The Development of Space Law:

Framework, Objectives and Orientations

-- Speech at United Nations/China/APSCO Workshop on Space Law

MA Xinmin

Deputy Director-General, Department of Treaty and Law,
Ministry of Foreign Affairs, The People's Republic of China
Beijing, November 17, 2014

Ladies and Gentlemen, Good morning.

It is my honor to participate in such an important event on Space Law. Space law is a new branch of international law initially elaborated under the auspices of the United Nations since 1960s. Space law is rooted in and triggered by the development of space technologies and human's space activities, thus it is still young and bound to undergo constant evolution. Nowadays, the space technologies are advancing rapidly and the space activities flourishing vigorously. Against this backdrop, serious consideration should be given to such questions as where the space law is heading for, what the status of the space law holds in the international law system and what are the objectives and orientations of the space law.

Today I would like to take this opportunity to share with you my thoughts. In this speech entitled "The development of space law: legal framework, objectives and orientations", I wish to address three questions: first, the legal framework of space law and its status in international law; second, the objectives of the development of space law; third, the orientations for the development of space law.

1. The legal framework of space law and its status in international law

The current space law consists of the five international treaties at the core. It is also complemented by relevant UN GA resolutions, regional or bilateral treaties and customary international law, as well as legislations and practices of States and intergovernmental organizations as subsidiary means for the determination of rules of space law. Generally speaking, space law consists of two layers of laws and regulations.

The first layer is international law that regulates rights and obligations of States

and intergovernmental organizations in outer space. The fundamental legal framework of space law is composed of five international treaties (namely the Outer Space Treaty of 1967, the Rescue Agreement of 1968, the Liability Convention of 1971, the Registration Convention of 1976 and the Moon Agreement of 1979), and five sets of principles governing outer space, (i.e. the declaration of legal principles of 1963, the principles governing television broadcasting of 1982, remote sensing of 1986, nuclear power sources of 1992, and international cooperation in outer space of 1996). In addition to that, the UN GA resolutions and UNCOPUS documents in the field of outer space serve as subsidiary means in the interpretation and application of those treaties and principles (the resolutions and documents mainly include the resolution 1721 A and B (XVI) of 1961, resolution 55/122 of 2000, resolution 59/115 of 2004, resolution 62/101 of 2007, resolution 68/74 of 2013, and Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space, Safety Framework for Nuclear Power Source Application in Outer Space of the Committee on the Peaceful Uses of Outer Space). Space law also includes its own customary international law. In the history of the development of space law, international treaties and customs have been the primary sources of legally binding international law. However, the importance of soft law in the regulation of space activities has been strengthened in recent years.

The second layer of space law is the national law, which involves those formulated specially for the implementation of State's international obligations under treaties, and those regulating the activities in outer space not stipulated in international treaties. In this sense, national law complements the deficiency of international legislation to some extent. So far, over 20 States have made space legislations.

But to define the legal framework of space law as above is still limited, because it is unable to draw a full picture of the space law and capture its character. From the perspective of international law as a whole, we may find that space law has its own features as well as general features of international law.

First of all, as *lex specialis* of international law, space law has its own features. As far as its legal nature is concerned, space law regulates the interests of the international community, thus containing obligations *erga omnes*. The Outer Space Treaty, which is credited as the Magna Carta of Outer Space, provides a general framework for the regulation of space-related activities. Moreover, it lays the foundation for the future development of space law. It is on this foundation that relevant principles and mechanisms are enriched, concretized and developed by the other four UN treaties of outer space. Professor Vladimir Kopal thought that the principles included in the 1963 Declaration and restated in 1967 OST, have been accepted by the international community as a whole, and they have the force of imperative norms of general international law. In accordance with Article 53 of the Vienna Convention on the Law of Treaties of 1969, no derogation is permitted from such norms and they can be modified only by a subsequent norm of general

international law having the same character.

