

The Curious Case of the Moon Agreement: An Overview of the Framework on International Space Law, the Philippine Space Agenda, and Issues on Equitable Resource-Sharing in Outer Space

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I. INTRODUCTION

On 20 July 1969, American astronauts Neil A. Armstrong and Edwin Eugene “Buzz” Aldrin, Jr., became the first humans to step on the moon.¹ As the world watched this historic moment, venturing into space lost its character as a mere work of fiction.² Nations began to vigorously develop their space programs and invest in novel technology that could suit space travel.³ The private sector also raised interest in space activities, as space had been proven to be a vault of natural resources that could be tapped for use.⁴

From the visit to the moon to the development of present day programs on space tourism such as the Mars 2020 Perseverance Rover,⁵ the advanced

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1. See National Aeronautics and Space Administration (NASA), July 20, 1969: One Giant Leap for Mankind, *available at* https://www.nasa.gov/mission_pages/apollo/apollo11.html (last accessed Jan. 30, 2022) [<https://perma.cc/NV74-PD3X>].
 2. See generally HOWARD E. MCCURDY, *SPACE AND THE AMERICAN IMAGINATION* 33-59 (2011). In the decades preceding the lunar landing in 1969, various films and television programs had already begun to “[portray] human space flight as something real, as no longer relegated to the realm of fantasy.” This shaped public perception of the eventual possibility of travel in outer space. *Id.* at 48-49.
 3. National Aeronautics and Space Administration (NASA), Apollo’s Small Steps Are Giant Leap for Technology, *available at* https://www.nasa.gov/missions/science/f_apollo_11_spinoff.html (last accessed Jan. 30, 2022) [<https://perma.cc/G3CR-7DAV>].
 4. See, e.g., Information Office of the State Council of the People’s Republic of China, China’s Space Activities, *available at* <https://www.fmprc.gov.cn/ce/cgvienna/eng/ljzg/zfbps/t127413.htm> (last accessed Jan. 30, 2022) [<https://perma.cc/9BN2-L57S>] & National Aeronautics and Space Administration (NASA), Chandrayaan-1/Moon Impact Probe, *available at* <https://solarsystem.nasa.gov/missions/chandrayaan-1/in-depth> (last accessed Jan. 30, 2022) [<https://perma.cc/M4MF-BD2>].
 5. National Aeronautics and Space Administration (NASA), Mars 2020 Mission Perseverance Rover, *available at* <https://mars.nasa.gov/mars2020> (last accessed Jan. 30, 2022) [<https://perma.cc/PY6Z-PMHY>].

growth of space technologies within a brief period of time necessitated the creation of a legal framework that would address the much debated mechanism on resource-sharing in space.

The accompanying legal regime for space activities has also evolved over the years, warranted by the need to address complex issues brought by industry advancements.⁶ In the succeeding decade, between the 1960s to the 1970s, the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS)⁷ produced five instruments that would mark the foundations of international space law, including the *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies* (Outer Space Treaty),⁸ as well as the *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies* (Moon Agreement).⁹ In the case of the Philippines, the passage of Republic Act No. 11363 (R.A. No. 11363) entitled *An Act Establishing the Philippine Space Development and Utilization Policy and Creating the Philippine Space Agency, and for Other Purposes, or the “Philippine Space Act,”*¹⁰ opened up various opportunities for the development of a long-term national space program.¹¹

Such progress on the Philippine front must be viewed alongside movements in the field of international space law, particularly where the issues of discriminatory access to outer space and the equitable sharing of its resources are concerned. The Philippines holds the distinction of being the only one

6. See Henry Hertzfeld, *Current and Future Issues in International Space Law*, 15 ILSA J. INT’L & COMP. L. 325, 327 (2009).

7. United Nations Office for Outer Space Affairs, Committee on the Peaceful Uses of Outer Space, available at <https://www.unoosa.org/oosa/en/ourwork/copuos/index.html> (last accessed Jan. 30, 2022) [<https://perma.cc/LG4R-5R5U>]. The Committee on the Peaceful Uses of Outer Space (COPUOS) was established “to govern the exploration and use of space for the benefit of all humanity[, and for purposes of] peace, security[,] and development.” *Id.*

8. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, signed Jan. 27, 1967, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

9. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, opened for signature Dec. 18, 1979, 1363 U.N.T.S. 3 [hereinafter Moon Agreement].

10. An Act Establishing the Philippine Space Development and Utilization Policy and Creating the Philippine Space Agency, and for Other Purposes [Philippine Space Act], Republic Act No. 11363 (2019).

11. *Id.* §§ 5 (d) & (e).

among 195 recognized States to accede to the Moon Agreement and withhold its ratification from the other space cooperation instruments for almost 55 years.¹²

This situation may have been partly driven by the adoption of several notions on resource sharing, such as the “province of all mankind” principle found in both the Outer Space Treaty and the Moon Agreement,¹³ the “common heritage of mankind” found only in the latter instrument,¹⁴ and the general principle of non-appropriation in international space law.¹⁵

The purpose of this Article is to give an overview of the existing framework and principles in international space law, to discuss issues on resource sharing in outer space, and to provide policy recommendations to further develop the Philippine space agenda in support of the establishment of a governance framework that will ensure activities in outer space shall be “carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development.”¹⁶

This Article is divided into three parts. The first part will provide a background on the emerging field of space law, while the second part will lay out the history and overview of the concepts of the “province of all mankind” and “common heritage of mankind,” as found in the Outer Space Treaty and the Moon Agreement, as well as the non-appropriation principle in outer space. The last part will contextualize the Philippine space program and

12. See Noelle Riza D. Castillo, Director, Philippine Space Agency (PhilSA), *Philippine National Statement: Agenda Item No. 5 “Status and Application of the Five United Nations Treaties on Outer Space”*, Address at the 60th Session of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (June 1, 2021) (transcript available at <https://philsa.gov.ph/news/philippine-national-statement-delivered-under-agenda-item-no-5-on-status-and-application-of-the-five-nation-treaties-on-outer-space-at-the-60th-session-of-the-legal-subcommittee-of-the-united-nat>) (last accessed Jan. 30, 2022) [<https://perma.cc/9MPZ-ABDW>].

13. Outer Space Treaty, *supra* note 8, art. I, para. 1 & Moon Agreement, *supra* note 9, art. 4, ¶ 1.

14. Moon Agreement, *supra* note 9, art. 11, ¶ 1.

15. Outer Space Treaty, *supra* note 8, art. II & Moon Agreement, *supra* note 9, art. 11, ¶ 2.

16. Outer Space Treaty, *supra* note 8, art. I, para. 1 & Moon Agreement, *supra* note 9, art. 4, ¶ 1. For purposes of this Article and as used in international space instruments, “equal” refers to the exploration and use of outer space, while “equitable” refers to resource sharing.

conclude with an outline of recommendations that the country may wish to consider in advancing its national space agenda, particularly in the area of equitable resource-sharing in outer space.

II. SPACE LAW AS AN EMERGING FIELD IN INTERNATIONAL LAW

A. *Space Law as a Distinct Field in International Law*

Space law can be broadly defined as the law that “govern[s] or appl[ies] to outer space and [to] activities in and relating to outer space.”¹⁷ One cannot be faulted for thinking that international space law only began after the successful launching in 1957 of Sputnik-1,¹⁸ the first artificial Earth satellite to enter into space.¹⁹ Certainly, the United Socialist Soviet Republic (USSR)-led mission to the moon sparked great interest in the field and converted mere spectators to space enthusiasts.²⁰

Discussions on space and space law in general, however, began much earlier.²¹ Through works such as Jules G. Verne’s 1865 novel *From the Earth to the Moon: A Direct Route in 97 Hours, 20 Minutes*²² and Herbert George Wells’ *Tales of Space and Time* in 1897,²³ the concept of space was mostly stated in the

17. FRANCIS LYALL & PAUL B. LARSEN, *SPACE LAW: A TREATISE* 2 (2016).

18. National Aeronautics and Space Administration (NASA), *Sputnik and the Dawn of the Space Age*, available at <https://history.nasa.gov/sputnik.html> (last accessed Jan. 30, 2022) [<https://perma.cc/3258-6QA9>].

19. *Id.*

20. William P. Barry, *Sputnik and the Creation of the Soviet Space Industry*, in *RECONSIDERING SPUTNIK: FORTY YEARS SINCE THE SOVIET SATELLITE* 95 (Roger D. Launius, et al. eds., 2000). “The Sputnik project, and the tumultuous world reaction to it, led to the creation of a space industry unlike anything in the West.” *Id.*

21. *See generally* Gérardine Goh Escolar, *Introduction to International Space Law*, available at https://legal.un.org/avl/lis/GohEscolar_LOS.html (last accessed Jan. 30, 2022) [<https://perma.cc/KG39-44LF>].

22. Peter A. Gorin, *Rising from the Cradle: Soviet Perceptions of Space Flight Before Sputnik*, in *RECONSIDERING SPUTNIK: FORTY YEARS SINCE THE SOVIET SATELLITE* 12 (Roger D. Launius, et al. eds., 2000).

23. HERBERT GEORGE WELLS, *TALES OF SPACE AND TIME* (1897). *See also* Sergey Khrushchev, *The First Earth Satellite: A Retrospective View From the Future*, in

abstract²⁴ until Belgian jurist Emile Laude in 1910 noted the need for a law to govern beyond “that needed to cope with ‘locomotion’ in the layer of ‘breathable air[.]’”²⁵

Space law as a separate legal category was first mentioned in 1926 by V.A. Zarzar from the Soviet Air Ministry where he emphasized the need for “an upper limit to [state] sovereignty over [] air-space, and that a separate legal regime would be required to deal with the arena beyond this ‘upper zone’ in which international travel by high-altitude flight and interplanetary communication would be free from control by subjacent states.”²⁶ This “upward limit” was confined by Walter Schönborn as the “boundary of the atmosphere.”²⁷ Until that period, space law was always regarded in relation to existing fields of law, such as the law of the sea and the law of air.²⁸

It was only in 1932 that Vladimír Mandl conceived space law as a truly independent field, but with concepts that may be analogous, with Mandl noting that the law of air was not suitable in dealing with issues relating to the liability of spacecrafts and astronauts during missions.²⁹ His proposition also enabled discussions on sovereignty.³⁰ Mandl argued that “state sovereignty should be restricted in its vertical dimension, and that in the area above and beyond state sovereignty there should be freedom.”³¹ These arguments would later serve as springboards for discussions on ownership rights in space, as well as the liability of launching States and the protection and safety of astronauts.³²

RECONSIDERING SPUTNIK: FORTY YEARS SINCE THE SOVIET SATELLITE 267-68 (Roger D. Launius, et al. eds., 2000).

24. Escolar, *supra* note 21.

25. LYALL & LARSEN, *supra* note 17, at 5.

26. *Id.* (citing STEPHEN E. DOYLE, ORIGINS OF INTERNATIONAL SPACE LAW AND THE INTERNATIONAL INSTITUTE OF SPACE LAW OF THE INTERNATIONAL ASTRONAUTICAL FEDERATION 1-4 n. 11 (2002) & V.A. Zarzar, *Public International Air Law*, in PROBLEMS OF AIR LAW, A SYMPOSIUM 96-97 (1926)).

27. LYALL & LARSEN, *supra* note 17, at 5.

28. *Id.* at 6.

29. *Id.* at 5-6. See also VLADIMÍR MANDL, DAS WELTRAUM-RECHT: EIN PROBLEM DER RAUMFAHRT 21 (1932).

30. LYALL & LARSEN, *supra* note 17, at 6.

31. *Id.*

32. See Stephen E. Doyle, *A Concise History of Space Law*, 53 PROC. INT’L INST. SPACE L. 3, 5 (citing Arthur C. Clarke, *The Challenge of the Spaceship*, 6 J. BRITISH

As World War II approached and rocket science (for military purposes) advanced, discussions on space law were no longer confined to a select few.³³ The entry of the academe and private enterprises in the development of space technologies paved way for the formation of international space associations.³⁴

B. Formation of International and Domestic Organizations

The role of international organizations cannot be disregarded in international space law. The first of these institutions is the International Astronautical Federation (IAF)³⁵ established in 1951, which later created the International Academy of Astronautics in 1960.³⁶ Membership in these institutions was “prized by individuals active in all forms of space activities.”³⁷ It was the IAF which, in 1958, hosted the first Colloquium on Space Law at The Hague that, in turn, resolved the creation of a “Permanent Legal Committee” open for all jurists and academics to study emerging issues in space law.³⁸ The London Colloquium of the IAF eventually renamed this Committee to the International Institute of Space Law (IISL) in 1959.³⁹ Since 1992, the IISL has

INTERPLANETARY SOC’Y 66, 66-67 (1946-47)). In 1946, Arthur C. Clarke presented a paper entitled “The Challenge of the Spaceship” to the British Interplanetary Society in London. The paper explained that there “must be an upper limit to national sovereignty because otherwise ‘in the course of a day, ... every country will lay claim to a large portion of the Universe[.]’”
Id.

33. *Id.*

34. See Renata Knittel Kommel, et al., Exploring Insights from Emerging Space Agencies, at 4-5, available at https://aerospace.csis.org/wp-content/uploads/2020/10/2020_GWU_ExploringInsights_FINAL_2nd-Edits-101920-compressed.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/2JDT-N93M>].

35. International Astronautical Federation (IAF), The International Astronautical Federation: About, available at <https://www.iafastro.org/about> (last accessed Jan. 30, 2022) [<https://perma.cc/2485-359W>].

36. LYALL & LARSEN, *supra* note 17, at 9. See also International Academy of Astronautics, I.A.A. In Brief, available at <https://iaaspace.org/about> (last accessed Jan. 30, 2022) [<https://perma.cc/V5NE-EQ6B>].

37. LYALL & LARSEN, *supra* note 17, at 9.

38. *Id.*

39. *Id.* at 9-10.

run the well-respected Manfred Lachs Moot Court Competition on international space law.⁴⁰

Other international and regional institutions have since emerged, such as the International Space Exploration Coordination Group,⁴¹ the Interagency Operations Advisory Group,⁴² the Space Frequency Coordination Group,⁴³ the Inter-Agency Space Debris Coordination Committee,⁴⁴ the Committee on Space Research,⁴⁵ and the International Telecommunication Union⁴⁶ — all of which are aimed towards a coordinated approach in international policymaking, frequency management, debris mitigation, and technology or knowledge sharing.⁴⁷

The academe has also seen a growing interest in the field of space and space law, resulting in the creation of institutions such as the Institute of Air and Space Law at the University of Cologne, the Leiden Institute of Air and

40. International Institute of Space Law, Manfred Lachs Space Law Moot Court Competition, *available at* https://iislweb.org/lachs_moot (last accessed Jan. 30, 2022) [<https://perma.cc/S9A5-78G3>].

41. National Aeronautics and Space Administration (NASA), International Space Exploration Coordination Group, *available at* <https://www.nasa.gov/exploration/about/isecg> (last accessed Jan. 30, 2022) [<https://perma.cc/J9QA-HMRU>].

42. Jean-Marc Soula, et al., The Interagency Operations Advisory Group (IOAG): A Decade of Leadership in International Space Cooperation, *available at* <https://elib.dlr.de/76696/1/id1275295-Paper-001.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/G3GY-HRPS>].

