

Disarmament in Outer Space

Banning ASAT Weapons with Soft Law?

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1. Introduction

The Anti-Satellite (ASAT) experiment carried out by China in January 2007, has not only triggered the criticism of international community toward China by the huge amount of Space debris which it produced,¹ but also increased the potential risk of further militarization of outer space.² More precisely, development of the use of outer space from support of ground-based military facilities, and utility for the military mission to destruction of other nations' satellites. The success of the destruction of own satellite by the ASAT weapon means owning the capability to destroy other nations' satellites which becomes great threat in terms of international security.³

Recently, Chinese challenges against current international security order are being remarkably noticed.⁴ China generally focuses on maritime expansion such as landfilling and runway construction in South-China Sea. At the same time, it continues to launch missiles which seem to be ASAT weapons after 2007 experiment,⁵ and military expansion in outer space should be noticed carefully.

The history of outer space development started in 1957 by the former USSR's launch of the world's first satellite Sputnik 1. Since then the U.S. and the USSR competed aggressively during the Cold War.⁶ Later, as the significance of use of outer space increased for communication and broadcast, the military use of outer space had changed accordingly. As the number of

1 B. Weeden, Anti-Satellite Tests in Space – The Case of China, 18 May 2015, http://swfound.org/media/115643/china_asat_fact_sheet_may2015.pdf (accessed 18.06.17).

2 S. Aoki, Study of Russian and Chinese Proposal aiming for Prevention of Space Weapons Deployment, International Situation, 80 (2010), 362.

3 M. Matsumura, Conflict between the United States and China in the Outer Space – China's Satellite Destruction and deepening distrust of the U.S., Issues & Studies, 39.2 (2010), 77.

4 *Ibid.*, 73.

5 Weeden, *supra* note 1.

6 S. Aoki, Japanese Space Strategies, Keio University Press, 2006, 16-17.

nations participating in space development increases in these days, the arms control for maintaining the stability of outer space, especially the prevention of arms race is becoming one of the most important challenge for the international community.⁷ The Chinese experiment in 2007 in the circumstance drew fierce criticisms and concerns from the U.S., Japan, U.K., Canada, Australia, and South Korea.⁸

In the 21st century, use of outer space, such as satellite communication and the GPS, is necessary for us to carry out the daily life. Simultaneously, it is unavoidable to say that threat in outer space, especially the military threat in outer space is increasing. The in-depth discussion of arms control in outer space is the urgent matter in maintaining peaceful use of outer space permanently. The rapid change toward the international security order in outer space which has been developed in the last sixty years may obstruct the continuous peaceful use of outer space. Discussing the legislation of the restriction against the military use of outer space would contribute the long-term sustainability of space use.

This study will focus on the ASAT problem. ASAT experiment itself, has long history since the very beginning of the space development. However, there is no substantive legal restriction against it and it is becoming to be one of the largest threat in the recent space environment.

This article would focus on the two topics; 1. The review of past discussion of the space arms control, and 2. The discussion of the soft law in outer space as an alternation of arms control treaties.

2. The History of the Discussion on the Space Weapons Regulation

Currently, there are five international treaties on outer space⁹ which constitute the framework of international space law as hard law. In particular, the Outer Space Treaty and the Moon Treaty have been established to cover the principle of peaceful use of outer space. While Article IV of the Outer Space Treaty prohibits placing any nuclear weapons or other weapons of mass destruction in earth orbit, the placement in orbit and use of conventional weapons is not prohibited. This is to say that military use of outer space may be permitted on the basis of self-defense as stipulated in Articles 42 and 51 of the UN Charter. In addition, it is this Outer Space

7 In the first UN Special Session on Disarmament of General Assembly, it was pointed out that the action should be taken in accordance with the spirit of the Outer Space Treaty in order to prevent arms race in the outer space. (UN Doc. A/RES/S-10/2, para. 80, 30 June, 1978).

8 Y. Hashimoto, *China Space Development – Means for Strengthening National Power and Raising National Principles*, in: *East Asia Strategy Studies 2008*, National Institute for Defense Studies, p. 27.

9 Refers to Outer Space Treaty (1967), Rescue Agreement (1968), Liability Convention (1972), Registration Convention (1975), and Moon Agreement (1979).

Treaty, which came into effect in 1967 and which remains in force up to the present time, which constitutes the most rigorous set of legal standards for arms control in outer space. However, the discussion itself on arms control in outer space has continued unabated since the passage of the Outer Space Treaty. This chapter will outline the main discussions that have taken place at the CD and the PAROS ad hoc committee, and examine the possibilities going forward for the regulation of ASAT weapons by means of hard law.

As part of these discussions on arms control at the CD, which was established under the final declaration of the 1978 First United Nations Special Session on Disarmament,¹⁰ PAROS has also come under discussion.¹¹ As discussed above, the phrase “peaceful purposes” for the use of outer space in Article IV of the Outer Space Treaty has come to be interpreted as “non-aggressive” use. In interstate relations also, from the perspective of securing their own self-defense in outer space, states have increasingly come to interpret the phrase “peaceful purposes” as “non-aggressive” rather than “non-military,”¹² and this interpretation can be thought of as having become established from the late-1980s to the early 1990s.¹³ In fact, even though there was no agreement precisely on how the definitions of “peaceful purposes” and other terms in the first report of the PAROS ad hoc committee¹⁴ (to be discussed below) were to be understood, the report’s discussion of the military use of outer space concluded that the use of reconnaissance and other such satellites contribute to the stability of international society.¹⁵ Therefore, given the position taken – that the deployment of non-aggressive (i.e., conventional) weapons in outer space was not illegal – the issue of whether or not all weapons in outer space should be prohibited moved to the center stage in the discussions at PAROS.

Of these various discussions, this paper focuses on attempts to strengthen arms control in outer space by means of treaties. Since 1981, various countries have submitted draft treaties aimed at prohibiting the deployment of weapons in outer space. These can be divided into the “comprehensive approach” – proposals to prohibit the development, manufacture, testing and deployment etc. of all weapons systems in outer space, and the “particular approach” – proposals to prohibit set categories of weapons.¹⁶ From 1981 onward, of those proposals which took the “comprehensive approach”, there

10 UN Doc. A/RES/S-10/2 (30 June, 1978).

11 *Ibid.*, para. 80.

