

Analysis of international legislative experience in regulating the issues of environmental safety in the course of space activities

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Abstract. The author investigates international legislative regulation of ecological aspects of space activity. Today, because of broadening of space activity sphere and increase in number of the states which participate in it the problem of pollution of space itself and air and earth environment becomes up-to-date. The author investigates international law norms which restrict or prohibit space activity threatening global ecological security. The author points out to the absence of clarity in some provisions of international legislative acts in regard to ecological security in space. Regulation of harmful ecological effects resulted from space activity in very general form and without clear definitions gives wide opportunities for arbitrary interpretation of the norms of international legislative regulation.

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Introduction

Space exploration as a historic leap in human science and technology in the twentieth century greatly affects all areas of human life. Space exploration will bring to mankind circumstances to improve the conditions of human life, but along with these opportunities it may threaten not only to the present space of human existence (the Earth), but perhaps the near-Earth space. So, the problem of environmental protection in the process of space exploration is not confined to the Earth and its surrounding atmosphere, and is distributed in space. In this context, the scope of international legal regulation of environmental protection also extends to the space, corresponding objects are covering the Earth, airspace and outer space.

Currently attention is paid to environmental issues in the process of space exploration by humanity, not by chance. Scientific and technological leap, as a condition and as a consequence of the exploration and use of outer space by the mankind, the rapid development of the space industry and space activities led to a sharp increase in the impact of human space exploration in the nature, and greatly expanded the scope of its intervention in the space exploration. In the process of exploration of space damage to environment can be caused by big number of accompanying such process factors – from toxic substances used in production of launching rockets to direct damage to ozone layer when launching rockets [1]. Intensive utilization of terrestrial natural resources, pollution of terrestrial, air and extraterrestrial environments, increasing the need for

new sources of raw materials and energy brought mankind to the brink of a serious crisis. Therefore, the task of environmental protection and sustainable use of terrestrial and extraterrestrial natural resources during the process of the space exploration by humanity has evolved into global issues, also it has become an urgent task of contemporary international society[2].

International measures to protect the natural environment combine the international community with a broad and diverse international cooperation between different countries. Cooperation of States has already become one of the important principles and contemporary international law, and international space law, also one of the most important conditions for the international protection of the environment.

International legal regulation of space activities in the field of environmental security under the influence of universal international agreements (analysis and proposals).

International space law is the main regulator of relations between states on the protection and use of the environment, it is intended to play a crucial role in the regulation of environmental activities in their space activities [3].

Becoming of the international - legal protection of the environment happened and is happening in line with the general process of progressive development of international space law. Therefore, international legal regulation in this area formed under the undoubted influence of universal international agreements such as the Moscow Treaty

banning nuclear weapon tests in the atmosphere, outer space and under water in 1963, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including Moon and other Celestial Bodies, 1967, the Convention on international Liability for Damage caused by Space Objects 1972, Agreement Governing the Activities of States on the Moon and other Celestial Bodies, 1979, etc. All of these international legal instruments or contain important provisions for environment protection in the process of space exploration humanity, or contribute to a healthier earth, air and space environment [4].

However, the number of multilateral and bilateral treaties aimed at preventing environmental pollution by radioactive and other harmful substances, protection and rational use of resources, as well as the whole natural complexes is growing constantly. The main decisive role in the formation of norms of international legal regulation of environmental protection as a common space law belongs to the international agreement. As an example, the formation of norms of international legal regulation of environmental protection through an international treaty can serve as (1) Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (1968) (2). Convention on Registration of Objects Launched into Outer Space (1975) (3). Convention on the Prohibition of Military or Any Hostile Use of Environmental Modification Techniques (1977) and etc.

