

The Legal Dimension of the Sustainability of Outer Space Activities: The Draft International Code of Conduct on Outer Space Activities

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1 Introduction

I would like to devote my Nandasiri Jasentulyana Keynote Lecture on Space Law to consider the legal perspective of the efforts that are carried out at the international level for ensuring a safe, secure and sustainable environment in outer space. Time is ripe, for space lawyers, to develop convincing arguments concerning the legal dimension of the sustainability of outer space activities. If outer space would not be safe, secure and sustainable, it would also become non peaceful. Thus, the ability to use it could be denied to all, in contrast with the general principles contained in Article I of the 1967 Outer Space Treaty (OST).

But, what do we mean by sustainability of outer space activities? What is the legal shape of the sustainability of space activities? I will try to give an answer borrowing some concepts from a cousin field of international law, namely international environmental law. In this perspective, sustainability means the use of outer space in a way that maintains its potential to meet the needs and aspirations of present and future generations, and that ensures all humanity continue to use it for peaceful purposes, scientific and technological advancements and socioeconomic benefits. As I said, sustainability is a new but old concept, close to the concept of sustainable development, which has been developed by many in doctrine and in case-law. Among them, I would quote Judge Weeramantry, former Vice-President of the International Court of Justice, who, in his separate opinion to the ICJ Judgment of 25 September 1997

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in the *Gabcíkovo-Nagyymaros Project* case between Hungary and Slovakia, elaborated on how to reconcile the principles of development and care for the environment.

“The Court - he wrote - needs to draw upon the wisdom of all cultures. Among the principles that can be so derived from these cultures are the principles of trusteeship of earth resources, intergenerational rights, maximization use of natural resources, preservation of their regenerative capacity, and the principle that development and environmental protection should go hand in hand”¹.

Similar arguments can be brought forward with regard to the sustainability of space activities. A body of experience is now becoming available in line with UN treaties on outer space, in particular with the principles of the province of all mankind, the freedom of exploration and use by all States without discrimination and due regard to the corresponding interests of all other States. The sustainable and responsible use of outer space is becoming a high priority for balancing many differing priorities and needs including, but not limited to, sensitive national security interests, equitable access to the space domain for emerging States, and protecting the space environment.

In fact, threats are already a reality: space debris, collisions and fragmentations in space, frequencies overlapping, collisions among space objects, intentional and unintentional harmful interferences, deliberate destruction of satellites. No one denies that accidents in outer space must be avoided in order to prevent loss of life and creation of damaging orbital debris².

Technical rules on fundamental mitigation and safety measures, such as management, design and operational measures, to limit debris released during normal operations and minimize potential for break-ups during operational phases, have already been adopted at different levels³. But space debris are not the only threat. Space objects and technologies that can be used for aggressive purposes are not necessarily arms. Space objects can be used as armaments or weapons: it is a matter of *intent*. In the same line, direct ascent ASAT, anti-satellite

1. ICJ, *Reports*, 1997, p. 88 ss.

2. In February 2009, two satellites collided accidentally, creating a large amount of debris circling the Earth 800 kilometres above. Hundreds of bits of metal, foil and plastic spreading the former satellites' orbits threaten other satellites. After that a US Congresswoman, Gabrielle Giffords, said in 2009: “One thing is already clear - the space environment is getting increasingly crowded due to the relentless growth of space debris. If the spacefaring nations of the world don't take steps to minimize growth of space junk, we may eventually face a situation where low Earth orbit becomes a risky place to carry out civil and commercial space activities.”

3. These measures look at limiting the probability of accidental collision in orbit; avoiding international destruction and other harmful activities; minimizing potential for post-mission break-ups resulting from stored energy; limiting the long-term presence of spacecraft and launch vehicle orbital stages in LEO after the end of their mission; limiting the long-term interference of spacecraft and launch vehicle orbital stages with GEO region after the end of their mission.

technologies, are equivalent to surface-to-air missiles⁴. These threats impose the need to sustain and protect critical public and private space infrastructures in outer space. Once again the sustainability of space activities is the key concept, joined by associated concepts, such as safety and security.

2 The Three Pillars for the Sustainability of Outer Space Activities

Against this background, in the last decade several initiatives have been launched at the international level to face the challenge of space sustainability. The first basket is composed by the technical set of rules adopted for space debris⁵. The Space Debris Mitigation Guidelines set out in 2002 by the Inter Agency Debris Committee (IADC), and updated in 2007, have defined the notion of space debris as ‘all man-made objects, including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non functional’. Then, other international standards have followed encompassing the same definition, such as the European Code of Conduct for Space Debris Mitigation adopted in 2007 by ASI, CNES, DLR, ESA and UK Space Agency; the COPUOS Space Debris Mitigation Guidelines, endorsed by UNGA Resolution 62/217 of 21 December 2007. Analogous initiatives have been adopted at the national level by several space-faring nations, such as the Russian Federation, the United Kingdom and the United States of America. New initiatives are now considered and planned towards active space debris remediation/removal and development of related technologies, for services in orbit and ground-based lasers⁶.

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4. In January 11, 2007, as China’s inoperable weather satellite passed overhead and a modified Chinese ballistic missile was launched from China’s Xichang Center and streaked toward the satellite, deliberately colliding and creating thousands of small pieces. The satellite destruction created some 2,500 trackable pieces of orbital debris. Many of these pieces remained in the original polar orbit, the prime location for most Earth observation satellites, including weather and climate satellites operated by NASA, NOAA, and ESA.
 5. The Space Debris Mitigation Guidelines set out in 2002 by the Inter Agency Debris Committee, and updated in 2007, have defined the notion of space debris as all man-made objects, including fragments and elements thereof, in Earth orbit or re-entering the atmosphere, that are non functional. Then, other international standards have followed, such as the European Code of Conduct for Space Debris Mitigation adopted in 2007 by ASI, UK Space Agency, DLR, CNES and ESA; the COPUOS Space Debris Mitigation Guidelines of 2007, endorsed by UNGA Resolution 62/217 of 21 December 2007.
 6. See the *McGill Declaration on Active Space Debris Removal and On-Orbit Satellite Servicing*, adopted by the Third International Interdisciplinary Congress on Space Debris Remediation held at McGill University’s Institute of Air and Space Law in November 2011, in *Active Debris Removal - An Essential Mechanism for Ensuring the Safety and Sustainability of Outer Space A Report of the International Interdisciplinary Congress on Space Debris Remediation and On-Orbit Satellite Servicing*, Doc. A/AC.105/C.1/2012/CRP.16, 27 January 2012.