It is obvious that obligations *erga omnes* reflect international value system, and are legal means for the implementation of international value system. Norms of obligations *erga omnes* shall be created by the international community as a whole. Any State, whether it has a special interest in it or not, has the right to invoke state responsibility against violations. However, obligations *erga omnes* are not necessarily higher than other obligations. Although it is widely concurred in practice that *erga omnes* rules provide important obligations, such importance has not been transformed into the hierarchical priority as Article 103 of the UN Charter and peremptory norms. Not all obligations *erga omnes* are created by peremptory norms of general international law, as some obligations concerning global commons. Therefore, principles of space law are obligations *erga omnes* which do not have the character of *jus cogens* norms. In terms of the hierarchy of legal effect, they do not have prevailing applicability.

Outer space including the Moon and other celestial bodies are global commons. Space law and the law of other global commons, such as the high seas, the International Seabed Area and the Antarctica, share the common character of obligations *erga omnes*. Interests deriving from the global commons belong to, and shall be shared by all States and all mankind, with due regards to the need of future generations. Global commons are not subject to national appropriation by any State. They shall be free for exploration and use by all States. But it shall not be neglected that all States have the shared obligation to protect them.

Obligations *erga omnes* show that in parallel to national interests there are interests and values of the international community of States. Such interests concern the common interests of all States as a whole and all mankind. They are not simply the sum of the national interests of individual States, but common rights and interests enjoyed by the international community or all mankind as a whole.

In current international practice, there is not yet a separate international entity acting as the owner of the interests of the international community as a whole. No uniform mechanism~~s~~ and rules are in place to protect the common interests of the international community and all mankind. Apart from the Area, for which the International Seabed Authority was created by the UNCLOS to manage the interests on behalf of all mankind, in most other global commons there is no mechanism for their protection and management. Therefore, the interests of the international community as a whole can only be protected by each State separately. As Professor Anne-Laure Vaus-Chaumette figured out, the international community does not exist as a subject of international law. It does not refer to a judicial person, but a legal fiction comprising(at least) all States, or the existence of an "normative community" bearing universal and common values. In cases of serious breaches of obligations from peremptory norms, it is States collectively who are the holders of injured interests and

who have the capacity to act against the author of the breach. The existence of an institutional community remains to be established.

However, the recognition of interests of the international community in positive international law is a breakthrough from the traditional bilateral contractual mode based on state consent. It transcends narrow interests of States, and enlarges the scope of regulation to cover interests of the international community (including the interests of the international community of States, and the interests of all mankind). Bruno Simma, a former Judge of the ICJ, wrote that despite its traditional bilateralism structure, international law has entered a stage at which it does not exhaust itself in correlative rights and obligations running between States, but also incorporates common interests of the international community as a whole, including not only States but all human beings. International law is on its way to be true public international law.

The interests of the international community and the interests of States give rise to the two outlooks of interests and values. Space law, as international law protecting the interests of the international community, is a significant development of international law.

Second, as a part of international law, space law has general characters of international law. The legal framework of outer space shall be viewed in the broader picture of international law. Article 3 of the Outer Space Treaty provides that States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding. Manfred Lachs, former President of the ICJ and founder of space law, wrote that this provision implies that in all their activities in regard to and within outer space and on celestial bodies States are subject to the rule of international law. The term thus used refers to worldwide legal system which is binding on States in all other areas of their mutual relations. It includes its basic principles and rules as they have evolved in their historical development, as well as its most recent acquisitions.

The question arises as to the relationship between space law and general international law including the UN Charter. In other words, what is the legal status of space law in the whole framework of international law? In principle, the legal effect of the Charter and that of other general international law are different in their application to outer space.

