THE LEGAL STATUS OF THE CONCEPT OF COMMON HERITAGE IN THE EXPLOITATION OF RESOURCES ON THE MOON AND OTHER CELESTIAL BODIES: IS NOW THE TIME FOR A LEGAL REGIME?

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Chapter 1:

INTRODUCTION

1.1 BACKGROUND

At the end of the 1950s spacefaring became a reality when Sputnik I became the first satellite to orbit the Earth in outer space.[1] This breakthrough event was followed by other spacefaring activities and this caused the international community, and more specifically space faring states such as the USA, USSR and Germany, to initiate the drafting of International Space Law. [2] In the 1960s the discussions regarding the drafting of an international agreement regulating the exploration and use of outer space began. The regulation of activities in outer space was of importance to the international community because if there are no regulations or no prohibitions applicable in space one can say that it is free for any use by any state.[3]

During this drafting process the spacefaring states were the major contributors to what the objectives of treaties should be and what exactly should be regulated; their influence was obvious.[4] There was however the developing states - the majority - who also wanted to have an influence and protect their interest by participating in the law-making process. [5] At the same time the process of regulating the deep seabed was also going on, and during these developments in international law which could soon change the way these areas are managed, the group of developing states wanted to participate in developing rules of international law that could be applied to these areas.[6] When it comes to natural resources, whether in outer

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[1] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Maishan (2009): *Cologne Commentary on Space Law: in three volumes'* Volume I.

[2] "In April 1961, Yuri Gagarin completed the first manned space flight, and in 1969 Neil Armstrong became the first human being to set foot on another celestial body, the Moon." I. H. Ph. Diederiks-Verschoor & V. Kopal (2008) *'An Introduction to Space Law'*. Third Revised Edition: Kluwer Law International.

[3] Stephan Hobe '*Common Heritage of Mankind - An Outdated Concept in International Space Law?'* American Institute of Aeronautics and Astronautics, Inc.

[4] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Maishan (2009). '*Cologne Commentary on Space Law: in three volumes'* Volume I.

[5] Zach Meyer '*Private Commercialization of Space in an International Regime: A Proposal for a Space District'* 30 Nw.J.Intl L. & Bus. 241 (2010).

[6] These areas being areas that are not territory of any one state and belong to all states.

space or on earth, the international community has created different legal regimes, not all of which are equally clear and respected or accepted.[7]

This dissertation will focus mostly on the concept of common heritage of mankind and how states view a regime portraying the elements of this concept. Ambassador Arvid Pardo of Malta first spoke about the concept of common heritage during a speech in 1967.[8] He spoke about the use and conservation of the seabed for peaceful purposes, purposes that would solely benefit mankind.[9] He also said that the developing states were mostly those states that are in need of benefit and help from the rest of mankind, and often could not access the seabed.[10] He proposed that these countries should be taken into consideration first when financial benefits coming from exploitation of the resources on the deep seabed are allotted. [11] Thus the concept of common heritage found its way into international law, first through General Assembly resolutions and later on in treaties such as the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies[12] and the United Nations Convention on the Law of the Sea.[13]

Principles codified in treaties, in other rules of international law, and in generally accepted state practice are the main sources for the concept of common heritage of mankind, and how any disputes regarding this concept are to be regulated by states.[14] It is here where one

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[7] John E. Noyes. '*The Common Heritage of Mankind: Past, Present, and Future'*, 40 DENV.J.INTL L. & POLÝ 447 (2012).

[8] Arvid Pardo, Ambassador of Malta to United Nations. Address at the 22nd session of the General Assembly of the United Nations. (September 21, 1967).

[9] UNCLOS; Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, December 18, 1979, 18 *I. L. M.* 1434; Treaty on Principles Governing the Activities of States in the Exploration and use of Outer Space, Including the Moon and Other Celestial Bodies, January 27, 1967, 610 *U.N.T.S 205*; The Antarctic Treaty, December 1, 1959, 402 *U.N.T.S* 71.

[10] United Nations General Assembly Resolution 2467 (XXIII) (December 21, 1968) 'Examination of the Question of the Reservation Exclusively for peaceful purposes of the Sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the use of their resources in the interests of mankind'.

[11] United Nations General Assembly Resolution 2749 (XXV) (December 18, 1967). 'Declaration of Principles Governing the Seabed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction'.

[12] Agreement Governing the Activities on the Moon and Other Celestial Bodies (done December 18, 1979, entered into force July 11, 1984) 1363 U.N.T.S 3 (Moon Agreement).

[13] *The United Nations Convention on the Law of the Sea* (done December 10, 1982, entered into force November 16, 1994) 1833 U.N.T.S 396 (UNCLOS).

[14] Article 38(1) of the 1946 Statute of the International Court of Justice.

"The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:

should start with the analysis of the concept. The need for this analysis arose when, as a result of developments in technology as well as of changes in the world order, the implementation of this concept became a reality for states and when the uncertainty around its exact meaning and application was highlighted.[15]

When we examine the current international law applicable to activities in outer space and, more specifically, to the exploitation of resources on the moon and on other celestial bodies, there is a frequent problem of uncertainty. The Outer Space Treaty[16] is the only space law that has universal application and is thus binding on all states; however, when interpreting this treaty it leaves a lot of open aspects. This is exactly how states at the time wanted it, because the less you prohibit the more is permissible.[17] Today, the fact is that a new, clearer international legal regime has to be established to regulate the use of outer space, whether for the exploitation of resources on the moon and other celestial bodies, or for claims to property rights in outer space.

1.2 OBJECTIVE

The objective of this dissertation is to analyse the current status of the concept of common heritage of mankind in its application to the exploitation of resources on the moon and other celestial bodies. The application of this concept does not yet enjoy universal acceptance and the writer will thus be examining space law and international law in general, for comparison with the different approaches adopted in the Law of the Sea[18] and Antarctica as global commons. The purpose of this comparison is to explore the most suitable approach to be

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a. International conventions, whether general or particular, establishing rules expressly recognized by the contesting states;

b. International custom, as evidence of a general practice accepted as law;

c. The general principles of law recognized by civilized nations;

d. Subject to the provisions of Article 59, 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."

[15] Frans G. Von der Dunk '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources*' Session 5 McGill University.

[16] *Treaty on Principles Governing the Activities of States in the Exploration and use of Outer Space, Including the Moon and Other Celestial Bodies* (done January 27, 1967, entered into force October 10, 1967) 610 UNTS 205 (Outer Space Treaty).

[17] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Maishan (2009) '*Cologne Commentary on Space Law: in three volumes*' Volume I.

[18] *Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982* (done July 28, 1994) 33 ILM 1309 (The 1994 Agreement).

taken in the space law regime and to, if at all possible, establish a universally accepted regime that satisfies the needs of states and promotes the sustainability of these resources.

1.3 WHY THE OBJECTIVE IS WORTH PURSUING

1.3.1 Creating a fair international management system

International space law-making started in the 1950s, and since then there has been a lot of development in the world order as well as in technology. The objectives of space law have accordingly changed slightly as it became clearer to states that the possibilities regarding the topic of space activities are endless.[19]

Law is necessary to create stability in all human activities. We as humans depend on sets of rules to form the basis of any economic or social development. It is therefore necessary for us to develop a stable legal regime to regulate future exploitation activities in space before the planning of such activities can take place.[20] The future commercial space industry will not only consist of states but also of private non-governmental companies, and both will take the high risks involved in the commercial exploitation of the resources on the moon and other celestial bodies.[21] These risks can only be decreased and development in the space industry thereby encouraged if and when a fair international management system setting out rules is established.[22]

When a study is made of the history of space law-making one can distinguish three different periods, this distinction is vital for understanding the current status of international law-making.[23] The first of these periods was when the space treaties were drafted and came into force. By only looking at the five treaties in the order that they came into force, one can conclude that states became more reluctant to ratify these treaties.[24] The international space

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[19] Stephan Hobe. *'International Space Law in its First Half Century'* (2006). 49th Colloquium on the Law of Outer Space.