However, the adoption of technical standards does not exhaust the legal tools that are being put in place to face the risks of an unsustainable environment in outer space. There are at least *three on-going initiatives* aimed at ensuring space sustainability, safety and security. I would call them the *three pillars* for outer space sustainability: respectively, the UNCOPUOS Long-Term Sustainability of Space Activities Working Group (LTSSA); the draft International Code of Conduct for Outer Space Activities (CoC), and the Group of Governmental Experts on Transparency and Confidence Building Measures in Outer Space Activities (GGE). From the temporal point of view, they are quite coetaneous. They present some commonalities, but also evident differences.

Beginning with the common elements, it should be said that all of them address in a pragmatic way potential and actual threats to the safety, security and sustainability of space activities, without indulging in ideological conflictive considerations; secondly, their outcome is expected to result in non binding international instruments, to be accepted by the interested States on voluntary basis, without prejudice for further normative developments; thirdly, they are interrelated and complementary, not alternative, initiatives.

However, the three initiatives maintain different origins and purposes: the LTSSA is held under the umbrella of the COPUOS Scientific and Technical Subcommittee (STS) and is tasked with producing a *consensus* report outlining voluntary guidelines for all space actors to ensure the long-term sustainability of outer space. The measures to be proposed by the WG would address ways and means to prevent potential risks and to redress existing dangerous situations. The WG operates following a bottom-up scheme, involving - through member States - the main stakeholders, public and private, and is supposed to deliver its final draft report in 2014.

The International Code of Conduct for Outer Space Activities, is, in its turn, an instrument aimed at setting non legally binding norms of responsible behaviour in outer space activities. The CoC is a top-down process; the prevailing approach is that negotiators cannot be left to their own devices to interpret a general policy meant to discourage more countries from having unsustainable behaviors in space. The issue of potential harmful interferences in outer space requires top-level political attention.

In 2007, the European Union (EU) initiated the process, which led to the endorsement of a draft Code of conduct on outer space activities by the EU Council in 2008 as a part of the Common Foreign and Security Policy (CFSP) and as a reply to the UNGA resolutions calling member States to submit concrete proposals in the field of transparency and confidence building measures in outer space (TCBMs). Since early 2012, the process has acquired an international dimension, the EU being joined by a group of non-EU like-minded States representing a vast group of space faring nations. Also a Steering Committee has been put in place in order to support the diplomatic process of the Code. The next stage is its opening to the contribution of all States through a series of multilateral expert meetings and finally its adoption at an *ad hoc* diplomatic conference.

Last but not least, the Group of Governmental Experts on TCBMs, made of 15 international experts nominated by member States of the UN on the basis of

equitable geographical representation, is an organ of the UNGA, in accordance with its resolution 63/68 of 2011. It is expected to produce by 2013 a consensus report outlining recommendations on TCBMs, aimed at reducing the risks of misunderstanding and miscommunication and helping ensure strategic stability in outer space. TCBMs are part of the legal and institutional framework supporting military threat reductions and confidence-building among nations. They have been recognized by the UN as mechanisms that offer transparency, assurances and mutual understanding amongst States and reduce tensions⁷. They also promote a favorable climate for effective and mutually acceptable paths to arms reductions and non-proliferation. A number of TCBMs are implemented by the States unilaterally and represent their political commitments⁸.

The outcome of these initiatives is also an important issue to be considered. All of them will lead to the adoption of non legally-binding instruments containing political commitments. However, we should not deny the *normative* character of the instruments that would constitute the outcome of these processes. Recommendations, non legally binding instruments and codes of conduct produce always legal consequences. They are elements of a practice that can later lead to the adoption of binding treaties or consolidate in customary rules. It is not a case if the mentioned initiatives have fully recognized the relevance of space law⁹.

3 The Story of the International Code so Far

Within this general context, I will now consider more in details the main features of the draft International Code of Conduct on Outer Space Activities. In the history of space law and politics, draft codes of conduct were often proposed. The two terms, Space Code of Conduct and Rules of the Road, have been used often interchangeably in the discussions of the CD about confidence-building measures. In its generic meaning, a Space Code of Conduct has been considered to consist of a set of norms to guide States' behaviour in respect of

7. A. Vasiliev & A. Klapovsky, *Transparency and Confidence-Building Measures in Outer Space*, in *Building the Architecture for Sustainable Space Security - Conference Report*, 30–31 March 2006, 2006 pp. 139 - 143. Ambassador A. Vasilev is the Chairman of the GEE and is one of the main experts in the field of TCBMs in outer space.

8. Russia has been informing the international community through the Internet on the forthcoming launches of spacecraft and their mission since 2003. In 2004 we made an important pledge not to be the first to place any type of weapons in outer space. The USA conducts regularly space dialogues with allies and other countries as a measure of confidence building.