43. International Telecommunication Union, *European Space Agency (ESA): SFCC Objectives for WRC-15*, at *1, U.N. Doc. WRC-15-IRWSP-14/16-E (Nov. 7, 2014).

44. Alberto Tuozi, The Inter-Agency Space Debris Coordination Committee (IADC): An Overview of IADC's Annual Activities, *available at* https://www.unoosa.org/documents/pdf/icg/2018/icg13/wgs/wgs_23.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/GUY7-QW3F>].

45. Pascale Ehrenfreund, The Role of COSPAR in Space Exploration and in Preserving and Promoting Science, *available at* <https://www.unoosa.org/pdf/pres/stsc2011/symp-07.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/8L56-HJKL>].

46. International Telecommunication Union, About International Telecommunication Union (ITU), *available at* <https://www.itu.int/en/about/Pages/default.aspx> (last accessed Jan. 30, 2022) [<https://perma.cc/F5XV-VE5V>].

47. See Doyle, *supra* note 32, at 13.

Space Law, the Institute of International Air and Space Law at McGill University in Montreal, the George Washington University Space Policy Institute, the International Space University in Strasbourg, France, and the University of Salvador in Buenos Aires National Institute of Air and Space Law, to name a few.⁴⁸ This is by no means a comprehensive list, as space law continues to be taught in universities globally, including Georgetown University, the University of Mississippi, the University of Nebraska, the University of Jaen in Spain, the Moscow State Institute of International Law, and various universities in Brazil, Chile, Mexico, Uruguay, Japan, and China.⁴⁹

States also began establishing their own space agencies to effectively manage their respective domestic space policies. Examples of these bodies include the Roscosmos State Corporation for Space Activities of Russia, the National Aeronautics and Space Administration of the United States, the National Space Administration of China, the Japan Aerospace Exploration Agency, the Indian Space Research Organisation, the European Space Agency, the Brazilian Space Agency, the Italian Space Agency, the Geo-Informatics and Space Technology Development Agency of Thailand, and the Malaysian Space Agency.⁵⁰

C. UN Committee on the Peaceful Uses of Outer Space and UN Office for Outer Space Affairs

In response to this emerging field, the United Nations (UN) General Assembly established the COPUOS in its Resolution 1348 (XIII) of 13 December 1958⁵¹ to “govern the exploration and use of space for the benefit of all

48. LYALL & LARSEN, *supra* note 17, at 11-13. See, e.g., McGill University Institute of Air & Space Law, About the Institute of Air and Space Law, available at <https://www.mcgill.ca/iasl/about> (last accessed Jan. 30, 2022) [<https://perma.cc/2ALR-UHM3>].

49. LYALL & LARSEN, *supra* note 17, at 11-13.

50. Tulika Tandon, List of World Space Agencies, available at <https://www.jagranjosh.com/general-knowledge/list-of-world-space-agencies-1640858027-1> (last accessed Jan. 30, 2022) [<https://perma.cc/C7GT-JKWH>]. See also European Space Agency, This is ESA, available at https://esamultimedia.esa.int/docs/corporate/This_is_ESA_EN_LR.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/4F5M-J6UE>].

51. Question of the Peaceful Use of Outer Space, G.A. Res. 1348 (XIII), ¶ 1, U.N. Doc. A/RES/1348 (XIII) (Dec. 13, 1958).

humanity: for peace, security[,] and development.”⁵² The Committee was also tasked to review “international cooperation in peaceful uses of outer space, [to study] space-related activities that could be undertaken by the United Nations, [to encourage] space research [programs], and [to study] legal problems arising from the exploration of outer space.”⁵³

“[I]nitially created as a small expert unit within the [UN] Secretariat” to support COPUOS, the UN Office for Outer Space Affairs (UNOOSA) has now evolved into an Office headquartered in Vienna, Austria.⁵⁴

The UNOOSA aims to serve the various interests of all countries, but most especially developing countries in relation to access and leveraging the benefits of space “to accelerate sustainable development.”⁵⁵ The Office also provides support for capacity-building measures to expand countries’ space capabilities, as well as manages the UN Space-Based Information for Disaster Management and Emergencies program, among others.⁵⁶ It “also assumed responsibility for substantive secretariat services to the Legal Subcommittee [on space-related matters], which had previously been provided by the [UN] Office of Legal Affairs in New York.”⁵⁷ To date, UNOOSA serves as the primordial global body in space activities, working and coordinating with the rest of the globe for the peaceful use of outer space.⁵⁸

D. Sources of International Space Law

Article 38 of the Statute of the International Court of Justice lists five sources of international law:

- (a) international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;

52. United Nations Office for Outer Space Affairs, *supra* note 7.

53. *Id.*

54. United Nations Office for Outer Space Affairs, History, *available at* <https://www.unoosa.org/oosa/en/aboutus/history/index.html> (last accessed Jan. 30, 2022) [<https://perma.cc/2YWA-8JTN>].

55. United Nations Office for Outer Space Affairs, Roles and Responsibilities, *available at* <https://www.unoosa.org/oosa/en/aboutus/roles-responsibilities.html> (last accessed Jan. 30, 2022) [<https://perma.cc/VU9H-CDN2>].

56. *Id.*

57. United Nations Office for Outer Space Affairs, History, *supra* note 54.

58. See UNITED NATIONS, ACHIEVING OUR COMMON HUMANITY: CELEBRATING GLOBAL COOPERATION THROUGH THE UNITED NATIONS 128 (2020).

- (b) international custom, as evidence of a general practice accepted as law;
- (c) the general principles of law recognized by civilized nations; [and]
- (d) ... judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.⁵⁹

As with any other field of international law, international space law also finds its basis in these sources. There are five major treaties that are considered as the foundations of international space law:

- (1) the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (Outer Space Treaty);⁶⁰
- (2) the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched Into Outer Space (Rescue Agreement);⁶¹
- (3) the Convention on International Liability for Damage Caused by Space Objects (Liability Convention);⁶²
- (4) the Convention on Registration of Objects Launched into Outer Space (Registration Convention);⁶³ and
- (5) the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement).⁶⁴

59. Statute of the International Court of Justice art. 38, Apr. 18, 1946, 33 U.N.T.S. 993.

60. Outer Space Treaty, *supra* note 8.

61. Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, G.A. Res. 2345 (XXII), U.N. Doc. A/RES/2345 (XXII) (Dec. 19, 1967) [hereinafter Rescue Agreement].

62. Convention on the International Liability for Damage Caused by Space Objects, *opened for signature* Mar. 29, 1972, 961 U.N.T.S. 187 [hereinafter Liability Convention].

63. Convention on Registration of Objects Launched into Outer Space, *adopted* Nov. 12, 1974, 1023 U.N.T.S. 15 [hereinafter Registration Convention].

64. Moon Agreement, *supra* note 9.

As ratified instruments,⁶⁵ the binding nature of these agreements on their respective Contracting States cannot be overstated. There is, however, a great deal of uncertainty as to whether certain space acts have already achieved the status of customary international law — a practice that is undertaken by a State “in the belief it is binding and required by law[,] as opposed to being merely convenient or mutually beneficial.”⁶⁶

Judicial decisions may very well provide clarity on customary international law in space, however, difficulty arises with no judicial decision ever having been made on the matter. While various publications have already been put out in relation to space law, there is also a need to be constructive when discerning which literature to use,⁶⁷ so that it is based not only on core legal principles, but also on science and fact. The truth is, “space *materiel* is in flux.”⁶⁸

One point to note is the importance of soft law in international space law.⁶⁹ As technology advances and the field evolves, soft law may be treated as an indication of emerging legal concepts that may possibly govern space activities now and in the future.⁷⁰ Examples of these soft laws are Memoranda of Understanding (MOUs), which are described as “more formal than a ‘gentleman’s agreement’ but ‘less than a contract.’”⁷¹ MOUs are extensively used in international space cooperation, and while they are not legally binding in the general sense, they are an “integral tool in the elaboration of rights, duties, privileges[,] and immunities in international space activities.”⁷²

III. LEGAL FRAMEWORK OF INTERNATIONAL SPACE LAW

The first significant UN-led document on space law was the *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer*

65. Vienna Convention on the Law of Treaties art. 2, ¶ 1 (b), *opened for signature* May 23, 1969, 1155 U.N.T.S. 331.

66. LYALL & LARSEN, *supra* note 17, at 43.

67. *See id.* at 28.

68. *Id.* at 43.

69. *Id.* at 33.

70. *See id.* at 52.

71. LYALL & LARSEN, *supra* note 17, at 37.

72. *Id.* at 34.

Space,⁷³ which was adopted unanimously by the UN General Assembly in 1963. As a product of a major negotiation, the Declaration represents “a certain international understanding of the principles which ought to govern the exploration and use of outer space and celestial bodies and, therefore, provides evidence of the customary international law[.]”⁷⁴

The Declaration highlighted nine key principles⁷⁵ that would eventually be carried over and expanded in succeeding multilateral agreements —

- (1) The exploration and use of outer space shall be carried on for the benefit and in the interests of all mankind.
- (2) Outer space and celestial bodies are free for exploration and use by all States on a basis of equality and in accordance with international law.
- (3) Outer space and celestial bodies are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.
- (4) The activities of States in the exploration and use of outer space shall be carried on in accordance with international law... .
- (5) States bear international responsibility for national activities in outer space, whether carried on by governmental agencies or by non-governmental entities[.] ... The activities of non-governmental entities in outer space shall require authorization and continuing supervision by the State concerned[,] ... [and the] responsibility ... shall be borne by the international organization and by the States participating in it.
- (6) In the exploration and use of outer space, States shall be guided by the principle of co-operation and mutual assistance and shall conduct all their activities in outer space with due regard for the corresponding interests of other States.
- (7) The State on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and any personnel thereon, while in outer space.
- (8) Each State which launches or procures the launching of an object into outer space, and each State from whose territory or facility an object is

73. Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962 (XVIII), U.N. Doc. A/RES/1962 (XVIII) (Dec. 13, 1963).

74. Paul G. Dembling & Daniel M. Arons, *The Evolution of the Outer Space Treaty*, 33 J. AIR L. & COM. 419, 425 (1967).

75. Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, *supra* note 73, ¶¶ 1-9.

launched, is internationally liable for damage to a foreign State or to its natural or juridical persons by such object or its component parts on the earth, in air space, or in outer space.

- (9) States shall regard astronauts as envoys of mankind in outer space, and shall render to them all possible assistance in the event of [emergencies].⁷⁶

In the next decade, between the 1960s to 1970s, the COPUOS produced five instruments that would mark the foundations of international space law:

- (1) the Outer Space Treaty,⁷⁷
- (2) the Rescue Agreement,⁷⁸
- (3) the Liability Convention,⁷⁹
- (4) the Registration Convention,⁸⁰ and
- (5) the Moon Agreement.⁸¹

The succeeding discussions will focus on the Outer Space Treaty and the Moon Agreement, as well as their related concepts on resource sharing.

A. The Outer Space Treaty

Considered as the mother of all international space law treaties, the Outer Space Treaty is largely based on the *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space*, which was adopted by the UN General Assembly in its Resolution 1962 (XVIII)⁸² in 1963 and entered into force on 10 October 1967. It has been ratified by 110 States as of January 2020.⁸³

76. *Id.*

77. Outer Space Treaty, *supra* note 8.

78. Rescue Agreement, *supra* note 61.

79. Liability Convention, *supra* note 62.

80. Registration Convention, *supra* note 63.

81. Moon Agreement, *supra* note 9.

82. Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, *supra* note 73.

83. United Nations Office for Outer Space Affairs, Status of International Agreements Relating to Activities in Outer Space as at 1 January 2020, at 10, available at <https://www.unoosa.org/documents/pdf/spacelaw/treatystatus/TreatiesStatus-2020E.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/2PYF-DFMY>].

The Outer Space Treaty provides the basic framework for international space law, on which succeeding international agreements are also based.⁸⁴ It espouses various principles, including the following:

- (1) “The exploration and use of outer space ... shall be carried out for the benefit and in the interests of all countries ... and shall be the province of all mankind.”⁸⁵
- (2) “Outer space ... shall be free for exploration and use by all States[.]”⁸⁶
- (3) “Outer space ... is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”⁸⁷
- (4) “States ... [shall] not [] place ... nuclear weapons or [] other [] weapons of mass destruction [in orbit or] on celestial bodies, or station [them] in outer space in any other manner.”⁸⁸
- (5) “The [M]oon and other celestial bodies shall be used ... exclusively for peaceful purposes.”⁸⁹
- (6) Astronauts shall be regarded as the “envoys of mankind[.]”⁹⁰
- (7) States shall be responsible for national space activities whether carried out by governmental or non-governmental entities.⁹¹
- (8) States shall be liable for damage caused by their space objects.⁹²
- (9) States shall avoid harmful contamination of space and celestial bodies.⁹³

84. See Dembling & Arons, *supra* note 74, at 456.

85. Outer Space Treaty, *supra* note 8, art. I, para. 1.

86. *Id.* art. I, para. 2.

87. *Id.* art. II.

88. *Id.* art. IV, para. 1.

89. *Id.* art. IV, para. 2.

90. *Id.* art. V, para. 1.

91. Outer Space Treaty, *supra* note 8, art. VI.

92. *Id.* art. VII.

93. *Id.* art. IX.

An overarching theme among the nine principles is the need to conform to international law when dealing with space activities. Article I, paragraph 2 of the Outer Space Treaty specifically requires all States conducting exploration and use to do so “in accordance with international law[.]”⁹⁴

But what exactly is allowed in outer space? Article I is explicit in that it refers to the “exploration and use of outer space, including the moon and other celestial bodies,” which shall be “the province of all mankind.”⁹⁵

Moreover, while everyone is free to explore and use outer space, national appropriation is not allowed.⁹⁶ For example, there are views pointing to the American flag’s presence on the moon not as a means of appropriation, but a symbolic achievement for the rest of humankind — a thinking that harps back on the prohibition placed in the Outer Space Treaty.⁹⁷

That exploration and use must be carried out without discrimination and irrespective of a State’s degree of economic and scientific development⁹⁸ is also a nod to the concerns of developing nations that countries with advanced space programs were “likely to act in ways that were unlikely to allow the less-developed to have equitable access or benefit from space.”⁹⁹

On the status of the Outer Space Treaty in international law, some scholars have argued that the principles in the treaty have already passed or now reflect customary international law.¹⁰⁰ Although there is no consensus, the argument is particularly important, as some States do have the capability to pursue their own space programs, but are not yet signatories to the Outer Space Treaty.¹⁰¹ By recognizing that such principles have attained the status

94. *Id.* art. I, para. 2.

95. *Id.* art. I, para. 1.

96. *Id.* art. II.

97. *The Future of Everything: Law and Order in the Final Frontier*, WALL ST. J. (May 19, 2017), available at <https://www.wsj.com/podcasts/wsj-the-future-of-everything/law-and-order-in-the-final-frontier/bcdb2a3d-7c06-4f03-a506-76039a36c120> (last accessed Jan. 30, 2022) [<https://perma.cc/8H6D-MC9S>].

98. Outer Space Treaty, *supra* note 8, pmbl.

99. LYALL & LARSEN, *supra* note 17, at 61.

100. See Ram S. Jakhu & Steven Freeland, *The Relationship Between the Outer Space Treaty and Customary International Law*, at 5–9, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3397145 (last accessed Jan. 30, 2022) [<https://perma.cc/D62K-KP9G>].

