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**Committee on the Peaceful
Uses of Outer Space
Scientific and Technical Subcommittee
Sixtieth session
Vienna, 6–17 February 2023**

Draft report

Addendum

I. Introduction

C. General statements

1. Statements were made by representatives of the following member States during the general exchange of views: Argentina, Australia, Austria, Belarus, Brazil, Canada, Chile, China, Colombia, Costa Rica, Czechia, Dominican Republic, Ecuador, Egypt, Finland, France, Germany, Guatemala, India, Indonesia, Iran (Islamic Republic of), Israel, Italy, Japan, Kenya, Luxembourg, Malaysia, Mexico, New Zealand, Nigeria, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Singapore, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Türkiye, United Arab Emirates, United Kingdom, United States and Venezuela (Bolivarian Republic of). A statement was made by the representative of Ghana on behalf of the Group of African States and by the representative of Pakistan on behalf of the Group of 77 and China. The representative of the European Union, in its capacity as permanent observer, made a statement on behalf of the European Union and its member States. Additional statements were made by the observers for APSCO, ESA, ESO, For All Moonkind, the Hague Institute for Global Justice, IAA, IAF, ISU, Moon Village Association, National Space Society, Regional Centre for Remote Sensing of the North African States, the Square Kilometre Array Observatory, SGAC, SWF, UNISEC-Global and World Space Week Association.

2. The Subcommittee heard the following scientific and technical presentations:

(a) “Beyond gravity: the Passive Reflectometry and Dosimetry (PRETTY) nanosatellite mission: fighting the impacts of climate change”, by the representative of Austria;

(b) “Progress in international cooperation of China’s lunar and deep space exploration”, by the representative of China;

(c) “Novel research and development efforts by Indian emerging space entities”, by the representative of India;



(d) “Deep space exploration/Türkiye’s Moon research programme”, by the representative of Türkiye;

(e) “The first International Moon Day results and outlook for 2023”, by the observer for the Moon Village Association.

3. At the 975th meeting, on 6 February, the Chair of the Subcommittee made a statement in which he outlined the work of the Subcommittee at its sixtieth session and highlighted the achievements of the Subcommittee in its 60 years of work. He underscored that furthering international coordination and cooperation among all space actors, including partnerships among States, international intergovernmental and non-governmental organizations, industry and private sector entities, would be key in promoting space activities for sustained economic growth and sustainable development in all countries. He also expressed his desire to explore during the session whether the Subcommittee could develop a contribution for the forthcoming Sustainable Development Goals Summit, to be held in New York in September 2023.

4. At the same meeting, the Acting Director of the Office for Outer Space Affairs made a statement in which he reviewed the work undertaken by the Office since the fifty-ninth session of the Subcommittee, highlighting developments in space policy, science and technology, as well as in international cooperation. He stressed the importance of the collaboration by the Office with an ever-increasing number of partners, from governmental authorities and space agencies to international organizations, academia, industry and the private space sector. He also referred to growing engagement in the work of the Committee and its subcommittees and noted the importance of international cooperation, in the context of which the Office could assist in a broad range of capacity-building efforts for the benefit of developing countries.

5. The Subcommittee expressed solidarity with the people of the Syrian Arab Republic and Türkiye who had been affected by the recent devastating earthquakes, as well as its regret and condolences for the lives lost. In that connection, the Subcommittee noted the importance of space data in supporting the rescue and recovery efforts that were under way.

6. The Subcommittee noted the landmark achievements of space programmes in areas such as space exploration, human space flight, planetary defence, astronomy and astrophysics since it had held its fifty-ninth session, in February 2022.

7. The Subcommittee agreed that international cooperation and dialogue would be essential in effectively addressing the demands and challenges of space and in promoting space as a driver of sustainable development.

