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**Committee on the Peaceful  
Uses of Outer Space  
Fifty-ninth session  
Vienna, 8-17 June 2016**

## **Draft report**

### **Addendum**

## **Chapter II**

### **Recommendations and decisions**

#### **B. Report of the Scientific and Technical Subcommittee on its fifty-third session**

1. The Committee took note with appreciation of the report of the Scientific and Technical Subcommittee on its fifty-third session (A/AC.105/1109), which contained the results of its deliberations on the items considered by the Subcommittee in accordance with General Assembly resolution 70/82.
2. The Committee expressed its appreciation to V. K. Dadhwal (India) for his able leadership during the fifty-third session of the Subcommittee.
3. The representatives of Algeria, Australia, Austria, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Oman, Pakistan, the Republic of Korea, the Russian Federation, Turkey, the United Kingdom, the United States and Venezuela (Bolivarian Republic of) made statements under the item. Statements were also made by the representative of Argentina on behalf of the Group of 77 and China and the representative of the Dominican Republic on behalf of the Group of Latin American and Caribbean States. The observers for ASE and IAASS also made statements under the item. During the general exchange of views, statements relating to the item were also made by other member States.
4. The Committee heard the following presentations:
  - (a) “Open universe initiative”, by the representative of Italy;



(b) “United Nations/Japan Long-term Fellowship Programme on Nanosatellite Technologies”, by the representative of Japan;

(c) “Education under the United Nations/Japan (PNST) Programme: perspectives of a graduate”, by the representative of the Sudan.

## **1. United Nations Programme on Space Applications**

### **(a) Activities of the United Nations Programme on Space Applications**

5. The Committee took note of the discussion of the Subcommittee under the item on the activities of the United Nations Programme on Space Applications, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 46-56).

6. The Committee noted that the priority areas of the Programme were environmental monitoring, natural resource management, satellite communications for tele-education and telemedicine applications, disaster risk reduction, the use of global navigation satellite systems, the Basic Space Science Initiative, space law, climate change, the Basic Space Technology Initiative and the Human Space Technology Initiative, and biodiversity and ecosystems.

7. The Committee took note of the activities of the Programme carried out in 2015, as presented in the report of the Subcommittee (A/AC.105/1109, paras. 52-55) and in the report of the Expert on Space Applications (A/AC.105/1107, annex I).

8. The Committee noted with concern the limited financial resources available to implement the Programme and appealed to States and organizations to continue supporting the Programme through voluntary contributions.

#### *(i) Conferences, training courses and workshops of the United Nations Programme on Space Applications*

9. The Committee noted the workshops and symposiums planned for the remainder of 2016 and expressed its appreciation to Austria, Costa Rica, India, Iran (Islamic Republic of), Kenya, Mexico, Nepal and South Africa for hosting those activities (see A/AC.105/1107, annex II).

#### *(ii) Long-term fellowships for in-depth training*

10. The Committee noted that the Government of Japan, through the Kyushu Institute of Technology, had continued to contribute to the Basic Space Technology Initiative by providing long-term fellowship programme opportunities for students from developing countries under the United Nations/Japan Long-term Fellowship Programme on Nanosatellite Technologies.

11. The Committee noted that the Office for Outer Space Affairs, in collaboration with the Japan Aerospace Exploration Agency (JAXA), had provided CubeSat deployment opportunities from the Japanese Experiment Module (Kibo) of the International Space Station under the KiboCUBE call for proposals.

#### *(iii) Technical advisory services*

12. The Committee noted with appreciation the technical advisory services provided under the United Nations Programme on Space Applications in support of activities and projects promoting regional cooperation in space applications, as

referred to in the report of the Expert on Space Applications (A/AC.105/1107, paras. 32-37).

(iv) *Regional centres for space science and technology education, affiliated to the United Nations*

13. The Committee noted with satisfaction that the United Nations Programme on Space Applications had continued to emphasize, promote and foster cooperation with Member States at the regional and global levels to support the regional centres for space science and technology education, affiliated to the United Nations. The schedule of nine-month postgraduate courses offered in 2014-2016 by the regional centres supported under the Programme was presented in the report of the Expert on Space Applications (A/AC.105/1107, annex III).