[20] Lawrence D. Roberts, Scott Pace and Glenn H. Reynolds *'Playing the commercial space game, time for a new rule book?'* May/June 1996 issue of Ad Astra.

[21] Jonathan Babcock, '*Encouraging private investment in space: does the current space law regime have to be changed (Part 1)?'* http://thespacereview.com/article/2669/1 [last accessed 2015-05-08].

[22] Zack Meyer, '*Private Commercialization of Space in an International Regime: A Proposal for a Space District'*. 30 Nw. J. IntL & Bus. 241 (2010).

[23]Stephan Hobe. *'International Law in its First Half Century'* (2006) 49th Colloquium on the Law of Outer Space.

[24] Stephan Hobe. *'International Law in its First Half Century'* (2006) 49th Colloquium on the Law of Outer Space.

community moved away from drafting treaties for ratification and rather saw General Assembly resolutions as the way to go, to still develop some kind of rules even though they were non-binding.[25] This perceived tendency supports the objective of this dissertation, namely to show the need for a new legal regime to be established, and the writer will actually argue that states should move back to drafting fair, binding international agreements.

1.3.2 Determining the contents and status of the concept of common heritage of mankind

The concept of common heritage is associated with activities regarding the exploitation of resources of the moon and other celestial bodies because they are not subject to appropriation by any state.[26] Throughout the Outer Space Treaty one can see that there was a lot of emphasis on the common interest of all mankind, and in the preamble alone it was mentioned twice[27]; however, no part of outer space was ever declared the common heritage of mankind in that treaty. As prospects of the exploitation of these resources on the moon or other celestial bodies became more viable in 1979 supplementary to the Outer Space Treaty, the Moon Agreement was arrived at.[28]

The concept of common heritage of mankind was used for the first time in space law in the Moon Agreement in Article 11 and had a totally different result as the "province of mankind" concept used in the Outer Space Treaty. It will actually have no result until the new international regime is established. This concept of common heritage was why it became more difficult for states to accept the current legal framework for the regulation of the exploitation and use of the resources on the moon and other celestial bodies, the Moon Agreement. We are currently in a position to establish a new international regime through international cooperation, which will be to the common benefit of all states. This regime still needs to demonstrate the flexibility of the concept of common heritage and show the spacefaring states that they will also profit from this regime.

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[25] Chapter IV: The General Assembly, *Charter of the United Nations*, October 24, 1945, 1 UNTS XVI.

[26] Article II: Outer Space Treaty "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."

[27] "*Recognizing* the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes,

Believing that the exploration and use of outer space should be carried on for the benefit of all peoples irrespective of the degree of their economic or scientific development,"

[28] *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies* (done December 18, 1979, entered into force July 11, 1984) 1363 UNTS 3 (Moon Agreement).

The content of this concept needs to be examined before deciding what role, if any, it plays or should play in the exploitation of resources on the moon and other celestial bodies.

1.3.3 Potential interest in the value of resources on the moon and other celestial bodies

It is important detail the potential interest in the exploitation of these resources, in order to stress the need for research on how the current legal regime might be altered to cater for these interests.[29] Private commercial interest in this field is growing, as a lot of profit is expected because of the weightless and/or high-vacuum conditions in outer space for processing and manufacturing certain materials, as well as the stimulation of the world economy if this becomes feasible.[30] The resources of the moon and some other celestial bodies have proven to be of great value and states or private companies will definitely find a way of exploiting these resources.[31]

1.4 PREVIEW

The breakdown of the remaining four chapters is as follows:

Chapter 2: International mechanisms already in place. This chapter explains the position of the Outer Space Treaty and the Moon Agreement in relation to the concept of common heritage of mankind. Specific consideration will be given to the interpretation of international treaties and how this has an effect on the status of the concept in the exploitation of resources on the moon and other celestial bodies.

Chapter 3: Global Commons and the concept of Common Heritage of Mankind. This chapter examines what the concept of common heritage entails legally and what benefits follow for future generations from a type of implementation of this concept. An evaluation is made of the position of the international community and of international law in relation to the concept of common heritage in the exploitation of the global commons such as Outer Space, the Deep Seabed and Antarctica.

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[29] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources*' Session 5 McGill University.

https://www.mcgill.ca/iasl/files/iasl/Moon-Proceedings-Part_5_2006.pdf [last accessed 2015-05-08].

[30] Ty S. Twibell, '*Space Law: Legal Restraints on Commercialization and Development of Outer Space*' 65 UMKC L. Rev (1997).

[31] Andrew J O'Connel '*The Moon and its Resources Common Heritage of Mankind?*' CEPMLP Annual Review - CAR Volume 16 (2013).

Chapter 4: Is now the chance for a new legal regime? This chapter interprets Article 11 of the Moon Agreement and more specifically explores paragraph 5 together with the provisions of Article 18, to highlight the objective of this agreement. It considers how these provisions have been reviewed in the past, and whether now is the time to develop a new international regime.

Chapter 5: Conclusion. This chapter tries to decide whether the different groups of states – the spacefaring states and the developing states – will be able to work together in reaching a compromise that respects the concept of common heritage, or whether this concept even has such a prominent role in exploitation of these resources. This chapter will also consider if such a compromise is at all feasible or foreseeable in the near future.

1.5 CONCLUSION

The concept of common heritage was invented to protect developing states which could not yet foresee the possibility of participating in space activities, as they did not have the technology or finances. The Moon Agreement later took this concept much further and as a result did not enjoy acceptance from states, which means that this concept currently does not exist in international outer space legislation.

It is thus suggested that even though commercial exploitation of e.g. lunar resources will not be taking place in the near future, it is necessary for the international community to regulate future exploitation activities in space before the planning of such activities can take place or even financially and technologically becomes feasible. States or private entities are hesitant to invest in space activities because of the lack of a stable legal regime that can insure that they will get a full return on their investment. [32] In view of the advances in technology and of the fact that current land-based resources are decreasing, the present analysis examines this concept and takes a look at the compromise that has to be made by different groups of states. The compromise that ideally has to be reached has to respect the views and needs of each state as an individual entity and at the same time has to encourage investment and resource development.[33]

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[32] Frans G von der Dunk '*THE DARK SIDE OF THE MOON. The Status of the Moon: Public Concepts and Private Enterprise' Space and Telecommunications Law Program Faculty Publications,* Paper 49 (1997). http://digitalcommons.unl.edu/spacelaw/49 [last accessed 2015-07-01].

[33] Jennifer Frakes *'The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space, and Antarctic: Will Developed and Developing Nations Reach a Compromise?'* 21 *Wis. Int'l L. J.* 409 (2003).

The aim of this investigation is thus to demonstrate that while there are elements of the concept of common heritage of mankind associated with the exploration and use of outer space and mentioned in the Moon Agreement, this should not be a stumbling block for spacefaring states to develop a stable, clear international legal regime. This regime could in fact be developed and interpreted in their favour, for there is no single approach to this concept.

