

An International Trust Model to Deal with the New Space Era

From the “De Iure Condito” Regime to a “De Iure Condendo” System for Outer Space

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Abstract

Considering the acceleration of climate change, in the future outer space might be our last Noah’s Ark. Humans must now look to space as an opportunity to support growing resource requirements. Unfortunately, the existing international legal framework discourages investments in the space economy. Once an enterprise invests in developing a mining site, it cannot claim any ownership because of the non-appropriation principle of Article 2, Outer Space Treaty (OST); thus, other entities could legally access and exploit the same resource without any participation in the initial financial investment. Taking this into consideration, the question arises, which legal regime could ensure effective allocation of resources? The aim of this research is to develop a new legal model for outer space, considering the weak points of the current regime and the needs of the new space economy. Food for thought will be drawn from the hypothetical adoption of various international environments’ legal framework. The proposed model would take the best features of these legal regimes and its structure would be based on a mix between a classical legal trust model and a public trust model.

Introduction

“Since, in the long run, every planetary society will be endangered by impacts from space, every surviving civilization is obliged to become spacefaring – not because of exploratory or romantic zeal, but for the most practical reason

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imaginable: staying alive”.¹ These words by Carl Sagan should be considered to be as a severe admonition. One day, the development of space technologies could help to avoid an asteroid collision or to preserve the human species by moving into outer space. Other future planned activities in the upcoming decades include the building of a Moon Village, terraforming Mars or Titan, space tourism and the recovering of asteroid resources. Unfortunately, the current legal framework is out of date, indeed it was drafted more than fifty years ago to ensure the *status quo* in outer space between USSR and USA. Today the global scenario has changed; technological developments have opened the way to new possibilities which are of interest to private companies. At the same time, space activities are no longer the prerogative of two superpowers because developing countries are creating their own space programs. This increasingly congested cosmic domain deserves an adequate legal status. Without efficient, certain and accepted rules, international conflicts could occur.

In the first section of this paper, the development of space law and the current legal status of celestial bodies will be analyzed; in the second, the lacunae and the inefficiencies of the current legal framework will be highlighted; in the third, some alternative legal models for outer space will be analyzed; in the fourth section there will be a detailed outline on what the space economy needs; finally, in the fifth section there will be a proposal for a new legal regime for outer space capable of directing the sustainable development of the space economy and ensuring that its resources are shared for the betterment of all humankind.

1. The Development of Space Law

Legal scholars began to get interested in space with the theoretical study of the rocket launcher to overcome the Earth's atmosphere. One of the pioneers was Vladimír Mandl, who defined space as an environment deserving of independent legal regulation from aeronautical law and to be freely accessible. Sovereignty of states should in no way be extended beyond the Earth's atmosphere.² This was quite similar to the concept of *mare liberum* developed by Grotius centuries earlier.³ Other jurists who dealt with space include Rolando Quadri, who was convinced that Article 8 of the Chicago Convention, which bans flying over the territories of third States without

1 C. Sagan, *Pale Blue Dot: A Vision of the Human Future in Space*, Random House, New York (U.S.A.), 1994.

2 Mandl published the essay “The law of outer space: the problem of space flights” in 1932. (*Das Weltraum-Recht: Ein Problem der Raumfahrt*, published by Julius Bensheimer), which has gone down in history as the first writing on the law of space.

3 H. Grotii, *Mare Liberum sive de jure quod Batavis competit ad indicana commercia dissertatio*, Elzevirius, Amsterdam (Netherlands), 1609.

specific authorization, should not apply to spacecraft;⁴ Daniel Goedhuis was also of the opinion that space constitutes the common property of humanity, open to all and not subject to appropriation by any state;⁵ Wilfred Jenks concluded that space beyond the atmosphere should be identified as *res extra commercium*.⁶