14. The Committee expressed its appreciation to the Office for Outer Space Affairs for implementing the United Nations Programme on Space Applications and noted the important role of the Programme in supporting capacity-building in space science technology and its applications, particularly in developing countries.

15. The Committee noted that Argentina would host the XVII International Symposium in Remote Sensing and Geographic Information Systems of the Latin American Society for Remote Sensing and Space Information Systems (SELPER) in Puerto Iguazú from 7 to 11 November 2016.

**(b) International Satellite System for Search and Rescue**

16. The Committee noted with satisfaction that the International Satellite System for Search and Rescue (COSPAS-SARSAT) currently had 40 member States and two participating organizations and that there was additional interest in being associated with the programme. The Committee noted with appreciation that the worldwide coverage for emergency beacons had been made possible by the space segment, which consisted of five polar-orbiting and seven geostationary satellites provided by Canada, France, India, the Russian Federation and the United States, along with the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), as well as by the ground-segment contributions of 26 other countries. The Committee also noted that, in 2015, alert data from the system had helped to save 2,400 lives in 850 search and rescue events worldwide.

**2. Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda**

17. The Committee took note of the discussion of the Subcommittee under the item on space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 64-80).

18. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee and its Working Group of the Whole (A/AC.105/1109, para. 80).

19. The Committee recalled that the General Assembly, in its resolution 70/82, had reiterated the need to promote the benefits of space technology and its applications

in the major United Nations conferences and summits for economic, social and cultural development and related fields, and had recognized that the fundamental significance of space science and technology, and their applications for global, regional, national and local sustainable development processes, should be promoted in the formulation of policies and programmes of action and their implementation, including through efforts towards achieving the objectives of those conferences and summits and in implementing the 2030 Agenda for Sustainable Development.

20. Some delegations expressed the view that the examination of ways in which space science and technology and their applications could contribute to the implementation of the 2030 Agenda for Sustainable Development should remain part of the work of the Committee.

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

21. The Committee took note of the discussion of the Subcommittee under the item on matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 81-91).

22. The Committee also noted a number of regional and international initiatives aimed at enhancing the use of remote sensing data in order to support socioeconomic and sustainable development, in particular for the benefit of developing countries.

23. In the course of the discussion, delegations reviewed national and international cooperation programmes on using remote sensing data. A number of areas in which remote sensing data continued to be crucial for well-informed decision-making were singled out. Examples included climate change and atmospheric gas monitoring, disaster management, management of natural resources, illicit-crop monitoring, drought and desertification forecasting, oceanography, coastal and sea level monitoring, rural development, land use and watershed management, agriculture, urban planning, food security, public health, and humanitarian and development aid, in particular for monitoring populations and natural resources in camps for refugees and internally displaced persons.

24. Recognizing the increased relevance and use of remote sensing technology and other space science and technology applications, some delegations called for greater capacity-building for relevant national actors, in particular those in developing countries, when taking preventive action against environmental degradation and related hazards. Those delegations also expressed their support for initiatives that promoted the making available and distribution of space-based data to developing countries at no cost.

25. The Committee noted the number of launches of Earth observation satellites and also noted that a number of cooperative initiatives had been undertaken by developing countries to launch such satellites. The Committee stressed the need to continue enhancing the capacities of developing countries with regard to the use of remote sensing technology.

#### 4. Space debris

26. The Committee took note of the discussion of the Subcommittee under the item on space debris, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 92-113).

27. The Committee endorsed the decisions and recommendations of the Subcommittee on the item (A/AC.105/1109, paras. 97 and 113).

28. The Committee noted with appreciation that some States were already implementing space debris mitigation measures consistent with the Space Debris Mitigation Guidelines of the Committee and/or the Inter-Agency Space Debris Coordination Committee (IADC) Space Debris Mitigation Guidelines, and that other States had developed their own space debris mitigation standards based on those guidelines. In addition, the Committee noted that other States were using the IADC Guidelines and the European Code of Conduct for Space Debris Mitigation as reference points in their regulatory frameworks for national space activities. The Committee also noted that other States had cooperated, in the framework of the ESA space situational awareness programme, to address the issue of space debris.

