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**Committee on the Peaceful
Uses of Outer Space
Scientific and Technical Subcommittee
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Draft report

IV. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment

1. In accordance with General Assembly resolution [74/82](#), the Subcommittee considered agenda item 7, entitled “Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment”.
2. The representatives of Canada, China, Colombia, India, Indonesia, Israel, Japan, Mexico, the Russian Federation, South Africa, the United States and Viet Nam made statements under agenda item 7. The observer for the Prince Sultan bin Abdulaziz International Prize for Water (PSIPW) also made a statement under the agenda item. During the general exchange of views, statements relating to the item were also made by representatives of other member States.
3. The Subcommittee heard the following scientific and technical presentations:
 - (a) “Overview of the China Earth observation programme”, by the representative of China;
 - (b) “System of Earth remote sensing in Space Research Institute (IKI) and international collaboration”, by the representative of the Russian Federation;
 - (c) “ASI's Earth observation missions for environment monitoring”, by the representative of Italy.
4. In the course of the discussions, delegations reviewed national, bilateral, regional and international programmes on remote sensing, in particular in the following areas: natural resource management; forest management and forest fire assessment and response; fishery management; environmental monitoring; urban planning; rural development and human settlement; infrastructure development; weather forecasting, and cyclogenesis and storm tracking; disaster management support; cartography applications; oceanography applications for altimetry and ocean surface wind vector measurements; wetland assessment and monitoring; watershed monitoring and development planning, and irrigation infrastructure assessment; paddy monitoring; agriculture, horticulture, and crop production and forecasting; snow and glacier monitoring and inventory assessment; highway toll applications and



road use; monitoring of hydrocarbon, water and power transmission infrastructure; and subsurface water monitoring and leakage assessment.

5. Some delegations expressed the view that the importance of remote sensing of the Earth could not be overstated, as remote sensing technology and its applications had proved useful and essential for improving the daily lives of people and in tackling global issues such as climate change and environmental protection. The delegations expressing that view also expressed the view that international collaboration in obtaining and using remote sensing data was essential to effectively addressing those issues.

6. Some delegations expressed the view that technological research and business development in the area of remote sensing services and applications was facilitated by the implementation, in accordance with international space law, of national regulatory frameworks that provided avenues for private sector entities to obtain authorization to conduct remote sensing activities through licensing and oversight procedures that appropriately balanced commercial interests with national security priorities.

7. The view was expressed that commercial ventures that leveraged remote sensing technology and applications added significant value to their products and services in the fields of business analysis, precision agriculture, water quality management and infrastructure analysis, including by using synthetic aperture radar technology to identify groundwater leakages and provide municipalities and engineers with actionable insights to maintain public utilities and conserve water.

8. Some delegations expressed the view that, while national remote sensing activities and missions were conducted primarily for governmental purposes, providing international partners with open and free access to data and images, as well as direct satellite downlinks, encouraged and promoted the use of remote sensing technology applications to support societal and commercial development.

9. Some delegations expressed the view that the development of mobile device applications that make use of remote sensing data, products and images were useful in addressing the diverse challenges faced by end users, such as in the identification, assessment and emergency management of forest fires, as well as in providing hands-free access to coastal weather and fishery information, and that further development in that field would yield additional benefits.

10. The view was expressed that the Office for Outer Space Affairs should further develop and promote capacity-building initiatives in order to improve, expand and facilitate access to information and data obtained from space activities involving remote sensing and its uses.

11. The Subcommittee noted the continued support for the activities of CEOS and that the Indian Space Research Organization (ISRO) was serving as Chair of CEOS for 2020. The Subcommittee also noted that the thirty-fourth plenary session of CEOS would be held in Ahmedabad, India, from 19 to 21 October 2020.

12. The Subcommittee further noted the continued support for the activities of the Group on Earth Observations (GEO) and that the next GEO plenary meeting and ministerial summit would be held in Port Elizabeth, South Africa, from 1 to 6 November 2020.

XIV. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union

13. In accordance with General Assembly resolution [74/82](#), the Subcommittee considered agenda item 17, entitled “Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union”, as a single issue/item for discussion.

14. The representatives of Ecuador, India, Indonesia, the Netherlands and the Russian Federation made statements under agenda item 17. The observer for ITU also made a statement. During the general exchange of views, statements relating to the item were made by representatives of other member States.