Everyone knows that the military use of space is one of the main objectives of the developed countries at the beginning of space exploration. During Cold War the parties of this military opposition spent huge sums of money on military space researches. [5. p.2]

But any military action in space poses a serious threat to peace and security of the international community, wherein their particular consequence is the destruction of the existing ecological balance, contamination of space and the environment. Therefore, the rules on the prohibition of military use of space contained in the Outer Space Treaty should become a source of international legal protection of the environment. St. IV of the Treaty stipulates that: 1) "States - Parties of the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in - or otherwise "and 2) " The Moon and other celestial bodies should be used by all States - parties of the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and

fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies is forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. " The wording of Art. IV led allegations that the article does not prohibit the use of spacecraft in orbit around the Earth for reconnaissance, missile defense, communications and other military purposes and that, while Art. IV proclaims demilitarization of celestial bodies, is not prohibited conduct of military maneuvers in space and military use, if such activities are carried out in accordance with international law and the UN Charter and is not at all aggressive in particular [6].

We are inclined to the view that the expression "peaceful use" can not be interpreted as " non-aggressive" that any military action should be regarded as " non-peaceful " campaign, even if it is undertaken for defensive purposes or to maintain or restore international peace and security. Nevertheless, it should be recognized that the wording of Art. IV leads to its interpretation in the sense that outer space is not demilitarized in the same manner as celestial bodies. As for raising the possibility of the use of outer space and military purposes, and it is permissible to use any non-aggressive purposes, except for the deployment of nuclear weapons and other weapons of mass destruction in orbit around the Earth, the clear answer to these questions can not be given.

Principled position, which became the foundation of the international legal protection of the environment from harmful effects of space activities, formulated in Art. IX Outer Space Treaty: "Member States - Parties to the Treaty shall pursue studies of outer space, including the moon and other celestial bodies, so as to avoid their harmful contamination and also adverse changes in the Earth's environment through the introduction of extraterrestrial matter, and for this purpose in the case of necessary, take appropriate measures". [7] This article regard to some of the most important and fundamental rules. But we should immediately point out a very general nature of this provision and some vagueness contained therein obligations of States. First, the Treaty talking about space activities. Here we have in mind only the studies of outer space, and there is no mention of the use and utilization of outer space is more important in the practice space by mankind, and secondly, to avoid harmful contamination is limited only in the scale space, and does not apply to pollution of the atmosphere and surface land and thirdly adverse change Earth's environment pollution problem limited extraterrestrial substance - reverse pollution and does not affect other causes of pollution, and fourthly, lack of adequate interpretations and

definitions of some concepts of harmful contamination, adverse change, if necessary, etc.

It is noted by many lawyers internationalists in the world. So, the Chinese foreign affairs lawyer Hae Chichzhi, analyzing in detail the content of art. IX Outer Space Treaty, emphasizes the lack of clarity in this position. Indeed, if literally interpret the provisions of Article. IX. It can be concluded that adverse changes in the environment should be avoided only through the introduction of extraterrestrial matter. But such effects can occur in other ways, such as a result of radioactive contamination or experiments on weather changes [8]. Quiet so, Chichzhi Ho apparently understands this provision, who writes that made the Outer Space Treaty, an attempt to prevent "adverse change in the Earth's environment" is restricted to reverse pollution problem extraterrestrial matter". [9] It is not clear as what is meant by "appropriate measures", which states must accept them, who determines when it is a "necessity" of these measures, does the concept of "appropriate measures" to consult stakeholders or individual adoption of preventive character. Nevertheless, despite gaps art. IX Outer Space Treaty, its general character even has some advantages because it gives the opportunity to develop further more specific, special rules without fear of conflict with the provisions of art. IX.

According to Art. IX Outer Space Treaty, when any state - party of the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties to the Treaty in the peaceful exploration and use of outer space, it shall undertake appropriate international consultations before proceeding with any such activity or experiment." Similarly recorded in the same article. IX Space Treaty, the principle of preventing the potentially harmful effects of space activities formulated obligation to consult, but in a very general way and provides ample opportunity for any of its interpretation

In particular, it is not clear whether "potentially harmful interference" covers the activities on the peaceful exploration and use of outer space pollution and other adverse environmental change. There is no indication of what should be the procedure for consultation, as well as their legal consequences.