29. The Committee urged those countries that had not yet done so to consider the voluntary implementation of the Space Debris Mitigation Guidelines of the Committee and/or the IADC Space Debris Mitigation Guidelines.

30. The Committee noted that an increasing number of States was adopting concrete actions to mitigate space debris, including the improvement of the design of launch vehicles and spacecrafts, the deorbiting of satellites, passivation, end-of-life operations and the development of specific software and models for space debris mitigation.

31. Some delegations expressed the view that the future of space activities largely depended on space debris mitigation and removal and that the issue of mitigation of space debris should continue to be treated as a priority.

32. Some delegations expressed the view that the issue of space debris should be addressed in a manner that would not jeopardize the development of the space capabilities of developing countries.

33. Some delegations expressed the view that it was necessary to continue the thorough consideration of the issue of space debris mitigation, in particular by paying greater attention to the problem of debris coming from platforms with nuclear power sources in outer space and to collisions of space objects with space debris and their derivatives, as well as to ways of improving the technology for monitoring space debris.

34. Some delegations expressed the view that States, especially those that were largely responsible for the situation with regard to space debris and those that had the ability to take action for space debris mitigation, should disseminate information on action taken to reduce the generation of more space debris.

35. The view was expressed that since much of the orbital space debris was a result of the past operations of major spacefaring countries, there was a moral international responsibility on their part to assist emerging spacefaring countries in the implementation of space debris mitigation guidelines through the provision of space situational awareness and conjunction assessment risk analysis systems, as

well as financial contributions in order to absorb the additional costs incurred by developing countries with regard to spacecraft design modifications.

36. The view was expressed that the principle of common but differentiated responsibility should be applied to the issue of space debris and that States that created space debris had exclusive responsibility for its removal.

37. The view was expressed that international efforts were necessary with regard to the removal of space debris, and that no space debris removal efforts should be taken in isolation, in view of their potential negative impact on the geostationary orbit and their potential to lead to conflict between States and to the militarization of outer space.

38. The view was expressed that all satellite operators should take appropriate measures to offset the possibility of the creation of space debris.

39. The view was expressed that it was necessary to analyse the possible impact of the deployment of large constellations of satellites in low-Earth orbit and to investigate the end-of-life disposal of constellation members.

40. The view was expressed that the Office for Outer Space Affairs should spearhead efforts to address space debris mitigation by setting up a global holistic programme, defining guidelines, scheduling activities and producing periodic reports.

#### **5. Space-system-based disaster management support**

41. The Committee took note of the discussion of the Subcommittee under the item on space-system-based disaster management support, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 114-134).

42. The Committee noted with appreciation the tenth anniversary of the establishment of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), a programme of the Office for Outer Space Affairs that had been established by the General Assembly in its resolution 61/110 to provide universal access to all countries and all relevant international and regional organizations to all types of space-based information and services relevant to disaster management to support the full disaster management cycle.

43. The Committee welcomed the activities organized by UN-SPIDER aimed at promoting greater understanding, acceptance and commitment by countries regarding ways of accessing and developing capacity to use all types of space-based information in support of the full disaster management cycle. In that regard, the Committee noted the UN-SPIDER Knowledge Portal ([www.un-spider.org](http://www.un-spider.org)), a web-based platform for information, communication and process support that fostered the exchange of information for sharing experiences, capacity-building and technical advisory support.

44. Some delegations called upon the Office for Outer Space Affairs, through UN-SPIDER, to intensify its capacity-building activities through technical advisory missions and training programmes, in particular in developing countries, to strengthen disaster risk preparedness and emergency response at the national level.