The debate on the principles that could regulate cosmic activities remained the prerogative of a small group of scholars until the mid-1950s. At that time, the United States and the Soviet Union were in open competition to assert their supremacy in every environment; the race for dominance in outer space was a great concern to the international community. Without regulation, space could be completely militarized and celestial bodies could be considered as *res nullius*, leading to a new land rush. These preliminary remarks make the need for cosmic domain regulation abundantly clear.⁷ For this purpose, the first international effort was the resolution 1348 (XIII), adopted one year after the Sputnik launching. It declares that the General Assembly only recognises the peaceful uses of outer space, in the common interest of mankind; furthermore, this resolution established the Ad Hoc Committee on the Peaceful Uses of Outer Space (COPUOS) “*to consider ... organisational arrangements to facilitate international cooperation ... and legal problems which might arise in programmes to explore outer space*”. The legal principles set up by this resolution will remain a cornerstone for the five international space law treaties concluded between 1966 and 1979, derived from the work of COPUOS. This paper, will focus specifically on the first two articles of one of them, namely the 1967 Outer Space Treaty (OST).⁸

1.1. The Current Legal Status of Outer Space (De Iure Condito)

Articles 1 and 2 of the OST provide the legal framework of celestial bodies and its resources. Article 1 provides the freedom of exploration, access and use. These freedoms are not absolute. Law, in general, is based on the principle that “freedom ends where other freedoms begin”: public international law is based on this principle as well. Specifically, the freedoms

4 R. Quadri, *Prolegomeni al diritto internazionale cosmico*, Istituto per gli studi di politica internazionale, Milano (Italy), 1960.

5 D. Goedhuis, *Reflections on the Evolution of Space Law*, Sijthoff, Amsterdam (Netherlands), 1966.

6 C.W. Jenks, *International Law and Activities in Space*, 5 *International and Comparative Law Quarterly* 103-104.

7 L. Peyrefitte, *Droit de l'espace*, Précis Dalloz, Paris (France), 1993.

8 United Nations Office for Outer Space Affairs (UNOOSA): 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”) (1966). <https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/outerspacetreaty.html>, (accessed 10 September 2020).

of Article 1 are limited by the non-appropriation principle of article 2, OST. The outward inconsistency between the freedom of use of article 1 and the appropriation prohibition of Article 2 may be cleared up by setting up a system in which celestial bodies are considered *res communes omnium*⁹: no one can claim the sovereignty, ownership, or any exclusive use.¹⁰ In contrast, the extracted resources could be considered as *res nullius*, freely appropriable. All the commercial and non-commercial uses of outer space would be admitted, allowing the extraction of helium-3, water, uranium, hydrogen, platinum and any other element. This interpretation is considered as customary international law, binding both signatory states and non-signatory states.¹¹ Other scholars do not completely agree on this interpretation, considering Article 2 as forbidding any use of space resources.¹²

Finally, the Outer Space Treaty provides an all-inclusive system, without any rule directed to decide the priority or the precedence of land and resource use.

Another limit for the uses of outer space may be provided by “the common interest of humanity in the use of outer space” and the “province of mankind” clauses of OST. According to some authors, these two “solidarity” clauses “indicate that at least some participatory rights for the less economically and technologically nations shall be guaranteed”.¹³

Both the need to regulate the exploitation of common resources and the need to ensure the interest of mankind in such matters would only be met by establishing an international legal regime. The first attempt in this direction was The Moon Agreement; although it was ratified by a small number of countries, almost all space faring nations took part to its drafting. Hence it can be used as a means of interpretation of the OST as “a subsequent agreement between the parties regarding the interpretation of the treaty...”.¹⁴

1.2. The Quest to Apply the Non-Appropriation Principle to Private Companies

A small group of scholars consider that the non-appropriation prohibition of Article 2, Outer Space Treaty can't be applied to private companies because there is no expressed mention of them. What if a nation claimed ownership

9 The Roman Jurist E. Marciano distinguished the “res communes omnium” from the “res publicae”, by asserting that the res communes belong to the whole humanity, independently by their membership of a community (M. Talamanca, Istituzioni di diritto romano, Giuffrè, Milan (Italy), 1990.