12 P. G. Alves, *Prevention of Arms Race in Outer Space: A Guide to the Discussions in the Conference on Disarmament*, 1991, p. 61.

13 S. Aoki, *Current Status and Issues of International Law Regulating Military Use of Outer Space*, Policy Management Working Paper Series, 67 (2005), 17.

14 UN Doc. CD/641 (29 August, 1985).

15 Cited from Center for the Promotion of Disarmament and Non-Proliferation, *Issue of Arms Control in Outer Space*, 2008, p. 68.

16 Aoki, *supra* note 2, 364-365.

were few twentieth-century draft arms-control treaties which set out to prohibit the launch of terrestrial weapons into outer space (as with ASAT weapons). The stipulations given in most of these draft treaties made use of vague expressions which could be interpreted broadly.¹⁷

The first draft outer-space arms-control treaty to be submitted after the Outer Space Treaty came into effect was proposed by Italy in 1979. The intent was to expand the scope of the Outer Space Treaty in the form of an additional protocol.¹⁸ The Italian initiative proposed tougher restrictions on Article IV's prohibition of weapons, which was limited to "nuclear weapons or any kinds of other weapons of mass destruction," aiming (Article I (i)) to prohibit the development or use of terrestrial or space-launched systems which could damage, destroy or obstruct the operation of another country's satellites. At the same time, however, this proposal did not aim at the complete non-militarization of outer space. Taking verification measures for disarmament agreements as essential for maintaining security guarantees, it stated that these should not be prohibited, and it acknowledged (Article I (ii)) that satellites could be used for reconnaissance, monitoring and communications. Before presenting its proposals at the CD, Italy had made the same arguments at the UN General Assembly in 1968¹⁹ and at the Preparatory Committee of the First United Nations Special Session on Disarmament in 1978.²⁰

In 1981, the USSR submitted a "draft treaty on the prohibition of the stationing of weapons of any kind in outer space" before the General Assembly.²¹ This proposal, which was a draft treaty composed of nine articles, in effect revised Article IV of the Outer Space Treaty to make its provisions more rigorous.

Especially noteworthy is Article III, which introduces an obligation of non-intervention for space objects, and in compliance with the provisions of Article I (i), prohibits destroying, damaging or interfering with the normal functioning of space objects placed in orbit, and also prohibits changing their orbit. This was believed to assume prohibition of the use of ASAT weapons.²²

Article IV stipulated verification by National Technical Means of verification: NTM, and furthermore introduced an obligation of non-intervention for NTM. If any of the signatory states suspected another signatory state's actions to be in violation, mutual negotiations were suggested as the means

17 *Ibid.*, 365.

18 UN Doc. CD/9 (26 March, 1979), cited from Alves, *supra* note 12 [hereinafter "Alves"], p. 89.

19 UN Doc. A/7221 (9 September, 1968), Alves, p. 89.

20 UN Doc A/AC.187/97 (1 February, 1978), Alves, p. 89, Center for the Promotion of Disarmament and Non-Proliferation, *supra* note 15, p. 49.

21 UN Doc. A/RES/36/99 (9 December, 1981), UN Doc. CD/274 (7 April, 1982).

22 Alves, pp. 97-98.

for resolution of the matter. On this point, the approach suggested stood in contrast to other conflict resolution plans, under which multilateral disarmament standards were referred to international forums such as the UN Security Council for mediation.²³

Agreement for the 1981 Soviet proposal to ban ASAT weapons was expressed in the main by other Eastern Bloc countries. The Western states, however, raised a series of objections. West Germany, for example, claimed that the proposal would pave the way and give motivation for the development of further anti-satellite (weapons) systems.²⁴ In addition, because the scope of the proposal only covered signatory states' space objects, it did not prohibit the development or use, etc., of "all bodies transporting weapons" as such. Objections were also raised that the regulation of ASAT systems could not be achieved through this proposal because the term "weapons" was not defined.²⁵ In the face of these objections, the 1981 Soviet proposal was to be submitted in a revised draft.

Next, in 1983 the USSR submitted a new draft outer-space arms-control treaty before the General Assembly²⁶ and the CD²⁷ (submitted before the CD in 1984.). Article I of this draft prohibited the use by any means whatsoever of space objects in orbit, on celestial bodies or objects stationed in outer space as instruments of destruction on the surface of the earth, in its atmosphere or in outer space, banning the exercise of military force or threat of such. At the same time, it prohibited the exercise of military force or threat of such against space objects stationed in orbit, on celestial bodies, or in outer space. Article II prohibits the stationing of weapons in orbit, on celestial bodies or in outer space for the purpose of destroying objects on the surface of the earth, in its atmosphere or in outer space (Paragraphs 1 and 2), and it prohibits interference with other states' space objects (Paragraph 3).²⁸

A ban is placed on the development and testing of new ASAT systems, and existing ASAT systems are to be destroyed; manned aircraft are not to be used in tests involving ASAT weapons (Paragraphs 4 and 5). In regard to NTM, Article V enables requests to be made to the UN, and for signatory states to establish and employ negotiation bodies. In response to the criticisms leveled at the 1981 draft, the stipulations prohibiting ASAT weapons in particular were made more severe. As a result of these revisions, a comparatively favorable response was obtained from both Eastern and

23 The Italian proposal in 1979 has a provision to use the UN Security Council in Article 3.

24 UN Doc. CD/PV171 (15 April, 1982), p. 11, Alves, p. 98.

25 UN Doc. CD/PV.170 (8 April, 1982), p. 12, Alves, p. 98; UN Doc CD/PV.252 (March 22, 1984), p. 19, Alves, p. 98.

26 UN Doc. A/38/194 (23 August, 1983).

27 UN Doc. CD/476 (20 March, 1984), Alves, p. 99.

28 In contrast to 1981 proposal, there is no condition of complying Article 1.

Western-bloc states.²⁹ However, both Britain and the U.S. opposed; the U.S. in particular was of the opinion that the main provisions of the draft – for example, the prohibition of the use of military force except for the purpose of self-defense – had already been achieved within the existing legal framework.³⁰

On December 9, 1982, the General Assembly adopted the first resolution on the “Prevention of an arms race in outer space.”³¹ Paragraph 1 reaffirmed of all states that outer space should be used exclusively for peaceful purposes, and that it should not become an arena for an arms race. Paragraph 3 emphasized that further effective measure to prevent an arms race in outer space should be adopted by the international community. Paragraph 4 called on all states, particularly those with major space capabilities, to contribute actively to the objective of the peaceful use of outer space, and also called upon them to take immediate measures to prevent an arms race in outer space. Paragraph 5 requests the CD to consider as a matter of priority the prevention of an arms race in outer space. Paragraph 6 further requests the CD to establish an ad hoc working group at the beginning of its session in 1983 with a view to undertaking negotiations for the conclusion of an agreement to prevent an arms race in outer space. Paragraph 7 requests that a report concerning this be made to the General Assembly at its thirty-eighth session. Only the U.S. opposed the resolution.