9. The WG on LTSSA has set up a Expert Group D on "Regulatory Frameworks and Guidance for actors", composed mainly by lawyers; the drafting and negotiating process of the CoC has largely involved the contributions of lawyers; finally, the GGE recognized since its first meeting the importance of the legal perspective in addressing the issue of TCBMs in outer space.

their own and/or others' activities. The Rules of the Road, sometimes referred to as Rules of Behaviour, however, represent either the reaching of agreements on such norms or the norms themselves. The Rules of the Road would therefore be part of a Space Code of Conduct. Thus, both concepts would be employed as yardsticks in the establishment of measures to increase the safety of space objects and the predictability of space activities. In 1993, during the work of the first Group of Governmental Experts on TCBMs, established by the UNGA resolution 45/55 B of 4 December 1990, France advocated that the aim of a code of conduct "... is to guarantee the security of space activities while preventing the use of space for aggressive purposes"¹⁰.

But the specific proposal we are referring to was first conceived in an informal *paper* circulated by Italy on March 15, 2007 within the CD in Geneva. The document was entitled *Food for Thought on a Possible Comprehensive Code of Conduct for Space Objects* and linked to the issue of the Prevention of an Arms Race in Outer Space (PAROS). The Italian interest for this matter dated back to the Seventies, when similar initiatives were presented to the CD. Since then, the Italian diplomacy noticed that in spite of a repertory of existing TCBMs, there were still several gaps. The scope of the Italian proposal was explained by Ambassador Carlo Trezza in his paper on *A Possible Comprehensive Code of Conduct for Space Objects in an EU Perspective*, presented at the "EU Conference on Security in Space, the Contribution of Arms Control and the Role of the EU", held in Berlin on 21-22 June 2007¹¹. It considered that a more focused EU approach to this issue within the framework of both the CD and UNGA would propitiate the adoption of a program of work to allow the CD to resume its institutional task and overcome the deadlock it was facing.

The proposal was then presented for endorsement to the European partners, as a possible 'food for thought' of the EU on a *Comprehensive Code of Conduct for Outer Space Activities* which should codify new confidence building measures and strengthen existing best practices. After all, the EU unanimously voted in favour of UNGA resolutions regarding TCBMs in outer space, while most EU's countries co-sponsored the resolutions inviting member States to submit to the Secretary General "concrete proposals on international TCBMs".

Following the EU's reply to GA Resolution 61/75 of 2007, the initiative was finally endorsed by the EU. The Portuguese Presidency prepared a *Food for Thought on a Comprehensive Code of Conduct for Space Objects* (2nd REV.), based, among others, on the principles of freedom to use outer space for all for peaceful purposes; preservation of the security and integrity of space objects in orbit and due consideration for the legitimate security and defence interests of States. The same EU's Joint Reply was also adopted as a contribution to respond to UNGA Resolution 62/43 on "TCBMs in Outer Space Activities" of 5th December 2007, and to similar resolutions adopted between 2008 and 2011.

10. Cf. CENTRE FOR DISARMAMENT AFFAIRS. REPORT OF THE SECRETARY-GENERAL, *Study on the Application of Confidence-building Measures in Outer Space*, New York, 1994.

11. Panel 3 on "Arms Control Approaches in Outer Space".

4 The Rationale for a Code of Conduct

If we consider the EU's legal and institutional setting, the initiative concerning the draft Code was founded under Title V (Articles 11-27) of the 2001 Treaty of Nice, on provisions concerning the Common Foreign and Security Policy (CFSP), to which the EU Member states have committed themselves since the first EU's Treaty, the 1992 Treaty of Maastricht. In 2007 the EU's CFSP was regulated by the second Pillar of the EU's Treaty and governed by the inter-governmental method, functioning by unanimity, while the Commission was associated to the work of the CFSP as an observer, without deliberative power. The Presidency in office, assisted by the Secretary General/High Representative, kept its role and prerogatives according to the Treaty, both internally within the EU and in the external representation of the EU.

I should note that this legal framework is changed only in minimal part after the entry into force, on 1st December 2009, of the Lisbon Treaty, that has rearranged the Common Foreign and Security Policy with the institution of the High representative, Vice-President of the Commission, and the consolidation of the European External Action Service (EEAS). However, according to Article 24 of the TEU: "The common foreign and security policy is subject to *specific rules and procedures*. It shall be defined and implemented by the European Council and the Council acting unanimously, except where the Treaties provide otherwise." In other words, the CFSP of the EU is still subjected to the same intergovernmental method which was previously applicable and, in particular, to the rule of unanimity, so that each member State has a veto power in these matters¹². Sometimes this aspect is misunderstood and it is thought that the Code lies within the so-called European Space Policy (ESP) framed by the Commission in cooperation with the European Space Agency (ESA), under the 2004 Cooperation Framework Agreement. On the contrary, the process is managed within the intergovernmental process that governs the CFSP, while it is considered fully consistent with the ESP.

On December 2008, after more than a year of work within the Council Working Group on Disarmament in the United Nations (CODUN), the EU's Council endorsed in its Conclusions, under the Presidency of France, the first version of the draft Code of Conduct for Outer Space Activities, as finalised by the Working Party on Global Disarmament and Arms Control (WPGD) and approved by the Political and Security Committee (PSC). Since then, the EU has consulted the Code with other space faring nations with the aim of reaching a text that would be acceptable for as many States as possible. Several rounds of consultations were held between 2008 and 2012. Among the consulted States are Russian Federation, the People's Republic of China, the United States of America, Canada, India, Australia, Japan, Indonesia, South Africa, Japan, Ukraine, the Republic of Korea, Brazil and so on.

12. N. COUNTOURIS (edited by), *The European Union after the Treaty of Lisbon*, Cambridge, 2012.

A new consolidated draft of the Code, including comments and proposals by third consulted States, was endorsed by the Council of the European Union the 27 September 2010. In 2012, the process was further enlarged, with the constitution of a group of like-minded States and of a Steering Committee which met in Brussels to give guidance about the steps needed to internationalize the project. Meanwhile, Australia promoted the constitution of a group of countries, called the Friends of the Code, to support the process. These developments towards the internationalization of the Code were certainly favoured by the statement delivered in February 2012 by the U.S. Secretary of State, Hillary Clinton, that the United States would lend its support to international efforts to craft a Code of Conduct for responsible space-faring nations¹³. Her announcement affirmed however that the United States would not enter into a code of conduct that “in any way constrains our national security-related activities in space”.

