IISL-98-IISL.1.01

THE NATURAL RESOURCES OF THE MOON: THE MANAGEMENT ISSUE

Carl Q. Christol*

Distinguished Professor Emeritus of International Law and Political Science
University of Southern California
Los Angeles, California 90089-0044
Attorney at Law
Member, IISL, IAA, AIAA

Abstract

The 1979 Moon Agreement was based on the view that the moon contained valuable natural resources. This assumption has been confirmed. The moon may also serve as a launching pad for more distant space activities.

For there to be a maximization of the benefits derivable from the exploitation of moon resources, it will be necessary to establish an effective legal regime. This regime will have to take account of the concept of property.

Rights and duties relating to property depend on the factor of management. A regulatory authority, faced with the exploitation of moon resources by States, international intergovernmental organizations, and private firms, will be obliged to serve the general well-being of humankind.

At the present two treaty regimes possess the authority to deal with the exploitability of the natural resources of the moon and other celestial bodies. The 1967 Principles Treaty contains the Province of Mankind (*res communis*) principle. This agreement is binding on 93 States. It does not require the creation of a formal management entity. The 1979 Moon Agreement adopted the Common Heritage of Mankind (modified *res communis*) principle. It calls for creation of a formal management entity. It is binding on nine States. Eight of these are also parties to the 1967 accord. One country, the Philippines, has ratified the moon agreement, but not the Principles Treaty.

The countries which support the *res communis* principle appear to be satisfied with that approach. The countries which favor the modified *res communis* approach have not been able to establish the required management machinery. In the meantime there are proponents of an alternative principle, namely, the previously rejected *res nullius* principle. Its proponents have urged that exclusive proprietary rights in the moon and celestial bodies will facilitate the use of their natural resources. This presupposes the formation of national procedures

designed to achieve such goals.

Introduction

The constantly increasing exploration, use, and exploitation of outer space, per se, the Moon, and other celestial bodies (the space environment) and their natural resources has brought the "management issue" into sharper focus. Involved are two distinct problems. First, there is the question of what is meant by "property" and whether property rights exist in the space environment and its natural resources. Secondly, and its answer depends on the analysis of the first problem, whether there is, in fact, a management issue. This, in turn, depends on what is meant by management. For the purpose of this discussion "management" depends on the existence of a legitimate legal regime plus the operational capabilities required to secure the goals of the regime. Such capabilities theoretically could be vested in a single State or in more than one State.

In examining the various prospects for international regulation of constantly increasing space activities, in one instance it appears that the "management issue" may be, in fact, a non-issue.

Applicable International Treaty Law

The exploitation of the space environment and its natural resources, for a vast preponderance of the space-resource States, is governed by the province of mankind, i.e., *res communis*, principle of the 1967 Principles Treaty. This denies to parties the right to establish exclusive rights, including exclusive property rights, in the space environment.

However, the exploitation of natural resources is open to all. Exploitative activities are subject to the restrictions set out in Article IX relating to environmental hazards and the duty to undertake appropriate international consultations prior to engaging in conduct that would cause potentially harmful interference with the activities of other parties.

Other than for Article IX the Principles Treaty contains few specific limitations on the exploitation of the natural resources of the space environment.[1] It does not make provision for a formal management system having the power to regulate such exploitative activities. Thus, the management function is reserved to the signatories. This constitutes a decentralized management system. It is to be contrasted to the proposed centralized management system authorized in Article 11, paragraph 5 of the 1979 Moon Agreement.

In assessing the management function it is necessary to understand the distinction between national sovereignty and national jurisdiction. The Principles Treaty in accepting the *res communis* principle has prohibited the exercise of national sovereignty in the space environment and respecting its natural resources. There may not be exclusive claims to such areas or resources in their natural or original condition. The *res communis* principle allows for the acquisition of property rights to the

tangible materials removed from the space environment.

The exercise of national jurisdiction, on the other hand, may occur with respect to areas and resources where national sovereignty does not exist. Thus, a State, with respect to both the *res communis* areas and the tangible natural resources located there, as well as concerning its own nationals, is able to exercise national jurisdiction. Through the extra-territorial exercise of this national power the State is able to impose restrictions and limitations on national exploitative activities.

Property Rights

Against this background there have been many proposals seeking to normalize space activities. These proposals, in seeking to facilitate exploitative activities, have raised the important issue of property rights respecting acquired tangible natural resources. Also there have been proposals, based on the need for stability during commercial exploitability, that would either replace the *res communis* principle or which would create new and highly integrated management systems.