8. The Subcommittee also agreed that it, together with the Committee and the Legal Subcommittee, and with the support of the Office for Outer Space Affairs, remained a unique international forum tasked with promoting international cooperation in the exploration and peaceful uses of outer space and offering an appropriate environment to discuss matters that had a great impact on the development of States for the betterment of humankind.

9. Some delegations expressed the view that the Scientific and Technical Subcommittee and the Legal Subcommittee should work more closely with each other, in particular on overlapping and interrelated topics.

10. Some delegations expressed the view that the Committee should continue to support space science and technology education and regional initiatives to promote intraregional cooperation, as well as to foster greater regional excellence and the increased participation of women and young people in the space field.

11. Some delegations expressed the view that space technology applications must produce concrete benefits for developing countries and that, in order to achieve that goal, the transfer of technology on favourable terms for developing countries, as well as associated capacity-building, were of vital importance. The delegations expressing

that view encouraged States to strengthen international, multilateral, regional and bilateral cooperation in the exploration and use of outer space for peaceful purposes.

12. Some delegations expressed the view that States should refrain from promulgating, adopting and applying any unilateral economic, financial and trade measures or actions not in accordance with international law and the Charter of the United Nations that could hamper or impede access to space and space activities, in particular in developing countries.

13. Some delegations expressed the view that the increasing use of outer space for security purposes was of grave concern and that an arms race in outer space ran counter to the principle of the peaceful uses of outer space.

14. Some delegations expressed the view that transparency and confidence-building measures related to outer space activities were of utmost importance, as was the need to ensure responsible behaviour in outer space, through the United Nations, for the benefit and in the interest of all countries.

15. The Subcommittee noted the invitation extended by the Chair and the Vice-Chair of the Working Group on Legal Aspects of Space Resource Activities of the Legal Subcommittee to delegations at the sixtieth session of the Scientific and Technical Subcommittee to contribute to the work of the Working Group (A/AC.105/C.1/2023/CRP.16), which was in line with the means of coordination with the Scientific and Technical Subcommittee, as expressed in the methods of work of the Working Group.

16. The Subcommittee was informed of the conference room paper submitted by Germany and Luxembourg on dedicated tools and practices for enhanced information-sharing (A/AC.105/C.1/2023/CRP.30) and the conference room paper submitted by the Moon Village Association containing a report on the Global Expert Group on Sustainable Lunar Activities (A/AC.105/C.1/2023/CRP.20).

17. The Subcommittee expressed its gratitude to the organizers of the following events, held on the margins of the sixtieth session of the Subcommittee:

(a) “Bridging the gender gap: women and girls in space tech”, co-organized by the Permanent Mission of Israel and the Office for Outer Space Affairs;

(b) “Dark and quiet skies: the way ahead”, organized by ESPI with the support of the European Organization for Astronomical Research in the Southern Hemisphere, IAU and the Square Kilometre Array Observatory;

(c) “The recommended framework and key elements for peaceful and sustainable lunar activities”, organized by the Moon Village Association;

(d) “WSWA space and sustainability reception”, organized by the World Space Week Association;

(e) “Vega C announcement of awardee”, co-organized by the Office for Outer Space Affairs and Avio S.p.A.;

(f) “UNOOSA activities on climate action”, organized by the Office for Outer Space Affairs;

(g) “What is UNOOSA? And why is it relevant for you?”, organized by the Office for Outer Space Affairs.

XV. General exchange of views on dark and quiet skies for science and society

18. In accordance with General Assembly resolution [77/121](#), the Subcommittee considered agenda item 17, entitled “General exchanges of views on dark and quiet skies for science and society” as a single issue/item for discussion.

19. The representatives of Algeria, Argentina, Australia, Austria, Brazil, Bulgaria, Canada, Chile, China, Czechia, France, Germany, Guatemala, India, Indonesia, Iran (Islamic Republic of), Italy, Jordan, Mexico, New Zealand, Nigeria, Pakistan, Paraguay, Peru, the Russian Federation, Slovakia, South Africa, Spain, Switzerland, the United Kingdom and the United States made statements under agenda item 17. A statement was made by the representative of South Africa on behalf of the Group of African States. The observers for IAU and the Square Kilometre Array Observatory also made statements under the item. During the general exchange of views, statements relating to the item were made by representatives of other member States.

