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Committee on the Peaceful Uses of Outer Space

Report on the United Nations Workshop on Space Law on the theme “Contribution of space law and policy to space governance and space security in the twenty-first century”

(Vienna, 5-8 September 2016)

I. Introduction

A. Background and objectives

1. Outer space is a fragile environment where the steps taken by one actor might have an impact on others, including users of space services on Earth. The broader application of space operations and the increased strategic value of space have resulted in a growing need to enhance the safety of space operations, the security of the space environment and space assets and the sustainability of outer space activities.

2. Given the growing number of benefits derived from space science and technology applications, the conduct of space activities by States and intergovernmental and non-governmental entities, including industry and private-sector entities, continues to expand. In developing international and regional space cooperation, States should ensure that all actors conducting space activities comply with the requirements of international space law.

3. International and regional cooperation in the peaceful uses of outer space helps to bring the benefits of space technology applications to a wide circle of stakeholders, both governmental and non-governmental, and to intensify and diversify national space programmes. Policy and regulatory frameworks at the national, regional and international levels are of paramount importance in providing the necessary basis for States to meet development goals and address challenges to humanity and sustainable development. In this process, it is necessary to continue to strengthen the interlinkages between international space law and the conduct of space activities.



4. The General Assembly, in its resolution on international cooperation in the peaceful uses of outer space, each year reaffirms the importance of international cooperation in developing the rule of law, including the relevant norms of space law and their important role in international cooperation for the exploration and use of outer space for peaceful purposes, and of the widest possible adherence to international treaties that promote the peaceful uses of outer space in order to meet emerging new challenges, especially for developing countries. The Assembly recognizes that all States, in particular those with major space capabilities, should contribute actively to the prevention of an arms race in outer space with a view to promoting and strengthening international cooperation in the exploration and use of outer space for peaceful purposes.

5. The Assembly, in its resolution 70/82, requested the Committee on the Peaceful Uses of Outer Space to continue to consider, as a matter of priority, ways and means of maintaining outer space for peaceful purposes, and agreed that the Committee should continue to consider the broader perspective of space security and associated matters that would be instrumental in ensuring the safe and responsible conduct of space activities, including ways to promote international, regional and interregional cooperation to that end.

6. The Assembly, in the same resolution, encouraged the Office for Outer Space Affairs to conduct capacity-building and outreach activities associated with space security and transparency and confidence-building measures in outer space activities, as appropriate, and within the context of the long-term sustainability of outer space activities.

7. In its resolutions 68/50, 69/38 and 70/53, on transparency and confidence-building measures in outer space activities, the Assembly encouraged relevant entities and organizations of the United Nations system to coordinate, as appropriate, on matters related to the recommendations contained in the report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities (see A/68/189). This call was taken into account in meeting the objectives of the Workshop.

8. The successful implementation and application of the international legal framework governing space activities will depend on the understanding and acceptance, by policymakers and decision makers, of the legal framework governing the conduct of space activities. The presence of suitable professionals, in particular in developing countries, who are able to provide legal advice and disseminate information and knowledge relating to space law is therefore dependent on adequate opportunities for education in space law and policy.

9. Against this background, the Workshop provided an overview of the legal regime governing the peaceful uses of outer space, examined and compared various aspects of the broader perspective of space security in global space governance, including on transparency and confidence-building measures in outer space activities, and addressed space law and policy in the context of the fiftieth anniversary of the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE+50), to be held in 2018, with the following objectives:

(a) To promote understanding, acceptance and implementation of the United Nations treaties and principles on outer space;

(b) To address space governance and the broader perspective of space security, including on norms of behaviour and space policy development;

(c) To consider space law and policy in the context of space economy, space society, space accessibility and space diplomacy;

(d) To study trends in and challenges to the progressive development of space law;

(e) To assess further needs for capacity-building, assistance and outreach in connection with space law and policy.

10. The Workshop was the tenth in the series of workshops held under the space law capacity-building programme of the Office for Outer Space Affairs of the Secretariat.

11. The Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, at its fifty-fifth session in 2016, noted with appreciation that the Workshop would be held at the Vienna International Centre from 5 to 8 September 2016 and that it would address space law and cover transparency and confidence-building measures in outer space activities.

12. The Workshop was organized in cooperation with the Office for Disarmament Affairs of the Secretariat and was co-sponsored by the United Nations Institute for Disarmament Research and the Secure World Foundation.

