

The Protection of Space Environment: Its Philosophy and Rules

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The protection of outer space environment is the reflect or the extension of recent tendency of natural environment protection on earth.

Therefore, it synchronizes with such philosophy and shifts from anthropocentric to non-anthropocentric according to the philosophical progress on earth.

Correspondingly, legal rules should evolve in order to substantialize such philosophy. The present space law system lacks general rules from this viewpoint. With this paper, I try to briefly analyze these two points.

I. The Philosophical Progress of the Environmental Protection

1. New Trend of the Philosophy of the Environmental Protection

In the traditional thinking of environmental protection, environment “has

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been understood in a narrow sense and only human environment comes into question. In contrasting human beings with the nature, the latter must be protected in such a way as to ensure the convenience of man's activities. The criterion is to assure the level at which environment" in a narrow sense can be of benefit to mankind or serve to man's activities.

The philosophy of the outer space environment protection has reflected this thinking. We can find such author as Prof.G.Gal who mentioned to the balance of nature,¹⁾ but according to Dr.Baker,²⁾ the value of outer space, including the Moon and other celestial bodies, is limited to its use as a laboratory for scientific activity and that any proposed space activity will be assessed as potentially harmful to the outer space environment if and only if it threatens the future use of outer space for scientific purposes. "From this viewpoint which Dr. Baker called scilab perception", in making rules preserving outer space contamination, only the need to ensure the expected and fruitful results from space activities as well as the need to avoid the threat to health and life on earth should be taken into consideration. We can confirm this view by the fact that the COSPAR Consultative Group classified the following 4 category of effects of pollution of the upper atmosphere as follows: harmless, short-term, and observable localized changes³⁾; non-interfering, short-term, and world-wide changes that can be identified; changes causing extensive interference with experiments or other human activities; changes in the atmosphere that may change man's environment.

However, recent new trend is shifting from anthropocentric thinking to non-anthropocentric one since the World Charter for Nature of 1980.⁴⁾ The Charter expressed the idea that regards the mankind as a part of nature and that the natural balance must be sought in the environmental

1) G.Gal, "Space Law", Sijthoff & Akad miai Kiad, Budapest, 1969, p.148.

2) H.Baker, "Space Debris: Legal and Policy Implications", Nijhoff, 1989, p.89.

3) S.Houston Lay & H.J.Taubenfeld, "The Law relating to Activities of Man in Space" University of Chicago Press, 1970, p.190.

4) The World Charter for Nature Legislative History and Commentary, Erich Schmidt Verlag

protection. According to the preamble of the Charter, life depends on the unintended functioning of natural systems which ensure the supply of energy and nutrients. "Regarding the mankind as a part of nature means respect for other elements of nature regardless of their usefulness to mankind. The Charter says that every form of life is unique, warranting respect regardless of its worth to man, and, to accord other organisms such recognition, man must be guided by moral code of action."

The Charter says that civilization is rooted in nature. "From this viewpoint, the degradation of natural systems owing to excessive consumption and misuse of natural resources, as well as the failure to establish an appropriate economic order among peoples and among states, leads to the breakdown of the economic, social and political framework of civilization." On the basis of this new thinking, man carry out activities without impairing the natural balance. The Charter says in its general principles that nature shall be respected and its essential process shall not be impaired. "The term essential process" means that respect for nature is not static but dynamic. Therefore, respect for nature does not mean abstention from any act influenceable on the elements of nature and their dynamism but abstention from any act impairing the dynamic natural balance.

The Charter also printed out the link between development and environmental protection. It says in its' seventh principle that in the planning and implementation of social and economic development activities, due account shall be taken of the fact that the conservation of nature is an integral part of those activities. Its' eleventh principle says that activities which might have impact on nature shall be controlled and the best available technologies that minimises significant risks to nature and other adverse effects shall be used According to its' tenth principle, natural resources shall not be wasted, but used with a appropriate restraint renewable resources, including water, shall be reused or recycled. non-renewable resources shall be exploited restrictively, taking into consideration their abundance, the rational possibilities of their use, and the compatibility of

their exploitation with the functioning of natural systems.