Another point sometimes misunderstood is that the Code initiative should be considered as self-sustained. In other words, the draft Code is not intended for negotiation at any existing international fora. Multilateral bodies, such as the UN COPUOS, the CD, the General Assembly First Committee and others will continue to be informed on progress with this initiative, but the process is supposed to end with a diplomatic *ad hoc* Conference if a sufficient number of countries show interest in the Code. The model followed is that of the Hague International Code of Conduct against Ballistic Missiles Proliferation, of November 25, 2002 and of the Missile Technology Control Regime of April 1987. In summary, the process for the adoption of the Code still provides for several steps: consult with major space faring nations, build the support, revise the text and finalize the draft; convene a diplomatic conference, adopt the Code and open the Code to subscribers; then, implement the Code.

A further important point to be stressed is that the Code is not alternative to the proposal on a draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects (PPWT) tabled by China and Russia on February 12, 2008 within the CD. On the contrary, the project is seen as a first step which could pave the way towards an international binding treaty. Most States acknowledge that non legally binding codes and TCBMs do not replace verification, but may function as a start to a step-by-step approach on preventing an arms race in outer space.

What is clear is that arms control measures relating to outer space are beyond the intended scope of the Code for the main reason that the Code is not an appropriate instrument through which to pursue this objective. The CD is clearly mandated to negotiate arms control treaties and has a specific theme on PAROS for that purpose. The Code has taken a different approach, focusing on confidence-building behaviours, not banning directly weapons systems or their deployment.

13. <www.thespacereview.com/article/2084/1>.

5 The Added Value of the Code

The main objective of the Code of Conduct is to strengthen the safety, security and predictability of all space activities, therefore limiting or minimising harmful interferences in space activities. What then makes the EU Code of conduct so significant with regard to other kind of similar initiatives? In my opinion, the answer lies in three aspects.

The first aspect is the all encompassing scope of the Code, readily apparent from the titles of its various parts. While other instruments deal with specific aspects, such as space debris, this is the first instrument based on a systematic approach which covers all the dimensions of the outer space operations. It applies to military as well as civil operations in outer space and is based on the principle of *non harmful interference* against space objects.

The second aspect is the Code's stress on the preventive approach. It introduces a new understanding of the complex nature of the space activities and of the uncertainties inherent in the management of such activities. Activities in outer space are *per se* ultra-hazardous activities, the focus being upon the exceptional risk of severe damage. For this reason, they should be carried out with a high standard of care and due diligence, transparency and with the aim of building confidence. An ultra-hazardous activity is perceived to be an activity with a danger that is rarely expected to materialize but might assume, on that rare occasion, substantial proportions.

The third aspect is the dynamic nature of the Code. It is supposed that the progress in implementing the Code will be monitored through the Meetings of the Parties and the Code will be revised and updated as necessary in light of the forthcoming developments. There are mainly two parts of the draft Code that would need to be detailed as to consequences for, and demands on, Subscribing States. These are the part on Cooperation Mechanisms and on Organizational aspects.

6 The Main Content of the Draft Code

The Code addresses all outer space activities conducted by a Subscribing State or jointly with other States or by non-governmental entities under the jurisdiction of a Subscribing State, including those activities conducted within the framework of international intergovernmental organisations. While not being a treaty, the Code is framed in a like-treaty mode, with a preamble and twelve sections divided in numeral points.

Within the Preamble, which assists the interpretation of the Code, the Subscribing States stress some general considerations, namely that all States should actively contribute to the promotion and strengthening of international cooperation relating to the activities in the exploration and use of outer space for peaceful purposes and to the formation of a set of best practices aimed at ensuring security in outer space which could become a useful complement to international space law. They note also that such best practices could apply to all types of outer space activities and reaffirm their commitment to resolve any conflict concerning actions in space by peaceful means.

It is to be noted that the draft Code is still a living document, the latest version having been established on the 5th of June 2012 as a working document for internal purposes. This is why I will abstain from making references to specific articles of the Code, unless a key rule is to be considered.

7 The General Principles of the Code

The second section of the Code lists the general principles to which Subscribing States decide to abide of. The term “general principles” is not used, of course, in the same sense than in the Statute of the International Court of Justice, as ‘general principles of law’. We are not dealing, here, with sources of international law. However, the statements contained in this section of the Code assume the character of basic rules that should govern the outer space activities and that qualify State’s behaviours as responsible. Perhaps, then, their most significant independent contributions will forever be as “gap-fillers” for the Code regime and other international instruments.

The first of these general principles is the freedom for all States, in accordance with international law, to access, explore, and use outer space for peaceful purposes without interference, fully respecting the security, safety and integrity of space objects and consistent with internationally accepted practices, operating procedures, technical standards and policies associated with the long-term sustainability of outer space activities, including, *inter alia*, the safe conduct of outer space activities. This principle makes reference not only to the classic freedom of exploration and use of outer space embodied in Article I of the OST, but build upon it underlying the freedom of *access* to outer space ‘for peaceful purposes’.

The 1967 OST recognizes that outer space “shall be free for exploration and use by all States without discrimination of any kind”; it is true that there is no corresponding provision recognizing that all States have the right to “access space”, however the same Treaty recognizes that there shall be “free access to all areas of celestial bodies”, which seems unworkable without a corresponding freedom of access to outer space.