13. The Workshop aimed to contribute to the preparations for UNISPACE+50 and to the consideration by the Committee and its subsidiary bodies of several related agenda items. The conclusions, observations and recommendations (see sect. II) set out a number of concrete elements proposed by the Workshop for further consideration by the Committee.

14. The present report was prepared for submission to the 2017 sessions of the Committee on the Peaceful Uses of Outer Space and its Scientific and Technical Subcommittee and Legal Subcommittee.

B. Attendance

15. Government officials, including representatives of space agencies, educators from national universities and research institutions and representatives of the private sector from the following countries participated in the Workshop as invited moderators, speakers and panellists: Austria, Bangladesh, Canada, Chile, China, France, Germany, Israel, Italy, Japan, Netherlands, Nigeria, Portugal, Russian Federation, Switzerland, United Kingdom of Great Britain and Northern Ireland, United States of America and Venezuela (Bolivarian Republic of). Representatives of the European Space Agency, the European Space Policy Institute, the Secure World Foundation, officials from the International Telecommunication Union, the Office for Disarmament Affairs, the Office for Outer Space Affairs, the United Nations Institute for Disarmament Research and the Hague Code of Conduct against Ballistic Missile Proliferation Immediate Central Contact (executive secretariat) also participated as moderators and speakers.

16. Funds provided by the United Nations were used to cover the travel and living costs of 17 participants invited to the Workshop.

17. The Workshop was attended by representatives of governmental, intergovernmental and non-governmental entities, academia, researchers and students, and by United Nations officials. Furthermore, the workshop benefited significantly from the contributions of representatives of permanent missions of Member States to the United Nations (Vienna), as it was held on the premises of the United Nations Office at Vienna.

C. Programme

18. The Director of the Office for Outer Space Affairs and the Permanent Representative of Austria to the United Nations (Vienna) opened the Workshop with welcoming and introductory statements. Two dedicated keynote addresses were given, on the theme of space law and governance and on the topic of putting cooperation back into space security.

19. As part of the opening session of the Workshop, a round-table discussion was held on the theme of safety, security and sustainability of outer space activities in the context of space governance and space security, with the representation of governmental officials from China, the Russian Federation and the United States.

20. The first panel of the Workshop focused on international space law and policy development. Presentations on the following topics were given:

- (a) Breaking the traditional orbit: alternative means of shaping law and policy in outer space;
- (b) International law perspectives on small satellite activities;
- (c) Perspective on future space traffic management;
- (d) New space actors;
- (e) Designing space policies in emerging countries: main challenges.

21. The second panel was dedicated to the safety of space operations and the security of space systems. Presentations on the following topics were given:

- (a) Space assets and emerging threats;
- (b) Space security and cybersecurity: intersecting challenges;
- (c) Report of the Group of Governmental Experts and transparency and confidence-building measures in outer space activities;
- (d) Space security and governance: the role of space middle powers.

22. The third panel, on the implementation of transparency and confidence-building measures and the role of international entities, focused on institutional and regulatory perspectives of relevant international intergovernmental organizations and mechanisms. Presentations were made by representatives of the following entities:

- (a) The Office for Outer Space Affairs;

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- (b) The Office for Disarmament Affairs;
 - (c) The International Telecommunication Union;
 - (d) The Hague Code of Conduct against Ballistic Missile Proliferation Immediate Central Contact (executive secretariat).
23. The fourth panel addressed international models and mechanisms for space cooperation and coordination. Presentations were made on the following topics:
- (a) The Inter-Agency Space Debris Coordination Committee: an overview;
 - (b) Mechanisms for regional and interregional cooperation and coordination;
 - (c) Models for coordination and cooperation: bilateral and multilateral agreements.
24. The fifth panel was dedicated to cooperation and capacity-building in space law and policy for the benefit of developing countries. Presentations were made on the following topics:
- (a) Cooperation models and capacity-building for emerging space nations;
 - (b) Promotion of the development of national space legislation in developing countries;
 - (c) Cross-sectoral perspectives for capacity-building in space law and policy;
 - (d) Capacity-building models: the case of technical advisory missions of the United Nations Platform for Space-based Information on Disaster Management and Emergency Response (UN-SPIDER);
 - (e) The role of the regional centres for space science and technology education, affiliated to the United Nations: perspectives on space law and policy.
25. The sixth panel, which was dedicated to the UNISPACE+50 thematic priority, “Legal regime of outer space and global space governance: current and future perspectives”, included presentations on the following topics:
- (a) Treaties, resolutions, principles, guidelines: the relevance of hard law and soft law in the further development of space law;
 - (b) The effectiveness of the legal regime for responsibility and liability of national space activities: assessment of gaps;
 - (c) Legal perspectives on space operations and sustainability of outer space activities;
 - (d) Enhancing cooperation and coordination between the Scientific and Technical Subcommittee and the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space.
26. The Workshop concluded with a session on conclusions, observations and recommendations, which began with a presentation on the topic of UNISPACE+50 and the high-level forum on space as a driver for socioeconomic sustainable development.