45. In her statement to the Committee at its 706th meeting, on 10 June 2016, the Director of the Office for Outer Space Affairs thanked the Governments of Austria,

China and Germany for their commitment to and support of UN-SPIDER since its inception, including the implementation of UN-SPIDER activities coordinated by the UN-SPIDER offices in Bonn, Beijing and Vienna. The Director stressed that the tenth anniversary was an opportunity to review the goals and partnerships of UN-SPIDER and to consider how it could better support Member States in the implementation of the 2030 Agenda for Sustainable Development.

46. In that context, the Committee noted with appreciation the tenth anniversary conference of UN-SPIDER, entitled “Enhancing the resilience of nations through use of space-based information”, which had been held in Vienna on 7 and 8 June 2016 and had been organized by the Office for Outer Space Affairs and UN-SPIDER partners and donors.

47. The Committee noted with appreciation that the seventh annual UN-SPIDER regional support offices coordination meeting had been held in Vienna on 6 June 2016. The meeting had brought together 13 representatives of regional support offices (of which there were 20 in total). The offices were a strong pillar of UN-SPIDER and contributed to the programme’s activities in the areas of capacity-building, institutional strengthening and knowledge management.

48. The Committee noted that UN-SPIDER would hold its sixth annual conference in Beijing, as one of the commitments of the Office for Outer Space Affairs to supporting the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030.

49. The Committee also noted the valuable contribution of the ongoing activities of Member States to increase the availability and use of space-based solutions in support of disaster management, including the Sentinel Asia project and its coordination of emergency observation requests through the Asian Disaster Reduction Centre, the European Earth observation programme (Copernicus) emergency mapping service and the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters.

## **6. Recent developments in global navigation satellite systems**

50. The Committee took note of the discussion of the Subcommittee under the item on recent developments in global navigation satellite systems (GNSS), as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 135-161).

51. The Committee noted with appreciation that the tenth meeting of the International Committee on Global Navigation Satellite Systems (ICG) and the fifteenth meeting of the Providers’ Forum, organized by the Department of State of the United States and the University Corporation for Atmospheric Research, had been held in Boulder, Colorado, United States, from 1 to 6 November 2015. The Committee noted that the eleventh meeting of ICG in 2016 would be hosted by the Russian Federation.

52. The Committee noted with appreciation the achievements of providers and users of positioning, navigation and timing services in promoting GNSS. It was noted that GNSS had become intrinsic to the modern economy, providing positioning, navigation, timing and value-added services. The Committee also noted that the ultimate goal of ICG was to achieve compatibility and interoperability

among GNSS systems, and that ICG, as an informal voluntary body, was a successful example of international collaboration in space.

53. The Committee noted the proposal by ICG that the Subcommittee explore, at its session in 2017, the feasibility of a focused review, within its current agenda item on recent developments in global navigation satellite systems, of issues related to GNSS spectrum protection and interference detection and mitigation. The Committee also noted that the intent behind the proposal was to raise awareness of the issue among States members of the Committee as part of efforts to achieve the overall goal of promoting effective use of GNSS open services by the global community.

54. The Committee expressed its appreciation to the Office for Outer Space Affairs for its continued support as executive secretariat for ICG and its Providers' Forum, and for the organization of workshops and training courses focusing on capacity-building in the use of GNSS-related technologies in various fields of science and industry, including on the subject of space weather effects in the ionosphere and their impact on positioning.

55. The Committee noted with appreciation the financial contributions made by the United States and the European Commission to the Office for Outer Space Affairs in support of GNSS-related activities and ICG and its Providers' Forum.

56. The Committee noted that regular meetings among China, India, Japan, the Russian Federation, the United States and the European Union had been held to discuss ways in which interoperability among GNSS providers could be enhanced and services for the global user community could be improved.

57. The Committee also noted that the Indian Regional Navigation Satellite System (NavIC) had been completed, and that the system would provide real-time positioning and timing services over India and the neighbouring region.

## **7. Space weather**

58. The Committee took note of the discussion of the Subcommittee under the item on space weather, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 162-174).

59. The Committee recalled the mandate of the Expert Group on Space Weather of the Scientific and Technical Subcommittee, as endorsed by the Committee at its fifty-eighth session, in 2015 (A/70/20, para. 141), which was to promote awareness, provide guidance and enable communication and cooperation in space weather-related activities among States members of the Committee and related national and international organizations.