15. In accordance with the invitation extended by the Subcommittee at its fifty-sixth session, in 2019 ([A/AC.105/1202](#), para. 287), the observer for ITU presented a report concerning the contribution of ITU to the peaceful uses of outer space, including the use of the geostationary satellite orbit and other orbits. In that connection, the Subcommittee took note with appreciation of the information provided in the annual report for 2019 of the Radiocommunication Bureau of ITU on the use of the geostationary satellite orbit and other orbits (see www.itu.int/en/ITU-R/space/snl/Pages/reportSTS.aspx), as well as other documents referred to in conference room paper A/AC.105/C.1/2020/CRP.14. The Subcommittee invited ITU to continue to submit reports to it.

16. Some delegations expressed the view that the geostationary orbit, as a limited natural resource clearly in danger of saturation, must be used rationally, efficiently, economically and equitably. That principle was deemed fundamental to safeguarding the interests of developing countries and countries with a certain geographical position, as set out in article 44, paragraph 196.2, of the Constitution of ITU, as amended by the Plenipotentiary Conference held in Minneapolis, United States, in 1998.

17. Some delegations expressed the view that the geostationary orbit was an integral part of outer space and possessed strategic and economic value for States, and that it should be used in a rational, balanced, efficient and equitable manner, so as to ensure that it would not be saturated. The delegations expressing that view were also of the view that, in order to defend the interests of developing countries, and equatorial countries in particular, the geostationary orbit should be regulated under a special legal framework or sui generis regime, in line with article 44 of the ITU Constitution.

18. Some delegations expressed the view that the geostationary orbit must be governed by a special legal framework with the purpose of defending the interests of developing countries, in particular equatorial countries.

19. The view was expressed that it had become difficult for new space actors to obtain proper orbit and frequency rights for locations in the geostationary orbit, owing to the high saturation of that orbit. The delegation expressing that view was also of the view that the use of the geostationary orbit was not the only way to obtain access to space; such access could also be gained by obtaining international orbit and frequency rights from ITU to operate in low Earth orbit, or any other orbit, where significantly fewer activities involving the development and operation of spacecraft took place, in comparison with the geostationary orbit. Therefore, the Subcommittee

should, at future meetings, broaden the scope of the current agenda item to include the low Earth orbit and other orbits.

20. The view was expressed that, while future mega-constellations of satellites could bring about new approaches to the establishment of nationwide telecommunication networks, for some countries, geostationary satellites would continue to be irreplaceable, owing to the special geographic conditions in which they operated. In that connection, the delegations expressing that view noted with appreciation that the Guidelines on the Long-term Sustainability of Outer Space Activities contributed to the protection of the geostationary orbit region, although additional efforts would be required for its preservation.

21. The view was expressed that the decisions relating to the geostationary orbit taken at the World Radiocommunication Conference 2019 (WRC-19), held in Sharm el-Sheikh, Egypt, from 28 October to 22 November 2019, would contribute to the realization of the key principle, namely, equitable access to the orbital and frequency resources of the geostationary orbit for all interested members of ITU, as well as allow the efficient use of those resources, taking into particular account the needs and interests of developing countries.

22. Some delegations expressed the view that, in order to ensure the sustainability of the geostationary orbit, as well as to ensure guaranteed and equitable access to the geostationary orbit based on the needs of all nations, taking into particular account the needs and interests of developing countries, it was necessary to keep the issue on the agenda of the Subcommittee.

XV. Draft provisional agenda for the fifty-eighth session of the Scientific and Technical Subcommittee

23. In accordance with General Assembly resolution 74/82, the Subcommittee considered agenda item 18, entitled “Draft provisional agenda for the fifty-eighth session of the Scientific and Technical Subcommittee”.

24. The Subcommittee noted that the Secretariat had scheduled its fifty-eighth session to be held from 1 to 12 February 2021.

25. The Subcommittee agreed that the following items be proposed to the Committee for inclusion in the agenda of the Subcommittee at its fifty-eighth session:

1. Adoption of the agenda.
2. Statement by the Chair.
3. General exchange of views and introduction of reports submitted on national activities.
4. United Nations Programme on Space Applications.
5. Space technology for sustainable socioeconomic development.
6. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth’s environment.
7. Space debris.
8. Space-system-based disaster management support.
9. Recent developments in global navigation satellite systems.
10. Space weather.
11. Near-Earth objects.
12. Long-term sustainability of outer space activities.
13. Future role and method of work of the Committee.

14. Use of nuclear power sources in outer space.
(Work for 2021 as reflected in the multi-year workplan of the Working Group ([A/AC.105/1138](#), annex II, para. 9))
 15. Space and global health.
(Work for 2021 as reflected in the multi-year workplan of the Working Group ([A/AC.105/1202](#), annex III, para. 5, and appendix I))
 16. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union.
(Single issue/item for discussion)
 17. Draft provisional agenda for the fifty-ninth session of the Scientific and Technical Subcommittee.
 18. Report to the Committee on the Peaceful Uses of Outer Space.
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