Foreword
The Basic Legal Order for Commercial Space Activities

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Current commercial space activities include the use of telecommunication satellites, Earth observation by satellite (so-called remote sensing), and more recently navigation by satellites. Moreover, the space tourist business – whether on the basis of the International Space Station, or so-called sub-orbital character as perhaps offered in the future by Virgin Galactic – may also bring tangible commercial results. And finally, it is not yet known how much of the economic resources of the celestial bodies – i.e. helium-3 on the Moon, etc. – can be exploited and may help to solve pressing energy problems on Earth to the effect that it may be possible that without the dangers and byproducts of nuclear fusion energy problems can be solved.

It all starts with the guarantee of freedom for commercial space activities, whether in outer space or on celestial bodies, guaranteed in Article I of the Outer Space Treaty and Articles 4 and 11(4) respectively of the Moon Agreement. This fundamental freedom is subject to some other general limitations such as the prohibition of military uses (Art. IV Outer Space Treaty, Art. 3 Moon Agreement) and environmental concerns (Art. XI Outer Space Treaty, Arts. 2, 4(1) Moon Agreement). There are further limitations that explicitly or implicitly frame this freedom, but those are either not very clear or they are not explicitly drafted. Let us therefore now turn to these limitations which are somewhat difficult to demarcate precisely.

The Requirement of Common Benefit And Interest In Conducting Space Activities

According to Art. I, para 2 of the Outer Space Treaty, all States shall profit from space activities "on a basis of equality and in accordance with

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international law". This brings in a specific non-discrimination focus to the effect that, in any concrete distribution order, for instance specific frequencies in the Geostationary Satellite Orbit, care should be taken that these frequencies are allocated on a non-discriminatory basis. On the other hand, Art. I, para 1 of the Outer Space Treaty asks to use outer space for the benefit and in the interest of all countries, marking space as the province of all mankind. Although it is not entirely clear what that means – such phrasing is typical for the drafting of the 1960s which were strongly influenced by the struggle for a new international economic order[2] – one can agree that it is in the interest of all mankind that no single State can exclusively use outer space for its benefit.[3] So, a certain degree of care shall be given to the interests of other States and the international community as a whole.

What, however, can this mean? Is a sharing in the benefits derived from the resources of outer space activities the aim of this provision? And how much shall be shared?

One can already sense a certain resistance on the side of technologically advanced, economically strong States which would then shy away from any investment if they feel deprived from the resources derived from these activities. But the imprecise wording can only lead to the result that no explicit limitation can be derived directly from Art. I, para. 1 of the Outer Space Treaty. The international community has confirmed this opinion. After eight years of deliberation, a United Nations General Assembly Resolution was drafted, entitled "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"[3]. This Declaration was not an expression a legally binding nature, but indicated a certain *opinio juris* of States. Operative paragraph 2 clearly says that "States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually accepted basis." It is thus

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3 For a typical statement of that time, *See* J. CASTANEDA, THE UNDERDEVELOPED NATIONS AND THE DEVELOPMENT OF INTERNATIONAL LAW, INTERNATIONAL ORGANIZATION 41 (1961).

4 *See* S. Hobe, *Article 1, in Marginal notes 49 – 53, in* S. HOBE/B. SCHMIDT-TEDD/K-U. SCHROGL (EDS.), COLOGNE COMMENTARY ON SPACE LAW, Vol. 1 (2009).

5 *United Nations General Assembly in its* Resolution 51/122 *entered into force on 13 December 1996.*

clear that States do not accept any one-sided limitation by law that does not interpret Art. I para. 1 of the Outer Space Treaty in such a way.

Non-Appropriation And The Moon Agreement

Next, it has to be clarified to what extent the Non-Appropriation Principle of the Outer Space Treaty (Art. II), which is repeated in Art. 11(2) of the Moon Agreement, provides for concrete limitations for the Moon and other celestial bodies. Again these provisions repeat the basic philosophy: no exclusive use by States shall be made through the taking of territory either in outer space or on celestial bodies. But it is not only the taking of territorial claims (Art. II Outer Space Treaty, Art. 2 Moon Agreement), use is also included in impermissible appropriation. Here, one important remark on treaty interpretation must be made. According to Art. 31 of the Vienna Convention on the Law of Treaties, the context of the wording is decisive: And the context clearly mentions the avoidance of exclusive territorial claims. Anything that amounts to such territorial claims shall be prohibited. Beyond that, the Outer Space Treaty is silent. In the view of the present author, therefore, Art. II of the Outer Space Treaty does not prohibit any commercial use of outer space or on celestial bodies. Rather, such uses are made dependent of the explicit legal order for the exploration of outer space, the Moon and other celestial bodies which shall be drafted later.