Firstly, the relationship between space law and the UN Charter. The United Nations has been playing a leading role in the whole process of the development of space law. The UN not only convened three conferences which charted the course for the development of space law in a timely manner, but also made a series of treaties

and principles which form the fundamental legal framework of space law. One should bear in mind that the Charter prevails over the Outer Space Treaty. According to Article 103 of the UN Charter, in the event of a conflict between the obligations of the Members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail. This provision is regarded as bestowing the Charter prevalence over inconsistent customary international law. Therefore, the legal effect of the UN Charter, as the "superior law", is higher than that of treaties and principles of outer space in the event of a conflict. It follows that *jus ad bellum* in the Charter, including the principle of non-use of force and its two exceptions, applies to outer space. In addition, *jus in bello*, as part of general international law, is also applicable to outer space in principle. Should armed conflicts happen in outer space, belligerents shall comply with international humanitarian law. However, outer space has its unique nature. The application of *jus ad bellum* and *jus in bello* in outer space is worth in-depth discussion.

Secondly, the relationship between space law and general international law. Based on the maxim "*lex specialis derogat legi generali*", space law shall prevail over general international law if there are specific regulations in space law. Contrariwise, general international law should be applied. Article 3 of the Outer Space Treaty implies that international treaties with universal applicability and customary international law are complementary to space law. The International Law Commission, in its report "Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law", states that "*lex specialis derogat legi generali*" is a generally accepted technique of interpretation and conflict resolution in international law. *Legi generali* is useful in filling the lacuna of specific legal systems, which is applied when special legal systems become void. In practice, other branches of international law, such as international environmental law and the law of international responsibility, can be used to complement the lacuna or inadequacy of space law.

In conducting space activities, States and international intergovernmental organizations are bound by not only space law, but also general international law including the UN Charter. The application of space law is inferior to that of the UN Charter, but prevails over that of other general international law.

2. Objectives of the development of space law

The objectives of the development of space law should be analyzed from its system and values. The legal framework of the current space law is still based on the positive law system. In other words, the international treaties and customary international law are still serving as the main legal grounds for activities in outer space.

The Outer Space Treaty recognizes that the exploration and use of outer space shall be

carried out "for the benefit and in the interests of all countries" and shall be "the province of all mankind", and outer space shall be free for exploration and use by all States "without discrimination of any kind, on a basis of equality" and scientific research (Article 1). Therefore, the protection of common interests and the respect for the interests of individual States are the two principal considerations of space law.

The first principal consideration of space law, namely the protection of common interest, is the primary objective of space law. It consists of the following five aspects of interests:

First, ownership by all and equitable sharing of benefits. Article 1 of the Outer Space Treaty recognizes that the exploration and use of outer space shall be carried out "for the benefit and in the interests of all countries" and shall be "the province of all mankind". This principle is elaborated and complemented by the Moon Agreement, which stipulates that the Moon and its natural resources are the common heritage of mankind in its Article 11. Under this Article, States Parties also undertake to establish an international regime to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible.

Article 2 of Outer Space Treaty provides that outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means. In a similar manner, Article 11 of the Moon Agreement provides that the Moon and its natural resources shall not become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person. Therefore, in spite of the huge gap in the level of economic and social development as well as the capacity to explore and utilize the outer space among the countries, the outer space is owned by the international community as whole, and as a result, the benefits deriving from space activities shall be shared among them. When possible, this could be achieved through creation of an authority to manage the space interests similar to the International Seabed Authority's functions.

Second, the maintenance of peace and common security. Outer space is an indispensable part in the maintenance of peace and common security. Article 3 of the Outer Space Treaty recognizes the applicability of the UN Charter to outer space, which includes the purpose of "maintaining international peace and security" in Article 1 and the collective security system under the Charter. The maintenance of international peace and common security is principal purpose and supreme value of the United Nations. As Professor Louis Henkin wrote, Charter article 2(4) is the most important norm of international law, it declares peace as the supreme value to be more compelling than inter-state justice, more compelling even than human rights or other human values. According to Article 103 of the UN Charter, the international peace and security, as the international public interests, has the hierarchical priority over other common interests of the international community and the national interests of

the individual countries.