10 S. Marchisio, Corso di diritto internazionale, Second Ed., Giappichelli Editore, Turin (Italy), 2017.

11 E. Galloway, Perspectives of Space Law, 9 J. space l. (1981) 21-28.

12 F.L. Lyall, Space Law – A Treatise, Second Ed. Routledge, New York (U.S.A.), 2018.

13 S. Hobe, Space Law, Nomos, Baden-Baden (Germany) 2019.

14 S. Hobe, Adequacy of the Current Legal and Regulatory Framework Relating to the Extraction and Appropriation of Natural Resources in Outer Space, Annals of Air and Space Law, XXXII (2007) 204-242.

over the Moon or other celestial bodies and sold off any potential assets to private companies? Declan O'Donnell with "The United Societies in Space", David Ferrell Jackson who founded "The Lunar Republic Society", and David Hope CEO of the "Lunar Embassy" all tried to claim celestial bodies.¹⁵ The question about the lawfulness of such claims could be cleared by interpreting the broadness of "national appropriation" using the parameters provided by the 1969 Vienna Convention on the Law of Treaties.¹⁶ Firstly, we should consider the literal meaning of the terms of the treaty, considering their context, their object and purpose. Literally, Article 2 states that "Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means". Commonly, the appropriation through claim of sovereignty or occupation is addressed to nations; "other means" could refer to the creation of private property titles¹⁷ forbidding private ownership over celestial bodies. The preamble of the OST expresses the common interest of all mankind in the use of outer space. Article 1, paragraphs 1 and 2 confirm and broaden this purpose by giving rights to all countries for use and access to outer space and celestial bodies. It is evident that if private property rights are established, then the common use of outer space could not be fully granted. Another confirmation of this interpretation is found in Article 11 of the Moon Agreement of 1979, which addresses the appropriation prohibition "...any State, international, intergovernmental, or non-governmental organization, national organization or non-governmental entity or of any natural person".

Finally, Article VI, of the Outer Space Treaty declares that the activities of non-governmental entities in outer space must be authorized and continuously supervised by the State of nationality. Thus, the States must have authority and control over its entities to prevent unlawful activity. The prohibition for a State to claim any property right over celestial bodies would then establish that it cannot even authorize such activity. As a result, an eventual authorization of ownership of a celestial body or an in-place resource would lack authority and would be equal to national appropriation, which is expressly forbidden.

2. The Issues of the Current Legal Framework

The legal status of outer space was established more than fifty years ago, when the economic and political scenario was totally different from today. In

15 V. Pop, *Unreal Estate, Exposure*, Cornwall (U.K.), 2006.

16 United Nations (UN): Vienna Convention on the Law of Treaties (VCLT), 1969. <https://treaties.un.org/doc/publication/unts/volume%201155/volume-1155-i-18232-english.pdf>, (accessed 10 September 2020).

17 See Hobe, *supra* note 13.

the following section, there will be a short analysis of the legal issues that might arise.

2.1. Possible Inconsistencies With National Legislations

In the last five years, Luxembourg and the United States have enacted domestic legislation that recognises the ownership over space resources. Title IV of the 2015 U.S. Commercial Space Launch Competitiveness Act acknowledges the right to acquire, own, use, possess and sell the extracted space resources.¹⁸ Luxembourg adopted similar legislation in 2017, which literally expresses “les ressources de l’espace sont susceptibles d’appropriation (space resources can be appropriated).¹⁹

According to some scholars, “any exclusivity over outer space and celestial bodies is unlawful”, hence both the above mentioned legislations are not consistent with international law because they attempt to rule over the national boundaries of sovereignty.²⁰

2.2. Investment of One, Profit of Many

If a space agency were to build a mine on an asteroid, any third party could access it without violating any rules. As already pointed out, no proprietary claims of any kind can be made on any celestial body, as a direct consequence of the prohibition of appropriation laid down in Article 2, OST. Therefore, those who have carried out all the preparatory activities for the building of a mine (including its construction and other practical matters, such as the preliminary identification of the most convenient asteroid to target, excavations, etc.) could in no way claim exclusive use or access.

2.3. The “Tragedy” of the Common Area

If a third party has access to celestial bodies and their resources, without an existing set of rules for use, a possible outcome could be a common era disaster. The economist Garret Hardin²¹ gave the example of grazing where any breeder could access land in order to feed his animals in his own interest, regardless of the consequences for other neighbours or future generations and without any regulation. The rational farmer, behaving as a *homo oeconomicus*, would decide whether to invest revenues in the purchase of

18 U.S. Commercial Space Launch Competitiveness and Entrepreneurship Act, Pub. L. No. 114-9 (2015). <https://www.congress.gov/114/plaws/publ90/PLAW-114publ90.pdf>, (accessed 18 September 2020).