101. LYALL & LARSEN, *supra* note 17, at 71.

of customary international law, liability cannot be evaded by mere non-ratification of the treaty.

B. Moon Agreement

These principles, although broad and general, were generally echoed in the Moon Agreement, although in a more extreme way.¹⁰² Thus, when the Moon Agreement was adopted by the General Assembly in 1979 through Resolution 34/68, and when it entered into force on 11 July 1984, five States ratified it,¹⁰³ with 13 others ratifying the same at a later date.¹⁰⁴

Article 11 of the Moon Agreement summarizes the key principles espoused by the instrument, as follows:

- (1) “The moon and its natural resources” are considered as the “common heritage of mankind[.]”¹⁰⁵
- (2) “The moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.”¹⁰⁶ Hence, “[t]he placement of personnel, space vehicles, [and other] equipment ... shall not create a right of ownership over the surface or the subsurface of the moon [where the structures are connected].”¹⁰⁷
- (3) “States Parties have the right to exploration and use ... without discrimination ..., [and] on the basis of equality and ... [the principles of] international law[.]”¹⁰⁸
- (4) Any form of resources discovered on the moon must be reported to the [UN] Secretary-General for the purpose of developing an international regime that will include a system

102. Zach Meyer, *Private Commercialization of Space in an International Regime: A Proposal for a Space District*, 30 NW. J. INT’L L. & BUS. 241, 251 (2010).

103. United Nations Office for Outer Space Affairs, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, available at <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/intromoon-agreement.html> (last accessed Jan. 30, 2022) [<https://perma.cc/VNM3-496W>].

104. United Nations Office for Outer Space Affairs, *supra* note 83, at 10.

105. Moon Agreement, *supra* note 9, art. 11, ¶ 1.

106. *Id.* art. 11, ¶ 2.

107. *Id.* art. 11, ¶ 3.

108. *Id.* art. 11, ¶ 4.

for an “orderly and safe development of ... resources of the moon[,]” “management of those resources[,]” “expansion of opportunities[,]” and equitable distribution among all States of these benefits, with due regard to developing nations.¹⁰⁹

With regard to all activities, including exploration and use, on the moon and other celestial bodies within the solar system, the Moon Agreement states that they shall be carried out in accordance with international law.¹¹⁰ In particular, exploration and use shall also be for the “province of all mankind” and shall be carried out “for the benefit and in the interests of all countries, irrespective of their degree of economic and scientific development.”¹¹¹ This principle is further qualified by the need to give “[d]ue regard ... to the interests of present and future generations” and the “need to promote higher standards of living and conditions of economic and social progress and development[.]”¹¹²

In the case of scientific investigations, State Parties are given the “right to collect on and remove ... mineral[s] and other substances[]” from the moon samples.¹¹³ These samples shall remain “at the disposal of [the] States Parties” which collected them, but the latter must consider the “desirability of making a portion of [the] samples available to other [] States Parties and the international scientific community [(not necessarily a nation)] for scientific [purposes].”¹¹⁴ States Parties can also use the minerals and other substances from the samples for “support of their missions.”¹¹⁵ However, in the course of their activities, States Parties must take measures to prevent certain harmful environmental impacts on the moon, other celestial bodies, and the Earth.¹¹⁶

States Parties may also “establish manned and unmanned stations on the moon[,]”¹¹⁷ provided “that they do not impede the free access to all areas of the moon[,]” whether they be personnel, vehicle, or equipment.¹¹⁸ To this

109. *Id.* art. 11, ¶¶ 6 & 7 (a)-(d).

110. *Id.* art. 2.

111. Moon Agreement, *supra* note 9, art. 4, ¶ 1.

112. *Id.*

113. *Id.* art. 6, ¶ 2.

114. *Id.*

115. *Id.*

116. *Id.* art. 7, ¶ 1.

117. Moon Agreement, *supra* note 9, art. 9, ¶ 1.

118. *Id.* art. 9, ¶ 2.

end, all space stations “on the moon shall be open to other States Parties[,]” provided that reasonable notice prior to the intended date of visit is made.¹¹⁹ In all these activities, State Parties are enjoined to inform the UN through the Secretary-General of their activities and their possible environmental and developmental impact.¹²⁰

While the Moon Agreement is generally seen as a “failure” (i.e., low ratification rate by countries which have never completed a mission to the moon, coupled with the non-signing of nations with advanced space capabilities, such as the United States, Russia, and China),¹²¹ it was still ratified (and thus supported) by various countries. Support for the Moon Agreement from countries such as Austria, Chile, the Philippines, Uruguay, and the Netherlands has been attributed to “[t]hird World forces that influenced negotiations at the Law of the Sea Conferences ... [T]he establishment of a

119. *Id.* art. 15, ¶ 1.

120. *Id.* art. 7, ¶¶ 1-2.

121. Justin Parkinson, *Can Anyone ‘Own’ the Moon?*, BBC NEWS, Jan. 20, 2019, available at <https://www.bbc.com/news/science-environment-46877417> (last accessed Jan. 30, 2022) [<https://perma.cc/222T-47WD>]. See also Michael Listner, *The Moon Treaty: Failed International Law or Waiting in the Shadows?*, available at <https://www.thespaceview.com/article/1954/1> (last accessed Jan. 30, 2022) [<https://perma.cc/GT22-UHC9>].

Relatedly, eight countries — Australia, Canada, Italy, Japan, Luxembourg, the United Arab Emirates, the United Kingdom, and the United States of America — have taken the next step by signing the U.S.-led Artemis Accords, a “non-binding” bilateral agreement that will give the State signatories access to NASA’s Artemis Program, which envisions “humanity’s return to the moon” by 2024. The Accords allow for the exploitation of lunar resources and require State signatories to make their hardware and systems interoperable.

See also Sean Potter & Cheryl Warner, *NASA, International Partners Advance Cooperation with First Signings of Artemis Accords*, available at <https://www.nasa.gov/press-release/nasa-international-partners-advance-cooperation-with-first-signings-of-artemis-accords> (last accessed Jan. 30, 2022) [<https://perma.cc/G75H-KTVW>]; National Aeronautics and Space Administration (NASA), *The Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes*, available at <https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/6NUF-PLAD>]; & National Aeronautics and Space Administration (NASA), *Artemis*, available at <https://www.nasa.gov/specials/artemis> (last accessed Jan. 30, 2022) [<https://perma.cc/L8NF-VNL2>].

moratorium on the exploration, exploitation[,] and use of moon resources was urged, at a certain stage, by developing countries.”¹²² Perhaps the considerable interest in the moon at that time, owing to man’s foray on its surface, sent a signal to developing countries on the readiness of other States to explore and exploit resources on the moon, encouraging them to bond together and push for the Moon Agreement.

C. The “Province of All Mankind” versus “Common Heritage of Mankind”

There are lingering fears that outside the context of the Moon Agreement, other space cooperation instruments, such as the Outer Space Treaty, encourage the exploration and exploitation of space resources to the detriment of developing nations.¹²³ This may have to do with the use of the concept of “province of all mankind,” in contrast with the “common heritage of all mankind.” This part of the Article will discuss the differences between the two.

The phrase “province of all mankind” is oft-repeated in both the Outer Space Treaty and the Moon Agreement. In particular, the phrase finds itself in Article I of the Outer Space Treaty — “The exploration and use of outer space, including the [M]oon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the *province of all mankind*.”¹²⁴

The phrase is likewise found in Article 4, paragraph 1 of the Moon Agreement —

The exploration and use of the moon shall be the *province of all mankind* and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations.¹²⁵

122. Sylvia Maureen Williams, *The Law of Outer Space and Natural Resources*, 36 INT’L & COMP. L.Q. 142, 146 (1987).

123. See Edwin W. Paxson III, *Sharing the Benefits of Outer Space Exploration: Space Law and Economic Development*, 14 MICH. J. INT’L L. 487, 493 (1993).

124. Outer Space Treaty, *supra* note 8, art. I, para. 1 (emphasis supplied).

125. Moon Agreement, *supra* note 9, art. 4, ¶ 1 (emphasis supplied).

Meanwhile, the “common heritage of mankind” can only be found in the Moon Agreement, specifically under Article 11, paragraph 1 thereof —

The [M]oon and its natural resources are the *common heritage of mankind*, which finds its expression in the provisions of this Agreement and in particular in paragraph 5 of this article.¹²⁶

In a proposal sent by then Ambassador Arthur J. Goldberg, the United States (U.S.) puts forth the concept of equality in the use of space resources so that “[c]elestial bodies are free for exploration and use by all States on [the] basis of equality and in accordance with international law.”¹²⁷ The (USSR) went a step further and expanded Article I as follows —

The exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the *province of all mankind*. The Parties to the Treaty undertake to accord equal conditions to States engaged in the exploration of outer space.

Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all regions of celestial bodies.¹²⁸

In the treaty negotiations, USSR Representative Mr. Morozov stated that

[what] the Soviet Union had in mind was that a number of important principles concerning the space activities of States should be embodied in rules of international law giving equal rights in space matters to all States and affording a firm guarantee that the exploration and use of outer space would be carried on for the benefit of all peoples and would help to strengthen understanding among States in the interests of peace and progress.¹²⁹

As no other country submitted a counter-proposal or objected to the use of the phrase “province of all mankind,” this led to the inclusion of the

126. *Id.* art. 11, ¶ 1 (emphasis supplied).

127. Committee on the Peaceful Uses of Outer Space, *Letter Dated 16 June 1966 From the Permanent Representative of the United States of America Addressed to the Chairman of the Committee on the Peaceful Uses of Outer Space*, at 4, U.N. Doc. A/AC.105/32 (June 17, 1966).

128. U.N. General Assembly, *Letter Dated 16 June 1966 From the Permanent Representative of the Union of Soviet Socialist Republics to the United Nations Addressed to the Secretary-General*, at 2, U.N. Doc. A/6352 (June 16, 1966) (emphasis supplied).

129. Committee on the Peaceful Uses of Outer Space, *Summary Record of the Fifty-Seventh Meeting*, at 11, U.N. Doc. A/AC.105/C.2/SR.57 (July 12, 1966).

USSR's draft in the Report of the Legal Subcommittee on the Work of its Fifth Session to the COPUOS,¹³⁰ as well as to its eventual adoption in Article I of the Outer Space Treaty.¹³¹

When the Moon Agreement was later negotiated, the influence of the UN Convention on the Law of the Sea (UNCLOS)¹³² and the Antarctic Treaty¹³³ found its way in the drafting. In 1970, UN General Assembly Resolution 2749 (XXV) on the *Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction* declared that “[t]he sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as “the area”), as well as the resources of the area, are the *common heritage of mankind*.”¹³⁴ This was later carried out in the final text of Section 2, Article 136 of the UNCLOS III.¹³⁵ The argument for the common heritage concept in the UNCLOS was forwarded by States without the immediate capability or funding to launch expeditions to the seabed, under the belief that there will be a race or monopoly for resources in the area which would leave them at a disadvantage.¹³⁶ The concept maintains that resources and other benefits inuring from the area must be shared among all nations, considering that the

130. Committee on the Peaceful Uses of Outer Space, *Report on the Work of Its Fifth Session*, U.N. Doc. A/AC.105/35 (1966).

131. Joanne Irene Gabrynowicz, *The “Province” and “Heritage” of Mankind Reconsidered: A New Beginning*, in *THE SECOND CONFERENCE ON LUNAR BASES AND SPACE ACTIVITIES OF THE 21ST CENTURY* 692 (Wendell W. Mendell ed., 1992).

132. United Nations Convention on the Law of the Sea, *opened for signature* Dec. 10, 1982, 1833 U.N.T.S. 3 [hereinafter UNCLOS] (entered into force Nov. 16, 1994).

133. The Antarctic Treaty, *signed* Dec. 1, 1959, 402 U.N.T.S. 71.

134. Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction, G.A. Res. 2749 (XXV), ¶ 1, U.N. Doc. A/RES/2749 (XXV) (Dec. 17, 1970) (emphasis supplied).

135. UNCLOS, *supra* note 132, art. 136. “The Area and its resources are the common heritage of mankind.” *Id.*

136. Sarah Coffey, *Establishing a Legal Framework for Property Rights to Natural Resources in Outer Space*, 41 CASE W. RES. J. INT’L L. 119, 130 (2009) (citing Hamilton DeSaussure, *The Freedoms of Outer Space and Their Maritime Antecedents*, in *SPACE LAW, DEVELOPMENT AND SCOPE* 11 (Nandasiri Jasentuliyana ed., 1992)).

high seas are international territory which belongs equally to all nations.¹³⁷ It further reflected the sentiments of developing countries at that time — that the underdevelopment of developing countries was induced by developed countries owing to the long colonization process, creating an obligation on the part of the colonizers to transfer their technologies to States needing them, and warranting the need to develop a system that would define the regime-sharing of international public goods.¹³⁸

The 1959 Antarctic Treaty¹³⁹ is cited in a similar fashion, as the Consultative Parties agreed to an immediate moratorium on resource recovery, amid concerns for the Antarctic environment.¹⁴⁰ They recommended a future regime that would protect the environment and cautioned that any action taken on mineral resources in the Antarctic “should not prejudice the interests of all mankind[.]”¹⁴¹

The introduction of this common heritage concept in the Moon Agreement was initiated by Argentina, following the thinking that the prior concept of the “province of all mankind” was too vague to be the basis of a “beneficial domain which includes enjoyment, profit[,] and receipt of fruits.”¹⁴² Argentina’s proposal in 1970 defined the word “resources”

137. *Id.* at 129 (citing Carol R. Buxton, *Property in Outer Space: The Common Heritage of Mankind Principle vs. the “First in Time, First in Right” Rule of Property Law*, 69 J. AIR L. & COM. 689, 694 (2004)).

138. Rosa Ma. Ramirez de Arellano y Haro, Moon Agreement: Establishment of a Legal Regime That Regulates the Exploitation of the Moon and Other Celestial Bodies, available at https://www.unoosa.org/documents/pdf/spacelaw/activities/2019/T3-7-Rosa_Ma_Moon_Agreement_Presentation_MEXICO.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/PHN9-9ULD>].

139. The Antarctic Treaty, *supra* note 133.

140. Mary Victoria White, *The Common Heritage of Mankind: An Assessment*, 14 CASE W. RES. J. INT’L L. 509, 527 (1982) (citing Report of the Ninth Consultative Meeting, Sep. 19–Oct. 7, 1977, Recommendation IX-1: Antarctic Mineral Resources).

141. *Id.* (citing Report of the Ninth Consultative Meeting, Recommendation IX-1: Antarctic Mineral Resources, ¶ 4 (iv)).