Launch technology are means to exercise the freedom of access to space, which could be considered also a sensitive issue, being linked to the missile proliferation issue. Launch technologies and missile programmes are very close, so that the acquisition of launch technologies could lead to ballistic missile proliferation. However this freedom of access, in principle unlimited, can be restricted by international obligations, such as those deriving from the Security Council mandatory decisions adopted under Chapter VII of the UN Charter. Security Council Resolutions 1718 and 1874 demanded that the Democratic People’s Republic of Korea not conduct any further nuclear test or launch of a ballistic missile; decided that it should suspend all activities related to its ballistic missile programme and in this context re-establish its pre-existing commitments to a moratorium on missile launching. It decided also that the DPRK should abandon all other existing weapons of mass destruction and ballistic missile programme in a complete, verifiable and irreversible manner. Resolution 1929,

in its turn, decided more or less the same with regard to Iran. All in all, it is unambiguous that the freedom of access space is unlimited, unless international law, which comprises the binding decisions of the Security Council, provide otherwise in case of threats to peace. Furthermore, Article 103 of the Charter establishes that in the event of a conflict between the obligations of the Members of the UN under the Charter and their obligations under any other international agreement, their obligations under the Charter shall prevail. The practice confirms that the notion of ‘obligations under the Charter’ encompasses also the obligations deriving from the binding decisions of the Security Council. In this sense, the statement of the freedom of access to space invoked by the draft Code should not be interpreted in tension with the provisions of the UN Security Council decisions.

Secondly, the draft Code makes reference to the inherent right of individual or collective self-defence as recognised in the United Nations Charter¹⁴. This is another sensitive aspect, which has raised concerns among some States. Moreover, over twenty countries currently deploy short-and medium range ballistic missiles and develop operational capabilities for missile defence. In the U.S., for instance, the Missile Defence Agency’s mission is to develop, test, and field an integrated, layered, ballistic missile defense system to defend the United States, its deployed forces, allies, and friends against all ranges of enemy ballistic missiles in all phases of flight.

Now, references to the inherent right of self-defence in the Code simply reflect an objective situation under international law. Article III of the 1967 OST makes very clear that international law, including the Charter of the United Nations, applies to outer space. The right of self-defence is a fundamental principle of international law and integral to the UN Charter, recognised in Article 51. If there were any doubt as to whether the drafters of the OST intended that reference to apply to the right of self-defence, the wording makes clear that this reference is in the context of “maintaining international peace and security”. With this in mind, the inclusion of these reference in the Code does not change the *status quo* and cannot be construed as encouraging the deployment of arms in outer space.

8 The Principle of no Harmful Interference

The following principle embodied in the Code regards the responsibility of the Subscribing States to take all appropriate measures and cooperate in good faith to prevent harmful interference in outer space activities¹⁵. The notion of

14. Cf. U. FABRE, *L’usage de la force dans l’espace: réglementation et prévention d’une guerre en orbite*, Bruxelles, Bruylant, 2012.

15. The author that has mostly elaborated on this concept as a key concept for a code of responsible behaviour in outer space is Micheal Krepon of the Stimson Institute. Cf. M. KREPON, *Space Diplomacy and an International Code of Conduct*, e-International Relations.com, June 21, 2012.

‘harmful interference’ appears already in the third sentence of Art. IX of the OST, where it is said that a State planning an activity or experiment should undertake, before proceeding, appropriate consultations if the planned activity or experiment entails “potentially harmful interference” with activities of other States in the peaceful exploration and use of outer space¹⁶. We should note that this Article deals with activities that are not prohibited by international law and that are normally important to the interests of the State of origin, as normally are outer space activities¹⁷.

However, a general principle of international law prescribes that these activities should not cause harmful interference and that the concerned States should take appropriate preventive measures to avoid any harm. The duty of preventive action finds its roots in general international law, as stated by the ICJ in the advisory opinion of 8 July 1996 on the *Legality of the threat or use of nuclear weapons*: “The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment”¹⁸. Once applied to outer space, this principle means that States are committed to ensure that the exercise of their rights and freedoms in outer space does not interfere with, or compromise the safety of, space operations of other States.

To be considered as harmful, interference must cause serious detrimental effects, not merely a nuisance or annoyance that can be overcome by appropriate measures. ‘Harmful’ retains its meaning of causing or capable of causing significant harm. It does not deal with the legitimacy of the interference, but with the effects of the action. In this respect the work of the International Law Commission (ILC) on the draft Articles on *Prevention of Transboundary Harm from Hazardous Activities*, adopted in 2001, is

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16. Furthermore, a State potentially affected by an activity or experiment planned by another State has the faculty to request that the latter enter into consultations concerning the activity or the experiment that would cause potentially harmful interference.
 17. S. MARCHISIO, *Article IX*, in *Cologne Commentary on Space Law*, Vol. I, *Outer Space Treaty*, edited by S. Hobe, B. Schmidt-Tedd, K.-U. Schrogl, Köln, 2009, pp. 169-182.
 18. ICJ, *Reports*, 1996, pp. 241-242.

particularly significant¹⁹. The focus here is on ‘harm’ as linked to the exceptional risk of severe amage²⁰.

9 Compliance with and Promotion of Treaties

The Code is not a legally binding instrument and for that reason it cannot impair the rights and obligations of the Subscribing States deriving from other international treaties on outer space that they have accepted. In other words there is no matter for discussing here the issue concerning the relationship among the rights and obligations of States Parties to successive treaties relating to the same subject matter. In case of instruments of identical legal binding nature, those relationships are governed by the principle *lex posterior derogat priori*, unless the treaty subsequent in time specifies that it is subject to, or that it is not to be considered as incompatible with, an earlier or later treaty. In this case the provisions of that other treaty prevail (so-called priority clause). So, for instance, the Astronauts Agreement (1968) does not contains a clause that gives priority to the with 1968 OST, and in case of conflict will prevail over the latter as *lex specialis*²¹. All these aspects are not relevant here, because, as I said, the draft Code is not intended to be a treaty and no problem of coordination with proper sources of law can even be imagined.