Chapter 2:

INTERNATIONAL MECHANISMS ALREADY IN PLACE

2.1 INTRODUCTION

When we examine the current international law applicable to activities in outer space and, more specifically, to the exploitation of resources on the moon and other celestial bodies, there arises a problem of uncertainty.[34] The Outer Space Treaty is the only space law that has universal application and is thus binding on all states; however, when one interprets this treaty one comes across a lot of open aspects; this is exactly how states wanted it, because the less you prohibit the more is permissible.[35] There are other international law mechanisms that can guide states in the interpretation of the existing legal regime or in creating a new legal regime. This dissertation will also deal with one of these other international law instruments, the Moon Agreement. The Moon Agreement and the Outer Space treaty are the only space treaties one can explore when determining the current status of the concept of common heritage of mankind in the exploitation of resources of the moon and other celestial bodies.[36]

The term 'province of all mankind' is mentioned in the Outer Space Treaty together with the obligation to carry out all exploration and use for the benefit of mankind, and is thus binding on all states.[37] On the other hand, the treaty distinguishes between the application of this term to the exploration and use of the moon, and the application of the concept of common heritage to the exploitation of natural resources on the moon. This distinction was not accepted by states.[38] The application of this concept in space law and international law in

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[34] International Law Association: London Conference (2000), Space Law Committee: 'Report on the Review of Space Law Treaties in view of Commercial Space Activities' By Maureen Williams. International Law Association: New Delhi Conference (2002), Space Law Committee: 'Final report on the review of space law treaties in view of commercial space activities – concrete proposals' By Maureen Williams.

[35] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Maishan (2009). '*Cologne Commentary on Space Law: in three volumes'* Volume I.

[36] Stephan Hobe. '*Common Heritage of Mankind – An outdated concept in International Law?'* (1998). Published by the American Institute of Aeronautics and Astronautics, Inc.

[37] Article 1 Outer Space Treaty.

[38] As of 1 January 2015, only 16 states have ratified the convention (Australia, Austria, Belgium, Chile, Kazakhstan, Kuwait, Lebanon, Mexico, Morocco, Netherlands, Pakistan, Peru, Philippines, Saudi Arabia, Turkey, Uruguay) and 4 states have only signed it (France, Guatemala, India, Romania).

www.unoosa.org/pdf/limited/c2/AC105_2015 [last accessed 2015-05-12].

general creates a lot of obscurity. The concept does not have a clear, precise and unambiguous definition, and this causes doubts as to what its status is.[39]

The fact is that a new, clearer international legal regime has to be established to regulate the use of outer space, whether it is to regulate the exploitation of resources on the moon and other celestial bodies or property rights in outer space.[40] This chapter examines the Outer Space Treaty and the Moon Agreement and how these treaties should be interpreted according to the general rules of international law. The applicable sections of these treaties are analysed and a discussion is presented on how the developing states on the one hand and the developed states on the other interpret these provisions. The role of private commercial entities in the exploitation of these resources, and the applicability of these treaties to them, are discussed.

2.2 THE OUTER SPACE TREATY

The Outer Space Treaty was the first agreement that was drafted to regulate any activities in outer space; this treaty entered into force on 10 October 1967, and it was ratified by and is thus binding on 103 states.[41] As previously mentioned, the Outer Space Treaty can be regarded as a general framework for any outer space activities as it has a very accommodating nature.[42] Its drafters tried to touch every conceivable space activity that they could foresee; now, almost half a century later, some of these provisions need to be re-analysed, for adaptation to current developments in international law.[43] The Outer Space Treaty is worthy of analysing not only due to its universal applicability, but also because of its vague nature. One of the major causes of this is that there are no definitions given of terms used in the treaty; this is due to the fact that the drafters did not want their definitions to

[39] Frans G. Von der Dunk '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'*. Session 5 McGill University.

[40] Frans G. Von der Dunk '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'*. Session 5 McGill University.

[41] www.unoosa.org/pdf/limited/c2/AC105_C2_2015 [last accessed 2015-05-12].

[42] International Law Association: New Delhi Conference (2002), Space Law Committee: 'Final report on the review of space law treaties in view of commercial space activities – concrete proposals'. By Professor Maureen Williams.

[43] International Law Association: New Delhi Conference (2002), Space Law Committee: 'Final report on the review of space law treaties in view of commercial space activities – concrete proposals'. By Professor Maureen Williams.

limit the applicability of the treaty in possible future space activities.[44] The principles sought in this treaty and applicable to this discussion are: whether and to what extent elements of the concept of common heritage are included in its preamble and Article I, and to what effect these provisions are binding on states. The principle of non-appropriation by states in Article II will be carefully interpreted, and Article VI which covers the possibility of private, non-governmental entities entering space will also be looked at.

When looking at the preamble and at Article I of the Outer Space Treaty one can clearly see that the intention was to develop international cooperation.[45] Article I was drafted into the treaty as an attempt to safeguard the rights of developing states that did not (yet) have the technology or finances to participate in any spacefaring activities. They wanted this article, to create a fair chance for them, and they disguised this attempt by arguing that both the developed and the developing states had shared aims when it came to outer space, and to create a sense of solidarity.[46] By stating that the benefit of any space activities should be for the benefit of all states, equality between states was raised to an ideal to be followed; however, it is unclear what this benefit regime should look like.[47]

When one analyses this article by only looking at the wording, it is a striking fact that the Outer Space Treaty does not use the words 'common heritage of mankind'; it rather focuses on the 'province of mankind'.[48] This entails that the freedom to use outer space is granted to states, intergovernmental organisations and private actors, but subject to certain limitations.[49] The exploration and use of outer space is declared free for use by all states; whether a list of specific uses is given or not does not matter: When something is not regulated or explicitly prohibited, it can be regarded as permissible, and states and private actors thus have the right

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[44] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009) '*Cologne Commentary on Space law: in three volumes'* Volume I.

[45] *Treaty on Principles Governing the Activities of States in the Exploration and use of Outer Space, Including the Moon and Other Celestial Bodies* (done January 27, 1967, entered into force October 10, 1967) 610 UNTS 205 (Outer Space Treaty), Article I: "The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind."

[46] Stephan Hobe. '*Common Heritage of Mankind – An outdated concept in International Law?'* (1998). Published by the American Institute of Aeronautics and Astronautics, Inc.

[47] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'*Volume I.

[48] Article I of the Outer Space Treaty.

[49] Articles I, VI and XII of the Outer Space Treaty.

to exploit resources according to the Outer Space Treaty.[50] The only way to determine if a specific activity is permissible is to carefully analyse the limitations to the freedoms also given in the Outer Space Treaty.[51] The inclusion of the 'province of mankind' is so vaguely drafted in this treaty that it is not sufficient to guide states into how exactly outer space should be used and regulated. This problem is highlighted even further by developments in international law.[52] This article therefore puts no legal obligation on developed, spacefaring states. If there were a legal obligation there should have been a regulatory framework setting out what interests and what benefits are applicable, while here the states themselves can determine what they want to share or preserve.[53]

It is important to examine the principle of non- appropriation of outer space in Article II in determining the status of the concept of common heritage in the Outer Space Treaty, and to examine whether this could mean a limitation on the use of outer space, specifically on commercial uses.[54] This principle is not disputed; states accept the fact that they cannot exercise sovereignty over any part of outer space. Or, stated otherwise, they don't need the permission of other states to exercise activities in outer space.[55] When analysing this article, one should highlight the word 'national'; it could be interpreted that only national appropriation is prohibited. This interpretation would be ideal for private entities that want to establish their basis for exploitation on the moon or other celestial bodies.[56] The counterargument in this case lies in Article VI of the Outer Space Treaty where it is stated that any act in outer space has to be under the supervision of a state and is then that state's full responsibility.[57] Private actors are also granted the freedom of use of outer space, but it is subject to national legislation that should be drafted by states. It is still the state of which the private actor is a national which has the responsibility for and obligations towards that

[50] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'* Volume I.

[51] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'* Volume I.

[52] International Law Association: New Delhi Conference (2002), Space Law Committee: 'Final report on the review of space law treaties in view of commercial space activities – concrete proposals'. By Professor Maureen Williams.