19 Loi du 20 juillet 2017 sur l’exploration et l’utilisation des ressources de l’espace, Journal Officiel du Grand-Duché de Luxembourg, No. 674 (2017). <http://legilux.public.lu/eli/etat/leg/loi/2017/07/20/a674/jo#:~:text=Aucune%20personne%20ne%20peut%20explorer,apr%C3%AAs%20E2%80%9Eles%20ministres%20E2%80%9C>, (accessed 01 October 2020)

20 See Hobe, *supra* note 13.

21 G. Hardin, *The Tragedy of the Commons*, *Science* 162 (1968)1243-1248.

more livestock or in the care of grazing. Since the usefulness of the investment in common grazing would be shared with other farmers, the rational farmer would not hesitate to buy more livestock. If no one takes care of the common pasture and the total number of animals increases over time, the result will certainly be an irreversible disaster. Other economists have based their criticism for the sharing of resources by making a comparison with the man invited to a buffet; likely, he will maximize the amount of food he can eat, even at the expense of all the others. This situation could also occur in space and on celestial bodies, leading to international tensions and conflicts. Potentially profitable areas of outer space, as *res communes*, without any limitations, would epitomise lawlessness par excellence. Even the most fervent supporters of the common good would be against the idea of the indiscriminate use and exploitation of a resource by several entities. Someone could argue that outer space and its resources are infinite, so there should not be conflict between parties interested in the same resource. But one must consider both the technological and economic point of view. In the first stage, of the future and second outer space race, profitable sites reachable by humans will be limited. In any case, when technology opens the door to more celestial bodies and resources, for companies or States it would be easier and more economically viable to reach an already developed site rather than spending money to discover and develop a new one.

3. Alternative Legal Frameworks for Outer Space

Since the approval of the Outer Space Treaty of 1967, diverse authors, national governments and international organizations have proposed to set up a new legal framework for outer space. At the same time, there have been other proposals for applying the legal framework of other “international environments” to outer space. Some of these proposals will be analysed shortly.

3.1. The Model Proposed by the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA)

In the second half of the twentieth century, geologic studies showed that Antarctica may be rich in minerals, although the possibility of exploiting these resources was not covered by the Antarctic Treaty of 1959. To fill this legal vacuum, the CRAMRA was drafted in 1988. Although the convention has never come into force, some of its provisions could be used to regulate the mining of space resources. The convention expresses a special awareness for Antarctic environment, in fact mining is prohibited unless the applicant can grant environment protection. The CRAMRA regime is composed of the following institutions:

Antarctic Mineral Resource Commission (AMRC), which shall finance projects, settle dispute and identify the areas in which prospecting and exploitation activities is allowed. Furthermore, the AMRC shall also establish the general guidelines for the extraction activities.

Scientific, Technical and Environmental Advisory Committee, which provides advice and information on environmental and technical matters.

Antarctic Mineral Resources Regulatory Committees (AMRRC), which manage the areas identified by the AMRC. Every AMRRC shall establish the concrete rules for the prospecting and exploitation activities.

Secretariat, which helps and serves the aforesaid institutions in carrying out their tasks.

Every entity which is interested in establishing a mining site, should apply to the competent AMRRC by sending a Management Scheme. The latter shall be conformed to the general criteria fixed by the AMRC and to the rules set up by the AMRRC.

For the purpose of the paper, the emphasis would be put on the features of the CRAMRA which would fit the needs of the space mining. In particular, the structure of the CRAMRA institutions and the complex approving procedure of the Management Schemes may guarantee a certain level of protection for those celestial bodies which are rich in natural resources and that will be also considered relevant because of their role in space exploration, human settlement, historical or environmental reasons (for example, there would be bad consequences on Earth if the Moon was destroyed or if its mass lost a consistent percentage mass as a consequence of mineral exploitation).

3.2. The “Area” Regime of United Nations Convention on the Law of the Sea

Part XI of the United Nations Convention on the Law of the Sea²² was set up in 1994 to regulate the exploitation of the non-renewable resources of the “Area”, which include the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction. The Area is expressly acknowledged as common heritage of mankind and forbids any claim of sovereignty or sovereign rights. The International Seabed Authority (“ISA”) is qualified to regulate, control and licence deep-seabed mining. Commercial mining ventures are subject to an application processing fee, as provided by

22 United Nations (UN): United Nations Convention on the Law of the Sea (UNCLOS III), 1994. https://www.un.org/Depts/los/convention_agreements/texts/unclos/unclos_e.pdf Accessed 22 September 2020.

the Agreement in Part XI of 1994.²³ Thanks to this system, several public and private companies have acquired the right to explore and eventually exploit the deep-seabed.