Immediately thereafter, on December 13, 1982, the General Assembly adopted the resolution titled “Prevention of an arms race in outer space and prohibition of anti-satellite systems.”³² In addition to the material of the resolution of December 9, this resolution requested the CD, as a matter of priority, to continue substantive consideration of the question of negotiating an effective and verifiable agreement to prohibit ASAT systems, and also requested that a working group be set up for the purpose.

The PAROS resolution was adopted again by the General Assembly on December 12, 1984.³³ In addition to the existing material on the prevention of an arms race in outer space, Paragraph 8 urged the CD to establish an ad hoc committee at the beginning of its session in 1985, with a view to undertaking negotiations for a PAROS agreement or agreements. Furthermore, Paragraph 9 strongly urged the USSR and the U.S. to initiate PAROS negotiations immediately and in a constructive spirit, and to advise the CD regularly of the progress of their bilateral negotiations. Under this resolution, a PAROS ad hoc committee was set up under the CD the following year, in 1985. Furthermore, after the adoption of this resolution by

29 Regarding each nation’s responses, see Alves, p. 100.

30 UN Doc. CD/905 (21 March, 1989), p. 7, Alves, p. 7.

31 UN Doc. A/RES/37/83 (9 December, 1982).

32 UN Doc. A/RES/37/99D (13 December, 1982).

33 UN Doc. A/RES/39/59 (12 December, 1984).

the General Assembly, a further resolution was adopted calling for the establishment of an annual PAROS ad hoc committee by the first half of the 1997 session.³⁴

The PAROS ad hoc committee was tasked with the following three duties:³⁵

1. Examination and consideration of issues relevant to PAROS;
2. Examination and consideration of existing agreements relevant to PAROS;
3. Examination and consideration of existing proposals and future initiatives on The PAROS.

However, even though annual meetings of the ad hoc committee were set up, no concrete negotiations on drafting a treaty took place, and the committee was unable to make any real achievements. Below, we shall look at proceedings in the PAROS ad hoc committee, along with the major discussions at the CD after the committee was established; in doing so, we shall focus on the 1988-89 Venezuelan and Peruvian proposal for a draft treaty, and the Chinese-Russian draft treaty of 2001 and thereafter.

As discussed above, two kinds of draft treaty were proposed in the discussions on PAROS – those taking the “comprehensive approach”, and those taking the “particular approach”. One example of a draft treaty taking the “comprehensive approach” is the 1983 Soviet proposal (discussed above); another is 1988-1989 proposal by Venezuela and Peru.

In 1986, prior to submitting the draft treaty, Venezuela had submitted a working paper to the ad hoc committee to define the essential factors involved in discussing Space Strike Weapons.³⁶ The paper stipulated factors and terms for determining if objects could be considered Space Strike Weapons, and defined these factors and terms. For example, both “offensive and defensive purposes” were covered under the rubric “nature.” “Place of deployment” covered “in outer space, within the atmosphere, in the air, in water or on land.” “Location of the target” was given as “in outer space.” “Scientific principle (Functioning of the weapon)” included “conventionally armed, nuclear armed, other mass destruction weapons, high-energy laser beams, electron beams etc.” “ASAT weapons” were defined as “weapons exclusively intended to destroy or damage targets in outer space.”³⁷ Because it included the earth’s atmosphere, water and land in its “place of deployment” rubric, the paper can be regarded as distinctive in that it covered both ASAT weapons deployed from the earth’s surface and killer

34 Ad Hoc Committee was set up yearly basis until 1994. See UN Doc. CD/1364 (26 September, 1995) para. 33, cited from Center for the Promotion of Disarmament and Non-Proliferation, *supra* note 15, p. 52.

35 UNIDIR, The Conference on Disarmament Issues and Insights, (2012), p. 8.

36 UN Doc. CD/709 Rev.1 (22 July, 1986), Alves, p. 16.

37 For each definitions, see Alves, p. 16, Table I.

satellites designed to explode near a target in orbit – that is to say, the paper defined as ASAT weapons both devices designed to attack targets in outer space from outer space and devices designed to attack targets in outer space from the earth (including its atmosphere and oceans).

Two years later, in 1988, Venezuela submitted a draft revision of Article IV of the Outer Space Treaty, including a revised version of the definition of space weapons discussed above. This version added the category “all kinds of space weapons or similar weapons systems” to the “mass destruction weapons” whose stationing in orbit was to be prohibited. The text also carried a new article forbidding signatory states to develop, produce, possess or use space weapons.³⁸ Here, the definition of “space weapons” becomes problematic. In the draft treaty, Venezuela defined space weapons as devices with offensive capability, whether space-to-space devices, space-to-earth devices, or earth-to-space devices. The components and systems of such devices were included as space weapons.³⁹

This Venezuelan draft had three distinctive features. Firstly, it included offensive space-earth devices, which had not been covered in the previous draft definition. Secondly, it defined “space weapons” more broadly, as not only the main body of the device itself but also its components (including systems). Thirdly, because “having (offensive) capabilities” is included in the definition, this draft also covers devices which were not necessarily designed specifically as space weapons.

Taking a wider approach than Venezuela, Peru proposed expanding the ban to cover developing, producing, possessing or using ASAT weapons systems which are not space-based.⁴⁰

As the Venezuelan draft very clearly demonstrates, it is necessary to clearly define just what is to be prohibited if the “comprehensive approach” is taken. However, proposals such as those made by Venezuela and Peru would also cover the Strategic Defense Initiative (SDI)⁴¹ launched by the U.S. in 1983, including earth and space-launched missile defense systems (BMD). In part because of the American opposition that this drew, this attempt to comprehensively regulate space weapons after defining them failed to achieve a consensus.