[53] Ricky J. Lee, Commentary paper on discussion paper by Frans vonder Dunk '*The Acceptability of the Moon Agreement and the Road Ahead'*, Session 5 Mc Gill University.

[54] http://thespacereview.com/article/2669/1 [last accessed 2015-04-02].

[55] Article II of the Outer Space Treaty and Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'* Volume I.

[56] http://thespacereview.com/article/2669/1 [last accessed 2015-04-02].

[57] Article VI Outer Space Treaty.

actor.[58] One can say that the states are the benefactor of the private actor by enabling the use of outer space through implementation of national space legislation.[59]

The claims of sovereignty and use or occupation of outer space are also worthy of discussion. It could be argued that the exploitation and use of the natural resources of outer space does not entail the exercising of sovereignty or rather the claiming of territory.[60] States can have control over space facilities without exercising sovereignty over that area, i.e. without appropriating that area as part of their territory.[61] They would thus only take responsibility for all activities done by that basis complying with the Outer Space Treaty.[62] The use and occupation of outer space is also prohibited in Article II and this means that although the use of outer space is allowed by Article I, no use can ever go as far as establishing a claim of ownership.[63] The article also covers 'any other means' which could be interpreted to include the prohibition of any private actors that want to establish a claim on the moon or any other celestial body.[64] When the context in which this article was drafted is examined one can clearly see that the idea was to benefit all states and that outer space should be open for use by all states. This makes it clear that no state should be able to exclusively use outer space. By including the words 'any other means' at the end of the article this covers the prohibition of all forms of appropriation of outer space.[65] The wording of this article fits in with the general idea of the Outer Space Treaty, viz., that no state or private actor has the right to exclusively appropriate any part of Outer Space because Outer Space belongs to all. This is also confirmed by just looking at the status of Article II; here an obligation is put on states to

[58] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'* Volume I.

[59] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'* Volume I.

[60] H.R. Hertzfeld & F.G. von der Dunk. '*Bringing Space Law into the Commercial World: Property Rights without Sovereignty'*. Chicago Journal of International Law (2005).

[61] http://thespacereview.com/article/2669/1 [last accessed 2015-04-02].

[62] Article VI Outer Space Treaty.

[63] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'* Volume I.

[64] Stephan Hobe. '*Adequacy of the Current Legal and Regulatory Framework Relating to the Extraction and Appropriation of Natural Resources.'* Session 4: The adequacy of the Current Legal and Regulatory Framework? http://www.mcgill.ca/files/iasl/Moon-Proceedings-Part_4_2006.pdf [last accessed 2015-07-28].

[65] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes'* Volume I.

not appropriate any part of outer space, and this obligation applies to the international community as a whole.[66]

The Outer Space Treaty as a general framework for space activities favours the concept of common heritage to have a place in space law, the exact content and authority of this place still being unclear. Through the wording of provisions in this treaty one can clearly see that there are ways, through interpretation, to legally exploit resources on the moon or other celestial bodies. As exploitation of these resources becomes a reality the Outer Space Treaty will not provide for enough detailed guidance to regulate these activities.[67] This emphasizes the need to establish a clear regime, to work in collaboration with the existing treaties that regulate these activities in outer space.

2.3 THE MOON AGREEMENT

The Moon Agreement was drafted in 1979 as an attempt to amplify the Outer Space Treaty by further detailing the provisions regarding activities on the Moon and other celestial bodies.[68] The Moon Agreement was an attempt of the developing states to secure their share in any possible finances or technology to exploit the natural resources on the moon and other celestial bodies, and with this attempt they introduced the concept of common heritage to outer space.[69] The Moon Agreement, although it only has binding powers on the states that have signed and ratified it, is still an important instrument to take into account when analysing the status of the concept of common heritage in the exploitation of resources on the moon and other celestial bodies.[70]

The Outer Space Treaty does not specify what the status of the concept of common heritage of mankind is in these activities; it will not be able to stop private investors from taking over

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[66] The Outer Space Treaty is of "a fundamental and broad nature" and this obligation created under it could thus be 'obligations *erga omnes'*.

[67] Frans G. Von der Dunk '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'* Session 5 McGill University.

[68] Frans G. Von der Dunk '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'* Session 5 McGill University.

[69] The 40th Colloquium on the Law of Outer Space Turin, Italy (1997), Session 1: Background and history of the Outer Space Treaty.

[70] As of 1 January 2015 only 16 states have ratified the convention(Australia, Austria, Belgium, Chile, Kazakhstan, Kuwait, Lebanon, Mexico, Morocco, Netherlands, Pakistan, Peru, Philippines, Saudi Arabia, Turkey, Uruguay) and 4 states have only signed it (France, Guatemala, India, Romania) .

www.unoosa.org/pdf/limited/c2/AC105_2015 [last accessed 2015-05-12].

such a new venture in space, because of a lack of binding law.[71] The aim of the Moon Agreement was to regulate these activities to ensure that they will be taking place in an orderly manner and not in an unjust manner, and states definitely have an interest in ensuring this as they too want to protect their own interests.[72]

With this agreement the drafters tried to incorporate the elements of the concept of common heritage as basis of a regime regulating the exploitation of resources on the moon and other celestial bodies. This led, however, exactly to the downfall of the Moon Agreement as states do not want to be bound by a concept that is still so vague.[73]

In Article 4, the same mention is made to the province of all mankind as in the Outer Space Treaty; however, the Moon Agreement takes this further and explains that this entails that due regard should be given to the fact that we should preserve the moon and other celestial bodies for future generations, through international cooperation.[74] The important distinction to be made when examining the Moon Agreement and the status of the concept of common heritage therein is that Article 4 and Article 11 deal with different activities. Article 4 deals with the exploration and use of the moon while Article 11 deals with the exploitation of natural resources on the moon. There is thus a separation of the two concepts according to the Moon Agreement.[75] The legal and practical consequences of Article 4 of the Moon Agreement and Article 1 of the Outer Space Treaty are that they grant states the freedom to use and explore Outer Space without permission.[76] The term "province of mankind" is mentioned in these articles; however, in the Outer Space Treaty there are no guidelines given on what this term implies, while the Moon Agreement clearly states what is meant by this term.[77]

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[71] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'*. Session 5. McGill University.

[72] See the preamble of the Moon Agreement, "*Determined* to promote on the basis of equality the further development of cooperation among States in the exploration and use of the Moon and other celestial bodies,

Desiring to prevent the Moon from becoming an area of international conflict."

[73] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013).'*Cologne Commentary on Space Law: in three volumes'*. Volume II.

[74] Article 4 (1) of the Moon Agreement.

[75] Articles 4 & 11 of the Moon Agreement.

[76] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[77] Articles 4 (1) & (2) of the Moon Agreement.

Article 8 of the Moon Agreement gives further clarity about the freedom of the use of the moon. It states that such use includes use of the moon on or below the surface of the moon, but subject to provisions like the province of all mankind.[78]

Article 11 of this agreement is the most extreme article of the agreement and the biggest reason why states have not been ready to be bound by it. In this Article it is explicitly stated that "the moon and its natural resources are the common heritage of mankind". This is the first time it has been stated in such detail that the natural resources of the moon are also included in the Article and differentiated from "exploration and use".[79] Because the drafters of the Moon Agreement have declared the exploitation and exploration of natural resources on the moon and other celestial bodies to be subject to the concept of common heritage, one has to carefully examine the meaning of this concept in relation to this particular agreement.[80] Article 11 of the Moon Agreement thus becomes the focal point in determining the status of the concept of common heritage in the exploitation of natural resources on the moon.