142. Timothy G. Nelson, *The Moon Agreement and Private Enterprise: Lessons from Investment Law*, 17 ILSA J. INT’L & COMP. L. 393, 396 (2011) (citing Sylvia Maureen Williams, *The Common Heritage of Mankind and the Moon Agreement — Economic Implications and Institutional Arrangements*, in PROCEEDINGS OF THE TWENTY-FOURTH COLLOQUIUM ON THE LAW OF OUTER SPACE 87 (International Institute of Space Law of the International Astronautical Federation ed., 1981)).

as “all substances originating in the Moon and other celestial bodies[.]”¹⁴³ and stated that the “natural resources of the Moon and other celestial bodies shall be the common heritage of all mankind.”¹⁴⁴ The proposal was met with strong opposition from the USSR, which lobbied for the concept’s removal or other forms of resource regimes and instead proposed that “space be [considered as] an international area for common use.”¹⁴⁵

The impasse was broken when Austria conducted a series of informal consultations, resulting in the USSR accepting the concept only insofar as it would affect the Moon Agreement and its eventual regime,¹⁴⁶ and in developing countries conceding on a proposed “moratorium on the exploitation of [] natural resources of the Moon and other celestial bodies[.]”¹⁴⁷ In a way, this could be seen as States then abandoning the possibility that a future international regime would be developed to govern such exploitation.¹⁴⁸ The Moon Agreement in fact mandated State Parties to “undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible.”¹⁴⁹

143. White, *supra* note 140, at 521 (citing Committee on the Peaceful Uses of Outer Space, *Report on the Work of Its Ninth Session*, annex II, art. 2, U.N. Doc. A/AC.105/85 (1970)).

144. White, *supra* note 140, at 521 (citing Committee on the Peaceful Uses of Outer Space, *supra* note 143, annex II, art. 1 & Carl Q. Christol, *An International Regime, Including Appropriate Procedures, for the Moon: Article 11, Paragraph 5 of the 1979 Moon Agreement*, in PROCEEDINGS OF THE TWENTY-THIRD COLLOQUIUM ON THE LAW OF OUTER SPACE 139 (International Institute of Space Law of the International Astronautical Federation ed., 1980)).

145. David Everett Marko, *A Kinder, Gentler Moon Treaty: A Critical Review of the Current Moon Treaty and a Proposed Alternative*, 8 J. NAT. RESOURCES & ENVTL. L. 293, 302–303 (1993) (citing Emilio Jaksetic, *The Peaceful Uses of Outer Space: Soviet Views*, 28 AM. U. L. REV. 483, 505 (1979) (citing Reginald V. Dekanozov, *Some Questions of Juridical Nature of Areas (Spaces) Withdrawn from State Sovereignty*, 1973 SOVIET Y.B. INT’L L. 214, 215 (1975))).

146. White, *supra* note 140, at 528.

147. Ramirez de Arellano y Haro, *supra* note 138.

148. *Id.*

149. Moon Agreement, *supra* note 9, art. 11, ¶ 5. See also *id.* art. 18.

Both concepts — the “province of all mankind” and the “common heritage of mankind” — on their text promote the “notion of protecting humankind’s interests in space[.]”¹⁵⁰ but there is a marked difference in the way they operate.

The “province of all mankind” concept was said to be a declaration of a fundamental principle rather than a legal maxim,¹⁵¹ so that it evades actual definition.¹⁵² The prevailing view is that a plain reading of the Outer Space Treaty and the Moon Agreement would reveal that the “province” does not refer to any physical domain, and instead points to certain activities — the exploration and use of outer space.¹⁵³ This conclusion is supported by the argument that the concept must be understood in the same sense in which the Outer Space Treaty was drafted several years ago, which, owing to the volatile political climate dominated by the arms race, would mean that no State shall have sovereignty in outer space.¹⁵⁴ Hence, the “province of all mankind” would refer to the duty of States to “carry out the exploration and use of outer

150. Marko, *supra* note 145, at 310.

151. Gabrynowicz, *supra* note 131, at 692.

152. *Id.* Cf. The same article stated that “When it came to defining the ‘province of all mankind’ principle, it meant all nations had vested rights in common resources and should be shared equitably among them” *Id.* (citing GEORGE S. ROBINSON & HAROLD M. WHITE, ENVOYS OF MANKIND: A DECLARATION OF FIRST PRINCIPLES FOR THE GOVERNANCE OF SPACE SOCIETIES 188 (1986)).

153. Henry R. Hertzfeld, et al., How Simple Terms Mislead Us: The Pitfalls of Thinking About Outer Space as a Commons, at 3, *available at* <https://swfound.org/media/205390/how-simple-terms-mislead-us-hertzfeld-johnson-weeden-iac-2015.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/ALK9-CNR5>].

154. David Tan, *Towards a New Regime for the Protection of Outer Space as the “Province of All Mankind”*, 25 YALE J. INT’L L. 145, 163–64 (2000). It was also argued that

[t]he meaning of the ‘province of all mankind’ should include the concept of sustainable development. Our exploration and use of the outer[]space environment should leave it in a substantially unimpaired condition for the enjoyment and benefit of future generations. The purpose of the existing space treaties was to ensure that no [S]tate would arrogate exclusive rights to itself or use them at the expense of others.

Id. at 164.

space in the interest and for the benefit of all, through a voluntary sharing process and international cooperation.”¹⁵⁵

Some commentators have even expressed that Articles I to VI of the Outer Space Treaty (and by implication, the prevailing view on the “province of mankind” concept) have achieved the status of customary international law.¹⁵⁶ The considerable number of States which have ratified the Outer Space Treaty,¹⁵⁷ and their general understanding to “create a legal[ly binding] obligation to recognize the common interest of all mankind in the progress of the exploration and use of outer space[,]” as reflected in the *travaux préparatoires*¹⁵⁸ (even though the exact definition of “activities” is also lacking), contribute to the obligatory nature of the concept.¹⁵⁹

The “common heritage of mankind” is similarly vague,¹⁶⁰ although commentators have pointed to certain elements in a bid to clarify its meaning.¹⁶¹ First, “common heritage” implies that designated regions will “not be subject to [any form of] appropriation ... , [whether in] public or private, national or corporate.”¹⁶² Thus, any region so designated as a common heritage will not be owned by anyone, but “hypothetically managed by

155. FABIO TRONCHETTI, *THE EXPLOITATION OF NATURAL RESOURCES OF THE MOON AND OTHER CELESTIAL BODIES: A PROPOSAL FOR A LEGAL REGIME* 26 (2009).

156. *See id.* at 25–26.

157. Hertzfeld, et. al., *supra* note 153, at 4.

158. TRONCHETTI, *supra* note 155, at 24.

159. *Id.* at 26.

160. However, the concept is so “notoriously slippery and ill-defined[]” that there may be no conclusion other than to establish “a formal international regime [] for the supervision of the exploitation of the resources of the ‘common heritage[.]’” LYALL & LARSEN, *supra* note 17 & Gillian Triggs, *The Antarctic Treaty Regime: A Workable Compromise or a “Purgatory of Ambiguity”*, 17 CASE W. RES. J. INT’L L. 195, 218 (1985). *See also* Buxton, *supra* note 137, at 696. “The Antarctic Treaty does not expressly include common heritage language, but application of the principle to Antarctica appears widely accepted.” *Id.* (citing Harminderpal Singh Rana, *The “Common Heritage of Mankind” & the Final Frontier: A Reevaluation of Values Constituting the International Legal Regime for Outer Space Activities*, 26 RUTGERS L.J. 225, 237–38 (1994)).

161. Christopher C. Joyner, *Legal Implications of the Concept of the Common Heritage of Mankind*, 35 INT’L & COMP. L.Q. 190, 191 (1986).

162. *Id.*

everyone.”¹⁶³ It then follows, as a second element, that all people would have a share in the management of the common region.¹⁶⁴ “Third, if natural resources were exploited from a common [heritage], any economic [benefit] derived from [it] would be shared internationally.”¹⁶⁵ Fourth, that region must be exclusively used only for peaceful purposes;¹⁶⁶ and finally, free and open scientific research may be permissible, provided that it does not physically threaten or disrupt the ecology of the region.¹⁶⁷ An underlying principle is to turn the “heritage” region into inheritance transmitted down to future generations.¹⁶⁸

Relatedly, these elements raise the further question of what theory of property law the concept falls into.¹⁶⁹ In a way, the common heritage concept may be most intricately linked to the *res communis* regime — properties that are “owned by no one” and which are therefore “rendered available for use

163. *Id.*

164. *Id.* (citing Stephen Gorove, *The Concept of “Common Heritage of Mankind”: A Political, Moral or Legal Innovation?*, 9 SAN DIEGO L. REV. 390, 398 (1972)).

165. Joyner, *supra* note 161, at 192 (citing Elisabeth Mann Borgese, *The New International Economic Order and the Law of the Sea*, 14 SAN DIEGO L. REV. 584, 590 (1977)).

166. Joyner, *supra* note 161, at 192 (citing Rex J. Zedalis, “Peaceful Purposes” and Other Relevant Provisions of the Revised Composite Negotiating Text: A Comparative Analysis of the Existing and the Proposed Military Regime for the High Seas, 7 SYRACUSE J. INT’L L. & COM. 1, 18 (1979) & Marko G. Markoff, *Disarmament and Peaceful Purposes Provisions in the 1967 Outer Space Treaty*, 4 J. SPACE L. 3, 3 (1976)).

167. Joyner, *supra* note 161, at 192. Cf. Daniel A. Porras, *The “Common Heritage” of Outer Space: Equal Benefits for Most of Mankind*, 37 CAL. W. INT’L L.J., 143, 145 (2006).

One of the most important new principles to pervade every space law document is the idea of ‘Common Heritage.’ This idea has been used before in political rhetoric, but there is no agreement about its precise definition. At least some believe that ‘Common Heritage’ guarantees that all mankind have an equal share in the benefits that will come from reaching into outer space.

Porras, *supra* note 167, at 145 (citing MCGILL UNIVERSITY CENTRE FOR RESEARCH OF AIR AND SPACE LAW, SPACE ACTIVITIES AND EMERGING INTERNATIONAL LAW 327 (1984) & DELBERT D. SMITH, SPACE STATIONS: INTERNATIONAL LAW AND POLICY 154-55 (1979)).

168. Joyner, *supra* note 161, at 195.

169. Markoff, *supra* note 166, at 310.

by everyone.”¹⁷⁰ Such property is “not susceptible to exclusive appropriation by any private agent[,]” or any claim of sovereignty or jurisdiction.¹⁷¹ Specifically, are the Moon and other celestial bodies property of “*res communis*, *res nullius*, or [along the same lines of the] freedom of the seas?”¹⁷² Because the focus of developing countries was to equitably spread whatever form of benefit could be obtained from the Moon and from outer space in general, their view was representative of the notion of *res communis* or common property.¹⁷³

170. Joyner, *supra* note 161, at 194 (citing BLACK’S LAW DICTIONARY 1173 (5th ed. 1979)).

171. Joyner, *supra* note 161, at 194 (citing Christopher Pinto, *The Developing Countries and the Exploitation of the Deep Seabed*, 15 COLUM. J. WORLD BUS. 30 (1980). Cf. Paul Laurence Saffo, *The Common Heritage of Mankind: Has the General Assembly Created a Law to Govern Seabed Mining?*, 53 TUL. L. REV. 492, 512-13 (1979)).

172. Markoff, *supra* note 166, at 310.

173. *Id.* (citing *International Space Activities, 1979: Hearings Before the Subcommittee on Space Science and Applications of the Committee on Science and Technology*, 96th Cong. 111 (1979) (statement of Leigh Ratiner on behalf of the L-5 Society) [hereinafter 1979 Hearings]. See also Zachos A. Paliouras, *The Non-Appropriation Principle: The Grundnorm of International Space Law*, 27 LEIDEN J. INT’L L. 37, 44-45 (2014). There is an added element of the *res communis* regime — that the right to exploit should not be used to impair the rights of others.

Ever since the formulation of legal principles governing the activities of states on the high seas, it is generally accepted in legal theory that the pillars of any *res communis omnium* regime are the following[—] in Roman law, things (*res*) classified as common to all were not susceptible to private ownership (*dominium plenum*) and therefore no citizen was entitled to exclude others from the full enjoyment of the *res communis omnium*. In this sense, any citizen has the right to use and exploit it to the extent that does not impair the respective freedoms of others. Accordingly, if properly applied in the domain of public international law, the aforementioned principles essentially confer a right on each particular state to freely use and exploit areas subject to a *res communis omnium* regime, with due regard to the interests of other states. In view of the very nature of the *res communis omnium* regime, it has been accurately submitted that its essence is merely founded on a perception of individualism rather on a community-orientated basis. The merit of this approach is indeed enhanced especially if one takes into account the uneven level of development between states, which ultimately turns the enjoyment of communal resources to a de facto prerogative of the technologically advanced states.

The legal status of the common heritage concept has also been put in question.¹⁷⁴ Arguments have been made that it is “not a principle of international law *erga omnes*.”¹⁷⁵ Rather, it is an “emergent principle of international law.”¹⁷⁶ The customary acceptance of the doctrine “must be manifest, or at least sufficiently broad-based to attest to [a] wide-spread acceptance[.]”¹⁷⁷ but the concept, being a cardinal insertion in the Moon Agreement, signifies a lack of pervasive argument in its favor.

But regardless of status, there is a distinction between the two, such that while the “province of all mankind” concept refers to “activities” (i.e., the exploration and use), the “common heritage” concept in the Moon Agreement refers to “material objects.”¹⁷⁸ Moreover,

At this point[,] it should be observed that the notion of *res communis omnium* must not be confused with that of *res communis humanitatis*[,] which is the primary theoretical foundation for the introduction of the common heritage of mankind (CHM) architecture in international law. According to a concise overview of the pillars supporting any CHM structure in international law,

[c]ommon property requires common management and exploitation which ... should lead to the creation of a global, institutionalized mechanism endowed with exclusive rights to exploit the resources ... The benefits derived from the exploitation of these resources belong to mankind and are, therefore, to be distributed equitably among all States.

Id. (citing KEMAL BASLAR, *THE CONCEPT OF THE COMMON HERITAGE OF MANKIND IN INTERNATIONAL LAW* 41-42 (1998); Outer Space Treaty, *supra* note 8, art. IX; & Gennady M. Danilenko, *The Concept of the “Common Heritage of Mankind” in International Law*, 13 ANNALS AIR & SPACE L. 247, 249 (1988)).

174. Joyner, *supra* note 161, at 199.

175. *Id.* But see Rüdiger Wolfrum, *The Principle of the Common Heritage of Mankind*, 43 ZEITSCHRIFT FÜR AUSLÄNDISCHES ÖFFENTLICHES RECHT UND VÖLKERRECHT 312, 316-19 (1983). Compare Robert A. Goldwin, *Common Sense vs. “The Common Heritage”*, in *LAW OF THE SEA: U.S. POLICY DILEMMA* 70-75 (Bernard H. Oxman, et al. eds., 1983), with Bradley Larschan & Bonnie C. Brennan, *The Common Heritage of Mankind Principle in International Law*, 21 COLUM. J. TRANSNAT’L L. 305, 325-27, 330, & 332 (1983).

176. Joyner, *supra* note 161, at 199 (emphasis omitted).

177. *Id.* at 198 (citing Michael Akehurst, *Custom as a Source of International Law*, 47 BRITISH Y.B. INT’L L. 1, 16 (1975)).