In this sense, the UN collective security system is applicable to outer space and all space-related activities. The UN's dedication and efforts to maintaining the international peace and security through the collective security system implemented by the Security Council on behalf of the international community, well demonstrate the value of common security. Today, the value of common security has gradually replaced the outdated idea of zero-sum game which aims to attain national security through confrontational competition, and become the core value of the current international relations and international law.

The Outer Space Treaty formulated under the guidance of the purposes and principles of the UN Charter, further concretize the concept of common security. To be specific, the Outer Space Treaty reaffirms in Article 3 the applicability of the UN Charter to the outer space and the principles of utilizing the outer space for maintenance of the international peace and security. In the Preamble of this treaty, the common interests of all mankind in the progress of the exploration and use of outer space for peaceful purposes is recognized. The treaty also stipulates in Article 1, the exploration and utilization of the outer space must be in the interests of all countries and should be the cause of all human kinds. States Parties are also imposed different arms control obligations in outer space and celestial bodies by Article 4. In outer space generally, weapons of mass destruction are prohibited, whereas the moon and other celestial bodies shall be used by States Parties exclusively for peaceful purposes. On the moon and other celestial bodies, the establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. For this reason, outer space also follows the commitment of all states for common security, although only arms control as the minimum measures are deployed as a beginning.

Third, the promotion of international cooperation. According to the UN Charter, it is the purpose of the United Nations to "develop friendly relations" and "to achieve international cooperation". The Outer Space Treaty takes the promotion of international cooperation as contractual obligations. Article 1 obliges States Parties to facilitate and encourage international co-operation in scientific investigation. Article 3 obliges them to carry on activities in the exploration and use of outer space in the interest of promoting international co-operation and understanding. Article 5 obliges them to render to astronauts all possible assistance in the event of accident, distress, or emergency landing. Article 9 gives States Parties the right to seek international consultations and the obligation to undertake appropriate international consultations. Article 10 requires States Parties to consider on a basis of equality any requests by other States Parties to be afforded an opportunity to observe the flight of space objects launched by those States. According to Article 11, States Parties agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature,

conduct, locations and results of such activities.

The obligations of international cooperation so extensively stressed in the space law demonstrate the international solidarity in the outer space, which is rarely seen in other areas such as the law of the sea, rules on cyber space and so on.

Fourth, the promotion of the rule of law in outer space. The rule of law is the fundamental form of space governance, and the most effective way to integrate the interests of the international community. The UN Charter provides guiding principles for the rule of law in outer space. Article 3 of Outer Space Treaty further stipulates that States Parties shall carry on activities in the exploration and use of outer space in accordance with international law, including the Charter of the United Nations. Human space activities are always accompanied by space law. The rule of law is an element and character of the space order and space governance.

Fifth, sustainable development. According to Article 9 of the Outer Space Treaty, States Parties to the Treaty shall pursue studies of outer space and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. According to Article 4 of the Moon Agreement, in the exploration and use of the moon, due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress. These provisions aim to safeguard the sustainable exploration and use of outer space, with due regard to the interests of present generation and future generations, underpinning the notion of long-term sustainability of outer space and intergeneration equality. In 2010, the Scientific and Technical Subcommittee of the UN COPUOS initiated the agenda of "long-term sustainability of outer space activities". The agenda aims to protect the space environment, but is also closely related to the right of development. It has attracted substantial attentions from the international community, and is gradually becoming a new policy notion regulating and guiding the space-related activities, and will definitely influence the international space legislation.

The second principal underlying consideration of space law is the respect for the interests of individual States. This is the secondary objective of space law. Space law recognizes the right of free exploration and use of outer space in accordance with international law. Article 1 of the Outer Space Treaty provides that outer space shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies. It also recognizes the freedom of scientific investigation. According to the above, States have the rights of free exploration and use, free access, and free scientific investigation in outer space. Besides, States also have the right of self-defence, when an armed attack occurs in outer space, according

to Article 51 of the UN Charter.