Naturally the prohibition for any state to appropriate the moon or any celestial body is also included in this agreement, as well as the prohibition on any entity, including private (non-governmental) entities or persons, to claim any property on the moon.[81] In Article 11(2) no specific mention is made to natural resources being subject to this prohibition of appropriation; this shows that there is no prohibition on the exploitation of such resources. However, this will be subject to a future regime.[82] Article 3 merely clarifies Article 2 by extending the application of the non-appropriation principle to natural resources. Natural resources may only be exploited if it is for scientific purposes which will enhance the development of technology and thereby the development of the economy.[83] This article also only grants the right to these natural resources to states which are party to the Moon Agreement, and no other entity has this right. The Moon Agreement in Article 11(5) gives states that are party to the agreement a mandate to establish an appropriate international

[78] Article 8 of the Moon Agreement.

[79] Article 11(1) of the Moon Agreement.

[80] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[81] Articles 11(1) & (2) of the Moon Agreement.

[82] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II. 'A future regime' being the regime that needs to be established according to Article 11 (5) of the Moon Agreement.

[83] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II. Only when it is legally used according to Article 6 (2) of the Moon Agreement.

regime that will legally support the exploitation of resources with all issues that may arise; this regime needs to regulate the exploitation of natural resources on the moon and other celestial bodies.[84] It is only during this process when party states decide that they have done enough exploration and preparation and that exploitation is feasible, that they will determine how the concept of common heritage should be implemented.[85] This article demonstrates that the concept of common heritage is not yet a threat to major spacefaring states because it will only be applied and negotiated when a future regime is established. The fact that this agreement has such poor ratification from states could be an issue to states that did not ratify because they will have a problem when their interests need to be protected in the future regime.[86]

Article 7 will be discussed below in further detail; however, it is important to mention that this article represents the most important elements that need to be discussed in the development of a new international regime. Throughout the whole agreement one can see that the drafters tried to establish through this agreement what the states need to do in order for exploitation of resources to take place, and that international cooperation is needed for future generations to also enjoy the use of the moon and other celestial bodies.[87]

2.4 CONCLUSION

When current developments in space activities are examined it is clear that one of the biggest causes of the need to review existing treaties or establish a new legal regime arises from the presence and capabilities of private, non-governmental entities.[88] This and the fact that technology is fast developing, are the main reasons for re-analysing the existing space law, to shift the focus mainly on whether these mechanisms are capable of dealing with the interest of private entities in competition with states.

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[84] Article 11(5) of the Moon Agreement.

[85] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[86] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[87] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'*. Session 5 McGill University.

[88] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'*. Session 5 McGill University.

In analysing the status of the concept of common heritage in space law, specifically the exploitation of natural resources on the moon, one comes to the general conclusion that the Moon Agreement and the Outer Space Treaty have totally different interpretations. The Outer Space Treaty declares the exploration and use of moon and other celestial bodies as the province of mankind, without even specifying what the consequences are. There is no mention made of exploitation of these resources as a separate activity, and there is thus freedom of exploitation of these resources subject only to a moral obligation to preserve them for future generations.[89] The moon and other celestial bodies are thus free to be used, and only when there is international cooperation between states can a legal regime regulating these areas be established, and only when such a regime is established is this freedom taken away.[90]

The Moon Agreement on the other hand starts off by acknowledging the Outer Space Treaty and also declaring the exploration and use of the moon as the province of all mankind. The Moon Agreement then introduced a new activity in space, the exploitation of the natural resources of the moon. The natural resources were declared the common heritage of mankind and this requires a very different approach to be taken.

Both these treaties have incorporated some of the elements associated with the concept of common heritage of mankind, the Moon Agreement has even declared the natural resources of the moon and other celestial bodies as the common heritage of mankind. The practical implementation, if any or the consequences of the natural resources are still to be decided.[91] This is to be established in a future international regime according to the Moon Agreement and it is yet to be seen how states will interpret the concept of common heritage, or if they will totally discard it.

[89] Article I, Outer Space Treaty; Dr Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'*. Session 5, McGill University.

[90] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources.*' Session 5, McGill University.

[91] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources'*. Session 5, McGill University.

Chapter 3:

GLOBAL COMMONS AND THE CONCEPT OF COMMON HERITAGE OF MANKIND

3.1 INTRODUCTION

When international space-law drafting discussions started in the 1960s the concept of common heritage of mankind along with the elements associated with it was one of the objectives of the development of international space treaties.[92] Elements associated with this concept were thus incorporated in the drafting process as a means of creating a sense of solidarity in the way the international community embraced the possibilities of future space activities.[93]

This concept is the cause of a lot of debate in the international community, as there are a lot of different ways to interpret its implementation and disputes about its exact content.[94] This highlights the worth of an analysis of its status in international law in general and – for purposes of this dissertation – its importance in space law. In analysing this concept one has to take a look at areas in international law where it has been practically implemented or where there are disputes around the application of this concept. Through such an analysis a comparison can be made to ultimately come to a conclusion of what the status of this concept is and how it should or could be applied in regulating the exploitation of resources on the moon and other celestial bodies.

In international law there exist spaces where no state can exercise sovereignty; these spaces are called common spaces. These spaces are regulated by international agreements such as UNCLOS[95], Outer Space Treaty[96] as well as in a number of General Assembly Resolutions[97].

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[92] Stephan Hobe. '*International Space Law in its first Half Century.*'

[93] Stephan Hobe. '*Common Heritage of Mankind – An Outdated concept in international space law?*' American Institute of Aeronautics and Astronautics.

[94] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[95] Article 136 of The United Nations Convention on the Law of the Sea, "The Area and its resources are the common heritage of mankind."

[96] Article 1 of the Outer Space Treaty, "The exploration and use of outer space, including the Moon 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."

As a consequence all of these spaces seem to be associated with the concept of common heritage, or with certain elements of this concept. Differences in opinion come in when the meaning of this concept is challenged; there seems to be little consensus on what exactly needs to be achieved through this principle, and how this should be achieved.

This chapter will analyse the elements associated with the concept of common heritage of mankind and the legal obligations associated with this concept. The application, if any, of this concept in the Deep Seabed and Antarctica will be examined. In conclusion a comparison of these commons will be made with the Outer Space Treaty and the Moon Agreement to determine whether the same approaches can be taken with regard to the exploitation of resources on the moon and other celestial bodies. Finally, the meaning of this concept and its status in international law will become clearer.

3.2 THE CONCEPT OF COMMON HERITAGE

When one analyses the concept of common heritage with regard to the exploitation of resources on and use of the moon and other celestial bodies, the starting point should be the examination of the concept in general international law.[98] To establish a legal regime that implements this concept in a specific area with the specific requirements of that area, one needs to look at the elements most often associated with that concept. The principle of non-appropriation is not disputed, states accept that they cannot exercise sovereignty over an area classified as a common area. The idea that these areas should only be used for peaceful purposes is also an important element of this concept. This causes the need for a common management system to govern these areas; this is where the disputes started.[99] The aim of both the developed and developing states is not to conserve such areas for future generations; but the aim of developed states is rather to invest in these areas to gain profit, while the developing states want to ensure that they receive their 'fair' share. The other elements of the concept are that the benefits received from the exploitation of these areas should be shared

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[97] UNGA Res 2749 (December 1970) 'Declaration of Principles Governing the Sea-bed and the Ocean Floor, and the Subsoil thereof, Beyond the Limits of National Jurisdiction', "1. The 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."

[98] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

[99] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

with all states and thus be for the benefit of all states, and that the area should be preserved for future generations.[100] The concept of common heritage cannot be seen as a principle and cannot be raised to become a rule of customary international law.[101] The reason is that some of its elements are disputed, and there are states that blatantly refuse to ratify a treaty only because of this principle. This shows that there is no opinio juris – states do not think that this is law. The fact that this concept does not have this legal status means that states that do not ratify a treaty containing the concept are not bound by it.[102] The effect of this will become clear in the following examinations of the global commons.