The fundamental of this new thought is that man is not only the subject of protection but also the beneficiary of protection." Hence, the recognition that the degradation of natural systems threaten the foundation of man's society and civilization become possible. On the basis of this recognition, the environmental protection of the earth is an end itself.

However, this recognition is difficult to apply to outer space including celestial bodies.

2. New philosophy as a common denominator extracted from various system of value

The special characteristics of outer space as sphere of man's activities requires the additional logic to the recognition that the environmental protection is an end itself. In my opinion, we can find such theoretical or philosophical back up in norms common to various traditional system of value in the world. Such semitic traditional systems of value as Islamism or christianism contain the fundamental norm that the mankind is not the proprietor of the nature.⁵⁾ The benefit of the universe does not belong only to human beings but is extended to other species.⁶⁾ Legally speaking, human beings have only beneficial property without having the right to disposal. Human beings do not have any right to unilaterally hamper the enjoining of the beneficial right by any other forms of life.

If anything, the human being who can do so at present among all forms of life has the obligation to protect environment. The nature is a sort of trust which must be inherited by the future generations without regard to species. The principle of the conservation of option must be observed.

5) Islamic Principles for the Conservation of the Natural Environment, IUCN Environment Policy and Law Paper No.20.

6) Kunihiro TATSUZAWA, "International Cooperation and Commercialization in Space Law", Kojinsh, Ch o Gaku n University Publication, 1993.

This principle means conserving options for the survival and freedom of activities of all forms of life through the quantitative and qualitative preservation of the nature and its' resources. With this idea and certain ideas contained in the World Charter for Nature such as every form of life is unique, warranting respect regardless of its worth to man", it seems to me that we can establish non-anthropocentric philosophy of environmental protection of outer space. Of course, human beings must be in actual fact the subject of protection in the context of law. However, as it was already showed in the various existing system of value, it is necessary for us to make efforts to pay due attention to influence on other forms of life in our activities and to base our activities on such non-anthropocentric philosophy.

II. Substantive Rules of the environmental Protection

1. Substantive Rules within the Framework of Space Law

There is almost no general rule governing the matter of environmental protection of outer space in the existing space law system. Article 9 of the Outer Space Treaty provides that a State shall conduct exploration of outer space, including the moon and other celestial bodies so as to avoid their harmful contamination and that space activities shall be carried out with due regard to the corresponding interests of all other States.⁷⁾ This principle provide legal grounds for preventive measures against space debris or other pollutive matters. The term harmful contamination" in English, les effets pr judiciales de la contamination" in French should be construed as a environ-mental devastation by introducing extra-environmental matters such as biological, radiological or chemical materials or wastes. It may not cover the pollution in a general see and not include the littering

7) S.Gorove, "Developments in Space Law Issues and Policies", Nijhoff, 1991, p.130.

or abandonment of dead space objects or their component parts in outer space or on a celestial body.

As the term corresponding" means comparable, equivalent or relevant in its objectives and functions", the corresponding interests of all other States" must be construed as the interests of all other States comparable, equivalent or relevant in its objectives and functions".

With respect to the substantial meaning of Article 9, French Representative insisted, in the negotiation of the Treaty, on broader construction including possible harmful effects resulting from direct broadcast satellites as well as from overcrowding of satellites, radiofrequencies and spent satellites.⁸⁾ In any way, as Prof.S.Gorove said,⁹⁾ every State has a discretionary jurisdiction to determine whether its obligation was appropriately discharged, but his own judgment shall be checked by other States in the light of the principles of abuse of power, abuse of right and reasonableness.¹⁰⁾

Article 9 sets other two rules:

- a) If a State has reason to believe that space activity or experiment planned by it or its nationals would cause potentially harmful interference with space activities of other States, it shall undertake appropriate consultations before proceeding with any such activity or experiment.
- b) A State which has reason to believe that space activity or experiment planned by another State would cause potentially harmful interference with space activities may request consultation concerning the activity or experiment.

As for a), harmful interference" may include environmental pollution", but it is limited to the cases in which the activities have potentially harmful effect on other States. As for b), this rule generally prohibits interference with space activities. However, there are no substantive rules concerning the mode and procedure of consultation, and the measures to

8) K.TATSUZAWA, "The Law of International Relations (Kokusai Kankei Ho)", 1996, Maruzen Planet, pp. 62~78.