178. Gabrynowicz, *supra* note 131, at 692 (citing Boris Maiorsky, *A Few Reflections on the Meaning and the Interrelation of “Province of All Mankind” and “Common Heritage*

[t]he [] ‘province of mankind’ [concept] covers the entire range of activities associated with the moon [and outer space in general], while the ‘common heritage’ concept is so closely connected with the establishment of an international regime to regulate resource exploitation that it seems to apply exclusively to the moon’s natural resources.¹⁷⁹

D. Moratorium of Exploitation in Outer Space

The reference to resources made by the concept of the “common heritage of mankind” is further supported by the argument that unlike the Antarctic Treaty, where a moratorium on the exploitation of resources was specifically agreed upon by the Consultative Parties,¹⁸⁰ there is no such consensus in the Moon Agreement.¹⁸¹

There is a variety of scholarship available arguing for both sides. On one hand, critics of the Moon Agreement argue that the “absence of such [exploration and exploitation] guidelines implies a moratorium on lunar

of Mankind” Notions, in PROCEEDINGS OF THE TWENTY-NINTH COLLOQUIUM ON THE LAW OF OUTER SPACE 58-59 (International Institute of Space Law of the International Astronautical Federation ed., 1987)). *See also* Ishita Das, ‘Bringing a Piece of Moon to Your Honey’: *The Legal Challenges Relating to Mining of the Lunar Resources*, 8-9 INDIAN J. AIR & SPACE L. 59, 67-68 (2020).

179. Nancy L. Griffin, *Americans and the Moon Treaty*, 46 J. AIR L. & COM. 729, 744 n. 121 (1981) (citing SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION, 96TH CONG., AGREEMENT GOVERNING THE ACTIVITIES OF STATES ON THE MOON AND OTHER CELESTIAL BODIES 58 (Comm. Print 1980)). Further,

the two concepts [may also] involve two different groups of people. [Some commentators are of the view that t]he exploration and use of the moon [and outer space are] the ‘province of *all* mankind,’ but the moon and its natural resources are the ‘common heritage of mankind.’ ... [This suggests] that the absence of the word ‘all’ in the phrase ‘common heritage of mankind’ implies that ‘mankind’ is limited, ‘at least in reference to the exploitation of natural resources of the moon, to that portion of mankind that is party to this agreement.’

Griffin, *supra* note 179, at 744 n. 121 (emphases omitted) (citing Stanley B. Rosenfield, *Article XI of the Draft Moon Agreement, in* PROCEEDINGS OF THE TWENTY-SECOND COLLOQUIUM ON THE LAW OF OUTER SPACE 211 (American Institute of Aeronautics and Astronautics ed., 1980)).

180. White, *supra* note 140, at 527.

181. *See* Moon Agreement, *supra* note 9, art. 11.

resource exploitation until an international regime is established.”¹⁸² Moreover, given the uncertainty in the legal regime, “no rational private actor would invest in this legal climate.”¹⁸³ In contrast, the clear “legislative history [and intent] of the agreement indicates that such a moratorium was proposed by several developing countries, but that the United States and the Soviet Union effectively prevented it from becoming a part of the treaty.”¹⁸⁴ Because of the disagreement, developing countries desisted from insisting on the moratorium until such time that there was a “practical need” for it.¹⁸⁵

Nevertheless, the “common heritage of mankind” concept in the Moon Agreement did not seem attractive to States who would be required to share the fruits of any space activity without regard for the investment and contribution of participating nations.¹⁸⁶ It did not help that State Parties to the said instrument believed that the *province* and *common heritage* concepts could be used for the same purpose of “rejecting the idle claims to property rights that have surfaced in recent years, in particular[,] since the difference between the two agreements has been used to support those claims[.]”¹⁸⁷ The view of

182. Griffin, *supra* note 179, at 746-47 (citing 1979 Hearings, *supra* note 173, at 114-15).

183. Nelson, *supra* note 142, at 402 (citing Kevin B. Walsh, *Controversial Issues Under Article XI of the Moon Treaty*, 6 ANNALS AIR & SPACE L. 489, 496 (1981); Daniel Goedhuis, *Some Recent Trends in the Interpretation and the Implementation of the Rules of International Space Law*, 19 COLUM. J. TRANSNAT'L L. 213, 232 (1981); Alan Duane Webber, *Extraterritorial Law on the Final Frontier: A Regime to Govern the Development of Celestial Body Resources*, 71 GEO. L.J. 1427, 1445 (1983); & 1979 Hearings, *supra* note 173, at 108).

184. Griffin, *supra* note 179, at 747 (citing U.N. GAOR, 32d Sess., ¶ 17, U.N. Doc. A/32/20 (Aug. 9, 1977) & Neil S. Hosenball, *The United Nations Committee on the Peaceful Uses of Outer Space: Past Accomplishments and Future Challenges*, 7 J. SPACE L. 95, 103 (1979)).

185. Judge Helmut Tuerk, Vice-President, International Tribunal for the Law of the Sea, *The Negotiation of the “Moon Agreement”*, Address at the 2009 Space Law Symposium (Mar. 23, 2009) (transcript available at <https://www.unoosa.org/pdf/pres/lsc2009/sympoo.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/DM7Y-SEBM>]).

186. See Bryon C. Brittingham, *Does the World Really Need New Space Law?*, 12 OR. REV. INT'L L. 31, 40 (2010).

187. Committee on the Peaceful Uses of Outer Space, *Joint Statement on the Benefits of Adherence to the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies by States Parties to the Agreement*, ¶ 7 (c) (iii), U.N. Doc. A/AC.105/C.2/L.272 (Apr. 3, 2008) [hereinafter Committee on the Peaceful Uses of Outer Space, *Joint Statement*].

certain States¹⁸⁸ was that while “exploitation is not prohibited by international law,” a resource-sharing mechanism must still be established in accordance with the principle of the common heritage of mankind.¹⁸⁹

The conundrum on resource sharing eventually led to different propositions on how the “common heritage” principle could be implemented over the years, including the “enjoyment of, profit from, and partaking in space benefits[.]”¹⁹⁰ One of the propositions was that the sharing of benefits under the “common heritage” principle could refer to profits alone.¹⁹¹ Some commentators have so far as posed the idea of an equitable sharing of *utility* (instead of profits) derived from these resources.¹⁹² For example,

[i]f the spacefaring nations of the world use He-3 in fusion reactions instead of burning fossil fuels such as coal or natural gas for energy, doesn't this benefit the world? ... Wouldn't it greatly decrease the demand for finite fossil fuels, making them more available for all the various plastics and polymers used in our technologies? ... [So that] '[w]hile the private enterprise receives the possible financial benefit from the risky undertaking, people throughout the world stand to benefit because space resources will conserve the Earth's scarce natural resources, further scientific discovery, and boost the world economy.'¹⁹³

Although there is doubt on whether such interpretation is what the State Parties intended, what is clear is that in the absence of a resource-sharing governance, the Moon Agreement will continue suffering its continued limited ratification and support from the international community. Without a legal regime that will operationalize the principles of equitable sharing, there is no incentive for States to be a party to the Moon Agreement, which in turn leads to a lesser chance for States to come together and calibrate in specific terms what “common heritage of mankind” truly means.

188. These States are “Austria, Belgium, Chile, Mexico, the Netherlands, Pakistan[,] and the Philippines[.]” *Id.* ¶ 2.

189. *Id.* ¶ 7 (d).

190. Antonella Bini, *The Moon Agreement, Its Effectiveness in the 21st Century*, at 3, available at https://www.files.ethz.ch/isn/124689/espi_%20perspectives_14.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/S3EY-AN47>].

191. See Carl Q. Christol, *The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 14 INT'L LAW. 429, 461 (1980).

192. See, e.g., Brittingham, *supra* note 186, at 41.

193. Brittingham, *supra* note 186, at 41 (citing Kelly M. Zullo, *The Need to Clarify the Status of Property Rights in International Space Law*, 90 GEO. L.J. 2413, 2433 (2002)).

E. The Non-Appropriation Principle in Outer Space

Perhaps the most compelling issue is not just between the two concepts above, but also on the principle of non-appropriation found in Article II of the Outer Space Treaty¹⁹⁴ and Article 4 of the Moon Agreement.¹⁹⁵ While States are free to explore outer space, their inability to “own” it constricts full “use” of the same, especially in light of the requirement of a resource-sharing scheme under the Moon Agreement.¹⁹⁶ The principle of non-appropriation in the Outer Space Treaty provides that “[o]uter 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.”¹⁹⁷

The same principle found in the Moon Agreement states that “[t]he [M]oon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.”¹⁹⁸ In this regard, the non-appropriation principle can be viewed from the lens of ownership. States and private entities are necessarily interested in an ownership stake that is enforceable against third parties, given the massive investments required.¹⁹⁹ Two questions, however, are critical in the understanding of the principle — “whether the non-appropriation principle applies equally to nations and [private entities,] and[] what the scope of that restriction is.”²⁰⁰

There are propositions that the prohibition on appropriation only applies to States and not to commercial enterprises or private individuals.²⁰¹ The lack of mention of private entities or individuals in the Outer Space Treaty is

194. Outer Space Treaty, *supra* note 8, art. II.

195. Moon Agreement, *supra* note 9, art. II, ¶ 2.

196. *Id.* art. II, ¶¶ 5-7.

197. Outer Space Treaty, *supra* note 8, art. II.

198. Moon Agreement, *supra* note 9, art. II, ¶ 2.

199. See Wian Erlank, *Property Rights in Space: Moving the Goal Posts So the Players Don't Notice*, 19 POTCHEFSTROOM ELECTRONIC L.J. 1, 18 (2016).

200. John G. Wrench, *Non-Appropriation, No Problem: The Outer Space Treaty Is Ready for Asteroid Mining*, 51 CASE W. RES. J. INT'L L. 437, 445 (2019).

201. Abigail D. Pershing, *Interpreting the Outer Space Treaty's Non-Appropriation Principle: Customary International Law From 1967 to Today*, 44 YALE J. INT'L L. 149, 156-57 (2019) (citing Stephen Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 FORDHAM L. REV. 349, 349 & 351 (1969)).

argued to be intentional on the part of the drafters, considering that the later Moon Agreement uses language specifically referencing private individuals.²⁰²

Frans von der Dunk, a renowned space lawyer, has advocated this position, noting that the prohibition applies only to “national” and not “supra” or “sub-national” appropriation.²⁰³ He argues that

[t]he [notion] of ‘[free access]’ does not prohibit private property rights or exploitation either, because there is no indication of the specified level of access [—] it could be free access to claim the property within an international regime or free access for scientific investigation, or perhaps it means the absence of a right to exclude.²⁰⁴

Taken together, he posits that both the Outer Space Treaty and the Moon Agreement “do not prohibit private property rights or forbid exploitation of natural resources in space.”²⁰⁵

202. *Id.* at 157 (citing Alan Wasser & Douglas Jobes, *Space Settlements, Property Rights, and International Law: Could a Lunar Settlement Claim the Lunar Real Estate It Needs to Survive?*, 73 J. AIR L. & COM. 37, 43-45 (2008); Wayne White, Proposal for a Multilateral Treaty Regarding Jurisdiction and Real Property Rights in Outer Space, available at https://www.spacefuture.com/archive/proposal_for_a_multilateral_treaty_regarding_jurisdiction_and_real_property_rights_in_outer_space.shtml (last accessed Jan. 30, 2022) [<https://perma.cc/6EG8-JLAM>]; & Moon Agreement, *supra* note 9, art. 11, ¶ 3).

203. Marina Lits, et al., *International Space Law*, 4 BRICS L.J. 135, 151 (2017).

204. *Id.*

205. *Id.* See also Pershing, *supra* note 201, 158 & 160-61.

Currently, the U.S. government owns 842 pounds of lunar material. There is little question that NASA and the U.S. government consider this material, as well as other space materials collected by American astronauts, to be government property. In fact, NASA explicitly endorses U.S. property rights over these moon rocks, stating that ‘[l]unar material retrieved from the Moon during the Apollo Program is U.S. government property.’

...

Whereas the idea that private corporations might go into space may have seemed far-fetched to the drafters of the Outer Space Treaty, the SPACE Act of 2015 was the first instance of a government recognizing such a trend and officially supporting private companies’ commercial rights to space resources under law. With the new 2015 amendment to Section 51 in place, U.S. companies can now rest assured that any profits they

reap from space mining are firmly legal] —[]at least within U.S. jurisdictions.

Although the United States was the first country to officially reinterpret the non-appropriation principle, other countries are following suit. On [20 July] 2017, Luxembourg passed a law entitled [‘]On the Exploration and Utilization of Space Resources[’] with a vote of [55-2]. The law took effect on [1 August] 2017. Article 1 of the new law states simply that ‘[s]pace resources can be appropriated,’ and Article 3 expressly grants private companies permission to explore and use space resources for commercial purposes.

The next country to enact similar legislation may be the United Arab Emirates (UAE). According to the UAE Space Agency director general, Mohammed Al Ahabbi, the UAE is currently in the process of drafting a space law covering both human space exploration and commercial activities such as mining. To further this goal, in 2017[,] the UAE set up the Space Agency Working Group on Space Policy and Law to specify the procedures, mechanisms, and other standards of the space sector, including an appropriate legal framework.

Other major space powers are also considering similar laws in the future, including Japan, China, and Australia. Senior officials within China’s space program have explicitly stated that the country’s goal is to explore outer space and to take advantage of outer space resources. The general international trend clearly points in this direction in anticipation of a potential ‘space gold rush.’

Id. (citing MATTHEW J. KLEIMAN, *THE LITTLE BOOK OF SPACE LAW* 156-57 (2013); Thomas Gangale & Marilyn Dudley-Rowley, *To Build Bifrost: Developing Space Property Rights and Infrastructure*, at 8, *available at* <http://www.astro sociology.com/Library/PDF/Submissions/To%20Build%20Bifrost.pdf> (last accessed Jan. 30, 2022) [https://perma.cc/U347-DKE3]; NASA Office of Inspector General, *NASA’s Management of Moon Rocks and Other Astromaterials Loaned for Research, Education, and Public Display*, at v n. 8, *available at* <https://oig.nasa.gov/docs/IG-12-007.pdf> (last accessed Jan. 30, 2022) [https://perma.cc/US8E-VTQJ]; Jeff Foust, *Luxembourg Adopts Space Resources Law*, *available at* <http://spacenews.com/luxembourg-adopts-space-resources-law> (last accessed Jan. 30, 2022) [https://perma.cc/ESJ8-76JK]; *Loi du 20 juillet 2017 sur l’exploration et l’utilisation des ressources de l’espace* [Law of 20 July 2017 on the Exploration and Use of Space Resources] *JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE* [J.O.] [OFFICIAL GAZETTE OF FRANCE], July 28, 2017, p. 7093; Lucy Barnard, *UAE to Finalise Space Laws Soon*, *available at* <https://www.thenational.ae/business/uae-to-finalise-space-laws-soon-1.219966> (last accessed Jan. 30, 2022) [https://perma.cc/89VY-YBRS]; Gulf News, *UAE National Space Programme Launched*, *available at* <https://gulfnews.com/uae/government/uae-national-space-programme->

The other question is what exactly in outer space may not be appropriated. One view is that the non-appropriation principle only restricts territorial ownership and not resources.²⁰⁶ This is supported by history again, considering that the 1960s was a time when States thought of outer space as a viable place to station military weapons against each other.²⁰⁷ Hence, sovereignty is given a territorial sense.²⁰⁸ If resources were included in the prohibition, then the Outer Space Treaty could have explicitly provided for it, and related activities such as space mining could have been listed.²⁰⁹

The counterargument is that since no States are allowed to extend jurisdiction over planetary areas under the Outer Space Treaty, there is no legal basis for them to occupy the same and appropriate resources therein.²¹⁰ This argument is furthered by the juxtaposition of the non-appropriation provision and prohibition on ownership in Article 11 of the Moon Agreement, as well as by the undertaking to establish an international regime to govern the exploitation of natural resources of the moon under paragraph

launched-1.2010552 (last accessed Jan. 30, 2022) [<https://perma.cc/U2D4-LSRM>]; Rishika Daryanani & Travis Fulton, Asteroid Mining: Developments in Space Property Rights, available at <http://web.archive.org/web/20170905194352/https://www.accenture.com/us-en/blogs/blogs-asteroid-mining-developments-space-property-rights> (last accessed Jan. 30, 2022) [<https://perma.cc/QG2J-795V>]; & Brandon C. Gruner, *A New Hope for International Space Law: Incorporating Nineteenth Century First Possession Principles into the 1967 Space Treaty for the Colonization of Outer Space in the Twenty-First Century*, 35 SETON HALL L. REV. 299, 304 (2004).