Within this premise, the Code envisages the compliance with and promotion of treaties, conventions and other commitments relating to outer space activities

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19. Text adopted by the Commission at its fifty-third session, in 2001, and submitted to the General Assembly as a part of the Commission’s report covering the work of that session. The report, which also contains commentaries on the draft articles, appears in *Official Records of the General Assembly, Fifty-sixth Session*, Supplement No. 10 (A/56/10).
 20. Harmful “interference” in outer space could take several forms: direct damaging or destroying a satellite or temporarily interfering with its normal operation in a way that does not cause permanent damage. Anti-satellite (ASAT) has the most prominent role in destroying satellites. Furthermore, the orbital path of a satellite can be manipulated in such a way to collide with other space objects. In sum, the interference very often does not differentiate between malicious and benign aims. There are also methods of interfering with satellites that may not result in permanent damage but still prevent the satellite from performing its desired function, as is the case of jamming.
 21. S. MARCHISIO, *Reviewing the Astronauts Agreement: The Role of COPUOS*, in *Astronauts and Rescue Agreement*, edited by G. LAFFERRANDERIE e S. MARCHISIO, The Netherlands, 2011, pp. 141-163. Just to mention one contradiction, Article V.2 of the OST (1967) provides that in case of emergency landing or distress astronauts shall be safely and promptly returned to the State of registry, while Article 4 of the ARRA (1968) mentions the launching authority. Furthermore, a disharmony is to be seen in that the latter notion was better elaborated as launching State by the LIAB and REG Conventions, concluded respectively four and seven years after the ARRA.

by the Subscribing States. It makes express reference to the main existing international legal instruments on outer space and disarmament, including the four core UN treaties, the ITU Constitution and Convention and its Radio Regulations, as amended, as well as the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (1963) and the Comprehensive Nuclear Test Ban Treaty (CTBT, 1996). It calls upon Subscribing States to adhere to those treaties and, if already parties to them, to implement them in good faith.

Furthermore, the Code mentions the most important declarations of principles and recommendations relevant to it, such as the International Co-operation in the Peaceful Uses of Outer Space adopted by the UNGA Resolution 1721 of December 1961; the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space as adopted in UNGA Resolution 1962 (XVIII) (1963); the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as adopted by UNGA Resolution 47/68 (1992); the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries as adopted by UNGA Resolution 51/122 (1996); the International Code of Conduct against Ballistic Missile Proliferation (2002), as endorsed in UNGA Resolutions 59/91 (2004), 60/62 (2005), 63/64 (2008), and 65/73 (2010); the Recommendations on Enhancing the Practice of States and International Intergovernmental Organisations in Registering Space Objects as endorsed in UNGA Resolution 62/101 (2007); and the Space Debris Mitigation Guidelines of the United Nations Committee for the Peaceful Uses of Outer Space, as endorsed in UNGA Resolution 62/217 (2007).

The idea is that the Code would support the efforts to make the UN treaties, and other mentioned instruments, universally accepted - a goal that is still far from being realized - and would help States to better abide by the obligations contained in the binding instruments they have accepted.

10 Measures on Space Operations and Mitigation of Space Debris

The key measures of the Code are those contained in section 4, where the Subscribing States commit to establish and implement policies and procedures to minimise the possibility 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.

The most relevant commitment is to *refrain from any action* which brings about, directly or indirectly, damage, or destruction, of space objects. That would, in effect, constitute a political commitment to ban the testing of destructive anti-satellite weapons in space. The Code establishes a clearer rule of behaviour against intentional destruction of outer space objects, more rigorous than Guideline 4 of the 2007 Space Debris Mitigation Guidelines (UNGA Resolution 62/217), which says "the intentional destruction of any on-orbit and space vehicle orbital stages or other harmful activities that generate long-lived debris should be avoided."

The clearer and unambiguous rule against the intentional destruction of outer space objects contained in the Code also requires greater precision in the exceptions that apply to the general ban. The tightly defined scope of the exceptions contributes to ensuring that acts of destruction do not happen except in very exceptional and clearly defined circumstances. These are the following: the action is conducted to reduce the creation of outer space debris or is justified by the inherent right of individual or collective self-defence as recognised in the United Nations Charter or by imperative safety considerations. Where such exceptional action is necessary, it should be undertaken in a manner so as to minimise, to the greatest extent possible, the creation of space debris and, in particular, the creation of long-lived space debris.

The section continues by committing States to take appropriate measures to minimize the risk of collision when executing manoeuvres of space objects, for example, to supply space stations, repair space objects, mitigate debris, or reposition space objects, as well as to make progress towards adherence to, and implementation of ITU regulations on allocation of radio spectra and orbital assignments.

Regarding the minimisation of space debris and the mitigation of their impact in outer space, the Code build upon the existing commitments, insisting on the avoidance, to the greatest extent possible, of any activities which may generate long-lived space debris. To that purpose, States commit to adopt and implement, in accordance with their own internal processes, the appropriate policies and procedures or other effective measures in order to implement the Space Debris Mitigation Guidelines of the UNCOPUOS as endorsed by UNGA Resolution 62/217 (2007). Once again, the Code represents a tool for strengthening the commitment of Subscribing States to better implement the existing space debris guidelines. Furthermore, there is a need to make unambiguous, as the Code does, that this commitment applies to all categories of space debris from the intentional destruction of space objects, whether for military or civilian purposes.

11 Cooperation Mechanisms

The draft Code deals also with cooperation mechanisms, such as notification of outer space activities, registration of space objects, information on outer space activities, consultation mechanism and a mechanism to investigate proven incidents affecting space objects and to collect reliable and objective information facilitating their assessment.