With the “comprehensive approach” to the regulation of space weapons having ended in disagreement, the “particular approach” was now tried. For example, in 1989, the USSR came to exert dominance in the discussions on a

38 UN Doc. CD/851 (22 August, 1988), Alves, p. 17.

39 *Ibid.*

40 UN Doc. CD/939 (28 July, 1989), Alves, p. 90.

41 Regarding the U.S.’s SDI, see R. Cargill Hall, The Evolution of U.S. National Security Space Policy and its Legal Foundations in the 20th Century, *Journal of Space Law*, 33.1, 2007, 97-98.

treaty to prohibit ASAT weapons systems.⁴² They proposed a halt to the development of ASAT weapons and a ban on the introduction of new weapons systems in outer space. While a number of states supported these proposals, others – for example Sweden – expressed concern at the Soviet stance, arguing that a treaty on ASAT weapons should be expanded to encompass their development, testing, deployment and use on the earth's surface, in its atmosphere or in outer space, as well as covering the other types of destruction dealt with in previous proposals.⁴³

India proposed that the moratorium on ASAT weapons – which had been put in place implicitly by the USSR and the U.S. – be expanded to a multilateral agreement to dismantle existing ASAT weapons systems and ban the production of new systems within the scope of legal force of any such agreement.⁴⁴ The point in common between the arguments made by Sweden and India was that they sought to regulate types of weapons like ABM systems, which, although they were not dedicated ASAT weapons, could be used as ASAT.

Thus, in the “particular approach” as in the “comprehensive approach” also, a wide range of opinions emerged on the definition of the ASAT weapons to be regulated. This was largely due to the versatile nature of space objects with ASAT functions, which can be used in space not only for military applications but also for maintaining security agreements.⁴⁵

Subsequently, the PAROS ad hoc committee was abandoned at the end of the 1994 session, meaning that it had failed to produce even a single substantive agreement – and so matters rest today. At the time (during the 1990s), the Fissile Material Cut-off Treaty (FMCT) was under negotiation at the CD; apparently, the reason why the PAROS ad hoc committee became unfeasible was the standoff between the Sino-Russian side – which wanted to combine an FMCT ad hoc committee and the PAROS ad hoc committee in tandem – and the U.S., which was strongly opposed to regulation of its ABM strategy by PAROS.⁴⁶

In 2001, China submitted its “Draft Treaty on the Prevention of Weaponization of Outer Space”⁴⁷ to the CD. The distinctive feature of the draft was that, giving separate definitions of “outer space,” “weapons,” “weapon systems,” and “components of weapon systems” (Article IV), it clearly sought to ban the deployment in outer space of any weapons, including conventional weapons; no objects either in orbit or launched from the earth were to directly participate in combatant activities (Article III).

42 UN Doc. CD/PV.486 (14 February, 1989), Alves, p. 101.

43 UN Doc. CD/PV.516 (11 July, 1989), Alves, p. 101.

44 UN Doc., *supra* note 42.

45 Alves, pp. 100-101.

46 UNIDIR, *supra* note 35, p. 8.

47 UN Doc. CD/1645 (6 June, 2001).

China's stance in the twentieth century had been to not recognize the use of military satellites as valid, and it called for the de-militarization of outer space. However, Article VI of the Chinese draft stated that would not impede "military uses of outer space not prohibited by this legal instrument." While it could be said that China was aiming at the de-militarization of outer space in submitting this draft treaty,⁴⁸ looking at the provisions of Article VI, it would be more accurate to say that China, acting from its standpoint of preventing the military use of outer space (= militarization), had modified its stance to preventing the deployment of space objects with offensive capabilities in outer space (= weaponization).⁴⁹

In 2002, China along with Russia submitted a working paper entitled "Future Elements of the Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects."⁵⁰ Based on the working paper, they submitted 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 (PPWT) to the CD in 2008.⁵¹ Article I of the PPWT contains definitions of "outer space," "outer space objects", "weapons in outer space," deployment, the "use of force" and the "threat of force." Focusing on the text's relation to ASAT weapons, Article I (d) states that "A weapon shall be considered to have been 'deployed' in outer space if it orbits the Earth at least once, or follows a section of such an orbit before leaving this orbit, or is permanently located somewhere in outer space." Regarding the "use of force" and the "threat of force," Article I (e) states that these terms shall mean any hostile actions against "outer space objects," especially destroying, damaging or temporarily or permanently disrupting the functions of "outer space objects" and, in addition, deliberately changing the orbit parameters of such "outer space objects"; or any threat of any of the actions above. Thus, a one-off passage through outer space (defined in Article I (a) of the PPWT as "the space above the Earth in excess of 100 km above sea level") by an object such as a ballistic missile is not prohibited by the PPWT; however, acts such as jamming or attempting to blind another state's satellites can be prohibited.⁵² The permanent deployment in outer space of ASAT weapons themselves is banned, along with ABM and other systems; however, given that the development, testing, manufacture and possession of ASAT weapons on the ground is not

48 K. Suzuki, Chapter 5 Governance Building in Outer Space as the Global Commons and the Japan-U.S. Alliance, Center for the Promotion of Disarmament and Non-Proliferation, New Issues of the Japan-U.S. Alliance in the Global Commons (Cyber Space, Outer Space, Arctic Ocean), 2014, p. 58.

49 Aoki, *supra* note 2, 366.

50 UN Doc. CD/1679 (28 June, 2002).

51 UN Doc. CD/1839 (12 February, 2008).

52 Aoki, *supra* note 2, 371.

prohibited, the destruction of one's own country's satellite by an ASAT weapon launched from the earth does not fall under the text's definition of the "use of force." Thus, China's ASAT test of 2007 does not fall under the provisions of the PPWT. Also, Article V states that "Nothing in this Treaty may be interpreted as impeding the exercise by the Member States of their right of self-defense in accordance with Article 51 of the Charter of the United Nations." Doubts thus remain on the question of whether it is possibly a legitimate exercise of the right of self-defense to deploy ASAT weapons in outer space, attack other states' satellites, and so forth.⁵³

It has now outlined the main discussions that have taken place at the CD and the PAROS ad hoc committee. Over thirty years have passed since PAROS first came under discussion at the CD, and yet no consensus has been achieved for any arms control agreement going beyond the Outer Space Treaty.