206. Jinyuan Su, *Legality of Unilateral Exploitation of Space Resources Under International Law*, 66 INT'L & COMP. L.Q. 991, 995, 996 (2017) (citing Stephen Gorove, *Limitations on the Principle of Freedom of Exploration and Use of Outer Space: Benefits and Interests*, in PROCEEDINGS OF THE THIRTEENTH COLLOQUIUM ON THE LAW OF OUTER SPACE 74 (International Institute of Space Law of the International Astronautical Federation ed., 1971) & Williams, *supra* note 122, at 147).

207. Su, *supra* note 206, at 996 (citing Joanne Irene Gabrynowicz, *Space Law: Its Cold War Origins and Challenges in the Era of Globalization*, 37 SUFFOLK U.L. REV. 1041, 1043 (2004)).

208. Su, *supra* note 206, at 996.

209. *Id.* (citing Coffey, *supra* note 136, at 126).

210. Paxson III, *supra* note 123, at 494.

5 of Article 11 thereof.²¹¹ The prohibition on resource appropriation is, as argued, necessarily subsumed in the territorial appropriation.

But as pointed out above, the non-appropriation provision in the Outer Space Treaty was formulated to avoid potential conflicts once States establish settlements in space and do not prohibit resource ownership.²¹² Even the Moon Agreement's mandate for the development of a resource-sharing mechanism is taken as an indication that resource appropriation is not prohibited.²¹³ What could therefore be a more appropriate test, as argued by certain proponents, is not necessarily whether the appropriation of resources is prohibited or not, but instead whether the same is conducted in a manner that will effectively prevent others from engaging in such exploitative activity.²¹⁴

Whether this position has achieved customary international law is also subject to debate.²¹⁵ Two UN General Assembly Resolutions in 1961 and 1962,²¹⁶ which were adopted unanimously by all States, were the basis of

211. Moon Agreement, *supra* note 9, art. 11, ¶¶ 2, 3, & 5.

212. Su, *supra* note 206, at 996.

213. *Id.* at 999 (citing Moon Agreement, *supra* note 9, art. 11, ¶ 5).

214. Su, *supra* note 206, at 998-99.

A sovereignty claim is not the sole means of appropriation. Use or occupation may also amount to appropriation. The term 'any other means' indicates that the appropriation prohibition under Article II is all-encompassing. The test should therefore be based on the consequences of preventing others from engaging in exploitation. Occupying or using a portion of outer space in a manner that excludes others from exploitation, therefore, constitutes appropriation.

Id.

215. *See id.* at 1006.

[T]here is no prohibitive or permissive rule in customary international law regarding the legality of unilateral exploitation of space resources, as there has been no such practice to date. Recent domestic legislation in this area indicates a tendency towards freedom to engage in unilateral exploitation, but it remains unclear whether this will become predominant. Although the issue is not addressed *expressis verbis* in the Outer Space Treaty, the general principles enshrined therein are applicable to future exploitation activities, barring any *lex specialis*.

Id.

216. International Co-operation in the Peaceful Uses of Outer Space, G.A. Res. 1721 (XVI), U.N. Doc. A/RES/1721 (XVI) (Dec. 20, 1961) & International Co-

Article II of the Outer Space Treaty.²¹⁷ Such is said to be evidence that the non-appropriation principle had already achieved the status of customary international law “even prior to the adoption of the Outer Space Treaty in 1967.”²¹⁸ That the Outer Space Treaty has also been widely accepted²¹⁹ by the international community adds to the point.

Still, the existence of the Bogotá Declaration challenges the argument above.²²⁰ “On 3 December 1976, eight equatorial states, namely Brazil, Ecuador, Colombia, Congo, the Democratic Republic of Congo (then still Zaire), Indonesia, Kenya, and Uganda, signed an international agreement titled ‘Declaration of the First Meeting of Equatorial Countries[,]’ or the Bogotá Declaration[.]”²²¹ The document purports to give sovereignty over the geostationary earth orbit to the equatorial States “on whose territory that particular point is located.”²²² The objective is premised on the argument that the space above each State’s territory does not fall into the definition of “outer space” and is therefore a natural resource.²²³ Commentators have been divided on whether equatorial States have violated the rule on non-appropriation of outer space and on whether they can be considered as persistent objectors,²²⁴ assuming that the permissive view on resource ownership has truly achieved customary international law.

operation in the Peaceful Uses of Outer Space, G.A. Res. 1802 (XVII), U.N. Doc. A/RES/1802 (XVII) (Dec. 14, 1962).

217. Pershing, *supra* note 201, at 156.

218. *Id.* (citing Fabio Tronchetti, *The Non-Appropriation Principle Under Attack: Using Article II of the Outer Space Treaty in Its Defence*, in PROCEEDINGS OF THE FIFTIETH COLLOQUIUM ON THE LAW OF OUTER SPACE 530 (International Institute of Space Law ed., 2008)).

219. Pershing, *supra* note 201, at 152 (citing United Nations Office for Disarmament Affairs, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, available at https://treaties.unoda.org/t/outer_space (last accessed Jan. 30, 2022) [<https://perma.cc/WUR2-69VS>]).

220. See Paliouras, *supra* note 173, at 51.

221. *Id.* (citing *The Bogota Declaration*, 6 J. SPACE. L. 193 (1978) & *Draft General Principles Governing the Geostationary Orbit*, U.N. Doc. A/AC.105/C.2/L.147 (Mar. 29, 1984)).

222. Paliouras, *supra* note 173, at 51.

223. See *id.* at 51–52.

224. Paliouras, *supra* note 173, at 52.

IV. THE PHILIPPINE SPACE AGENDA: A RECOMMENDATION

A. The Philippines and the International Legal Framework on Outer Space

Among the countries that acceded to the Moon Agreement, the Philippines constitutes an extreme case, having withheld its ratification to other space cooperation instruments in favor of the Moon Agreement.²²⁵ This is a rather unique position held by the Philippines among the 195 recognized States in the world. In fact, the Philippines has only completed accession to the Moon Agreement, and has signed but not ratified other instruments such as the Outer Space Treaty,²²⁶ the Rescue Agreement,²²⁷ and the Liability Convention.²²⁸ It has also never signed or ratified the Registration Convention.²²⁹

Table I. Status of Agreements in the Philippines

<p>“Outer Space Treaty”</p> <p>Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies</p>	<p>(1967) Signed, but not yet ratified²³⁰</p>
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225. Castillo, *supra* note 12.

226. Department of Foreign Affairs, DFA, PhilSA Conduct Webinar on International Space Cooperation, *available at* <https://dfa.gov.ph/dfa-news/dfa-releasesupdate/27958-dfa-philsa-conduct-webinar-on-international-space-cooperation> (last accessed Jan. 30, 2022) [<https://perma.cc/A5VH-5HKL>].

227. *Id.*

228. *See* Philippine Space Act, § 24.

229. *Id.*

230. United Nations Office for Disarmament Affairs, *supra* note 219.

<p>“Rescue Agreement”</p> <p>Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space</p>	(1968) Signed, but not yet ratified ²³¹
<p>“Liability Convention”</p> <p>Convention on International Liability for Damage Caused by Space Objects</p>	(1972) Signed, but not yet ratified ²³²
<p>“Registration Convention”</p> <p>Convention on Registration of Objects Launched Into Outer Space</p>	Not signed or ratified ²³³
<p>“Moon Agreement”</p> <p>Agreement Governing the Activities of States on the Moon and Other Celestial Bodies</p>	<p>1980 (date of signature)</p> <p>1981 (date of ratification)</p> <p>1984 (entry into force)²³⁴</p>

231. United Nations Treaty Collection, Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, available at <https://treaties.un.org/Pages/showDetails.aspx?objid=080000028012504f> (last accessed Jan. 30, 2022) [<https://perma.cc/WNQ4-9YKB>].

232. Convention on International Liability for Damage Caused by Space Objects, available at <https://www.state.gov/wp-content/uploads/2019/03/238-Space-Object-Damage.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/C2YJ-58B7>].

233. United Nations Treaty Collection, Convention on Registration of Objects Launched into Outer Space, available at https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XIV-1&chapter=24&Temp=mtdsg3&clang=_en (last accessed Jan. 30, 2022) [<https://perma.cc/XAJ2-3LJT>].

234. United Nations Office for Disarmament Affairs, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, available at <https://treaties.unoda.org/t/moon> (last accessed Jan. 30, 2022) [<https://perma.cc/MKM4-CDNR>].

Acceding to the Moon Agreement was not without basis because, in a way, the instrument is more conservative in its approach to the exploration and utilization of space resources. The Philippines, on its part, has consistently “upheld the principle of equal and non-discriminatory access to outer space and equal conditions for all States, irrespective of their level of scientific, technical[,] and economic development, ... [as well as] full [and open] access to space-based information and [] the enhancement of forums where space-related issues could be addressed.”²³⁵

As earlier noted, the Moon Agreement’s advocacy is to ensure that the exploration and use of the moon shall be carried out for the benefit of all countries, irrespective of their economic and scientific development,²³⁶ and with due regard for present and future generations,²³⁷ which implies the need

235. Press Release by Fourth Committee of the U.N. General Assembly, *Setting Spacefaring Nations Against Non-Spacefaring Ones Rejected in Fourth Committee as Debate Centres on Cooperative, Not Competitive, Use of Space* (Oct. 13, 2011) (on file with the United Nations General Assembly). See also Department of Foreign Affairs, Instrument of Ratification, whereas cl. paras. 2 & 3 (Mar. 3, 1981). The clauses provide — “WHEREAS, the Philippines signed the Agreement on 23 April 1980; WHEREAS, the Agreement, inter-alia, recognized the principle that the moon and its natural resources are common heritage of all mankind[,] and therefore, not subject to appropriation or occupation by any State;”

See also Emmanuel S. Galvez, Assistant Secretary for Finance and Legal Affairs, Department of Science and Technology, *Philippines’ National Statement to the UNISPACE+50 High-Level Segment*, Address at the UNISPACE+50 High-Level Segment (June 21, 2018) (transcript available at https://www.unoosa.org/documents/pdf/copuos/2018/hls/o8_10E.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/JF8G-EZSN>]).

As a member of the Group of 77 and China, the Philippines reaffirms its conviction that the use and exploration of outer space shall be exclusively for peaceful purposes, for the benefit and interest of all countries, irrespective of their degree of economic and scientific development, and in conformity with applicable international law. The Philippines reiterates its strict adherence to the principles governing the activities of States in the exploration and use of outer space, including:

- A) Universal and equal access to outer space for all countries without discrimination, regardless of their level of scientific, technical and economic development[.]

Galvez, *supra* note 235.

236. Moon Agreement, *supra* note 9, art. 4, ¶ 1.

237. *Id.* See also Edith Brown Weiss, *In Fairness to Future Generations and Sustainable Development*, 8 AM. U. J. INT’L L. & POL’Y 19, 19 (1992).

for sustainable development in outer space.²³⁸ Although not decided upon during the completion of the Moon Agreement negotiations, it may be worth mentioning that Philippine jurisprudence enjoys special affinity with the concept of intergenerational protection.²³⁹ The seminal case of *Oposa v. Factoran, Jr.*²⁴⁰ in 1993 involved a class suit filed by minors representing “their generation as well as generations yet unborn[,]” which was upheld on the premise of “intergenerational responsibility insofar as the right to a balanced and healthful ecology is concerned.”²⁴¹ The decision somehow contextualized the importance placed by the country on the preservation of resources,²⁴² whether on Earth or in space.

Since the ratification of the Moon Agreement, the Philippines has slowly begun developing its space competencies, which has featured the launching of five satellites over the course of 30 years: Agila-1, Agila-2, Diwata-1, Maya-1 and Diwata-2.²⁴³

Sustainable development relies on a commitment to equity with future generations. This ethical and philosophical commitment acts as a constraint on a natural inclination to take advantage of our temporary control over the earth’s resources, and to use them only for our own benefit without careful regard for what we leave to our children and their descendants. This may seem a self-centered philosophy, but it is actually part of the logic that governs daily economic decisions about the use of our resources.

Id.

238. ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, THE SPACE ECONOMY IN FIGURES: HOW SPACE CONTRIBUTES TO THE GLOBAL ECONOMY 14 (2019).

239. *See, e.g., Arigo v. Swift*, G.R. No. 206510, 735 SCRA 102, 129 (2014).

240. *Oposa v. Factoran, Jr.*, G.R. No. 101083, 224 SCRA 792 (1993).

241. *Id.* at 802-03.

242. *Id.* at 797-99.

243. Jovic Yee, *1st PH-Made Satellite Set to Go into Space*, PHIL. DAILY INQ., Jan. 12, 2016, available at <https://globalnation.inquirer.net/134922/1st-ph-made-satellite-set-to-go-into-space> (last accessed Jan. 30, 2022) [<https://perma.cc/5SY8-JZR9>] & The Manila Times, *Finding Ourselves in the Stars*, MANILA TIMES, Dec. 27, 2021, available at <https://www.msn.com/en-ph/news/opinion/finding-ourselves-in-the-stars/ar-AASbm3Z> (last accessed Jan. 30, 2022) [<https://perma.cc/BBJ8-PWBV>].

Realizing the necessity for a governmental authority to safeguard Philippine interests, Congress passed R.A. No. 11363 in 2019, providing the much needed impetus and boost to the space sector.²⁴⁴

The Philippine Space Act outlines the framework of the Philippine Space Policy²⁴⁵ and the country's Space Development and Utilization Policy.²⁴⁶ It also created the Philippine Space Agency (PhilSA),²⁴⁷ which was “established as the central government agency addressing all national issues and activities related to space [science and technology] applications.”²⁴⁸ As the government's “primary policy, planning, coordinating, implementing, and administrative entity of the Executive Branch[,]” it is tasked with the duty to “plan, develop, and promote the national space program in line with the Philippine Space

244. An Act Establishing the Philippine Space Development and Utilization Policy and Creating the Philippine Space Agency (PSA) and Define the Purpose and Scope of Its Activities, H.B. No. 3637, explan. n., 17th Cong., 1st Reg. Sess. (2016).