Finally, the application of the CRAMRA and Area models to outer space share the criticisms around the impossibility of assigning property rights to private companies, the extremely centralized management and control of the activities which would be costly and time consuming. In the end, the initial application cost could dissuade investment and thus would hinder the development of the space sector.

3.3. The *A Priori* Planning System for Frequencies Distribution of the International Telecommunication Union

Radio frequencies are limited natural resources, in the same way as they might be some outer space resources, such as water on Moon or Mars. Moreover, developing nations are not in a position to carry out activities in space and are often not even capable of using radio frequencies. Given that, there is a common issue of equitable access to outer space and to radio frequencies.

The *a priori* system for frequencies distribution into the ITU regulatory regime was proposed in the 1960s by developing countries, as a reaction against the first come-first served approach. The latter system was only able to satisfy the most advanced nations technologically capable of using radio frequencies, without any consideration that this 'common' resource could soon be occupied and thus there would be no future possibility of exploitation for developing nations. Conversely, *a priori* plans include a reserved amount of the frequency spectrum for those countries which cannot carry out the use of these resources yet.

A priori planning procedures include:

- the Allotment Plan for the fixed-satellite service using part of the 4/6 and 10 - 11/ 12 - 13 GHz frequency bands (Appendix 30B - Radio Regulations);

- the Plan for the broadcasting-satellite service in the frequency band 11.7 - 12.7 GHz (Appendix 30 - Radio Regulations).

In the future, *a priori* planning systems may be used to ensure the equitable access and exploitation of outer space. Thus, before the start of outer space colonisation, allotment plans could be provided to guarantee the future access of developing nations to scarce space resources or to a certain quote of the nearer celestial bodies' surfaces.

23 Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (the "1994 Agreement"), opened for signature on 28 July 1994, 1836 U.N.T.S. 3; 33 I.L.M. 1309 (entered into force on 28 July 1996), Annex, Section 8.

3.4. The “First in Time, First in Right” Model

Throughout history, man followed the legal rule of property "first in time, first in right". This rule is still present in other fields, such as patents, wild animals, creditors' rights etc. Some scholars have proposed this rule for outer space, as well, recognising private property rights to the first entity that will occupy and make effective use of a location.²⁴ By granting property rights, this model would favour investments, but could raise plenty of legal issues. An uncertain point would be a parameter to follow for use in checking. Furthermore, the effectiveness of use would be not so easy to prove or to check. In the end, this system would provide only a post investigation about the effectiveness of use, potentially harming other more capable entities in the meanwhile.

4. The “De iure Condendo” Legal Regime

Missions to space are particularly costly and companies need incentives to invest - in light of the current uncertainties of the system. Furthermore, without any efficient allocation of space resources, nations could militarise and defend the investments of their national companies. Conversely, a peaceful environment would be commercially productive because corporations would be able to operate without unexpected interferences.²⁵ The reform of the current legal framework should outline a definitive protocol to prevent tension among nations.

The new legal framework shall provide an international system to regulate the exploitation of space resources before any economic activity can be carried out. In the case of Antarctica, the international community attempted to set up a globally accepted agreement when several nations had already claimed sovereignty titles. (In Article 4 of the 1959 Antarctic Treaty it was stated that “Nothing contained in the present treaty shall be interpreted as a renunciation ... of previously asserted rights of or claims to territorial sovereignty...”). The development of a new space economy, property rights, leases and exclusive rights of use over celestial bodies shall be admitted under the previous consent of an international authority, as provided by the UNCLOS III. In this way, there would be a full recognition of outer space as the common heritage of mankind. To give concrete implementation to these needs, an international legal regime based on a trust legal model could be established.

24 Private Property in Outer Space: Establishing a Foundation for Future Exploration, 33 WIS. INT'L L.J. 353, 354 (2015).