3.3 UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

UNCLOS will be analysed in relation to its regulation of the High Seas and of the Deep Seabed. Both these spaces are considered to be so-called common spaces, and their regulation should be considered in this dissertation. In order to understand the status of the concept of common heritage in connection with the exploitation of resources on the moon and other celestial bodies this analysis is fundamental.

The High Seas have been used for centuries by all states, and they were ultimately declared free for use by all states in the High Seas Convention as well as UNCLOS.[103] This freedom is however regulated in these conventions by listing the types of freedoms permitted, limiting the use of the high seas to certain freedoms. The concept of common heritage is not incorporated in the regulation of the high seas, the high seas are not subject to this concept. The regime regulating the high seas cannot be a viable model for the development of a new regime in regulating the exploitation of the resources on the moon and other celestial bodies.

The other common space regulated in UNCLOS is the Deep Seabed in Part XI and Annex III and later the 1994 Agreement, more specifically regarding the exploitation of the natural resources found therein.[104]

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[100] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

[101] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

[102] Article 26 of the VCLT.

[103] Article 2 of the Geneva Convention on the High Seas (done April 29, 1958, entered into force September 30, 1962) 450 U.N.T.S 11 and Part VII, Article 87 of UNCLOS.

[104] Article 136 of UNCLOS and Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (done July 28, 1994) 33 I.L.M 1309 (further The 1994

UNGA Resolution 2749[105] solemnly declared that: "1.The 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." This meant that those who exploit the natural resources found in the area will have to pay fees for their licences and activities in the Area and share their technology with developing or disadvantaged states.[106] This is where conflict between the two groups of states started and the need arose for a convention to define this concept. The United Nations Convention on the Law of the Sea (UNCLOS) was established at the Third United Nations Conference on the Law of the Sea, to deal with all matters relating to the Law of the Sea.[107]

Part XI of UNCLOS, combined with its Annex II, deals with all aspects of the regulation and utilization of the area and its resources.[108] Several entities were established to help with the regulation of practices on the Deep Seabed and of the exploitation of its resources. The first one to be established was the International Seabed Authority[109], along with its different organs.[110] The Authority's task is to regulate mining and licensing for areas that lie beyond the limits of national jurisdiction (i.e. in the Area), it has to process applications from states or other private entities for approval of plans to explore or exploit in the Area.[111] The Authority also has the important function of not only regulating deep-seabed mining activities, but also of emphasising the importance of the environment and its protection with regard to deep-seabed mining activities.[112] It has established regulations to ensure the sustainable development of seabed mineral resources.[113] There is a duty imposed on the

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Agreement) www.un.org/depts/los/convention_agreements/texts/unclos/closindxAgree.htm [last accessed 2015-07-15].

[105] UN General Assembly Resolution 2749 (XXV): Declaration of Principles Governing the Sea-bed and the Ocean Floor, and the Subsoil thereof, beyond the limits of National Jurisdiction. Adopted by the United Nations General Assembly, 1933th plenary meeting, 12 December 1970.

[106] Articles 136 and 137 of UNCLOS.

[107] United Nations Diplomatic Conferences, Third United Nations Conference on the Law of the Sea, 1973-1982.

[108] Part XI, The Area of UNCLOS.

[109] Established on 16 November 1994 with its headquarters in Kingston, Jamaica. (Hereafter: the Authority.)

[110] The Assembly, the Council, Legal and Technical Commission, Finance Committee and the Secretariat.

[111] *Benthic biodiversity and the work of the International Seabed Authority.* Statement by Ambassador Satya N. Nandan, Secretary-General of the International Seabed Authority to the 5th Meeting of the United Nations informal consultative process on the law of the sea. 7-11 June 2004. Part XI and Annex III of UNCLOS.

[112] International Seabed Authority, *Recommendations for the Guidance of the Contractors for the Assessment of the Possible Environmental Impacts Arising from Exploration for Polymetallic Nodules in the Area*, Sections 8(d) (ii) and (v).

[113] *Regulations for Prospecting and Exploration for Polymetallic Nodules in the Area*, 200, ISBA/6/A/18.

Authority to perform relevant scientific research, to monitor and keep up-to-date on the development of technology, both for exploitation purposes and to protect and preserve the marine environment.[114] To support this function as well as the concept of common heritage of mankind, the Authority established an Endowment Fund in 2006.[115] The Fund supports marine scientific research in the Area, which gives developing states the chance to participate in research and activities in the Area.[116]

The Authority implements its duties by contracting with different entities; this authorises the entities to do research, with the prospect of later exploiting any resources in those specific designated parts of the Area.[117] When state or other entity wants to exploit resources on the deep seabed, it has to apply for permission; the Authority governs this process.[118] The application has to propose two work sites that have been explored by this state or entity for possible exploitation. [119] The Authority then awards the Enterprise one of these sites, and the other site will be reserved for future use by a qualified developing state or by the Enterprise itself.[120] This acts as benefit-sharing, because of the exploration which the developed state has already done on that particular area.[121] In Article 5 benefit-sharing is taken a bit further: the applicant[122] for exploration has to share any specialized technology that it has used, with the Enterprise.[123] This is only meant to last for the first ten years after the Enterprise or developing state started with the exploitation; after that it should have acquired the capital and technology to function on its own.

Currently there are 17 contractors; each has a designated area of about 150 000 square kilometres to explore and possibly later exploit. Half of this area has to be given back to the

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[114] See reference in footnote 39.

[115] International Seabed Authority, Endowment Fund, Collaborative Marine Scientific Research. http://www.isa.org.jm/files/documents/EN/efund/FactSheet-rev1.pdf [last accessed 2015-08-13].

[116] http://www.isa.org.jm/en/scientific/workshops. [last accessed 2015-08-13].

[117] Annex III, Article 2 of UNCLOS.

[118] Annex III, Article 8 of UNCLOS.

[119] http://www.isa.org.jm/en/scientific/exploration/contractors.

[120] SUBSECTION E. THE ENTERPRISE, Article 170 of UNCLOS.

[121] United Nations General Assembly, Forty-eighth session. Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982. Annex , Section 1. Costs to states parties and institutional arrangements.

[122] In this case mostly developed states or private mining companies.

[123] Annex III, Article 5 of UNCLOS.

Authority after 8 years, and reports are to be submitted on all the activities in this area.[124] The application to the Authority is in the form of a plan of work for exploration that has to be approved and is subject to certain requirements.[125] The Authority was thus established as a mechanism to, on the one hand, satisfy the needs of developed states that want to exploit the resources in the Area and, on the other hand, uphold the objectives of the concept common heritage of mankind.

This process and the provisions in UNCLOS caused a split in the opinions of states on the aspect of deep-seabed mining; one group was in favour of these provisions and the other group of states thought that these provisions were not in line with their own views and practice regarding deep-seabed mining.[126] The developed states did not want to sign and ratify UNCLOS if it made them subject to a concept that blatantly took away their freedom to access the Deep Seabed and its natural resources. They would have to share, i.e. give away their technology; do all the necessary, costly exploration; and then still share benefits; all this would put them in a rather invidious position. The developing states soon learned that in order for them to get any kind of benefit from the exploitation of the resources on the Deep Seabed they had to reach a compromise to attract developed states.[127] Without the developed states, which had the technology and finances to mine in the Deep Seabed, the entire purpose of the Authority would be ineffective. They also recognized the fact that there would be changes and development politically and economically, and that is why some of the aspects of the regime regarding the Area were re-evaluated.[128] The compromise that was reached was in the form of an agreement, the Agreement Relating to the Implementation of Part XI of the

[124] Yuzhmorgeologya (Russian Federation); Interoceanmetal Joint Organisation (IOM) (Bulgaria, Cuba, Slovakia, Czech Republic, Poland and Russian Federation); the Government of the Republic of Korea; China Ocean Minerals Research and Development Association(COMRA) (China); Deep Ocean Resources Development Company (DORD) (Japan); Institut Français de recherche pour l'exploitation de la mer (IFREMER) (France); the Government of India; the Federal Institute for Geosciences and Natural Resources of Germany; Nauru Ocean Resources Inc. and Tonga Offshore Mining Limited.