245. Philippine Space Act, § 5. Section 5 provides —

Section 5. *Framework of the Space Policy.* — The Philippine Space Policy will focus on six (6) Key Development Areas (KDAs) for SSTA development to ensure the State's sustained progress:

- (a) National Security and Development ... ;
- (b) Hazard Management and Climate Studies ... ;
- (c) Space Research and Development ... ;
- (d) Space Industry Capacity Building ... ;
- (e) Space Education and Awareness ... ;[and]
- (f) International Cooperation.

Id.

246. *Id.* § 4. Section 4 provides —

Section 4. *The Philippine Space Development and Utilization Policy.* — The Philippine Space Development and Utilization Policy, or the Philippine Space Policy, will serve as the country's primary strategic roadmap for space development and will embody the country's central goal of becoming a space-capable and space-faring nation within the next decade. It shall focus on areas of SSTA that would address national issues, promote the efficient utilization of space assets and resources, establish capacity-building measures for human resources development, strengthen national defense, and enhance international cooperation.

Id.

247. *Id.* § 6.

248. *Id.*

Policy.”²⁴⁹ At present, PhilSA is engaged in a robust program of international space cooperation, including capacity-building cooperation with the UNOOSA, the Asia-Pacific Regional Space Agency Forum, and other States with more advanced space programs.²⁵⁰

B. Compatibility of the Outer Space Treaty and the Moon Agreement

As the Philippines develops its own technical capabilities and enters into mutually beneficial cooperation agreements with other space-faring nations, the country may be at a bigger disadvantage by not acceding to the other space cooperation agreements, as it is effectively deprived of the cooperative benefits afforded by other instruments.²⁵¹ For instance, the Philippines generally stands to improve its standing and competencies in space activities if it were to accede to the Outer Space Treaty, the Registration Convention, the Rescue Agreement, and the Liability Convention.²⁵² These instruments encourage mechanisms such as mutual assistance in cases of emergencies²⁵³ and ultimately open the door for international cooperation with other States.²⁵⁴ Experts in the Philippines have long highlighted the need to develop technical capability on space technologies and space sustainability practices, which established nations can provide through a series of technical assistance and cooperation agreements that are centered on development, innovation, and the sharing of best practices.²⁵⁵ In order to accomplish this, however, the mindset of

249. Philippine Space Act, § 7.

250. Philippine Space Agency, PhilSA and JAXA Formalize Space Cooperation, available at <https://philsa.gov.ph/news/philsa-and-jaxa-formalize-space-cooperation> (last accessed Jan. 30, 2022) [<https://perma.cc/B94W-8MKM>].

251. See Rogel Mari Sese, *The Philippine Space Program: A Modern Take on Establishing a National Space Program*, in *ASEAN SPACE PROGRAMS: HISTORY AND WAY FORWARD* 73-74 (Quentin Verspieren, et al. eds., 2022).

252. See United Nations Office for Outer Space Affairs, *Space Law Treaties and Principles*, available at <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html#:~:text=These%20five%20treaties%20deal%20with,with%20space%20activities%20and%20the> (last accessed Jan. 30, 2022) [<https://perma.cc/WBD5-2P5A>].

253. See, e.g., Outer Space Treaty, *supra* note 8, art. V & Rescue Agreement, *supra* note 61.

254. United Nations Office for Outer Space Affairs, *Space Law Treaties and Principles*, *supra* note 252.

255. See Rogel Mari Sese, *The Globalization of Space*, available at https://swfound.org/media/206472/03_sese.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/P33E-DZHW>].

competition between space-faring and non-space-faring nations must be replaced with one of cooperation to achieve sustainable development in space.²⁵⁶

Of note is the fact that the Philippine Space Act also underscores the need for the Philippines to accede to the Outer Space Treaty and the Registration and Liability Conventions.²⁵⁷ Section 2 (f) of the domestic law states that the Philippines should “[abide] by the various international space treaties and principles promulgated by the [UN] and is an active participant in the international space community, [which includes] international rules and procedures concerning the ... Liability Convention, among others.”²⁵⁸ As the Philippines remains only a signatory to these Conventions,²⁵⁹ there is still a need to complete certain internal domestic requisites to comply with the mandate of the legislative.²⁶⁰ This will necessarily involve discourse on the country’s position on equitable resource sharing in outer space.

This proposition — acceding to the Outer Space Treaty, among others — is not incompatible with the country’s long-standing advocacy for an equitable resource-sharing scheme in space.²⁶¹ While the “province of all mankind” and “common heritage of mankind” concepts may often be confusing, they are

256. Fourth Committee of the U.N. General Assembly, *supra* note 235.

257. *See* Philippine Space Act, §§ 2 (f) & 24.

258. Philippine Space Act, § 2 (f).

259. Refer to Table 1 of this Article. The Philippine Space Act also mandates accession to the Registration Convention. Section 23 of R.A. No. 11363 directs the establishment of a National Registry of Space Objects to identify space objects that fall “under the responsibility of the Philippines as the Launching State.” Philippine Space Act, § 23.

260. *See* Office of the President, Providing for the Guidelines in the Negotiation of International Agreements and Its Ratification, Executive Order No. 459, Series of 459 [E.O. No. 459, s. 1997] (Nov. 25, 1997). In accordance with Executive Order (E.O.) No. 459, Series of 1997, coordination between the Philippine Space Agency and the Department of Foreign Affairs (DFA), as well as the Philippine Space Council, should be immediately made *first*, to secure the Certificates of Concurrences from these agencies, and *second*, for the DFA to submit the complete documentary requirements to the Office of the President for the issuance of the Instruments of Accession.

261. The Moon Agreement, which the Philippines ratified in 1981, mandates States-Parties to establish an international regime for the development, management, use, and equitable sharing of resources. Moon Agreement, *supra* note 9, art. 11, ¶ 7 (a)-(d).

not contradictory to each other and seek to govern different areas.²⁶² Instead, the country may consider harnessing its own capabilities, adapting to established and emerging standards, and utilizing these as a platform to engage other States in the development of a resource-sharing scheme that is beneficial to disadvantaged countries, as mandated by the Moon Agreement.

C. The Future of the Moon Agreement: Scholarship on Resource-Sharing Mechanisms

At this point, the increasing number of space activities initiated by both States and private entities have rendered more compelling the age-old problem of resource sharing and the need for a clear legal framework. Both the Moon Agreement, as well as the UN General Assembly in 2008,²⁶³ have stated that a regime on the exploitation of the natural resources of celestial bodies “should be established ... by taking into account simultaneously the relevant political, legal and technical facts, possibilities[,] and requirements[.]”²⁶⁴ Several options are available should the Philippines consider engaging the international community in a discussion on equitable resource sharing in outer space.

One option forwarded by Professor Carl Q. Christol is the creation of an intergovernmental organization that could facilitate the development of regulations on resource sharing and regulate space activities to ensure that such does not harm natural ecosystems both in space and on Earth.²⁶⁵ The concept is similar to the International Seabed Authority (ISA) established under UNCLOS III, which organizes and controls all mineral-related activities in the international seabed area, including the adoption of rules and regulations on marine environment protection, and the dissemination of research results to Member States.²⁶⁶ While Member States do not necessarily need the ISA’s permission to conduct exploration, they need a permit to acquire exclusive rights to the exploration and exploitation of discovered resources, so that when two or more Member States apply for a mining expedition in a portion of the area, the ISA has the authority to select, in a non-discriminatory manner,

262. Ramirez de Arellano y Haro, *supra* note 138.

263. Committee on the Peaceful Uses of Outer Space, *Joint Statement*, *supra* note 187.

264. *Id.* annex, ¶ 7 (e).

265. Coffey, *supra* note 136, at 133 (citing Paxson III, *supra* note 123, at 509 & Christol, *supra* note 144, at 146).

266. International Seabed Authority, Frequently Asked Questions (FAQs), *available at* <https://www.isa.org.jm/frequently-asked-questions-faqs> (last accessed Jan. 30, 2022) [<https://perma.cc/SL34-PLZM>].

which application shall be given priority.²⁶⁷ Similarly, prospective licensees for the exploitation of lunar resources would need to comply with regulatory procedures imposed by the authority to be able to carry out space activities.²⁶⁸

A drawback to this proposal is the time needed to negotiate such an intergovernmental organization.²⁶⁹ Apart from funding concerns, establishing a regulatory power with authority over resource sharing requires years of negotiation (e.g., 14 years of negotiation in the case of the ISA).²⁷⁰ Moreover, there is little incentive for space-faring nations to subject themselves to another body when they are already conducting space activities without prior approval of another entity.²⁷¹

Alternatively, a proposal to embody a resource-sharing scheme in an international instrument appears to be the most definitive solution. The instrument may state outright the prevailing view that appropriation or ownership is not allowed in space, but property rights may be derived from resources found on the moon and other celestial bodies.²⁷² This will avoid any further confusion on what the “province of all mankind” and “common heritage of all mankind” mean for State Parties.²⁷³ Moreover, it will incentivize States and private entities to develop sustainable technologies for

267. Coffey, *supra* note 136, at 134 (citing UNCLOS, *supra* note 132, annex III, arts. 2, 3, & 7).

268. TRONCHETTI, *supra* note 155, at 262. A similar proposal involves the creation of an International Space Authority. *Id.* at 246-63.

269. Coffey, *supra* note 136, at 136 (citing United Nations Division for Ocean Affairs and the Law of the Sea, United Nations Convention on the Law of the Sea of 10 December 1982: Overview and Full Text, available at https://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm (last accessed Jan. 30, 2022) [<https://perma.cc/D7YE-3K8K>]).

270. *Id.*

271. *See* Coffey, *supra* note 136, at 136.

It may also be difficult for space-faring nations and developing nations to come to an agreement on how the international body should be set up and administered, even before they address the actual space law issues at hand in the international regime. They will need to decide whether the authority should be administered by the United Nations or exist as an independent entity and how to allocate power between developing nations and space-faring ones.

Id.

272. Coffey, *supra* note 136, at 144.

273. *Id.*

outer space activities, guaranteed by a stable legal framework that will ensure the return of their investments.²⁷⁴

To balance this authority to explore and exploit, States could devise a credit trading system similar to that used under the Kyoto Protocol,²⁷⁵ through which “parties seek to reduce global emissions of substances that deplete the ozone layer and cause climate change by allowing each party a designated amount of emissions per time period.”²⁷⁶ The regime will allow the parties to purchase emission allowances (or in this case, resource allowances) from other parties, ensuring that everyone is given equal opportunity to pursue exploitation activities in space.²⁷⁷ However, if a party does not have such capability, it will not be placed at a disadvantage because it has a credit to sell to the rest.²⁷⁸

274. *Id.* See also Andrew R. Brehm, *Private Property in Outer Space: Establishing a Foundation for Future Exploration*, 33 WIS. INT’L L.J. 353, 369 (2015).

275. Coffey, *supra* note 136, at 136-37 (citing Kyoto Protocol to the United Nations Framework Convention on Climate Change, *adopted* Dec. 11, 1997, 2303 U.N.T.S. 162).

276. Coffey, *supra* note 136, at 137 (citing Press Release *by* United Nations Framework Convention on Climate Change & United Nations Environment Programme, *The Montreal Protocol and the Kyoto Protocol Mutually Supportive Say Top UN Officials* (Sept. 17, 2007) (on file with the United Nations Framework Convention on Climate Change & United Nations Environment Programme)).

277. Coffey, *supra* note 136, at 137 (citing Montreal Protocol on Substances That Deplete the Ozone Layer art. 2, ¶ 5, *signed* Sept. 16, 1987, 1522 U.N.T.S. 3 (entered into force Jan. 1, 1989)).

278. Coffey, *supra* note 136, at 137-38.

[I]f one nation wants to use more than its allotted shares, it may purchase them from a nation that did not use all of its shares. Thus, emissions levels are kept stable by nations buying and selling the emissions credits among themselves, eliminating the need for an international body’s consideration and approval for every proposed transaction.

...

[If the system is established, countries] regardless of space-faring capacity, would be allocated a certain number of lunar mining credits[, which] would allow the holder to mine a certain tonnage of natural resources on the moon during a given period. The [] limit assures that ... resources will be available to all nations that begin mining later[, while s]etting a date on which the credits expire prevents hoarding and controls the amount of mining activity happening at a given time. Nations could buy and sell their credits freely among nations that are parties to the credit

On the other end of the spectrum is yet another proposal to apply general property rights, including ownership, to space resources.²⁷⁹ This proposal may be seen as going against the tenets of the Outer Space Treaty, including the “province of all mankind” concept,²⁸⁰ the “no-sovereignty rule,”²⁸¹ and the principle of free access to all areas of celestial bodies.²⁸² However, proponents have argued that effective encouragement of private sector investment could result in “nearly unlimited benefits in terms of societal, economical, and technological advancement[]” for the rest of the human race.²⁸³ The mechanism needs to be carefully designed to avoid overallocation of private property in space (through limitations on areas of ownership), to prevent ownership for non-peaceful uses, or to limit other States or individuals’ free access to outer space.²⁸⁴

The Hague International Space Resources Governance Working Group²⁸⁵ supports an altogether different view and has identified “19 ‘building

agreement. ... [This] would allow developing nations to benefit from space exploration and exploitation fairly, without giving them control over an international regime in which they might devise a system to distribute profits from resources that they played no part in obtaining and which they might skew unfairly in their own favor.

Id. (citing Montreal Protocol on Substances that Deplete the Ozone Layer, *supra* note 277, art. 2, ¶ 5; Paxson, *supra* note 123, at 514-15; & BASLAR, *supra* note 173, at 173).

279. Coffey, *supra* note 136, at 141.

280. Tan, *supra* note 154, at 146.

281. Coffey, *supra* note 136, at 141 (citing Outer Space Treaty, *supra* note 8, art. II).

282. *Id.* at 139 (citing Outer Space Treaty, *supra* note 8, art. I).

283. Brehm, *supra* note 274, at 375 (citing Elizabeth Howell, What Are the Benefits of Space Exploration?, *available at* <https://www.universetoday.com/37079/benefits-of-space-exploration/> (last accessed Jan. 30, 2022) [<https://perma.cc/9YR7-SFMB>]).

284. Brehm, *supra* note 274, at 376.

285. International Institute of Air and Space Law, The Hague International Space Resources Governance Working Group, *available at* <https://www.universiteitleiden.nl/en/law/institute-of-public-law/institute-of-air-space-law/the-hague-space-resources-governance-working-group> (last accessed Jan. 30, 2022) [<https://perma.cc/SL5Y-XYMN>].

The Working Group consists of members as well as observers and is hosted by a Consortium of [organizations] from each continent.

...

blocks'[or] subject matters that could be included in [the said] regulatory framework.”²⁸⁶ Entitled the “Building Blocks for the Development of an International Framework on Space Resource Activities,” the document advocates for the incremental discussion of space resource activities.²⁸⁷ It outlines a definition of terms; key principles; international responsibility; “[j]urisdiction and control over space-made products used in space resource activities[;]” “priority rights[;]” and “regard for corresponding interests of all countries and humankind[.]” among others.²⁸⁸ It also specifically points to “benefits-sharing” and not resource-sharing per se “by all countries, in particular [by] developing countries.”²⁸⁹ These benefits may include the development of space technology, capacity-building, access to and exchange of information, incentivized joint ventures, exchange of expertise, and the

The principal Consortium partner is the Institute of Air and Space Law of Leiden University, The Netherlands The other Consortium partners are: the Catholic University of Santos, Brazil ... , the Indonesian Centre for Air and Space Law of Padjajaran University, Indonesia ... , the Secure World Foundation, [U.S.] (www.swfound.org), the University of Cape Town, South Africa ... , the University of Luxembourg, Luxembourg ... , the Nishimura Institute of Advanced Legal Studies, Japan ... [,] and the Ten to the Ninth Plus Foundation, USA.

