United Nations A/AC.105/C.1/L.321/Add.1

General Assembly

Distr.: Limited
13 February 2012

Original: English

Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
Forty-ninth session
Vienna, 6-17 February 2012

Draft report

Addendum

III. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

1. In accordance with General Assembly resolution 66/71, the Subcommittee considered agenda item 6, "Implementation of the recommendations of the United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)".

2. The representatives of Canada and Japan made statements under agenda item 6. During the general exchange of views, statements relating to the item were made by representatives of other member States.

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

(a) "Mapping of risks and resources in public health for decision support clients on mobile devices", by the representative of Germany;

(b) "Point de vue de Burkina Faso en télésanté et télé-épidémiologie", by the representative of Burkina Faso;

(c) "The educational programme for graduates of Iraqi universities realized by the Italian Ministry of Foreign Affairs and the School of Aerospace Engineering in Rome", by the representative of Italy;

(d) "Tele-epidemiology and tele-health", by the observer for WHO;

V.12-50743 (E)

(e) “Results from the Space Generation Congress 2011: perspectives from the next generation of international space sector leaders”, by the observer for SGAC.

4. The Subcommittee had before it the following:

(a) Note by the Secretariat on the contribution of the Committee on the Peaceful Uses of Outer Space to the United Nations Conference on Sustainable Development: harnessing space-derived geospatial data for sustainable development (A/AC.105/993);

(b) Note by the Secretariat containing the final report of the Action Team on Public Health: the use of space technology to improve public health (A/AC.105/C.1/L.305);

(c) Conference room paper containing submissions from Romania in its capacity as Chair of the Committee on the Peaceful Uses of Outer Space and from the Office for Outer Space Affairs of the Secretariat to the United Nations Conference on Sustainable Development (A/AC.105/C.1/2012/CRP.10).

5. The Subcommittee recalled that the General Assembly, in its resolution 66/71, had noted with satisfaction that a number of the recommendations set out in the Plan of Action of the Committee on the Peaceful Uses of Outer Space on the implementation of the recommendations of UNISPACE III (A/59/174, sect. VI.B) had been implemented and that satisfactory progress was being made in implementing the outstanding recommendations through national and regional activities.

6. The Subcommittee, in this regard, reiterated its appreciation for the flexible approach that had been adopted in implementing the recommendations of UNISPACE III. By making use of multi-year workplans and action teams, the Committee had been able to address a wide range of issues, thus enabling maximum implementation of those recommendations.

7. The Subcommittee noted that the Action Team on Public Health had held a meeting during the session, and noted, in this context, that continued discussions were needed on the use of space technology in the area of tele-epidemiology and tele-health to bring concrete benefits for meeting health needs. The Subcommittee therefore noted with appreciation the participation of WHO in its present session.

8. The Subcommittee noted that the Action Team on Near-Earth Objects had held meetings during the session, and noted with appreciation the continued work of the Action Team and the Working Group on Near-Earth Objects on the Action Team’s draft recommendations for an international response to the threat of near-Earth object impact.

9. The Working Group of the Whole, reconvened in accordance with General Assembly resolution 66/71, also considered agenda item 6. At its [...] meeting, on 17 February, the Subcommittee endorsed the recommendations of the Working Group of the Whole concerning the implementation of the recommendations of UNISPACE III, contained in annex I to the present report.

V. Space debris

10. In accordance with General Assembly resolution 66/71, the Subcommittee considered agenda item 8, “Space debris”.

11. The representatives of Canada, Chile, China, Germany, India, Indonesia, Italy, Japan, Poland, the Russian Federation, Saudi Arabia, the United States and Venezuela (Bolivarian Republic of) made statements under agenda item 8. During the general exchange of views, statements relating to the item were also made by representatives of other member States, by the representative of South Africa on behalf of the Group of African States and by the representative of Ecuador on behalf of the Group of Latin American and Caribbean States. The observer for ESA also made a statement.

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

(a) “Présentation des activités du CNES dans le domaine des débris spatiaux”, by the representative of France;

(b) “Results of GEO and HEO space debris population research within the framework of the ISON international project in 2011”, by the representative of the Russian Federation;

(c) “US space debris environment and operational updates”, by the representative of the United States;

(d) “Swiss contributions to a better understanding of the space debris environment”, by the representative of Switzerland;

(e) “Space debris re-entry hazards”, by the observer for IAASS.