25 E.R. Finch, Law and Security in Outer Space: Implications for Private Enterprise, 11(1/2) Spring/Fall (1983) 107-110.

4.1. The International Trust Model

The early development of trusts law dates to the 11th century, as a part of equity, generated by the England Court of Chancery.²⁶ Similar legal models could be the *fideicommissum* of the Roman law, and the *waqf* of the Islamic law. Nowadays, trusts play an important role in various sectors, e.g. for estate planning and asset protection. Trusts have gained international recognition outside the common law thanks to the 1985 Hague Trusts Convention;²⁷ the model provided by the HTC could be used to set up an international legal framework capable of organising the efficient exploitation of resources and other space activities. Given that outer space would be considered as the common heritage of mankind, the settlor and the beneficiary of this model would be all mankind. The United Nations for Outer Space Affairs (UNOOSA) would be the main-trustee, therefore charged with the duties of diligence, fidelity and care in managing outer space and its resources including scrutinising nations and their companies' activities for compliance. The co-trustees will be the nations of the world. The economic and non-economic activities in outer space may be carried out by private or public enterprises or national governments.

The International Trust Model would assign leases, rents or licences. In the case of lucrative activities, such as space mining, companies should pay benefit sharing, linked to the net proceeds.

Some areas of outer space or celestial bodies could be assigned for later use to developing countries, following the *a priori* approach of the ITU legal regime. Some or parts of celestial bodies, could be considered precious for future human existence. In the future, some elements could become increasingly scarce, such as water itself. There is also a great chance that climate change on Earth could render areas to be non-habitable. Asteroids, Mars and other planets may become strategic resource reserves or a new place for human existence. In these areas, a new regime would need to be established with features of the public trust (PDT). Generally, the public trust doctrine (PDT) promotes public access to trust resources and encourages government protection of them; the public (beneficiaries of the PTD) can challenge their own government to obtain the rights of management over the trust resource.²⁸ The PDT has had a concrete application in several USA coastal zones and has been considered an important doctrine of American property

26 J.E. Pennero, *The Law of Trusts*, tenth edition, Oxford University Press, Oxford (U.K.), 2016.

27 Convention on the Law Applicable to Trusts and on their Recognition (HTC), 1985. <https://www.hcch.net/en/instruments/conventions/full-text/?cid=59>, (accessed 30 September 2020).

28 M.C. Blumm, M. C. Wood, *The Public Trust Doctrine in Environmental and Natural Resources Law*, Second ed., Carolina Academic Press, Durham (U.S.A.), 2015.

law.²⁹ Finally, these “strategic areas” of outer space would be entirely administered by the UNOOSA for the interest of the all mankind; no exclusive rights of use could be assigned over them. Nations, international organisations and N.G.Os could request consultations with UNOOSA if there is evidence of mismanagement.

4.2. The Structure of the Main-Trustee

The actual structure of the UNOOSA, as it exists today, would not be articulated enough to act as main trustee of the International Trust Model. Hence, the following bodies shall be created:

An Assembly, that shall adopt the policy-making, rules of procedure and the parameters of sustainability. Decisions on any matter for which the council has competence shall be based on the recommendations of the Council.

All States Parties are *ipso facto* members of the Assembly.

A Council (the executive branch) will approve plans of work, oversee the correct functioning of the system and the co-trustees’ conduct. It shall consist of 25 members, elected by the Assembly in the following order: 5 among the ten States which have the largest investment in outer space economy, 10 elected according to the principle of ensuring an equitable geographical distribution of seats, 5 among the developing countries, 5 among the 10 states at the top in the global achievement of the United Nations Goals (which will be fixed every 15 years by United Nations).

4.3. Conclusions

The International Trust Model would have a better functioning programme compared to the current legal framework and other proposed models. It would have less bureaucracy and a decentralised management system. It would have no fee-cost for applications. Finally, it would guarantee international peace and the sustainable development of the new space economy. Humanity would benefit both directly and indirectly from the International Trust Model. Every person would profit from the scientific and technological development of the new space economy. Specifically, proceeds from such enterprise may be used to reduce world poverty, distributing money to nations following different indexes, e.g. the poverty line index devised by the World Bank.

29 H.C. Dunning, *A Fundamental Doctrine of American Property Law*, 19 *Envtl*, 1989.