In the course of the discussions, it has certainly become clear that there have been attempts to comprehensively prohibit "space weapons" and attempts to include ASAT weapons – which had raised concerns from the beginning – among the weapons which were to be prohibited, in order to break the deadlock over the use of outer space in which military use of outer space had to be recognized within a "non-aggressive" scope. However, it can be concluded that two major factors were in action that made it impossible to reach a hard-law consensus in the CD. One major obstructing factor, whether the "comprehensive" or "particular approach" to the regulation of space weapons was taken, was attaching definitions to them. Associated with this, the other factor was the divergence of interests between the states with advanced space capabilities – the U.S. and Russia/ Soviet Union, along with China in more recent years. The differing interests of the major space powers are vividly expressed in the definition of space weapons, with the U.S. resisting attempts to include ABM systems among them, and Chinese-Russian grouping attempting to hinder the Americans. This in turn has led to setbacks and failures in formulating hard law at the CD.⁵⁴ The effects can also be seen in how the PAROS ad hoc committee has failed to develop since its set-up in 1995 due to the development of the U.S. and Chinese-Russian theory of linkage in the negotiations on the establishment of the FMCT ad hoc committee.⁵⁵

Going forward, it is unlikely that the states involved will achieve consensus on formulating a PAROS treaty, and the unavoidable conclusion is that the regulation of ASAT weapons through hard law is an exceptionally difficult undertaking. With both the CD, and the PAROS ad hoc committee subject to

53 UN Doc. CD/1847 (26 August, 2008), Aoki, *supra* note 2, 72.

54 Aoki, *supra* note 13, 18.

55 Center for the Promotion of Disarmament and Non-Proliferation, *supra* note 15, p. 68.

these trends, in the second half we shall turn our attention from PAROS treaty negotiations to confidence-building measures.⁵⁶ In the next chapter, we shall discuss confidence-building measures at the CD; also, providing an outline discussion of soft law, which has become an increasingly strong presence in recent years, we shall look at the possibilities for regulating ASAT weapons by means other than hard law.

3. The Regulation with the Soft Law

3.1 From the Disarmament Treaty to Confidence-Building Measures

In the previous chapter, we clarified how proposals were made and discussions were held at the CD, at first with a view towards concluding a PAROS treaty. But the debate on Confidence-Building Measures (CBM) gradually took on a heightened presence. The purpose of CBM is to increase the transparency of human activity in space and enhance its predictability, thus reducing misunderstandings and mistrust between states.⁵⁷ One example with regards to PAROS is the 45th UN General Assembly Resolution of December 4th, 1990, which expanded on the previously established ad hoc committee and prior urgings that the U.S. and the USSR begin bilateral negotiations. In addition, the resolution referred to trust-building.⁵⁸

Of the various specific discussions on CBM at the CD and the PAROS ad hoc committee, this paper deals with those that touched on establishing a satellite monitoring agency, on-site inspections before launches, and formulating moratoriums on the use of weapons in outer space; these in particular are considered relevant to the regulation of ASAT weapons.

Setting up satellite monitoring agency was first proposed by France during the 1970s, in the form of the International Satellite Monitoring Agency (ISMA)^[59]. Satellites, which monitor the earth's surface from space, are used to ascertain the implementation status of disarmament pacts between signatory states and to grasp the factual circumstances on the ground in situations such as the outbreak of international wars. The draft proposal for the establishment of ISMA included provisions for mediation between signatory states, and between signatory states and other parties. Canada proposed a satellite initiative called PAXSAT in 1986.⁶⁰ The plan came in two versions: PAXSAT A and PAXSAT B. The former involved monitoring outer space from outer space. The latter was a plan to monitor the earth's surface from space, in the same way as ISMA. PAXSAT A in particular aimed to launch satellites which could accurately verify whether space objects in

⁵⁶ *Ibid.*, p. 50.

⁵⁷ UN Doc. A/68/189 (19 July, 2013), p. 2.

⁵⁸ UN Doc. A/RES/45/55 (4 December, 1990).

⁵⁹ UN Doc. A/S-10/AC.1/7 (1 June, 1978), Alves, p. 118.

⁶⁰ UN Doc. CD/PV.367 (3 July, 1986), Alves, p. 125.

orbit were space weapons or possessed functions capable of being weaponized. Discussions at the CD accordingly focused on PAXSAT A rather than B.⁶¹ Canada was especially strongly committed to the PAXSAT initiative, bringing similar proposals before the CD in 2006.⁶²

Regarding on-site inspections before launch, the USSR proposed the establishment of an International Space Inspectorate (ISI) in 1988.⁶³ This proposal was predicated on the idea that no weapons of any kind would be deployed in outer space. The ISI was to carry out inspections of space objects before their launch, and scrutinize whether they contained any weapons systems, regardless of whether they could be usable deployed on the earth's surface in its atmosphere, or in outer space.

Creating a moratorium on the use of weapons in outer space includes, for example, negotiations conducted in order to achieve tentative and partial agreements which complement the ABM Treaty, and moratorium declarations on the development, testing and deployment of ASAT weapons.⁶⁴ The discussions on these points developed into areas, such as rules for avoiding satellite collisions and shared codes of conduct.

Discussions on CBM continue at the UN, even after the failure of the PAROS ad hoc committee. Since entering the twenty-first century in particular, a number of documents were drawn up under the rubric of Transparency and Confidence-Building Measures (TCBM).⁶⁵ Among these various documents, in this paper we will add our reviews of the Space Debris Mitigation Guidelines drafted by the Inter-Agency Space Debris Coordination Committee (IADC) in 2002 (adopted by the COPUOS Scientific and Technical Subcommittee in 2007 and subsequently by a resolution of the UN General Assembly), the international code of conduct that stems from plans for a code of conduct which begun under EU guidance in 2007, the long-term durability guidelines which have been under review by COPUOS since 2008, and the GGE Report of 2013.