And we have such a draft – a rough draft – which, again, refrains from making any precise and final statement regarding our problem. This is the explicit exploitation order as laid down in the 1979 Moon Agreement. At the outset it must be noted has so far got only 14 ratifications. It is thus not very well accepted in the international community, a fact that has a lot to do with its text. This becomes apparent if one reads Art. 11(1) of the Moon Agreement in which the Moon and its resources are declared to be the common heritage of mankind. It has to be made clear from the beginning that, although the Law of the Sea Convention also mentions that the Deep Seabed and its resources are the common heritage of mankind, no uniform interpretation of this concept can be made. Rather, the concrete implementation of the concept in the respective legal order is overall decisive. This is repeated explicitly in the Moon Agreement which in Art. 11(1), when mentioning the common heritage

nature of the Moon and its resources, stipulates that this concept finds concrete expression in the further paragraphs of this Article. One important component is, of course, that neither the Moon nor the other celestial bodies are subject to national appropriation by claims of sovereignty or other claims. This is a repetition of Art. II OST.

More precisely, according to Art. 11(3) of the Moon Agreement, neither the surface nor the sub-surface of the Moon nor any part thereof or natural resources in place, shall become property of any State, or international, or intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person. This is again the non-appropriation philosophy of Art. II OST and Art. 11(2) of the Moon Agreement. But it explicitly mentions that the resources only when in place, that is untouched in outer space or on celestial bodies, cannot become property of any State or natural person. It explicitly does not make any statement whether or not the removal of these resources is possible. Rather, the end of this paragraph refers again to the international regime to be established according to para. 5 of this Article. Art. 11(4), as has been mentioned in the beginning of our considerations, makes an explicit expression of the freedom of use of outer space and of the celestial bodies.

Now we come to the international regime to be established. Art. 11(5) of the Moon Agreement has not done so. It appeals upon States to do so insofar as it is feasible. And para. 6 underlines that such foreseeable feasibility shall be reported to the UN Secretary-General.

However, in paragraph 7 we find a nucleus of the future international legal order for the exploitation of benefits derived from these resources. The provision anticipates the orderly and safe development of the natural resources, an appeal to sustainable development, a rational management of these resources, which underline the policy of not wasting the resources, and the expansion of opportunities in the use of these resources, which is rather unclear. In its broadness this provision certainly does not give any entitlement to those actors whose opportunities shall be expanded - and finally "an equitable sharing by all States parties in the benefits derived from the resources whereby the interests and needs of developing countries as well as the efforts of contributing States to the exploration of the Moon shall be given special

consideration." Here, we find the only explicit discrimination in that, on the one side, investing States are honored, but on the other side, developing countries shall get a share without presumably having invested. But it is not said what "equitable" exactly means. We can just say that the sharing is not to be understood as an "equal" sharing. It is, thus, relatively open what this international order shall look like. And in this respect it may not be overlooked that too much of such openness might hinder any future investment.

The Future

This openness of Article 11 should be used for making further progress. In the view of the present author, the current situation with its rather unclear wording could be a concrete impediment to any future investment. Therefore, we need a clear international economic order for commercial space activities. Here, the international community has a variety of choices. It can choose the Antarctic approach by making outer space an international common place free from any commercial use at least for the next 30 years, in that, due to ecological needs, no concrete exploitation shall take place. Or it could, like the international legal order for the Deep Seabed, look for some equilibrium between, on the one side, a kind of international administration with the allocation of licenses for presumed users, and the basic freedom of use, on the other side. This all could, of course, be brought under (severe) ecological limitations. It could, finally, also give the international economic order a rather liberal outlook which, in the view of the present author, it also has today. None of the limitations are of such concrete nature that they would limit the basic freedom to use outer space on a commercial basis. If this is wanted, one only explanatory additional paragraph to the Outer Space Treaty respectively the Moon Agreement could be made. This could be made at the second review conference. But a strong plea shall be made here for some action to happen in the foreseeable future, i.e. in the next 5 years.

In concluding, I would like to note that the commercial potential of space activities is only going to increase. All these activities provoke questions concerning the existing legal framework for commercial space activities. This framework will have to equally address both public and private law aspects. It will have to equitably address the division of the commercial benefits

derived from space exploration. It must also provide a rational, reasonable and predicable regulatory framework for private space activities which preserve incentives necessary to stimulate private economic activity while maintaining sufficient control and supervision in keeping with public interest. In the context of the increasing importance of this subject, this initiative by the Indian Journal of International Economic Law is welcome and timely, and makes a very important contribution to the development of this field.