27. An introductory note, the programme, a compilation of biographies and abstracts and the statements and presentations made at the Workshop are available on the website of the Office for Outer Space Affairs (www.unoosa.org).

II. Conclusions, observations and recommendations

28. The Workshop considered perspectives of progressive development of international space law, as well as governance models for maintaining outer space for peaceful purposes and enhancing international cooperation in the peaceful uses of outer space. The contribution of space law and space policy to global space governance and space security was highlighted.

29. The Workshop noted several processes and initiatives at the intergovernmental level addressing a broad range of aspects of maintaining outer space for peaceful purposes. In that connection, the Workshop heard statements and presentations addressing issues being dealt with in the Committee on the Peaceful Uses of Outer Space, the Conference on Disarmament, the United Nations Disarmament Commission and the General Assembly, and under the Hague Code of Conduct against Ballistic Missile Proliferation.

30. In considering the broader perspective of space security as a fundamental pillar for meeting the objectives of the 2030 Agenda for Sustainable Development, the Workshop noted that transparency and confidence-building measures in outer space activities may reduce mishaps, misinterpretations and miscalculations; foster cooperation; create more predictability; and gather consensus on matters crucial to maintaining outer space for peaceful purposes.

31. The Workshop concluded that the report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities (see A/68/189) constituted an unprecedented account of the applicability of transparency and confidence-building measures for enhancing the safety of space operations, the security of space systems and the sustainability of outer space activities.

32. In this regard, the Workshop observed the proposal made by the Committee on the Peaceful Uses of Outer Space at its fifty-ninth session for a half-day panel discussion to be held jointly by the First and Fourth Committees of the General Assembly in 2017, to constitute a joint contribution of the First and Fourth Committees to the fiftieth anniversary of the Outer Space Treaty. The Workshop was of the view that the panel discussion should be organized with the firm aspiration of promoting an interactive dialogue on challenges to the safety, security and sustainability of outer space activities. The Workshop noted in this regard that the event should not take the form of a general debate, in view of the importance of finding a new way of drawing the attention of Member States to the safety, security and sustainability of outer space activities.

33. The Workshop acknowledged the remarkable progress made in the Working Group on the Long-term Sustainability of Outer Space Activities, with the first set of guidelines agreed to and annexed to the report of the Committee on the Peaceful Uses of Outer Space on its fifty-ninth session (A/71/20), and noted the important work to be undertaken in the Working Group on the remaining draft guidelines.

34. The Workshop was of the view that space tools were increasingly fundamental for meeting the challenges to humanity and sustainable development and that the broader perspective of space security was necessary for global space governance. In that context, the successful implementation and application of the international legal regime with respect to outer space had been instrumental in governing the space activities of States in the exploration and use of outer space for peaceful purposes.

35. As an overall conclusion on the necessity to protect the space environment, and in recognizing the increasing dependence on space science and technology applications in efforts to meet global development goals and targets, including within the context of the 2030 Agenda for Sustainable Development, the Workshop noted the importance of building spatial data infrastructure at the national and regional levels in order to enhance capacity to access and use space-derived data and information for sustainable development. Such measures were also considered important for further consideration among all relevant stakeholders in the space arena, including industry and the private sector. In that context, the establishment and strengthening of national policies, regulatory frameworks and infrastructure in the use of space science and technology applications was deemed crucial as part of governance processes.

36. The Workshop conducted a review of the objectives of international space law development and noted that, in view of the growing number of benefits derived from space science and technology applications and the continued expansion of space activities, greater attention must be paid to national regulatory and policy development, in particular for the benefit of developing countries. In this context, it was important to observe the role of, and interaction with, technical bodies and institutions at the national, regional and international levels.

37. In that regard, the Workshop noted that the conduct of space activities by States, international intergovernmental and non-governmental organizations, industry, the private sector and academia continued to expand rapidly and therefore needed attention from a national regulatory and policy development perspective.