3.2 Space Debris Guidelines

The content of the COPUOS Space Debris Mitigation Guidelines is consistent that of the 2002 IADC Space Debris Guidelines.⁶⁶ The COPUOS Guidelines

61 Alves, p. 125.

62 UN Doc. CD/1785 (21 June, 2006).

63 UN Doc. CD/817 (17 March, 1988), Alves, p. 122.

64 These examples are by view expression by Pakistan, see UN Doc. CD/708 (16 June, 1986), Alves, p. 109.

65 M. Sato, H. Tosaki, Chapter 5 Existing Proposals on Arms Control and Improvement of Transparency and Confidence Building in Outer Space, Center for the Promotion of Disarmament and Non-Proliferation, New Regulation of Space Use including Space Environment and Arms Control – Possibility of New Approach and Framework, 2010, pp. 86-87.

66 UN Doc. A/AC.105/C.1/L.260 (19 November, 2002).

were adopted in December, 2007, by a resolution of the UN General Assembly.⁶⁷ The Guidelines, consisting of seven items, were drafted with the intention of reducing the amount of space debris. Guideline 4 in particular states that “intentional destruction” and other “harmful activities...should be avoided,” along with “the intentional destruction of any on-orbit space vehicle and launch vehicle orbital stages or other harmful activities that generate long-lived debris.” In cases where intentional destruction is necessary, this is to be done at sufficiently low altitude to limit the surviving lifetime of the resulting fragments.

Activities that generate debris, including China’s ASAT weapons test in 2007, are regarded as falling under Guideline 4 of the COPUOS Space Debris Mitigation Guidelines. However, member states and international organizations are encouraged to implement the Guidelines voluntarily and in an internal manner. Also, given their nature as “guidelines,” the Guidelines clearly state that they have no binding power pursuant to international law. It is therefore impossible to say that the text of these Guidelines alone can constitute a complete regulation of ASAT weapons which limits their use.⁶⁸

3.3 International Code of Conduct and Best Practice Guidelines

The EU, judging that regulating space weapons through hard law would be difficult, began to explore building criteria from the perspective of soft law, which does not possess compelling force. In 2007, Portugal, representing the EU at the First Committee of the UN General Assembly, gave a report with the title “Concrete Proposals on Outer Space TCBM for the Maintenance of International Peace and Security and the Promotion of International Cooperation and PAROS Prevention.”⁶⁹ The report called for the creation of national codes of conduct. And the activities to which these national codes of conduct would apply included avoiding collisions and deliberate explosions; developing safer practices in traffic control; providing guarantees through improved information exchange, transparency and notification measures; adopting stricter measures for the mitigation of space debris. Furthermore, the report offered eight best practices which each country should follow in those kinds of comprehensive codes of conduct. One of these eight practices is refraining from direct or indirect maneuvering activities that could damage or destroy satellites or space objects, along with refraining from space activity leading to the possession of space debris.⁷⁰

67 UN Doc. A/RES/62/117 (1 February, 2008) para. 26; UN Doc. A/62/20 (June, 2007) paras. 117 and 118 and annex.

68 Center for the Promotion of Disarmament and Non-Proliferation, *supra* note 15, p. 87.

69 UN Doc. A/62/114/Add.1 (18 September, 2007).

70 *Ibid.*, pp. 7-8, paras. 9-11.

After this report came out, the EU member states liaised with each other and in 2008 an “International Code of Conduct for Outer Space Activities” was adopted by the Council of the European Union,⁷¹ This draft code of conduct was subsequently revised a number of times within the EU apparatus; it drew support and commitment as an EU-led initiative. Since 2012, as the International Code of Conduct (ICOC),⁷² it has expanded its support beyond the framework of the EU, and efforts to establish standards are ongoing.

In the ICOC, provisions on the guaranteeing of security in outer space, in particular on the regulation of ASAT weapons, are given in Chapter II, Article 4. In Article 4.1, the “Subscribing States resolve to establish and implement policies and procedures to minimize the risk of accidents in space, collisions between space objects, or any form of harmful interference with another State’s peaceful exploration, and use, of outer space.” In 4.2, except where there are “imperative safety considerations, in particular if human life or health is at risk,” or “in order to reduce the creation of space debris” or where legitimized “by the Charter of the United Nations, including the inherent right of individual or collective self-defense,” the “Subscribing States” are to “refrain from any action which brings about, directly or indirectly, damage, or destruction, of space objects.”

Under Article 4 of the ICOC, test destruction of satellites using ASAT weapons (for example, which carried out by China in 2007) becomes impossible. However, this article does not apply to the kind of missile defense (BMD) systems being advanced by the U.S.⁷³ It seems reasonable to suppose that other states should have paid due recognition to the concerns of the U.S. – a power whose approval is vital for the creation of standards on outer space, while maintaining a stance of consistent opposition to standards that restrict the freedom of space activities.

In addition, to the extent that it does not infringe on the consultation system stipulated in Article IX of the Outer Space Treaty and Article 56 of the International Telecommunication Union Constitution and Radio Regulations, Article 7 in Chapter III of the ICOC prescribes a consultation mechanism through information exchange and reporting. In concrete terms, in Article 7.1, a “Subscribing State or States that may be directly affected by certain outer space activities conducted by another Subscribing State or States and has reason to believe that those activities are, or may be contrary to this Code may request consultations...” Also, “Any other Subscribing State or States which has or have reason to believe that its or their outer space activities

71 Council of the EU, 17175/08, PESC 1697, CODUN 61 (17 December, 2008).

72 European External Action Service, DRAFT International Code of Conduct for Outer Space Activities, 31 March 2014, www.eeas.europa.eu/non-proliferation-and-disarmament/pdf/space_code_conduct_draft_vers_31-march-2014_en.pdf (accessed 22.06.17).