13. The Subcommittee had before it information on research on space debris, safety of space objects with nuclear power sources on board and problems relating to their collision with space debris, containing replies received from Member States and international organizations on the issue (A/AC.105/C.1/101, A/AC.105/C.1/2012/CRP.9 and A/AC.105/C.1/2012/CRP.11).

14. The Subcommittee noted with satisfaction that some States were implementing space debris mitigation measures consistent with the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space 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.

15. The Subcommittee noted with appreciation that States had adopted a number of approaches and concrete actions to mitigate space debris, including the improvement of the design of launch vehicles and spacecraft, the reorbiting of satellites, passivation, end-of-life operations and the development of specific software and models for space debris mitigation.

16. The Subcommittee also noted that research was being conducted in the areas of technology for space debris observation and continuous monitoring, space debris re-entry prediction, collision avoidance and collision probability modelling and technologies to protect space systems from space debris and to limit the creation of additional space debris.

17. The Subcommittee noted the technical collaboration of member States in the area of space debris monitoring and mitigation, including through training and the joint use of facilities.

18. The Subcommittee noted the projects of some States in the field of active removal of space debris and, in this connection, their comprehensive studies on the long-term evolution of the space debris environment.

19. Some delegations were of the view that the mitigation of space debris and the limitation of its creation should be among the priorities of the Subcommittee's work.

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

21. Some delegations were of the view that all relevant information related to the re-entry of space debris into the Earth's atmosphere should be reported diligently and expeditiously to countries that might be affected.

22. Some delegations were of the view that the sharing of high-quality data and technical know-how among spacefaring nations was essential for meaningful mitigation strategies and remediation measures.

23. Some delegations were of the view that the Subcommittee should consult IADC periodically to keep abreast of future revisions of the IADC Guidelines in the light of evolving technologies and debris mitigation practices.

24. The view was expressed that duplication in the work of the Subcommittee and IADC should be avoided.

25. The view was expressed that developing countries should benefit from technical assistance in space debris monitoring provided by spacefaring nations.

26. The view was expressed that the cost of space debris mitigation measures should be shared by all space users equally in order to keep the business environment for space activities fair and competitive, and that the Committee and its subsidiary bodies could play an important role in promoting international coordination in matters related to space debris removal cost-sharing, ground risk acceptance and removal authorization.

27. The Subcommittee agreed that States, in particular spacefaring nations, should pay greater attention to the problem of collisions of space objects, including those with nuclear power sources on board, with space debris and to other aspects of space debris, including its re-entry into the atmosphere. It noted that the General Assembly, in its resolution 66/71, had called for the continuation of national research on that question, for the development of improved technology for the monitoring of space debris and for the compilation and dissemination of data on space debris and had agreed that international cooperation was needed to expand appropriate and affordable strategies to minimize the impact of space debris on future space missions. The Subcommittee agreed that research on space debris should continue and that Member States should make available to all interested parties the results of that research, including information on practices that had proved effective in minimizing the creation of space debris.

28. The Subcommittee agreed that Member States and space agencies should again be invited to provide reports on research on space debris, the safety of space objects with nuclear power sources on board and problems relating to the collision of such space objects with space debris.

29. Some delegations were of the view that reports on national research on space debris, safety of space objects with nuclear power sources on board and problems relating to their collision with space debris did not contain replies from the States that were largely responsible for creating space debris, including debris from platforms with nuclear power sources.

30. The view was expressed that it was necessary to continue improving the Space Debris Mitigation Guidelines of the Committee, and that the Scientific and Technical Subcommittee and the Legal Subcommittee of the Committee should cooperate with the aim of developing legally binding rules relating to space debris.

VI. Space-system-based disaster management support

31. In accordance with General Assembly resolution 66/71, the Subcommittee considered agenda item 9, "Space-system-based disaster management support".

32. The representatives of Burkina Faso, China, India, Indonesia, Italy, Japan, Pakistan, Romania, the Russian Federation and the United States made statements under agenda item 9. During the general exchange of views, statements relating to the item were also made by representatives of other member States, by the representative of South Africa on behalf of the Group of African States, by the representative of Ecuador on behalf of the Group of Latin American and Caribbean States and by the observer for APSCO.