[125] Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area updated and (adopted 25 July 2013); the Regulations on Prospecting and Exploration for Polymetallic Sulphides in the Area (adopted 7 May 2010) and the Regulations on Prospecting and Exploration for Cobalt-Rich Crusts (adopted 27 July 2012).

[126] See, '*International Agreements-Agreement on the Resolution of Practical Problems with Respect to Deep Seabed Mining Areas*, 30 HARV. INT'L L.J. 216, 224 (1989). *See generally* Shyam, Deep Seabed Mining: An Indian Perspective, 17 *Ocean Dev. & Int'l L.* 325 (1986).

[127] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[128] 17 August 1994, Forty-eighth session, *Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of December 1982*.

United Nations Convention on the Law of the Sea.[129] The Agreement was an amendment of the imperfect Part XI of the 1984 UNCLOS. In the Agreement the obligation put on state parties to UNCLOS is lifted and there is thus no obligation to finance any operations of the Enterprise.[130] State parties to the convention also now have no mandatory obligation to transfer technology to developing states or the Enterprise, the Agreement thus amended Annex II, Article 5 of UNCLOS.[131]

It is a fact that the "common heritage of mankind" principle does not extend much further than its existence in UNCLOS, and UNCLOS is merely a mechanism to uphold the objectives of the common heritage of mankind principle and to some extent preserve the Area in the deep seabed for future generations. UNCLOS and the Agreement that was reached are a step in the right direction, towards peacefully reaching a compromise between the groups of states, but they still do not form a sufficient framework to satisfy everyone's needs, especially keeping in mind the political and economic changes of the modern day.

3.4 ANTARCTIC TREATY

Antarctica is the third global common space that will be examined; the regulation of Antarctica is set out in the Antarctic Treaty Series.[132] In Antarctica, states had made claims to parts of the territory. Disputes started when some of these claims overlapped. This led to some states recognizing some of the claims of states, and others not recognizing any claims at all.[133] The Antarctic Treaty was then established and it clarified these claims, their validity and also how future claims would be dealt with.[134] In Article IV of this treaty all claims to 'exercising' sovereignty over any part of Antarctica are restricted while the treaty is in force and no new claims can be made; the claims of sovereignty are thus frozen.[135] The possibility of introducing the concept of common heritage into this regime did not appeal to the claim

[129] Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (done July 28, 1994) 33 I.L.M 1309 (further The 1994 Agreement).

[130] Annex, Section 2, The Agreement.

[131] Annex, Section 5, The Agreement.

[132] The Antarctic Treaty (done December 1, 1959 entered into force 23 June 1961) 402 U.N.T.S 71.

[133] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

[134] The Antarctic Treaty (done December 1, 1959 entered into force 23 June 1961) 402 U.N.T.S 71.

[135] Article VI of the Antarctic Treaty.

holders; this would mean that they would have to let go of their claims and share with all states.[136]

The current regime regulating the Antarctic still has some elements of the concept of common heritage; in Article I it declares that Antarctica can only be used for peaceful purposes, and Articles II and III deals with the freedom to do scientific research.[137] This freedom to do scientific research also deals with another element of the concept of common heritage: common management, where states have to inform other states of all research activities.[138] The element of non-appropriation comes in where a state's claims to sovereignty are frozen; this means that states cannot appropriate any part of Antarctica.[139] The fact that all these elements of the concept of common heritage are incorporated in the Antarctic Treaty does not mean that Antarctica has now been declared a common heritage of mankind. State that are parties to this treaty would have to renounce their present, frozen but existing claims.[140]

There is a point of concern when we look at developing states (non-state parties) that want to have a share in the natural resources of Antarctica: will the existing treaties be valid enough to protect the claims of state parties against non-state parties?[141] The reality is that the threat of the concept of common heritage being included in the Antarctic treaty is of no concern to the current state parties to the treaty. The only way in which that would come about would be if there were uniform acceptance and that is not foreseeable in future.[142] The Antarctic Treaty system cannot be a viable model for the possible implementation of the concept of common heritage in a regime regulating the exploitation of resources on the moon. The Moon and other celestial bodies are the province of mankind; they cannot be regulated by a system based on already existing claims of some states while no other state can benefit from it.

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[136] Frakes, Jennifer '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Int'l L.J. 409 2003.

[137] Articles I, II, III of the Antarctic Treaty.

[138] Article III of the Antarctic Treaty.

[139] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

[140] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

[141] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

[142] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?*' 21 Wis. Intl L.J. 409 2003.

3.5 CONCLUSION

Developing states apply the common heritage of mankind principle with three main goals in mind. Firstly, they want this principle to stop developed states that have the technology, to invest in and thus get an economic boost from the exploitation of resources in the deep seabed, at their (the developing states') expense while they themselves do not possibly have this capability.[143] Secondly, they want to secure their interest and be directly involved in the management of these resources in the Area. Lastly, they seek the security of knowing that they will receive a fair share, and thus want to establish an international committee that represents all the states as an objective party that determines how exploitation in this common heritage area should be managed.[144] With these goals in mind, the conclusion can be drawn that the developing states are not fighting for environmental conservation of the deep seabed; their main objective is merely not to be left out while other, developed states benefit from this common area.[145]

The concept of common heritage of mankind cannot be said to be a principle, it is merely a concept that does not have consistent application in international law. It has been interpreted and written into treaties in different ways without giving an exact definition. Because of its vagueness it cannot have customary international law status and it is thus only binding on states that have signed a specific treaty which contains it.[146] Developing states still believe that this concept belongs in the regulation of the global commons; however, this cannot be upheld as its implementation is dependent on developed states that have the necessary technology and finances.[147]

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[143] Brewer, W.C. (1982). *Deep Seabed mining - Can an Acceptable Regime Ever Be found?* 11 Ocean Dev. & Intl L. J. 23, 27.

[144] John Alten Duff, *UNCLOS and the New Deep Seabed Mining Regime: The risks of refuting the treaty*, 19 Suffolk Transnatl L. Rev. 1 (1995-1996).

[145] Amsbaugh & Van der Voort (1982). The Ocean Mining Industry: A Benefit for Every Risk?, 25 *Oceanus* 22, 27.

[146] Frakes, Jennifer. '*The Common Heritage of Mankind Principle and the Deep Seabed, Outer Space and Antarctica: Will Developed and Developing Nations reach a compromise?'* 21 Wis. Intl L.J. 409 2003.

[147] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes.'* Volume I.

Chapter 4:

IS NOW THE CHANCE FOR A NEW LEGAL REGIME?

4.1 INTRODUCTION

The Moon Agreement, although it is currently in force, does not satisfy the needs of states.[148] None of the major spacefaring states has ratified it, and only a few of the developing states have. This supports the argument that there is a need to amend, discard or replace the Moon Agreement in order to create more consensus and regulation among states.[149]

The major problem with the Moon Agreement is that its basis is to include and implement the concept of common heritage although the current Moon Agreement does not implement this concept.[150] This concept would imply that any exploitation of the resources of the moon will not be free, but subject to some sort of regulation by an international regulatory body.[151] The idea is to establish an international regime that demonstrates a new approach to the concept of common heritage, to show that all states can benefit from it and eliminate the negative connotation it currently has. The new international regime does not even necessarily have to implement this concept, as states are free to develop any regime they feel is fair.[152] The development of new, binding international law will restore the role of the United Nations Committee on the Peaceful Uses of Outer Space, and this will be in the interest of all states pursuing prospective exploitation activities on the moon or other celestial bodies.[153]

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[148] The Moon Agreement only needed 5 ratifications for entry into force. As of 1 January 2015 only 16 states have ratified the convention (Australia, Austria, Belgium, Chile, Kazakhstan, Kuwait, Lebanon, Mexico, Morocco, Netherlands, Pakistan, Peru, Philippines, Saudi Arabia, Turkey, Uruguay) and 4 states have only signed it (France, Guatemala, India, Romania) . www.unoosa.org/pdf/limited/c2/AC105_2015 [last accessed 2015-05-12].