60. The Committee noted with appreciation the progress in the work done by the Expert Group on Space Weather, under the leadership of Canada, as one of the most important mechanisms at the global level for enhancing space weather capabilities, drawing on the best practices of the work of expert group C, on space weather, of the Working Group on the Long-term Sustainability of Outer Space Activities, as well as on the work completed within the Committee on Space Research (COSPAR)/International Living With a Star Space Weather Road Map. That work was vital for strengthening the overall reliability of space systems and the ability of



such systems to respond to the impact of adverse space weather, which was a shared concern among nations and one of the priorities of the UNISPACE+50 process.

61. The Committee noted that the Expert Group had held its second meeting on the margins of the fifty-third session of the Scientific and Technical Subcommittee and had agreed to continue to meet annually on the margins of the session of the Subcommittee and to use teleconferences or other means to communicate with each other between sessions.

62. The Committee noted with appreciation that the Expert Group on Space Weather had presented a detailed written report on its work to the Scientific and Technical Subcommittee at its fifty-third session. That report also contained a review of its workplan (A/AC.105/C.1/2016/CRP.17).

## **8. Near-Earth objects**

63. The Committee took note of the discussion of the Subcommittee under the item on near-Earth objects, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 175-194).

64. The Committee noted with appreciation that the International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG), which had been established in 2014 pursuant to recommendations on an international response to the near-Earth object impact threat, endorsed by the Committee on the Peaceful Uses of Outer Space at its fifty-sixth session and welcomed by the General Assembly in its resolution 68/75, had provided reports on their activities to the fifty-third session of the Scientific and Technical Subcommittee (A/AC.105/1109, paras. 183-188). The Committee welcomed with appreciation the progress made by IAWN and SMPAG in the area of strengthening international cooperation in mitigating a potential near-Earth object threat, which, in the interest of public safety, required cooperative action on the part of the global community.

65. The Committee noted that SMPAG, at its sixth meeting, held on the margins of the fifty-third session of the Scientific and Technical Subcommittee, had decided, among other things, to establish an ad hoc working group on legal issues in order to, inter alia, formulate and prioritize relevant legal issues and questions requiring clarification with regard to its work, consider the legal questions in the context of existing treaties and devise a plan of action to tackle outstanding issues.

66. The Committee noted that the next meetings of the IAWN steering committee and the SMPAG steering committee would take place on the margins of the meeting of the Division for Planetary Sciences of the American Astronomical Society, to be held in Pasadena, California, United States, from 16 to 21 October 2016.

67. The Committee agreed, taking into account the view of the Subcommittee (A/AC.105/1109, paras. 189-190), that the Office for Outer Space Affairs would serve as the permanent secretariat of SMPAG on the understanding that there would be no implications for the budget of the United Nations. Recalling the agreement of the Subcommittee that the work of IAWN and SMPAG should be facilitated by the United Nations, the Committee noted that the Office for Outer Space Affairs acting as the permanent secretariat of SMPAG would ensure the continuity of the work of SMPAG, independent of its rotating chairmanship, and would provide for

institutional memory in terms of keeping documentation records and ensuring consistent annual reporting to the Committee.

68. The Committee endorsed the recommendation of the Subcommittee (A/AC.105/1109, para. 193), which had been presented by the Association of Space Explorers, for the global observance of an international asteroid day on 30 June, to be proclaimed by the General Assembly at its seventy-first session in 2016. Intended as an annual event to be held on the anniversary of the Tunguska impact over Siberia on 30 June 1908, the international asteroid day would raise public awareness about the asteroid impact hazard and inform the public about the crisis communication actions to be taken at the global level in the case of a credible near-Earth object threat. It would also be an opportunity to raise awareness of the work undertaken by SMPAG and IAWN, facilitated by the Office for Outer Space Affairs, and of the work undertaken by the Committee on the Peaceful Uses of Outer Space and its member States.