For example, it has been suggested that benefit would be derived through the adoption of a principle of "functional property rights."[2] Pursuant to this theory "[c]onferral of title would not depend upon a government's control over a specific area, but rather upon its control over the space objects and personnel at that location."[3] Essential to this proposal is the factor of "control." Such "control," it would appear, is more akin to the extra-territorial jurisdictional powers of a State than a claim based on the principle of sovereignty.

The issue of control also relates to non-tangible resources such as space-based communications. Again, consideration of this subject has arisen because of the rapidly expanding commercial uses of satellites in the space environments.

Orbiting telecommunication satellites occupy a relatively fixed position in their relationship to the Earth. Their use of the orbital position, which is an exploitative use, is based on the *res communis* principle. It does not create sovereign rights.

Nonetheless, in recent years a practice has emerged in which beneficiaries of International Telecommunication Union allotments have sold or leased to third parties portions of the ITU allotments. It has been noted that this practice has the potential for "creating expectations of (sovereign?) (sic) property rights over the frequencies and orbital slots."[4] In that author's opinion such transfers may constitute violations of the 1967 Principles Treaty and the current ITU Convention.[5]

Since the ITU does not purport to grant anything but a right to use an orbital position and accompanying frequencies for a limited time pursuant to standards set forth in Article 33 of its Convention, the basic tenets of the Province of Mankind principle continue to apply.[6] While the extent of the ITU's management system, composed of a

collectivity of managers, is, in fact, extremely limited, this does not imply that a use of the resource creates property rights.

The authors referred to above, in noting the prospect for early commercial activities for space-environment resources, remain supportive of the *res communis* principle, with its limited managerial orientation.

Other commentators, starting with the common proposition that commercial space activities will be so active that a new legal principle must be adopted, urge the adoption of the heretofore rejected *res nullius* concept. Thus, one author recently has called for the formation of a new international intergovernmental organization which would make "territorial assignments" for areas of the Moon.[7] This proposal calls for a high degree of managerial activity on the part of the new LUU institution. Its authority would extend to the granting of "property rights."[8] In appropriate cases the institution would be able to grant to more than one state the right to use specified areas for specified purposes.[9]

Although the title of the article suggests that the Principles Treaty would remain applicable, it appears that in critical respects it would be replaced. For example, the freedom of access provisions of Article I, paragraph 2, would be circumvented. Further, the Union, composed of States would purport to act in a legitimate fashion in the creation of the kind of rights and duties only exercisable by States. The proposal would negate Article II of the Principles Treaty. Under it States are prevented from exercising the powers appertaining to sovereignty, as are, also, international intergovernmental organizations.[10]

Another recent article, also taking account of increasing commercial space activity, has called for extended management activities. To be regulated are the microwave portions of the spectrum, the Lagrange points, geostationary earth orbits, and solar power exploitation, including "the resulting wealth and royalties therefrom."[11]

The authors have examined the Province of Mankind and Common Heritage of Mankind provisions of the relevant treaties. They have concluded that the objectives of the two agreements cannot be satisfied through reliance on either of the two principles. Thus, a wholly new approach is favored. This is to be accomplished by the General Assembly through the establishment of a collective trusteeship. The new trust entity would have the power to manage space activities.

This bold proposal for international governance would clear away historical reliances on the differences between the *res communis* and the *res nullius* principles. The new entity could not escape the traditional concerns over property, non-property, and the distribution of benefits derived from exploitative activity. If and when the Trusteeship were created it would have to confront the substantive and procedural issues facing COPUOS during its 1967-1979 negotiations

respecting the Moon Agreement.[12]

Alternatively, there are commentators who seek to go forward on the basis of the two relevant treaties. This group can be divided into two parts. First, there are those who wish to clarify the Province of Mankind and Common Heritage of Mankind principles. Second, there are those who point to the need for international leadership, principally on the part of the space-resource States. Their views on the issue of management are not, depending on the importance assigned to Province of Mankind or to Common Heritage of Mankind, necessarily the same.