Id.

286. Senjuti Mallick & Rajeswari Pillai Rajagopalan, *If Space is ‘The Province of Mankind’, Who Owns Its Resources?*, available at <https://www.orfonline.org/research/if-space-is-the-province-of-mankind-who-owns-its-resources-47561> (last accessed Jan. 30, 2022) [<https://perma.cc/8X2R-TFV2>] (citing Committee on the Peaceful Uses of Outer Space, *The Hague Space Resources Governance Working Group*, U.N. Doc. A/AC.105/C.2/2018/CRP.18 (Apr. 12, 2018)).

287. The Hague International Space Resources Governance Working Group, *Building Blocks for the Development of an International Framework on Space Resource Activities*: November 2019, available at <https://www.universiteitleiden.nl/binaries/content/assets/rechtsgeleerdheid/instituut-voor-publiekrecht/lucht--en-ruimterecht/space-resources/bb-thissrwg--cover.pdf> (last accessed Jan. 30, 2022) [<https://perma.cc/AY5X-PQNB>].

288. *Id.* ¶¶ 2, 4, 5, 6, 7, & 9.

289. *Id.* ¶ 13

“establishment of an international fund.”²⁹⁰ The framework excludes requiring “compulsory monetary benefit-sharing.”²⁹¹

Whatever mechanism that the Philippines opts to support, it must be consistent with its position to have an equitable resource-sharing scheme.²⁹²

At the 47th Session of the Legal Subcommittee in March 2008, in which the Philippines participated, State Parties²⁹³ to the Moon Agreement presented

290. *Id.* ¶ 13.1.

291. *Id.* ¶ 13.2.

13. Sharing of benefits arising out of the utilization of space resources
 13.1 Bearing in mind that the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and humankind, the international framework should provide that States and international organizations responsible for space resource activities shall provide for benefit-sharing through the promotion of the participation in space resource activities by all countries, in particular developing countries. Benefits may include, but not be limited to, enabling, facilitating, promoting, and fostering:

- (a) The development of space science and technology and of its applications;
- (b) The development of relevant and appropriate capabilities in interested States;
- (c) Cooperation and contribution in education and training;
- (d) Access to and exchange of information;
- (e) Incentivization of joint ventures;
- (f) The exchange of expertise and technology among States on a mutually acceptable basis;
- (g) The establishment of an international fund.

13.2 The international framework should not require compulsory monetary benefit-sharing.

13.3 Operators should be encouraged to provide for benefit-sharing.

Id. ¶¶ 13, 13.1-13.3.

292. *See* Moon Agreement, *supra* note 9, art. 11, ¶ 7 (a)-(d).

293. The State Parties include Austria, Belgium, Chile, Mexico, the Netherlands, Pakistan, and the Philippines. Committee on the Peaceful Uses of Outer Space, *Joint Statement on the Benefits of Adherence to the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies of 1979 by States Parties to That Agreement*, U.N. Doc. A/AC.105/C.2/2008/CRP.11 (Apr. 2, 2008).

the “Joint Statement on the Benefits of Adherence to the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies of 1979 by States Parties to that Agreement.”²⁹⁴ The Statement encouraged accession to the Moon Agreement and emphasized that the instrument “does not pre-exclude any modality of exploitation, by public and/or by private entities, nor forbids commercial treatment, as long as such exploitation is compatible with the requirements of the Common Heritage of Mankind regime.”²⁹⁵

D. A Way Forward for the Philippine Space Agenda

With the structural foundations for the development and implementation of a vigorous national space agenda already in place, the prospects for space activities in the Philippines are very bright. But to be truly effective, these space activities must be complemented by a stable legal framework emanating from the core principles set forth by the five major instruments in international space law. Below are some recommendations which this Article argues are critical steps that need to be taken to further develop the Philippine space agenda.

1. Accession to the Outer Space Treaty and Registration and Liability Conventions

The Philippine Space Act emphasizes on the need for the Philippines to accede to the Outer Space Treaty and the Registration and Liability Conventions.²⁹⁶ In particular, Section 2 (f) provides that the Philippines should abide by international space treaties and principles of the UN, as well as international rules and procedures of the above-stated Conventions.²⁹⁷ However, as the Philippines remains to be a mere signatory to these Conventions,²⁹⁸ the country must still accede in order to fully comply with the mandate of the legislation.²⁹⁹ In accordance with Executive Order No. 459 (E.O. No. 459), Series of 1997,³⁰⁰ coordination between the PhilSA and the Department of Foreign Affairs (DFA), as well as with the Philippine Space Council, should

294. *Id.*

295. *Id.* at 5.

296. See Philippine Space Act, §§ 2 (f) & 24.

297. Philippine Space Act, § 2 (f).

298. Refer to Table 1 of this Article.

299. E.O. No. 459, s. 1997.

300. *Id.*

be immediately made to fully accede to these international instruments.³⁰¹

2. Development of a National Registry

Although the Philippines is not yet a State Party to the Registration Convention,³⁰² it behooves the country to establish a system of national registry for which space objects can be registered,³⁰³ in consonance with the required datasets by the UNOOSA and the UN Secretary General's Office.³⁰⁴ Registration is an essential step to develop the space industry in the Philippines.³⁰⁵

Section 23 of R.A. No. 11363 directs the establishment of a National Registry of Space Objects to identify space objects that fall under the responsibility of the Philippines.³⁰⁶ A point to consider here is the need to develop a Registry that encompasses the information required by the UNOOSA and by domestic policies.³⁰⁷ Registries of other countries³⁰⁸ may

301. *Id.* at § 6 (b).

302. *See* Philippine Space Act, § 24.

303. Philippine Space Act, § 23.

304. *Id.* & Registration Convention, *supra* note 63, arts. II-IV.

305. *See* Registration Convention, *supra* note 63, pmb1.

306. Philippine Space Act, § 23.

307. *Id.* § 23 & Registration Convention, *supra* note 63, art. IV.

308. *See, e.g.*, UK Space Agency, UK Registry of Outer Space Objects, *available at* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/952990/UK_Registry_of_Space_Objects_January_2021.pdf (last accessed Jan. 30, 2022) [<https://perma.cc/UFL2-8LAE>]; Ministry of Economic Affairs and Employment of Finland, Registry of Space Objects, *available at* <https://tem.fi/en/registry-of-space-objects> (last accessed Jan. 30, 2022) [<https://perma.cc/EBZ7-6M7W>]; Federal Ministry Republic of Austria, Austrian Registry for Space Objects, *available at* https://www.bmk.gv.at/en/topics/innovation/registry_for_space_objects.html (last accessed Jan. 30, 2022) [<https://perma.cc/HL27-VYK2>]; & United Nations Office for Outer Space Affairs, United Nations Register of Objects Launched Into Outer Space, *available at* <https://www.unoosa.org/oosa/en/spaceobjectregister/submissions/states-organisations.html> (last accessed Jan. 30, 2022) [<https://perma.cc/SC89-468F>]. *Cf.* Denver Journal of International Law & Policy, Is It Time for a More Robust Registration Convention?, *available at* <https://djilp.org/is-it-time-for-a-more-robust-registration-convention> (last accessed Jan. 30, 2022) [<https://perma.cc/GSZ2-HMBA>].

also serve as important points of reference. The PhilSA may likewise consider issuing Implementing Guidelines for the procedural requirements needed to register a space object in the Philippines,³⁰⁹ with the same duly published in the Office of the National Administrative Registrar.³¹⁰

The involvement of the Philippines in the National Space Legislation Initiative (NSLI) of the Asia-Pacific Regional Space Agency Forum is a step in the right direction.³¹¹ The NSLI aims to “promote information sharing and mutual learning on the practices and examples of national space legislation and/or policies in the Asia-Pacific Region[,]” and to “enhance the Asia-Pacific countries’ capacity to draft and implement their national space legislation and/or policies in accordance with international norms[.]”³¹²

The Philippines may also look to the UNOOSA in obtaining technical assistance to develop its national regulatory framework. The UNOOSA regularly publishes a schematic overview of these national regulations (the

When the Registration Convention came into force in 1976, a second Registry was created to comply with the requirements in that treaty. On top of these, there are myriad national registries. Consequently, no one registry has a complete list of registered space objects. Any benefit to traffic management and safety is undermined by an incomplete list.

Denver Journal of International Law, *supra* note 308.

309. See Registration Convention, *supra* note 63, art. II, ¶ 1. The Registration Convention requires that “[w]hen a space object is launched into earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain.” *Id.*

310. GMA Network, Inc. v. Movie and Television Review and Classification Board, G.R. No. 148579, 514 SCRA 191, 195-96 (2007) (citing CARLO L. CRUZ, PHILIPPINE ADMINISTRATIVE LAW 62 (2003) & Philsa International Placement and Services Corporation v. Secretary of Labor and Employment, G.R. No. 103144, 356 SCRA 174, 186-87 (2001)).

311. Asia-Pacific Regional Space Agency Forum, National Space Legislation Initiative, available at https://www.aprsaf.org/initiatives/national_space_legislation (last accessed Jan. 30, 2022) [<https://perma.cc/6HYA-5Z6W>].

312. *Id.*

latest publicly available information being from 2014)³¹³ in the interest of the regular exchange of information.³¹⁴

The importance of the Registry cannot be overstated. The starting point of developing a domestic regulatory framework on space activities is the Registry because it will enable the national government to determine the industries that may be opened to the public and to foreign companies. The Registry will also enable policymakers to determine the clearances required for space activities with national security implications, as well as the specific intellectual property rights the country wishes to assert or protect.

3. Capacity-Building Measures in Relation to Legal, Policy, and Scientific and Technical Needs

As space activities continue to evolve, the Philippines should consider entering into agreements on capacity-building measures with countries with advanced space programs. Considerations for the legal, policy, and scientific and technical needs of the PhilSA and other related government agencies should likewise be made. To accomplish the same, the DFA is in a special position to invigorate the nation's space diplomacy programs and to serve as the conduit of the PhilSA and the Philippine Space Council in seeking opportunities for capacity-building abroad.³¹⁵

Deepened relations with other space-faring nations and membership in regional space organizations can open up several opportunities for the Philippines in advancing its national interests.³¹⁶ An example of this diplomacy effort is the recently concluded webinar on international space cooperation conducted on 2 October 2020 by the DFA and PhilSA.³¹⁷ The project, which was participated in by government experts and the public alike, saw the involvement of UNOOSA Director Simonetta Di Pippo and other foreign

313. Committee on the Peaceful Uses of Outer Space, *Schematic Overview of National Regulatory Frameworks for Space Activities*, U.N. Doc. A/AC.105/C.2/2014/CRP.5 (Mar. 17, 2014).

314. *See id.* at 1 (citing Committee on the Peaceful Uses of Outer Space, *Report on the Work of Its Fifty-Second Session*, ¶ 92, U.N. Doc. A/AC.105/1045 (2013)).

315. *See* Philippine Space Act, §§ 8 (VI) (c) & 13 (a) (8).

316. *See* Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries, G.A. Res. 51/122, pmb., U.N. Doc. A/RES/51/122 (Feb. 4, 1997).

317. Department of Foreign Affairs, *supra* note 226.

experts hailing from Australia, China, Japan, the United States, and Austria, whose participation was secured through the joint network of various DFA offices and the PhilSA.³¹⁸

4. Improved Scholarship on Equitable Resource-Sharing in Outer Space

The engagement of the Philippines with the UNOOSA through the Philippine Embassy and the Permanent Mission to Vienna³¹⁹ is also important in getting involved in the international discussions on equitable resource-sharing in outer space.

It may be noted that the UNOOSA conducted informal consultations in 2019 and collected responses from “Australia, Austria, Bahrain, Belgium, China, Ethiopia, Finland, Germany, Luxembourg, Mauritius, Mexico, Netherlands, Saudi Arabia[,] and Switzerland[]” on the possible establishment of a Legal Subcommittee to study space resource management.³²⁰ The responses highlighted the values and principles that the Member States deemed important in outer space³²¹ and which should thus serve as a gauge for the Philippines to address. For example, Austria posed the question of whether “non-renewable space resources, such as minerals and water, [could] be subject to an ownership regime or [whether] this [would be] contrary to the prohibition of the appropriation of outer space, including the Moon and other celestial bodies (Article II of the Outer Space Treaty)[.]”³²²

This Working Group is to be finally established under the Legal Subcommittee Agenda Item relating to the “[g]eneral exchange of views on potential legal models for activities in the exploration, exploitation, and utilization of space resources[.]”³²³ At the 64th Session of the UN COPUOS

318. *Id.*

319. *Id.*

320. Committee on the Peaceful Uses of Outer Space, *Responses to the Set of Questions Provided by the Moderator and Vice-Moderator of the Scheduled Informal Consultations on Space Resources*, at 1, U.N. Doc. A/AC.105/C.2/2021/CRP.8 (May 21, 2021).

321. *Id.*

322. *Id.* at 3.

323. Committee on the Peaceful Uses of Outer Space, Proposal on the Mandate, Terms of Reference, and Workplan and Methods of Work for the Working Group Established Under the Legal Subcommittee Agenda Item Entitled “General Exchange of Views on Potential Legal Models for Activities in the Exploration, Exploitation, and Utilization of Space Resources”, U.N. Doc. A/AC.105/2021/CRP.11/Rev.1* (Sept. 1, 2021).

in September 2021, a proposal was made for the Working Group to have a “five-year workplan” to “[c]ollect relevant information” on the “exploration, exploitation[,] and utilization of space resources[;]” to “[s]tudy the existing legal framework” on the matter; to “[a]ssess the benefits of further development of a framework for such activities[;]” and to develop recommendatory principles, among others.³²⁴ The Philippines should consider engaging in this forum to expand its understanding on the principles relating to space management and to assert its national interests in the matter.

V. CONCLUSION

Humanity’s visit to the moon is indeed just the first step. As space technology develops, attendant legal issues also become more complex. The discussion above only scratches the surface on the many concerns on resource sharing in outer space. However, this should not limit or altogether prevent the Philippines from engaging in robust discourse and cooperative arrangements with other States, whether space-faring or otherwise. As the Philippines reinvestigates its involvement in space, catapulted by the passing of the Philippine Space Act, it may be assured that accession to the other space cooperation instruments will not contradict its position for an equitable resource-sharing scheme under the Moon Agreement. Instead, the country may use these engagements as platforms to advocate for the development of a resource-sharing scheme that is beneficial to disadvantaged countries.

Similarly, the rich yet heavily nuanced principles of international space law require continuing engagement with both experts and the public. These also need to be translated into domestic legal policies, which include the development of a National Registry and accompanying regulatory frameworks to facilitate the entry of private enterprises in the industry, among others. Central to these initiatives is international space cooperation, which could pave the way for various cooperative engagements and the provision of expertise that the country needs.

The prospects for the Philippines are both encouraging and promising, and with an invigorated attitude towards cooperation and discourse, it could very well one day find its place and leadership in the field of space exploration and international space law.

324. *Id.* ¶ 3 (a)-(d).