[149] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources.*' Session 5, McGill University.

[150] Frans G von der Dunk. '*THE DARK SIDE OF THE MOON. The Status of the Moon: Public Concepts and Private Enterprise' Space and Telecommunications Law Program Faculty Publications,* Paper 49 (1997).

http://digitalcommons.unl.edu/spacelaw/49 [last accessed 2015-07-01].

[151] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources.*' Session 5, McGill University.

[152] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[153] The 40th Colloquium on the Law of Outer Space Turin, Italy (1997), Session 1: Background and history of the Outer Space Treaty.

This chapter analyses the development process for a new regime and examines a possible model of what this regime could look like. It will also explore the important element of how the interest of private entities wanting to pursue activities on the moon and other celestial bodies should be regulated.

4.2 THE DEVELOPMENT PROCESS

The International Law Association Committee on Space Law has started to develop various approaches, to ultimately develop a regime that still includes the common heritage of mankind but is attractive and low-risk for spacefaring states or private entities that want to invest in commercial exploitation of these resources.[154] The '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' also leads to the conclusion that the way is open for states to develop economic uses of space, which could include exploitation of resources.[155]

The first step in the process of developing a new regime would be to analyse any shortcomings of the existing regime. The major issue of the existing regime under the Moon Agreement is that there are only 16 parties to this agreement, none of which are major spacefaring states, and that the Moon Agreement does not even set out a regime – it merely gives states a mandate to establish a regime.[156] Another fact that should be examined is that even the developing states did not ratify this agreement, which could mean that if a new regime is established might possibly satisfy all needs of (all) states.[157] States do not want to ratify the current Moon Agreement, although in its present form it poses no threat to the major spacefaring states; it does not even prohibit the exploitation of natural resources on the

[154] International Law Association: New Delhi Conference (2002), Space Law Committee: 'Final report on the review of space law treaties in view of commercial space activities – concrete proposals.' By Maureen Williams. Further ILA Space Law Committee.

[155] UNGA Resolution 51/122 (December 13, 1996). '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.' www.un.org/documents/ga/res/51/a51r122.htm [last accessed 2015-08-31].

[156] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[157] Frans G. Von der Dunk. '*Back in Business? The Moon Agreement, Private Actors and Possible Commercial Exploitation of the Moon and its Natural Resources.*' Session 5, McGill University.

moon and other celestial bodies.[158] The issue at hand is whether there is at all a place for the concept of common heritage in space law. Some authors have tried to incorporate it into proposals for a new regime, while others have totally disregarded it.[159] According to Article 18 of the Moon Agreement the implementation of the concept of common heritage should be reviewed to decide whether it is still applicable when exploitation of these natural resources becomes feasible.[160] The ideal way for this future regime to develop would be if, in particular, spacefaring states ratified the Moon Agreement and from there together established agreements to regulate the sharing of benefits, the rights of appropriation with regards to extracted minerals, etcetera.[161]

4.3 THE MOON AGREEMENT AS A POSSIBLE MODEL

Article 11(7) of the Moon Agreement acts as a guideline in the development process, here states wanted to secure what they believed should be the basis of the future international regime to be developed.[162] For the most part the four features in this article are not very controversial, however the fourth feature, "equitable sharing of benefits derived from natural resources" is conflict-ridden. The word 'equity' is disputed. It does not mean equal; however, it requires a sense of balance between the states that have the technology and finances to invest in exploitation of these resources, and developing states that do not have this opportunity.[163] This is a cause of concern because the developed states that have

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[158] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[159] International Law Association: New Delhi Conference (2002), Space Law Committee: 'Final report on the review of space law treaties in view of commercial space activities – concrete proposals.' By Professor Maureen Williams.

[160] Article 18 of the Moon Agreement.

[161] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe & Goh, Gérardine Meishan (2009). '*Cologne Commentary on Space law: in three volumes.*' Volume I.

[162] Article 11(7) of the Moon Agreement, " The main purposes of the international regime to be established shall include:

(a) The orderly and safe development of the natural resources of the Moon;

(b) The rational management of those resources;

(c) The expansion of opportunities in the use of those resources;

(d) An equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration."

[163] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

invested in these activities have to give some of their benefits to states that did not have to take any risk in the process. This concern is valid in the view of the investing developed states; however, states also have an international responsibility to ensure that the interests of all states are taken care of, and this requires that some states need to help others.[164] This is the only barrier where investing states should be concerned about their interest, as no other aspect of such a future regime will be unfair or discriminating against them.[165] The only specifications given for the development of this future international regime, according to the Moon Agreement, is that it should contain similar elements as those set out in Article 11(7), and that it should be compatible with Article 6(2) of the Moon Agreement.[166]

4.4 CONCLUSION

The developed, spacefaring states are the states that would have to develop a new legal regime. These states have the upper hand in such development because they have nothing to lose. As the law stands now, these states are free to exploit the natural resources on the Moon and other celestial bodies, while developing states have everything to lose if the developed states totally disregard the spirit of the concept of common heritage.

The Moon Agreement was not successful in terms of states ratifying it; however, states need to reinterpret this agreement, as it could be the way toward successfully developing a new internationally acceptable regime. The Moon Agreement give states the opportunity to develop a new legal regime, with or without including the concept of common heritage.

[164] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[165] Hobe, Stephan; Schmidt-Tedd, Bernhard; Schrogl, Kai-Uwe (2013). '*Cologne Commentary on Space Law: in three volumes.*' Volume II.

[166] Article 11(8) of the Moon Agreement.

Chapter 5:
CONCLUSION

There is certainly a lack of legal rules regulating the moon and any use or exploitation thereof. This lack of a legal regime is worrisome to both developed and developing states and needs to be dealt with. The Outer Space Treaty is outdated and does not provide for sufficient guidance or clarity in this respect. The Moon Agreement is the best starting point. There needs to be a binding legal document regulating the moon and other celestial bodies, no other non-binding documents will be sufficient.

The barriers in the Moon Agreement need to be dealt with as in the case of UNCLOS and the 1994 Agreement, to achieve universal acceptance. The legal regime in Antarctica cannot be compared to the Moon Agreement because in the case of the Antarctic Treaty all major state actors whose interests are at stake are parties, which is not the case in the Moon Agreement. The Moon Agreement is a valuable mechanism when exploitation of resources becomes feasible. In its present form it does not put any obligation on states, and when all major spacefaring states decide to ratify it, it could be the best possible guideline in establishing a legal regime.

To return to the objective of this dissertation, determining the status of the concept of common heritage in the exploitation of resources on the Moon and other celestial bodies. The concept of common heritage does obviously not have a legal, binding status in international space law; this is because it is only a concept with no clear and agreed-upon definition. The concept is however important in the development of any regime regulating a global common space. The elements of this concept do not necessarily have to have a legal consequence on states, but it should definitely be considered. The ideas behind this concept, like benefit-sharing, have a major impact on the world economy and international relations, an impact that goes much further than just giving developing states some of the benefits derived from common spaces.

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