Attempts to Clarify the Mankind Principles

Those concerned with the foregoing principles have noted that the specific reference in the 1967 Principles Treaty to exploration and use, and scientific investigation by analogy, emphasizes the area in which events may occur. Thus, it has been observed that the terms of the Principles Treaty "substantiate the conclusion that outer space as an area in the legal sense of the word constituted *res* or *terra communis*."[13] Reference is then made to Article 11 of the 1979 Moon Agreement and the conclusion is drawn that there are two treaty regimes. That of 1967 applies to areas, and emphasizes exploration, use, and scientific investigation, while that of 1979 also applies to the exploitation of natural resources.[14]

Absent the adoption of the Moon Agreement by the space-resource States they can conduct their moon activities pursuant to the *res communis* and Province of Mankind principles of the Principles Treaty.[15] With respect to this situation von der Dunk has observed that "[A]n accepted basis for such a regime is absent: the status of the moon as *terra communis* is challenged by both those adhering to application of the common heritage of mankind principle to the moon under the Moon Agreement, and those desiring to read more into the province of all mankind principle than such a *terra communis* status. On the other hand, any applicability of the common heritage of mankind principle to the moon is both denied by a large majority of states and legal experts, and not even unequivocally established in the Moon Agreement itself."[16]

Pending the acceptance of the Moon Treaty by the space-resource States the *res communis* principle of the 1967 Principles Treaty will govern their respective rights and duties concerning the removable objects constituting the natural resources of the moon. Article 11, paragraph 3 of the accord also is based on the *res communis* principle.[17]

However, the essential point that is being made is that much of the management of the space environment and its natural resources is being effected within the existing traditional concept of Province of Mankind. Neither the Common Heritage of Mankind or the *res nullius* principle command, at this time, sufficient support for them to be alternatives to *res communis*. This means, as noted above, that the existing management system is a decentralized one.

Only after the principle of Common Heritage of Mankind is put into operation through the creation of the procedures referred to in Article 11, paragraph 5, will there be a collective management system for moon resources. Such a system would be applicable only to the ratifying parties.

In assessing the relationship between the Principles Treaty and the Moon Agreement it is necessary to bear in mind the negotiating history of the latter. The Moon Agreement repeats a number of the terms of the Principles Treaty. In this manner there could be no doubt as to their applicability to the Moon. Of equal, if not more importance, were the unqualified assertions of the negotiators that the Moon Agreement was not to derogate from the existing terms of the Principles Treaty.[18] In this manner the novel terms of the Moon Agreement relating to the Common Heritage of Mankind were linked to the province of mankind and *res communis* principles of the earlier accord.

In this connection it should be noted that although the United States has not ratified the Moon Agreement, it was one of the strongest proponents of the principle during the negotiations. Also, in recent COPUOS discussions a substantial number of developing countries have reaffirmed support for the principle. Nonetheless, commitment to the importance of the principle was insufficient to produce, pursuant to Article 18 of the accord, the authorized ten year review.[19]

Calls For Leadership by the Space-Resource States

Perceptive observers of the rule of law for the space environment and its natural resources have called attention to the increased commercialization of that environment. They have also pointed to the importance of governing institutions having the capacity to engage in management activities subject to well-identified powers and duties.

As has been seen above a number of proponents favor an international authority. It is believed that such an approach would be more likely to respect community outlooks. Through the exercise of its powers it could achieve the sharing of benefits, believed to be available, with developing countries.[20] As has been noted recently by Ambassador Cocca the governing entity would have to be invested with "sufficient authority, with jurisdiction and control, to organize and protect the free enjoyment of the common patrimony."[21]

Such an international authority would provide a forum for the voicing of national perspectives. Its purpose would be to "find the means to reduce the opportunities for exclusive claims over property or territorial property that might be the subject of competition."[22]

International institutions of this type could serve the general well-being of society. Membership optimally would include those engaged in exploitative activities, as well as those lacking in such capabilities. Their interest would be in protecting the human environment against pollution, debris, and contamination, as well as in the sharing

of tangible benefits. The users of the product of space activity would be interested members. But, the principal beneficiaries of such an institution would be the exploiters themselves. If they were to attempt to advance a narrow self-interest, the counsels of the other members would offer safety standards and reminders of their existing legal liabilities. The return to Earth of contaminating substances could be avoided. The norm of prudence in space activities would be practiced, and, hopefully, could become an operational reality.

Conclusion

What went wrong with so many of the ideas and hopes just identified? Practically all of them have been voiced for many years, and in the meetings of the International Institute of Space Law with considerable vigor during the past two years. The proposal for an international legal regime for the moon and other celestial bodies, with the strong implication that it would result in an international management entity, has languished since 1980 and at present there is not even a remote possibility that it could be established.

At the outset it was asked if the issue of management were a "non-issue." If by management is meant the exploration, exploitation, and use of the space environment and its natural resources by States in a prudent, socially desirable manner, then national management remains as an issue. But, if management is to be that of an international entity, then except for the rather equivocable experience of the ITU, it very likely is a "non-issue." This results from the very real prospect that States will not be able to fashion a workable international management institution.