Note that "there is no clarity as to when to hold such consultations (or immediately before the experiment before him) with whom to conduct these consultations (with a certain group of states, with all states that have expressed interest in this, or how any international body), which is meant by international

consultations and the extent to which states are obliged to take them, what are the legal consequences of actions undertaken by the government after failing to reach an agreement as a result of consultation."

Multilateral and bilateral international treaty aimed at preventing environmental pollution by radioactive and other harmful substances, protection and rational use of resources, as well as the entire natural systems;

With the development of space science and technology and further penetration into space some general provisions of space law and the rules of international legal regulation of environmental protection are specified in agreements in certain areas of human activities in outer space. Thus, the provisions of art. VI and VII of the Contract on space have been developed and added with adoption of the Convention on the international damage liability, caused by space objects (The convention on responsibility of 1972).

The convention appeared as a result of long-term consultations and negotiations between the delegations arguing various points of view and representing various schools of sciences. Nevertheless, according to the chairman of Legal subcommittee, the Convention isn't the tool reflecting in each of the provisions all wishes, expressed by separate delegations, and this isn't the perfect tool at all. In our opinion, the main shortcomings of the Convention on responsibility are the existence of the situation allowing acceptance of determination of advisory nature (the art. XIX, item 2), and lack of regulations on the international registration of the objects started in a space. The question of an applicable law, i.e. of nature of compensation as it decides in HP station, shouldn't be considered as a lack of the Convention on responsibility, especially so far as the Convention doesn't limit the amount of compensation to the victim.

It must be kept in mind that the international law has no to this day a little effective remedies of application of sanctions. Common interests of mankind and need of the international cooperation, mutual understanding and friendship are today the only guarantee of observance of international law. There is a wish to hope that there will be no need for application of the Convention on responsibility and that activity of the states in a space and on celestial bodies won't entail deprivation of life, injury or property destruction. However possible application of the Convention on responsibility will show, whether its shortcomings or shortcomings of this tool weaken the Convention concern only a formality.

Contractual sources of international legal regulation of environmental protection - various

multilateral and bilateral agreements about cooperation of the states in space exploration (the analysis and offers);

Various multilateral and bilateral agreements belong to contractual sources of international legal regulation of environmental protection about cooperation of the states in space exploration. The Partial Nuclear Test Ban Treaty (1963) can be such example. This contract is the first international treaty concerning a question of protection of the space.

The text of the contract consists of a preamble and five short articles. In a preamble main goals of its participants are specified: aspiration to reach the termination of all test explosions of the nuclear weapon, to put an end to infection surrounding the person of the environment radioactive materials and to achieve the fastest conclusion of agreement about a general and complete disarmament under strict international control. article 1. Contracts are imposed on each its participant by the obligation: "... To forbid, preventing and not causing damage has to be taken into account... "to make any test explosions of the nuclear weapon and any other nuclear explosions in any place which is under its jurisdiction or control: a) in the atmosphere; beyond its limits, including a space; under water, including territorial waters and the high sea; and b) in any other environment if such explosion causes radioactive fallout outside territorial borders of the state, under jurisdiction or which control such explosion" [10] is conducted.

As a whole the Contract facilitates space development in the peace purposes and promotes safety of the crew during the flight of spaceships from radioactive influence. Also it creates a barrier on a way of implementation of plans of so-called geophysical war developed in the USA according to which means by means of high-rise nuclear explosion for some time to liquidate a protective belt in the terrestrial atmosphere and thus to bring down a stream of killing space radiation on inhabitants of a certain country. The favorable situation created as a

result of the conclusion of the Moscow Partial Nuclear Test Ban Treaty, made possible placement prohibition in a space of the nuclear weapon or other types of weapon of mass destruction.

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