73 Sato, Tosaki, *supra* note 65, p. 93.

would be directly affected by the identified risk may take part in the consultations...” and in addition, the “Subscribing States participating in the consultations resolve to seek mutually acceptable solutions in accordance with international law.” Article 7.2 provides that Subscribing States may create missions to analyze specific incidents affecting space objects, to be carried out by experts. Concerns were expressed about this kind of system in terms of its effectiveness^[74], given that a consultation mechanism had already been put in place by Article IX of the Outer Space Treaty along with the notification requirements under Articles 5 and 6 of the ICOC and its system for information provision, along with stringent consultation and conflict resolution measures similar to those applicable in arms control and disarmament treaties; there were also concerns that the provisions of Article 7.2 would be a factor in causing various countries to hesitate in adopting the ICOC.⁷⁵

ICOC Chapter 1 Article 3.2 provides that the “Subscribing States resolve to promote the development of guidelines for outer space operations within the appropriate international fora, such as the UN Committee on Peaceful Uses of Outer Space and the Conference on Disarmament, for the purpose of promoting the safety and security of outer space operations and the long-term sustainability of outer space activities.” These guidelines for the implementation of the ICOC were originally discussed outside the UN, under French leadership;⁷⁶ however, since 2010, as long-term guidelines for the “long-term sustainability of space activities,” they have been discussed at the COPUOS Scientific and Technical Subcommittee. These guidelines are understood to have been discussed after it was recognized that they could constitute implementation guidelines for the Code of Conduct proposed by the EU during the same period.⁷⁷ In 2016, one portion of the guidelines (12 items) suggested at the Scientific and Technical Subcommittee were adopted as “Best Practice Guidelines.”⁷⁸ These did not limit themselves to the technical aspects that had been initially recognized,⁷⁹ but covered a wide range of activities – the domestic regulatory system, oversight of domestic space activities, data on space objects in orbit, space debris, satellite weather data, and shared forecasting, among other matters. While the requirement for

74 *Ibid.*, p. 96.

75 S. Aoki, Present State and Problems of Space Situation Awareness (SSA) for Long-term Safe Use of Outer Space, International Situation, 81 (2011), 372-373.

76 G. Brachet, Long-Term Sustainability of Space Activities, in UNIDIR (ed.), Security in Space: The Next Generation Conference Report 31 March-1 April 2008, 2008, pp. 124-126.

77 G. Brachet, How Does the Set of Best Practices Interact with the EU Proposed Code of Conduct?, IFRI Workshop, 18-19 June, 2009, pp. 12-13, cited from Sato, Tosaki, *supra* note 65, p. 89.

78 UN Doc. A/AC.105/C.1/L.354/Rev.1 (18 October, 2016).

79 Sato, Tosaki, *supra* note 65, p. 89.

supervision of domestic non-governmental organizations is also stipulated in Article VI of the Outer Space Treaty, Guideline 3 of the Best Practice Guidelines provides detailed policies on supervision that states should follow. In this regard, the Best Practice Guidelines have a standardizing character that can transcend the framework of mere guidelines, and they may achieve a significant impact both on the ICOC and on other guidelines now under ongoing discussion.

3.4 GGE Report

Under the resolution on outer space TCBMs adopted by UN General Assembly in 2010, the UN Secretary-General was requested to establish a Group of Governmental Experts (GGE) from 2012, to issue research reports on outer space TCBMs.⁸⁰ In response to this, a research report was submitted to the UN General Assembly in 2013, in the form of a GGE report.⁸¹

In regard to the enhancement of transparency of space activities, the GGE report called for:

1. Information exchange on national space policy;
2. Information exchange on activities in outer space;
3. Notifications on risk reductions; and
4. Visits to launch sites and command and control centers.

Also, the report touched on consultation mechanisms; while it does not call for a strict consultation mechanism as provided in the ICOC, it does recommend bilateral or multilateral discussions as a means of preventing misunderstanding and mistrust between states. In the section on notifications on risk reductions, the report includes coverage on notification of scheduled exercises that could threaten the safe flight of space objects, and notification of intentional destruction in orbit. In regard to the latter point in particular, it is stipulated that the intentional destruction of any on-orbit space vehicle and launch vehicle orbital stages or that generate long-lived debris should be avoided, and that in cases where such intentional destruction is judged necessary, other states liable to be affected should be informed, and that the state performing intentional destruction should also inform other states of the method whereby intentional destruction can be carried out at a sufficiently low altitude. While this section follows the same lines as the COPUOS Space Debris Guidelines discussed above, one point of particular interest is that the proposals for the enhancement of TCBM discussed in the GGE report include much of the content of the discussions held at the CD since the 1970s⁸² – meaning that, in fact, the substantive discussion had failed to move forward over the preceding number of decades. However, given that these guidelines

80 UN Doc. A/RES/65/68 (8 December, 2010).

81 UN Doc. A/68/189 (29 July, 2013).

82 See Alves, pp. 107-116 for other TCBM discussions.

for the concrete execution of TCBM have been compiled in documentary form and adopted, this report can be considered an extremely significant document.

The GGE report urges a number of countries and international organizations to implement the above-mentioned proposals for the enhancement of transparency, although the recommendation is only voluntary in nature.⁸³ In response, in 2014 the COPUOS Committee asked member states to report on the situation in regard to its implementation, and on their opinions. Responses were obtained from Germany and the U.S. in late 2014,⁸⁴ and from Italy⁸⁵ and Russia⁸⁶ in 2015. Also, in 2016, the UN space agency UN-Space, in response to the request from COPUOS, compiled a report on the implementation status of the GGE report and on how it provided implementation support to the various states involved.⁸⁷ The points the report made on the system of information exchange include the further utilization of the existing notification system and a request for the establishment of an information database (repository) from the member states for the UN Office for Disarmament Affairs (UNODA) and the UN Office for Outer Space Affairs (UNOOSA). As well as these points in relation to the GGE report, other recommendations for a broad range of information-sharing under the aegis of UNOOSA include the sharing of launch plans, risk reduction notifications, and visits to launch sites. Consequent on this report, the 2016 COPUOS session also built on the GGE and UN-Space reports in seeking the views of the various states once more, and achieving agreement that a report should be made the following year on the COPUOS Committee discussion topic “Methods and Means of Maintaining the Purpose of Peaceful Use of Outer Space.”⁸⁸

Above, we have outlined four non-binding documents discussed at the UN. In a twenty-first century in which all states share difficulties in the regulation of weapons, these kinds of non-binding documents will exert a major influence on the upholding and shaping of the order of outer space as we move forward into the future. A movement has begun whereby CBM and TCBM, which have played a central role in arms control in outer space since the 1980s, will finally be established as standards as we move further into the twenty-first century. In the next chapter, we shall consider what kind of soft law should be used to encourage arms control, and what kind of discussion and debate is required in order to link this development with the regulation of ASAT weapons.