However, the freedoms are not absolute. According to the Outer Space Treaty, the exploration and use of outer space are subject to the following limitations: first, for the benefit and in the interests of all countries (Article 1(1)); second, with due regard to the corresponding interests of other States Parties (Article 9); third, in the interest of maintaining international peace and security and promoting international co-operation and understanding (Article 3); fourth, in accordance with international law, including the Charter of the United Nations, such as the principle of non-use of force and the principle of non-intervention (Articles 1(2) & 3). In addition, the benefits deriving from space activities shall be shared with other States.

From the aspect of value, it mainly refers to the policy notion behind the positive space law, which is the quintessence of the legislation of outer space as well as its interpretation and application. The above two principal underlying considerations of space law reflect six core objectives, namely ownership by all and equitable benefit sharing, the maintenance of international peace and common security, the promotion of international cooperation, the promotion of the rule of law, sustainable development, and equality and freedom of states. The first five objectives reflect the common interests of the international community and all mankind, while the last reflects the interests of individual states.

The history and *status quo* of the international law prove that, to realize and maintain the international peace, security, development, cooperation, justice and legitimate interests of the States in the international relations is also the general function of and the value pursued by the international law. The main concern of space legislation as well as its interpretation and application is how to make rational balance between the common interests of the international community and the individual interests of the States, between different common interests of the international community, as well as between different individual interests of the States. These core values of the space law will provide important guidance for the space legislation as well as its interpretation and application.

Therefore, the maintenance of the interest of the international community and the interests of individual States are the value orientations of space law. National interests are the foundation for the interests of the international community, and an indispensable part of it. In the meantime, as each States has rights and benefits in the interests of the international community, the interests of the international community are in turn part of the interests of individual States. The exploration and use of outer space are consistent with the values and objectives of space law, only when they are for the benefits of all States and all mankind, and based on equitable sharing of benefits among all States. Space activities for unilateral interests with one’s own technical and economic advantages, and without due regard to the interests of other States and all mankind, are an abuse of rights and contrary to the spirit of space law.

In order to achieve the fundamental objective of the space law, we need to strike rational balance and seek the greatest common divisor between the national interests and the international common interests, to expand the convergence of different interests and reach the harmonious unity of national interests and international common interests.

3. Orientations for the development of space law

The current space law establishes the legal status of outer space and fundamental legal mechanisms for its exploration and use. It meets the needs for the exploration and use of outer space by states. It plays an effective role in putting into order the space activities of states and international organizations, in safeguarding the order of outer space, in promoting the international cooperation and guiding the practice with legislation in advance. However, the international community is facing new challenges in maintaining safety and security of the space environment, space objects and space activities, such as the rapid development of commercial space activities; the momentum of space weaponization and an arms race in outer space; the risk caused by the increase of space debris, the shortage of spectrum and orbit resources, and the wide application of nuclear power sources and so on. At the same time, certain new legal issues are also posed in those new types of space activities such as space tourism, and the exploitation of resources in outer space. Facing these new situations and new challenges, the international community should not only strengthen the effective implementation of space law to address practical problems, but also promote its development in the following two aspects.

1. Adherence to the fundamental and prevailing status of the UN Charter

In Article 3 of the 1967 Outer Space Treaty, it is stipulated that states shall carry on activities in the exploration and use of outer space in accordance with international law, including the Charter of the United Nations. The application of this article could be extended to two principles. One is adherence to the prevailing application of the UN Charter; the other is the reliance of general principle and rules of international law. If there is no special rule in the outer space treaty on certain issues, the relevant general rule of international law could be referred to and applied, such as those on state responsibility, and international environmental law.