38. The Workshop also observed that constant development in space science and technology and their applications, such as Earth observation, communication and navigation, timing and positioning and new exploration efforts, in addition to increased commercial and private activities in the space sector, generated demands for regulatory approaches to meet the needs of new actors and beneficiaries, among spacefaring nations, space middle powers and emerging space nations.

39. The Workshop observed that, with a view to advancing economic and societal benefits for all States, the series of high-level forums initiated by the Office for Outer Space Affairs could develop into a dedicated platform at the international level to adequately promote a dialogue among Governments, international organizations, industry, the private sector and civil society, as appropriate. The Workshop also observed that the promotion of such forums for an exchange of views between representatives of the space community as a whole, under the auspices of the Office for Outer Space Affairs and with the guidance of the Committee on the Peaceful Use of Outer Space Affairs, would increasingly benefit global space governance.

40. The Workshop noted that the United Nations treaties on outer space set out the fundamental principles of international space law, with additional non-legally

binding instruments developed by the Committee on the Peaceful Uses of Outer Space, addressing crucial areas, including in the field of space debris mitigation, cooperative arrangements for sharing remote sensing data, the safety of use of nuclear power sources in space activities, the benefits of international space cooperation and enhanced registration practice and recommendations for national space legislation.

41. Against this backdrop, the Workshop noted that in the light of the evolution of space awareness in society, the Committee on the Peaceful Uses of Outer Space and its subsidiary bodies had evolved as the unique common platform for strengthening the capacity of States, in particular developing countries, in the use and application of space science and technology for sustainable development and in efforts to enhance the long-term sustainability of outer space activities.

42. The Workshop concluded that the fiftieth anniversary of the first conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE+50), in 2018, would be a crucial target for decisions on fostering economic and societal development, promoting space accessibility and strengthening space diplomacy.

43. In connection with the UNISPACE+50 process, the Workshop noted the opportunities for the Committee on the Peaceful Uses of Outer Space to make several critical decisions on the way forward in strengthening the role of the Committee and the Office for Outer Space Affairs as key institutions in global space governance.

44. The Workshop noted the high degree of international cooperation in space activities at the regional, interregional and international levels and the increasing number of public-private partnerships between governmental and non-governmental entities in all areas of the space sector. International mechanisms for cooperation in space activities, such as bilateral and multilateral agreements, played an important role in identifying the legal grounds for space ventures and could be of fundamental importance in the application and implementation of the international legal regime governing space activities.

45. The Workshop, in that context, recognized the importance of non-legally binding instruments in addition to the already existing treaties on outer space. Although the main objective from a legal standpoint would be to elaborate additional treaties, the Workshop noted that non-legally binding instruments had an important role to play in strengthening the abilities of States to implement and apply the rights and obligations under the legal regime of outer space.

46. The Workshop noted with appreciation that a number of capacity-building activities in space law were being undertaken by governmental and non-governmental entities, including encouraging universities to offer modules on space law; providing fellowships for graduate and postgraduate programmes in space law; and assisting in the development of national space legislation and policy frameworks. The importance of innovation in education tools used for capacity-building in space law and policy was highlighted, in particular in relation to the needs of developing countries.

47. The Workshop regarded capacity-building, training and education in space law and space policy to be of paramount importance in further developing the practical

aspects of space science and technology and increasing knowledge of the legal framework within which space activities were carried out.

48. The Workshop also encouraged closer cooperation and dialogue between universities and institutions with established space law programmes and those educational institutions wishing to develop such programmes. The Workshop noted that such cooperation could help to overcome the hurdles of limited access to materials and the related costs.

49. The Workshop noted with appreciation the publication by the Office for Outer Space Affairs of the 2016 edition of the directory on education opportunities in space law and welcomed the fact that the 2014 United Nations curriculum on space law could be integrated into the existing educational framework of all of the regional centres for space science and technology education, affiliated to the United Nations. The Workshop noted that, with the addition of a basic course on space law, the regional centres would be able to offer scholars with scientific and technical skills an introduction to the legal basis required for conducting space activities.