9) Supra note 7, p.130.

10) Supra note 8, pp.62~78.

be taken in the case of resultless consultation.

Apart from the Outer Space Treaty, only the Moon Agreement contains the rules of the environmental protection. Its' Article 7, para.1 imposes an obligation to take measures to prevent the disruption of the existing balance of its environment whether by introducing adverse changes in that environment, its harmful contamination through the introduction of extra-environmental matter or otherwise on States exploring or using the Moon. "Littering" or abandonment" of dead or malfunctioning space objects or its component parts may be included in the adverse changes in the Moon environment". The disruption of existing balance of the Moon environment" means giving any unrecoverable damage or serious damage to the existing environment". Extra-environmental matter" is a material which does not exist in the natural environment. This provision does not prohibit the introduction of the matter itself, but imposes an obligation to take preventive measures against the possible adverse effects which may be caused in the case of their introduction. According to Article 7, para.2, a State shall inform the U.N. Secretary General of the measures being adopted by it in accordance with para.1, and shall also, to the maximum extent feasible, notify him in advance of all placements by them of radioactive materials on the Moon and of the purposes of such placement.

Among the principles set forth by the U.N. General Assembly, the Principles relevant to the Use of Nuclear Power Sources are applicable to space environment. Its Principle 1 expresses that space activities involving the use of N.P.S. shall be carried out in accordance with international law, including the U.N. Charter and the Outer Space Treaty. According to its Principle 3, the use of N.P.S. in outer space shall be restricted to those space missions which cannot be operated by non nuclear energy sources in a reasonable way. This Principle also says that nuclear reactors may be operated on inter-planetary missions. The Principle 5, para. 1 imposes on A launching State the obligation to conduct a thorough and comprehensive safety assessment. The para.3 of the same Principle says that the results therefrom shall be made publicly available to the extent feasible and prior

to each launch by virtue of Article 9 of the Outer Space Treaty. The Principle 8 contains almost the same provision as Article 7 of the Outer Space Treaty and provides the responsibility of the State of nationality for national activities and for ensuring their conformity with the Outer Space Treaty and the N.P.S. Principles

However, the normal term outer space, including the Moon and other celestial bodies" is not used. We can only presume that these principles are applicable to the Moon and other celestial body.

2. Substantive Rules within the Framework of International Law

According to Article 3 of the Outer Space Treaty, States shall carry on space activities in accordance with international law, including the U.N. Charter. Among international law, the rules applicable in this field are those of the Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water of 1963. According to its Article 1, State party undertake to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control, including outer space.

The Environmental Modification (ENMOD) Convention of 1977 provides, in Article 1 that State Party undertakes not to engage in military or other hostile use of environmental techniques having wide-spread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party. According to its Article 2, environmental modification techniques means any technique for changing through the deliberate manipulation of natural processes- the dynamics, composition or structure of the earth, including its biota, lithosphere, hydrosphere and atmosphere of outer space".

III. Recommendations for future legal framework

As we already saw, there is almost no general rules governing the environmental protection of outer space. In my opinion, international agreement should be reached on the general and fundamental principles covering various types of pollution just before the intensification of space commercialization. I propose the following three guiding ideas:

1. Every forms of life, including mankind is part of nature. The nature is a sort of trust which must be inherited by the future generations without regardless of any species. Each form of life equally has a beneficial right therefrom. Then the philosophy of the protection of outer space environment should be guided by the principle of conservation of option for all forms of life based on the universal common good of all created things.¹¹⁾
2. Space exploration and use should be carried out without impairing the essential natural process. In such exploration and use, in particular the exploitation of limited resources, due account should be payed to the maintenance of the existing natural balance, the level of need, social implication of the resource, etc.¹²⁾
3. International forum or mechanism based on the cooperation between international or national, governmental or non-governmental organization and scientific communities should be established for the environmental assessment of certain space projects susceptible of having a harmful effect and the researches on the measures to be taken.

11) This term was first used in the above-said Islamic Principles, p.20.

12) Supra note 6, pp.259~260.