On notification of outer space activities, the Code suggests this practice with regard to scheduled manoeuvres which may result in dangerous proximity to the space objects of both Subscribing and non-Subscribing States; pre-notification of launch of space objects; collisions, break-ups in orbit, and any other destruction of a space object(s) which have taken place generating measurable orbital debris; predicted high-risk re-entry events in which the re-entering space object or residual material from the re-entering space object would likely cause potential significant damage or radioactive contamination; malfunctioning of space

objects which could result in a significantly increased probability of a high risk re-entry event or a collision between space objects.

The Subscribing States commit to provide the notifications described above to all potentially affected States, including non-Subscribing States where appropriate, through diplomatic channels, or by any other method as may be mutually agreed, or through the Central Point of Contact to be established under the Code. In notifying the Central Point of Contact, the Subscribing States should identify, if applicable, the potentially affected States. The Central Point of Contact should ensure the timely distribution of the notifications to all Subscribing States.

Section 8 deals with information sharing on outer space activities. The Subscribing States commit to share, on an annual basis, where available and appropriate, information on their space policies and strategies; their space policies and procedures to prevent and minimise the possibility of accidents, collisions or other forms of harmful interference and the creation of space debris; and efforts taken in order to promote universal adoption and adherence to legal and political regulatory instruments concerning outer space activities. The Subscribing States may also consider providing timely information on outer space environmental conditions and forecasts to the governmental agencies and the relevant non-governmental entities of all space faring nations, collected through their space situational awareness capabilities.

12 The Consultation Procedure

Some criticism has been raised with regard to the consultation procedure set out by the Code, in view of the circumstance that a consultation mechanism is already provided for by Article IX of the 1967 OST. Moreover, it is a matter of fact that Article IX presents some loopholes and ambiguities and has never been applied until now. The timing for the request for consultation is not clear (Can the State potentially affected ask for consultation before and/or during the performance of such activity?). Then, the mentioned provision focuses more on the State of origin of the activity than on the State potentially affected; finally, it confines the consultation mechanism within a bilateral relationship. This is why the Code, without prejudice to the existing consultation clauses in Articles IX of the OST and 56 of the ITU Constitution, envisages a broader consultation procedure.

Firstly, the power of action is given to the Subscribing State, or States, that may be directly affected by certain outer space activities conducted by a Subscribing State or States and has reason to believe that those activities are, or may be contrary to the commitments made under the Code. It may request consultations with a view to achieving mutually acceptable solutions regarding measures to be adopted in order to prevent or minimise the potential risks of damage to persons or property, or of potentially harmful interference to its outer space activities. One element to be stressed is that more than two States can be involved in this process: the procedure envisages not only a bilateral, but also a multilateral size for consultation.

Once the process started, any other Subscribing State or States which has reason to believe that its outer space activities would be directly affected by the identified risk may take part in the consultations if it requests so. In this case, however, it should acquire the consent of the Subscribing State or States which requested consultations and the Subscribing State or States which received the request. The Subscribing States participating in the consultations will seek mutually acceptable solutions in accordance with international law.

A clear novelty is the introduction of the fact-finding missions as a mean for building confidence and reduce tensions. This is an optional, facultative mechanism which would function only in an *ad hoc* basis and upon agreement among the Subscribing States reached at a Meeting of the Parties. The Subscribing States may propose to create, on a case-by-case basis, independent, ad hoc fact-finding missions to investigate specific incidents affecting space objects and to collect reliable and objective information facilitating their assessment. These fact-finding missions, to be established by the Meeting of the Subscribing States, should utilise information provided on a voluntary basis by the Subscribing States, subject to national laws and regulations, and a roster of internationally recognised experts to undertake an investigation. The findings and any recommendations of these experts will be advisory, and will not be binding upon the Subscribing States involved in the incident that is the subject of the investigation.

13 Organizational Aspects

One of the main loopholes of the existing Un treaties of the United Nations is that they do not possess any institutional structure. They do not have a secretariat, nor conferences of the parties meeting at regular intervals, as it happens since long-time in the case of more recent multilateral treaties, such as the multilateral environmental treaties (MEAs). As the UN space treaties were negotiated and concluded in different times and among different States, the only subjects competent to interpret them are the respective States parties in the exercise of their sovereignty. Thus, there is no institutionalized body created by the treaties that can interpret them or debate on their application, or initiate any process for amending them, nor does this competence fall within the powers of the COPUOS, as delegations rather firmly restate at every opportunity during the COPUOS sessions. It is a matter of fact that the UN outer space treaties are rather ageing treaties, with no political possibilities to be updated. Each State is bound only by those UN space treaties that has accepted. This situation leads to a great degree of variable geometry, which is unavoidable, because in international law *pacta non obligant nisi gentes inter quas inita sunt*.

The Code provides for a minimal structure, but indispensable to ensure a correct governance of the process. It confers to the periodic Meetings of the Subscribing States, annual or biennial, as the final decision may be, to define, review and further develop the Code and ensure its effective implementation. The decisions at such Meetings, both substantive and procedural, are to be taken by

consensus of the Subscribing States present. Any Subscribing State may propose modifications to the Code. Modifications apply to Subscribing States upon acceptance by all Subscribing States. Finally, a Central Point of Contact to be established by Subscribing States will receive and announce the subscription of additional States; maintain an electronic database and communications system; serve as secretariat at the Meetings of Subscribing States; and carry out other tasks as determined by the Subscribing States. The organisational system should be completed by an electronic database and communications system, to be used in order to collect and disseminate notifications and information submitted in accordance with the Code; and serve as a mechanism to channel requests for consultations.

14 The Legal Nature of the Code

Having examined the main content of the Code, I would like to continue now with some considerations on the legal nature of this instrument. Over the past centuries, State practice has developed a variety of terms to refer to international instruments by which States establish or adopt non legally binding frameworks. In recent times, the issue of the function of non-binding norms in international space law has been widely addressed by the doctrine²².