20. The Subcommittee heard the following scientific and technical presentations:

(a) United States private sector contributions to dark and quiet skies”, by the representatives of the United States;

(b) “Dark and quiet skies: an Australian perspective”, by the representative of Australia.

21. The Subcommittee had before it a conference room paper on the protection of dark and quiet skies for science and society, submitted by Chile, Spain, Slovakia, Bulgaria, IAU, the European Organization for Astronomical Research in the Southern Hemisphere and the Square Kilometre Array Observatory (A/AC.105/C.1/2023/CRP.18).

22. The Subcommittee noted that, as an ever-increasing number of stakeholders, including private entities, were launching spacecraft into orbit, concerns had been raised about spacecraft that reflected sunlight into astronomical telescopes or crossed their field of view, thereby degrading astronomical observations. Thus, the importance of implementing mitigating measures on factors that could hinder scientific discoveries was highlighted.

23. The Subcommittee noted various national and international efforts, including the hosting of events to foster dialogue among stakeholders, the development of regulations and legal frameworks, the establishment of dark sky conservation areas and radio quiet zones, research on technologies to mitigate light pollution and monitoring of the impact of satellite constellations on astronomy, to balance the provision of satellite services with astronomical observation activities.

24. Some delegations expressed the view that the establishment of the new IAU Centre for the Protection of the Dark and Quiet Sky from Satellite Constellation Interference in April 2022 fostered collaboration among a variety of stakeholders, in particular the astronomical community and the space industry, and encouraged further collaborative efforts.

25. Some delegations expressed the view that dark skies must be preserved and protected as common cultural and natural heritage of the world.

26. Some delegations expressed the view that their States’ growing astro-tourism industries relied on dark skies for further development.

27. The view was expressed that there would need to be trade-offs between the needs of the astronomical community and the needs of satellite operators.

28. The view was expressed that States that owned megaconstellation satellites should allocate a special budget to developing technical capability and technological support for scientific research in order to mitigate the negative consequences of such satellites and preserve dark skies.

29. The view was expressed that as a result of the rapid increase in megaconstellations, the issue of dark and quiet skies required greater attention and detailed guidance and should, therefore, be discussed on a separate occasion.

30. Some delegations expressed their support for the establishment of an expert group for a duration of three years and for keeping the agenda item on dark and quiet skies for science and society on the agenda of the Subcommittee for the same period.

31. Some delegations expressed the view that such an expert group should include interested member States and a balanced representation of private satellite operators and the scientific and academic community to evaluate the challenges and the means to address the matters before them in an adequate manner.
 32. Some delegations expressed the view that the observers for ITU and IADC should take part in the discussions of such an expert group, as established guidelines and practices in related fields, such as space debris mitigation and radio frequency management, needed to be taken into consideration.
 33. Some delegations expressed the view that the terms of reference of such an expert group should fall firmly within the remit of the Committee and should not overlap with the responsibilities of ITU such as issues related to radio wavelengths.
 34. The view was expressed that such an expert group should avoid covering the issues identified relating to artificial light at night, as that matter should be discussed at the national level.
 35. Some delegations expressed the view that such an expert group should not have a short-term mandate, as a wide range of stakeholders would need to be involved in order to complete a sufficient amount of work.
 36. The view was expressed that such an expert group could begin its work at the sixty-first session of the Subcommittee, after stakeholders' meetings had been held.
 37. The view was expressed that the topic had been covered in the discussion of the agenda item on the long-term sustainability of outer space activities and that the establishment of a new expert group, which would need a significant amount of time to agree on its terms of reference, was inappropriate.
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