50. Bearing in mind those general considerations, the Workshop made the following recommendations for further consideration by the Committee on the Peaceful Uses of Outer Space:

(a) Further consideration should be given, as appropriate, to the viability of establishing on the agenda of the General Assembly a comprehensive item dedicated to all aspects of space security and sustainability or, alternatively, a dedicated joint agenda item of the First Committee and the Fourth Committee to consider transparency and confidence-building measures in outer space activities;

(b) The Committee on the Peaceful Uses of Outer Space should pay special attention to reinvigorating the annual reporting on national space activities, in which the Committee has been engaged since the 1960s, exploring whether there are any additional areas and dedicated topics which the international community wishes to add to that long-established transparency and confidence-building measure. In this regard, the Workshop recommended that the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space, at its fifty-fourth session, consider, as appropriate, criteria for the further reporting on and consideration of national space policies and national space activities, including transparency and confidence-building measures;

(c) The Committee on the Peaceful Uses of Outer Space should consider, as appropriate, an exchange of information and views on the applicability of cybersecurity to the protection of space assets and space systems, including critical infrastructures, with a view of finding common approaches to the protection of communications and space systems;

(d) In order to avoid duplication of effort in the field of space security considerations, the Office for Outer Space Affairs and the Office for Disarmament Affairs should continue coordinating efforts to promote the implementation of transparency and confidence-building measures in outer space activities;

(e) In view of the importance of regional and interregional organizations and mechanisms to promote international cooperation in the peaceful exploration and use of outer space, those organizations and mechanisms should:

(i) Request their Member States to become parties to the United Nations treaties on outer space;

(ii) Actively foster increased membership in the Committee on the Peaceful Uses of Outer Space;

(iii) Strongly promote bilateral and multilateral agreements or frameworks supporting space economy, space society, space accessibility and space diplomacy;

(iv) As a prime objective, promote awareness of the fundamental importance of transparency and confidence-building measures for the safety, security and sustainability of outer space activities;

(f) The recommendation set out in subparagraph (e) above should be viewed in the context of the requirements of paragraph 13 of General Assembly resolution 70/82, to the effect that regional and interregional cooperation should be considered in the overall context of the broader perspective of space security;

(g) The Committee, upon a recommendation by the Legal Subcommittee at its fifty-sixth session, should consider transforming the results of the Legal Subcommittee Working Group on the Review of International Mechanisms for Cooperation in the Peaceful Exploration and Use of Outer Space into a dedicated General Assembly resolution in order to encourage the development of bilateral and multilateral agreements on space activities. Doing so would provide States with a better understanding of the range and scope of framework agreements and implementing arrangements for space cooperation;

(h) In further evaluating capacity-building objectives, the Office for Outer Space Affairs should be officially encouraged to conduct targeted capacity-building, education and training in space law and policy, building upon the UN-SPIDER programme, with the objective of establishing a capacity-building platform on the basis of the following criteria: (a) the need to determine the capacity within the Office to provide targeted technical legal assistance and conduct a comprehensive assessment of the needs of requesting States, taking into account judicial, administrative and technical requirements, and on that basis determine the assistance required; and (b) the delivery of the required capacity-building, assistance, training and education activities to meet the needs of States;

(i) An assessment of customary law perspectives relating to international space law should be conducted under the UNISPACE+50 thematic priority, "Legal regime of outer space and global space governance: current and future perspectives". An in-depth assessment of possible substantive and operational gaps in the legal regime of outer space should also be conducted, focusing in particular responsibility and liability for national space activities. In parallel, possible gaps in the legal regime of a more conceptual nature should also be studied. Furthermore, under the thematic priority a guidance document should be created with the objective of promoting the universality of the United Nations treaties on outer space, with regard to which models for the implementation and application of the

treaties should be developed. In this regard, the Office for Outer Space Affairs should be tasked with outlining a model for national space legislation;

(j) The relationship between the work of the Scientific and Technical Subcommittee and the Legal Subcommittee should be improved and the UNISPACE+50 process should be an opportunity to keep the momentum and make concrete decisions on enhancing cooperation and coordination between the Subcommittees. Consideration should be given to the establishment of an item on the agenda of the Committee on the Peaceful Uses of Outer Space on the coordination of work of the Committee and its subsidiary bodies, which could examine the agendas of the subcommittees and the reporting procedures of the Committee and its subcommittees;

(k) The role of the Office for Outer Space Affairs as a focal point for information exchange and a forum for discussing the progressive development of international space law should be strengthened, especially at the administrative and implementing levels.

51. The Workshop commended the Office for Outer Space Affairs for having organized the Workshop, in cooperation with the Office for Disarmament Affairs, with co-sponsorship by the United Nations Institute for Disarmament Research and the Secure World Foundation.

52. The Workshop expressed its deep appreciation to the Permanent Mission of Austria to the United Nations (Vienna) for having generously assisted in bringing the moderators and speakers together.