#### **9. Use of nuclear power sources in outer space**

69. The Committee took note of the discussion of the Subcommittee under the item on the use of nuclear power sources in outer space, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 195-212).

70. The Committee endorsed the report of the Subcommittee and the Working Group on the Use of Nuclear Power Sources in Outer Space, reconvened under the chairmanship of Sam A. Harbison (United Kingdom) (A/AC.105/1109, para. 211, and annex II).

71. The Committee stressed the value and importance of implementing the voluntary Safety Framework for Nuclear Power Source Applications in Outer Space, which had been developed by the Subcommittee jointly with the International Atomic Energy Agency.

72. Some delegations expressed the view that more consideration should be given to the use of nuclear power sources in terrestrial orbits in order to address the problem of potential collisions of objects containing nuclear power sources and to the accidental re-entry of nuclear power sources into the Earth's atmosphere, which would create a high risk for the Earth's biosphere and be a threat to the universality and indivisibility of human rights and the ecological balance and environmental protection of outer space

#### **10. Long-term sustainability of outer space activities**

73. [Contained in document A/AC.105/L.306/Add.3.]

#### **11. 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**

74. The Committee took note of the discussion of the Subcommittee under the item on the 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 ITU, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 249-257).

75. Some delegations expressed the view that the geostationary orbit was a limited natural resource that was at risk of becoming saturated, thereby threatening the sustainability of space activities in that environment; that its exploitation should be rationalized; and that it should be made available to all States, under equitable conditions, irrespective of their current technical capabilities, taking into particular account the needs of developing countries and the geographical position of certain countries. Those delegations were also of the view that it was important to use the geostationary orbit in compliance with international law, in accordance with the decisions of ITU and within the legal framework established in the relevant United Nations treaties.

76. Some delegations expressed the view that the geostationary orbit provided unique potential for access to communications and information, in particular for assisting developing countries in implementing social programmes and educational projects, in disseminating knowledge and in providing medical assistance. Those delegations therefore considered that, in order to ensure the sustainability of the geostationary orbit, it was necessary to keep the issue on the agenda of the Subcommittee.

## **12. Draft provisional agenda for the fifty-fourth session of the Scientific and Technical Subcommittee**

77. The Committee took note of the discussion of the Subcommittee under the item on the draft provisional agenda for its fifty-fourth session, as reflected in the report of the Subcommittee (A/AC.105/1109, paras. 258-266).

78. The Committee endorsed the recommendations and decisions on the item made by the Subcommittee (A/AC.105/1109, paras. 259-263).

79. The Committee agreed that, in view of the adoption of the 2030 Agenda for Sustainable Development at the United Nations summit for the adoption of the post-2015 development agenda, held from 25 to 27 September 2015, the current agenda item of the Subcommittee entitled "Space technology for socioeconomic development in the context of the United Nations Conference on Sustainable Development and the post-2015 development agenda" should be renamed "Space technology for sustainable socioeconomic development".

80. On the basis of the deliberations of the Subcommittee at its fifty-third session, the Committee agreed that the following items should be considered by the Subcommittee at its fifty-fourth 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. Use of nuclear power sources in outer space.

(Work for 2017 as reflected in the extended multi-year workplan of the Working Group (A/AC.105/1065, annex II, para. 9))

13. Long-term sustainability of outer space activities.
14. 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)

15. Draft provisional agenda for the fifty-fifth session of the Scientific and Technical Subcommittee, including identification of subjects to be dealt with as single issues/items for discussion or under multi-year workplans.

81. The Committee agreed that the Working Group of the Whole and the Working Group on the Use of Nuclear Power Sources in Outer Space should be reconvened at the fifty-fourth session of the Scientific and Technical Subcommittee.

82. The Committee agreed that the item on the long-term sustainability of outer space activities would be included in the agenda of the Subcommittee for its sessions in 2017 and 2018.

83. Some delegations expressed the view that the Subcommittee should introduce a new agenda item entitled "Space system-based counter-terrorism support" and that, in order to combat the threat of international terrorism, spacefaring nations should make available, at no cost, high-resolution imagery to countries with no such capabilities.