The Charter is universally recognized by the international community and generally applicable to international issues. According to Article 1 of the Charter, the United Nations is to be a centre for harmonizing the actions of nations in the attainment of such common goals, as to maintain international peace and security, develop friendly relations among nations and achieve international co-operation. Since the Charter clearly stipulates legal principles for those important issues such as international peace and security, development and cooperation and so on, such legal principles,

systems and regulations of international law have played a guiding role in the development of the space law. In this regard, the space legislation as well as its interpretation and application should be in conformity with the Charter as a whole. However, it does not mean that every mechanism and regulation stipulated in the Charter shall be applied in all fields of outer space. As Manfred Lachs points out, it should not be taken for granted that international law including the Charter, automatically extends to outer space and celestial bodies, as many parts of their chapters are destined for specific environments and thus do not lend themselves to application in other areas. Some rules cannot be applied to outer space ex definitione. Some others are of the nature of lex specialis for specific environments. Others still require adaptation to the needs and characteristics of the new dimension, thus modification is needed. In fact the extension of international law to outer space and celestial bodies is only a first step, forming a basis for further development, the creation of special and specific rules which already have or will become necessary in the future.

2. Refining primary rules and secondary rules regulating outer space activities

In the process of refining the outer space legislation, the current outer space treaty system should be kept unchanged. So are the basic principles on the exploration and use of outer space for peaceful purposes. Any design for mechanisms should coordinate with the legislations on other global commons, and connection with those of the air space and the land. For example, the security of outer space can't be isolated from the security on the earth, and the sustainable use of outer space can't be separated from the sustainable development on the earth. The key points of future space legislation include the following aspects:

A. **To refine the legal framework and mechanisms related to the common interests principle in outer space and the common heritage of mankind principle in the moon.** At present, the principle of common interests is applied to the outer space, while the principle of common heritage of mankind is specifically applied to the moon and other celestial bodies. As a result, there exist two different sets of legal systems in the outer space. Because of many uncertainties in these two legal frameworks, we may draw on the rules and mechanisms of other global commons, and strive to develop specific mechanisms and institutional arrangements for the principle of common interests in outer space and the principle of common heritage of mankind to the moon.

B. To progress steadily on military security legislation of outer space. The weaponization of outer space has become the most serious potential threat to the security of outer space. The Outer Space Treaty has obvious deficiencies because it only banned weapons of mass destruction, which is difficult to ensure military security of outer space. Since 2002, China and Russia has been committed to negotiating a convention prohibiting the weaponization of outer space within the

framework of the Conference on Disarmament. In 2008, China and Russia proposed the draft Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects. On the basis of the feedbacks and suggestions, we submitted a new draft in June 2014. We believe that conclusion of an international treaty banning the weaponization and arms race in outer space is the most effective way to maintain military security of outer space.

C. To improve the legislation on the environment and resources of outer space. At present, there is no special international convention on space debris and nuclear power source. The regulation of relevant international conventions on the orbits and spectrum resources is obviously insufficient. In order to cope with the derogation of space environment and strengthen the regulation of orbit and spectrum resources, we do need to improve the mechanisms on nuclear power source, space debris, orbit, spectrum resources and so on, with the existing soft law as a basis.

D. To continuously progress the space legislation on new types of space activities. In accordance with practical needs, the legal norms on the following areas should be established and perfected, such as the exploitation of resources in outer space, the space station, space tourism, GNSS, aerospace transportation, resort to force in outer space, manned space flight, space traffic control, and the mars.

E. To develop secondary rules for outer space activities. The current space law emphasizes more on legal rights than duties and obligations. As the next step, the legislation on duties in all areas of outer space should be strengthened, the dispute settlement mechanisms should be improved, the possibility of establishing an international governance institution could be explored and the implementation of the outer space treaty should be promoted.

Conclusion

History tells us that, outer space activities and technologies could not develop without the regulation, safeguard and guidance by space law. While space technologies keep advancing, and space activities continually reach new levels, the development of the space law cannot and will not come to a halt. Protection of the interests of the international community and those of all humankind demands space law, the maintenance of peace and security of outer space needs space law, and the long-term sustainability of outer space calls for space law. So the development of the space law has to keep pace with times, so as to make greater contributions for the benefits of all humankind. To this end, all of us today, researchers as well as practitioners of space law, have to take the challenge, no matter how arduous and enduring the task ahead is.

Thank you for your attention.