the requirements of emerging nations and promotes reform in the sui generis system. This regime will primarily focus on safeguarding countries located below the equator and emerging nations. Additionally, it must consider the concepts of collaboration with other countries while using resources in outer space.

Consequently, equatorial countries no longer prioritise the desire for sovereign rights. The decision is not made due to its lack of relevance, but rather stems from the recognition that the struggle is not limited to the rights of equatorial nations alone, but encompasses the interests of all developing countries. Nevertheless, the pressing issue at hand is how to meet the needs and requirements of developing nations. There are actually alternatives that could serve as the foundation for revitalising the unique regime that is centred around equal utilisation without causing harm to any party, including wealthy nations. Specifically, the use of the orbit is determined by three key factors: equitable use, rational use, and equitable access. These factors are then combined with the principles of special and differential treatment.

Thereby, the notion of special and differential treatment has been applied in the World Trade Organisation (WTO). The approach aims to grant preferential treatment to developing countries and least developed countries (LDCs) by acknowledging their need for distinct treatment in international trade regulations. This concept acknowledges the differences in economic and technical capacities and levels of institutional advancement among member countries of the

³⁷ V V Makarov et al., "Economic Methods of Spectrum/Orbit Management for Satellite Networks," *Siberian Journal of Science and Technology* 19, no. 1 (2018).

³⁸ Frans G Von Der Dunk, "Legal Aspects of Satellite Communications-A Mini Handbook," *Journal of Telecommunication and Broadcasting Law* 4 (2015): 1-26, <http://digitalcommons.unl.edu/spacelawhttp://digitalcommons.unl.edu/spacelaw/85>.

³⁹ Okpe Timothy Adie and Joseph Simon Effenji, "The Entitlement Theory of Justice in Nozick's Anarchy, State and Utopia," *An Interdisciplinary Journal of Human Theory and Praxis* 1, no. 1 (2018), <https://doi.org/10.5281/zenodo.3408724>.

⁴⁰ Enver Arıkoğlu, "The Concept of the Common Heritage of Mankind and the Legal Status of Outer Space in International Law," *Proceedings for the First Symposium on Space Economy, Space Law and Space Sciences* (2022), <https://doi.org/10.26650/pb/ss46ps01.2022.001.007>.

WTO.⁴¹ This notion is driven by endeavours to offer more equitable chances for developing countries to engage in the global commercial system, which is frequently controlled by wealthier countries. By granting trade concessions, such as extended deadlines for enacting regulations or providing technical support, and striving to enhance economic capabilities, promote global inclusivity, and narrow the disparity between affluent and impoverished nations.⁴²

Further, the adoption of the principle of special and differential treatment is regarded as a crucial measure in advancing sustainable development and acknowledging the fact that not all nations possess the necessary resources or capabilities to adhere to international trade rules without supplementary aid. Despite facing criticism for its potential to disrupt fair competition, proponents of this principle argue that it aligns with the WTO's mission to create a more equitable and inclusive trading system for all members, promoting inclusion and development.⁴³ Moreover, when examining the concept of justice within the principle of special and differential treatment, aligns with John Rawls' theory of justice as outlined in his work "A Theory of Justice." Rawls introduces the principle of the "veil of ignorance," which highlights the importance of making decisions that govern society without any knowledge of one's own identity or personal interests. This principle ultimately aims to achieve genuine justice. Within this framework, justice encompasses not only equitable distribution, but also the consideration of diverse requirements across individuals and societal groupings.⁴⁴

This highlights the necessity for reform to take into account the significance of endeavours to comprehend and fulfil the fundamental requirements of each nation, acknowledging that each nation possesses distinct needs and abilities to contribute to and utilise the geostationary orbit. By fulfilling the objectives outlined in the Bogota Declaration, the goal of fair and proportional use of resources for all countries will be attained, even if the demand for sovereign rights is not met. Meeting these requirements can incentivise developing nations to advance their space technology in collaboration with developed nations. This, in turn, promotes the establishment of national regulatory frameworks in equatorial and developing countries, enabling them to gradually achieve self-reliance in utilising outer space technology. Therefore, meeting the requirements of the Bogota Declaration will result in the establishment of a revitalised *sui generis* system that is founded on equal use, without causing harm to both developed and developing nations.

4. Conclusion

After analysing the Bogota Declaration's discussion of sovereignty claims for geostationary orbit by equatorial countries in light of the Outer Space Treaty, it becomes evident that these claims are without validity. The Outer Space Treaty explicitly stipulates that outer space, including geostationary orbit, is the collective domain of humanity. Nevertheless, when depicted and observed from the standpoint of a nation located near the equator, the justification for this assertion is also highly logical. The reason for this is that the position and characteristics of the geostationary orbit are unique and fall within the constraints of finite natural resources. Furthermore, despite the intention to implement the use of this orbit fairly, it frequently results in discrimination against equatorial countries and other developing nations.

However, in the final analysis, claims of sovereign rights are unjustifiable when discussing the Outer Space Treaty, the International Telecommunication Union, or even UNCOPOUS.

⁴¹ Regis Y Simo, "Developing Countries and Special and Differential Treatment," *International Economic Law: (Southern) African Perspectives and Priorities* (2021): 233-281, <http://dx.doi.org/10.2139/ssrn.3771480>.

⁴² Clara Weinhardt and Till Schöfer, "Differential Treatment for Developing Countries in the WTO: The Unmaking of the North–South Distinction in a Multipolar World," *Third World Quarterly* 43, no. 1 (2022): 74–93, <https://doi.org/10.1080/01436597.2021.1992271>.

⁴³ Maulia Martwenty Ine, "Special and Differential Treatment (SDT) in the WTO Agreements: A Rule-Based Approach," *Mizan: Jurnal Ilmu Hukum* 12, no. 1 (2023), <https://doi.org/10.32503/mizan.v12i1.3488>.

⁴⁴ Shasi Motilal, "Defending Rawls from behind the 'Veil of Ignorance': An Attempt to Salvage Rawls Public Conception of Social Justice," *Journal Ethics, Economics, and Common Goods* 19, no. 2 (2022): 109-205.

Nevertheless, the author is of the opinion that the regulatory mechanism for its use should also consider the capabilities of each country. The Special and Differential principle is applied to developing countries in the same manner as the regulations in the WTO, allowing them to continue to catch up without discrimination. Consequently, this principle should also be implemented in regulations that pertain to geostationary systems. Therefore, an equitable and proportional form of use will be implemented in the future.

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