The title assigned to such international instruments has normally no overriding legal effects; it may follow habitual uses or may relate to the particular character or importance sought to be attributed to the instrument by its parties. The degree of formality chosen will depend upon the gravity of the problems dealt with and upon the political implications and intent of the parties.

Codes of conduct do not have any authorized definition. At a very basic level, they all aim to define standards and principles that ought to guide the behaviour of the addressees in a particular way. As such, they are regulatory instruments. They may respond to a broad range of regulatory concerns and be established at the initiative of governments, international organizations, individuals, and private organizations. A distinguishing feature of codes of conduct is that they are voluntary in nature, rather than legally binding, and thus not legally enforceable. However, they carry the weight of a joint political commitment on the part of the Subscribing States that represents their firm expectation of good conduct, reflecting the values and aspirations of the group.

The International Code of Conduct on Outer Space Activities fulfils these requirements. It is voluntary and open to all States. It does not want, in itself, establish any legal rights or obligations. It contains general principles and responsible rules of behaviour that could be detailed in subsequent legal instruments, such as treaties and conventions, as well as national legislation or that can develop as customary international law. In this sense, the non legally binding nature of the Code is without prejudice to further normative

22. See I. MARBOE (ED.), *Soft Law in Outer Space. The Function of Non-binding Norms in International Space Law*, Wien - Koln - Graz, 2012.

developments. In addition, the process of the Code and its implementation would pave the way to other non legally binding instruments adopted by the Subscribing States within the Meetings of the Parties, as the need may be.

Thus, I do not think that the Code, once adopted and subscribed by signatories States at the level of Ministers of Foreign Affairs will be endowed, in legal terms, with a merely hortatory value. It seems rather to me that it will belong to the genus of non legally binding normative instruments, such as the declaration of principles and other political commitments that are considered important tools in the process of evolving international law.

The Code contains specific clauses concerning its acceptance by States or other subjects, such as Regional Integration Organization and intergovernmental organizations, which are mentioned as possible partners. These clauses evoke in a soft way the realm of treaties. We have the notion of 'adoption', where is said that the Code will be adopted at a diplomatic conference. 'Adoption' is indeed the formal act by which the form and content of a proposed international instrument are established. As a general rule, the adoption of the text of an instrument takes place through the expression of the consent of the States participating in the making process and in the diplomatic conference. Then, the actors of the Code are the 'Subscribing States'. Subscription is equivalent to signature, which normally establishes the consent of the State to be bound by an international instrument. Furthermore, it is said that 'adherence' is voluntary and open to all states, once again evoking the idea of an expression of consent.

Even if the consent is not aimed at accepting legally binding commitments, the value of the political engagements contained in the Code should not be underestimated. The Code would provide a clear set of prescriptions against which the behaviour of States will be judged, and there will be a clear expectation on States to abide by the commitments they have made. In my opinion, the main legal consequence the Code would produce is the *effect of legality*. Still, I do not conceive this effect in the same fashion that has been advocated by an eminent Italian jurist with regard to the effect of recommendations of the UNGA, namely that a State do not commit a wrongful act when, in order to carry out a recommendation of a UN organ, it acts in a way that is contrary to commitments previously undertaken by agreement or to obligations deriving from customary international law²³. This seems an ultra legal consequence, which goes too far beyond the admissible scope of the Code, which is not intended to allow Subscribing States to depart from established obligations of international law. Rather, it should support Subscribing States to better abide by these obligations.

In reality, the effect of legality means that a State's behaviour consistent with a political commitment contained in the Code is presumed to be legal and licit and would enjoy the benefit of the doubt should its legality be called into

23. B. CONFORTI, *The Law and Practice of the United Nations*, The Hague-London-Boston, 1996, pp. 275-277.

question. On the other hand, any action contrary to the provisions of the Code can result in the shifting of the burden of proof against the subject violating them.

15 Conclusion

A major point that has been raised concerns the benefits that a State can enjoy by adhering to the Code. It has been questioned that the Code is not in the interest of developing and emerging space faring nations. It is my opinion that developing countries have a strong interest in ensuring that the space environment is used in a sustainable and responsible way, so that they can fully enjoy the benefits of space activities and launch space initiatives to the benefit of their citizens. The Code does not impose any requirements on countries, particularly developing countries, that might act as a barrier to their space activities. On the contrary, the Code provides a roadmap, in line with the times, that will assist new entrants into space with awareness of best practices in the conduct of space operations. And through the Meetings of Subscribing States, the Code will provide developing countries with a voice in the future development of norms for outer space activity.

In this perspective, the EU and the like-minded States supporters of the Code are actively encouraging developing countries to engage in consultations on the Code, including by arranging multilateral experts meeting to enable as many countries as are interested to participate in the process. The process for consultations and negotiations concerning the draft Code are not supposed to take place within the United nations system, following the rules of the UN. It is, as I already mentioned, a self-sustained initiative, which will lead to *an hoc* diplomatic conference, which will be held when the process will be mature enough to gather a sufficient number of States. The outreach actions going on are aimed at supporting the process to build *consensus* around the main outstanding issues. This roadmap does not preclude that the Code, once completed and signed, could be hopefully submitted to the UN General Assembly for endorsement, along the lines of the Hague Code of Conduct on Missile Ballistic Proliferation. This would be a real sign of the legitimacy of the Code within the international community.

If outer space faces a sustainable governance problem, the three pillars that I mentioned at the beginning are a first step, which we hope will be followed by many more. We need to build up *concrete, feasible, pragmatic solutions for policy and lawmakers*. Space sustainability will not be accomplished by 2014 though the three initiatives are expected to conclude that year. To make them as meaningful and successful the need for educating and informing various groups is a central theme. For this, space lawyers should take seriously on their shoulder the engagement to explain that normative instruments, legally or not legally binding, should be used according to the circumstances and that they represent steps concurring each one with its merits to the achievement of the main goal of a safe, secure and sustainable outer space for all.