83 UN Doc. A/69/20 (1 July, 2014).

84 UN Doc. A/AC.105/1080 (7 November, 2014).

85 UN Doc. A/AC.105/1080/Add.1 (26 February, 2015).

86 UN Doc. A/AC.105/1080/Add.2 (13 March, 2015).

87 UN Doc. A/AC.105/1116 (28 April, 2016).

88 UN Doc. A/71/20 (28 June, 2016).

4. Conclusion

In conclusion, this study aimed at how the ASAT weapon restriction could be achieved by focusing on the ASAT experiment by China in 2007 and setting consciousness on China's challenge toward existing international security order in the outer space. From the perspective of arms control in the outer space, the process of proposing various arms control treaties and failing to establish has been repeated. One of the reasons was the Cold War structure in the international community. Especially the attempt to regulate ASAT weapon failed from the beginning point of determining its definition due to the difference of the intension between the Western and the Eastern countries.

The discussion of the arms control by hard law cleared, especially from the PPWT proposition, the conflict between Chinese and Russian alliance, which intended to regulate military activities in the outer space strictly and the U.S., which opposes the idea. However, there are three points to note on this conflict. First of all, the U.S. has a national policy to set the MD policy and programs forward and it is against all the proposition to control military activities in the outer space comprehensively.⁸⁹ Secondly, the Chinese and Russian propositions such as PPWT seem to interfere the U.S. from moving the MD programs, especially the space-based MD system, forward.⁹⁰ At third, even though China has submitted PPWT, it had developed ASAT weapon and carried out experiments. As for the third point, there are two interpretations. The former is the interpretation that China challenges the U.S.'s military hegemony by proposing arms control treaties.⁹¹ The latter is the interpretation that it is a defense against the deployment of Space weapons by the U.S. or considered to be a bargaining tip.⁹²

As discussed, the arms control in the outer space by hard law should be considered difficult due to its difficulty in setting definition, and the conflict of each nation's potential intentions. Additionally, its difficulty is already common sense among the international community and the realistic approach would be the formation of norms by soft law.

The significant advantage of the soft law is that it is able to overcome the definition issue, due to ASAT weapon's broad utility, which has been one of the biggest challenge when attempting to propose an agreeable hard law.

89 Center for the Promotion of Disarmament and Non-Proliferation, *supra* note 15, p. 80.

90 M. Krepon, Russia and China Propose a Treaty Banning Space Weapons, While the Pentagon Plans as ASAT Test, Henry L. Stimson Center, 14 February, 2008, www.stimson.org/content/russia-and-china-propose-treaty-banning-space-weapons-while-pentagon-plans-asat-test, (accessed 30.06.17); Aoki, *supra* note 13, p. 18.

91 Matsumura, *supra* note 3, p. 92.

92 T. Hitchens, Safeguarding Space: Building Cooperative Norms to Dampen Negative Trends, Disarmament Diplomacy, 81 (2005), 57.

Rather than restricting specific weapons, it would be favorable to regulate the versatile space weapons by soft law which focuses on activities as noted “applying to all the space activities” in chapter 1 of the ICOC, and banning intensive destruction of space objects in orbit from an approach of preventing long-term existence of space debris as mentioned in chapter 2 of the ICOC. As mentioned, it is pointless to form an order without the U.S., which has significant techniques and ability to act in the space activities. Therefore, setting the rule which is easy to obtain the U.S.’s agreement i.e. avoiding a comprehensive arms control treaty is an essential condition when discussing ASAT weapon restriction.

Based on the study in the last two chapters, considering that the non-binding documents such as the ICOC, the Best Practice Guidelines, and the GGE Report would form the norms to regulate space weapons, the condition which should be solved would be the construction of more concrete reporting and consulting system.

Considering the reporting system, under the arms control treaties, it is necessary to prepare the means of verification to verify the implementation status as it has been cleared in chapter 3. During the Cold War, use of military reconnaissance satellites were accepted as NTM between the U.S. and the USSR. With the soft law, as they are non- legally binding documents, it is impossible to bind member states to implement the soft law. Instead, by setting up an international institution or forum to report each state’s implementation status as presented in the GGE report,⁹³ it would be able to encourage member states to implement the content of the soft law and increase the effect as a norm. It would be a realistic solution to insert the establishment of an international reporting institution and a guideline which encourages member states to report its concrete operation on a regular basis in the code of conduct so that this system would function as best practice. In the Best Practice Guidelines, it is already adopted to share various information and considering the fact that a few countries responded to the proposition to express their interpretations on the GGE reports and its implementation status,⁹⁴ the establishment of a reporting system is in a possible zone of agreement.

As mentioned above, ICOC has a strict consulting institution for being soft law. It would be another idea to combine the consulting institution with the reporting institution to establish a conflict solution forum. Many arms control treaties prescribe conflict solution measures utilizing the UN Security Council.⁹⁵ However, under the soft law which applies to general space activities, it is impossible to use the UN Security Council. Additionally, a very

⁹³ UN Doc., *supra* note 88.

⁹⁴ UN Doc., *supra* notes 84, 85, 86.

⁹⁵ Center for the Promotion of Disarmament and Non-Proliferation, *supra* note 15, pp. 372-373.

strict conflict solution measures might be a factor for not participating in the code of conduct. However, by setting the consulting institution in the same forum as the reporting institution, it would be able to share information more certainly and effectively. Therefore, even with the soft law related conflict which each member state has different implementation status, it may reach an appropriate solution under the support of more solid consulting institution than the article 9 of the Outer Space Treaty. By inserting the establishment of international reporting and consulting forum in the non-binding documents which are being discussed, it would increase the normative power, be able to regulate ASAT weapons, and get close to the ultimate goal of prevention of spread of the Space Weapon.

With the beginning of the 21st century, the discussion of consensus formation of soft law has accelerated. However, it is yet to become a norm. In fact, regarding the ICOC, it has no substantial progress since the revision in 2014. As for the Best Practice Guidelines, the formation of consensus has been delayed significantly from the initial schedule,⁹⁶ and its latest progress is a partly adoption in 2016. However, as the arms control by hard law failed, it is certain that the soft law would be an important element in the Space order, including the security issues. Therefore, it is worth focusing on the soft law field for the next few years.

96 UN Doc. A/AC.105/L.274 (21 May, 2009).