This response does not necessary fully resolve the matter. There remains the prospect that unilateral activities of States, coupled with independently arrived at, unilaterally expressed, common goals, might produce some benefits. Or, since some space activities require two or more participants, it would be possible for bilateral agreements to set forth the prudent rules to be employed during their joint activities.

Since such activities will be carried on by the space-resource States it is their responsibility to take the initiative for both unilateral and multilateral procedures.

As all of this goes forward the governing principles for outer space activity will be the *res communis* and the province of mankind principles.

With all of these considerations in mind it may be possible for interested members of the United Nations to take a proactive position in the forthcoming review of the five COPUOS-based international agreements. The existence of this project should not, however, inhibit States from improving the quality of their own national management standards.

NOTES

1. Other articles, notably II, III, and IV impose important constraints on the exploitation and use of the space environment and its natural resources.

2. W.N. White, Jr., "Real Property Rights in Outer Space," *Proceedings of the Fortieth Colloquium on the Law of Outer Space* 380 (1998).

3. *Ibid.* The author added that when such rights were conferred that they would "be almost identical to terrestrial property rights."

4. S. Ospina, "The Privatisation of the 'Province of Mankind', Time to Reassess Basic Principles of Space Law?" *Proceedings of the Fortieth Colloquium on the Law of Outer Space* 91 (1998).

5. *Id* at 91. Convention of the International Telecommunication Union, done in Geneva on 22 December 1992.

6. Supporting the view that property rights will be influenced by the Province of Mankind principle is R. Oosterlinck, "Tangible and Intangible Property in Outer Space," *Proceedings of the Thirty-Ninth Colloquium on the Law of Outer Space* 281 (1997).

7. K. Cramer, "The Lunar Users Union - An Organization to Grant Land Use Rights on the Moon in Accordance with the Outer Space Treaty," *Proceedings of the Fortieth Colloquium on the Law of Outer Space* 354 (1998).

8. *Id.* at 352.

9. *Ibid.*

10. C.Q. Christol, "Article II of the Principles Treaty Revisited," IX *Ann. A. & Space L.* 217 (1984).

11. G.B. Dietrich and W.C. Goldstein, "Collective Trusteeship for Near Space: The Case for UNNESA," 14 *Space Pol'y* 9 (February 1998). UNNESA stands for United Nations Near Earth Space Administration.

12. C.Q. Christol, "The 1979 Moon Agreement: Where Is It Today?" scheduled for publication in a forthcoming issue of *J. of Space L.*; see also, C.Q. Christol, "The Moon Treaty and the Allocation of Resources," XXII-II *Ann. Air & Space L.* 31 (1997).

13. F.G. von der Dunk, "The Dark Side of the Moon, The Status of the Moon: Public Concepts and Private Enterprise," *Proceedings of the Fortieth Colloquium on the Law of Outer Space*, 121A (1998).

14. *Id.* at 122. Such exploitation is subject to the management regime identified in Article 11, paragraph 5.

15. International management, as a distinctive characteristic of the

Common Heritage of Mankind principle, has been emphasized by C.Q. Christol, "Important Concepts for the International Law of Outer Space," *Proceedings of the Fortieth Colloquium on the Law of Outer space* 80 (1998).

16. *Supra*, note 13, at 122A.

17. G. Gall, "Acquisition of Property in the Legal Regime of Celestial Bodies," *Proceedings of the Thirty-Ninth Colloquium on the Law of Outer Space* 48 (1997), citing sources. See also, H.L. van Traa-Engleman, "Clearness Regarding Property Rights on the Moon and Other Celestial Bodies," *Id.* at 42.

18. C.Q. Christol, *supra*, note 12.

19. For a detailed account of that situation, see *supra*, note 12.

20. V.S. Mani, "The Common Heritage of Mankind: Implications of the Legal Status of Property Rights on the Moon and Celestial Bodies," *Proceedings of the Thirty-Ninth Colloquium on the Law of Outer Space* 31 (1997).

21. A.A. Cocca, "Property Rights on the Moon and Celestial Bodies," *Proceedings of the Thirty-Ninth Colloquium on the Law of Outer Space* 17 (1997).

22. H.H. Almond, Jr., "The Legal Status of Property on the Moon and Other Celestial Bodies," *Proceedings of the Thirty-Ninth Colloquium on the Law of Outer Space* 27 (1997).