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

(a) "Mapping of risks and resources in public health for decision support clients on mobile devices", by the representative of Germany;

(b) "Disaster monitoring activities in Japan", by the representative of Japan.

34. The Subcommittee had before it the following:

(a) Report of the Secretariat on space-based information for crowdsource mapping (A/AC.105/1007);

(b) Report of the Secretariat on technical advisory support activities carried out in 2011 in the framework of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (A/AC.105/1009);

(c) Report on activities carried out in 2011 in the framework of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (A/AC.105/1010);

(d) Note by the Secretariat on the United Nations Platform for Space-based Information for Disaster Management and Emergency Response: revised workplan for the biennium 2012-2013 (A/AC.105/C.1/2012/CRP.22);

(e) Working paper submitted by the Russian Federation on the project to create the international global monitoring aerospace system (IGMASS) as a

forward-looking new initiative in predicting and mitigating the consequences of natural and man-made disasters (A/AC.105/C.1/2012/CRP.23).

35. The Subcommittee expressed its appreciation for the efforts of the Office for Outer Space Affairs to bring the three reports on UN-SPIDER activities in 2011 to its attention, and noted with satisfaction the progress made with regard to all planned activities in the programme framework, including the continuing support provided through the programme for emergency response efforts during major disasters worldwide, such as the floods in Pakistan and the Philippines and the food-security crisis in the Horn of Africa.

36. The Subcommittee noted the renewed offers and commitments of Argentina, Indonesia and the Russian Federation to host UN-SPIDER regional support offices.

37. The Subcommittee noted with satisfaction the ongoing activities of Member States that were contributing to increasing the availability and use of space-based solutions in support of disaster management, and also supporting the UN-SPIDER programme, including the following: the Sentinel Asia project and its coordination of emergency observation requests through the Asian Disaster Reduction Centre (ADRC) and the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (also called the International Charter on Space and Major Disasters), as well as related efforts in the context of the Group on Earth Observations (GEO) to expand the provision of satellite data to a broader range of users; and the Mesoamerican Regional Visualization and Monitoring System (SERVIR).

38. The Subcommittee also took note of the expert contributions by Member States and regional support offices in 2011 to all UN-SPIDER technical advisory missions, as well as their sharing of experiences with other interested countries.

39. The Subcommittee noted that the UN-SPIDER programme, together with Emercom in the Russian Federation and with support from the Government of the Russian Federation, had organized in September 2011 an important international scientific workshop on space system-based disaster management support in Central Asia. Participants in the workshop included Russian specialists as well as representatives of disaster management agencies of Kazakhstan, Kyrgyzstan, Uzbekistan and international organizations.

40. The Subcommittee noted the wide interest and expert participation in the United Nations International Conference on Space-based Technologies for Disaster Risk Management event entitled “Best practices for risk reduction and rapid response mapping”, organized by UN-SPIDER with support from the Government of China and held in Beijing from 22 to 25 November 2011.

41. The Subcommittee noted with appreciation that the Government of Burkina Faso, together with UN-SPIDER experts and the Centre regional de formation aux techniques de leves aerospatiaux (RECTAS), had organized and hosted in Ouagadougou from 26 to 30 of September 2011, a regional scientific workshop and high-level awareness-raising seminar for decision makers on the use of geospatial data for risk management and emergency response in case of floods.

42. The Subcommittee noted with appreciation the signing of two new cooperation agreements for establishing UN-SPIDER regional support offices by the Office for Outer Space Affairs, bringing the total number of such offices to 12. Currently,

UN-SPIDER regional support offices are being hosted by eight national organizations: Algerian Space Agency, Agustín Codazzi Geographic Institute of Colombia, Károly Róbert University of Hungary, Iranian Space Agency, Nigerian National Space Research and Development Agency, Pakistan Space and Upper Atmosphere Research Commission, Romanian Space Agency and National Space Agency of Ukraine; and by four regional organizations: ADRC, based in Kobe, Japan; Regional Centre for Mapping of Resources for Development (RCMRD), based in Nairobi; University of the West Indies, based in Saint Augustine, Trinidad and Tobago; and Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC) based in Panama City.

43. On 7 February, during the session of the Subcommittee, the Office for Outer Space Affairs signed a cooperation agreement with the Gyongyos-based Károly Róbert University in Hungary to establish the twelfth regional support office, which will serve as a centre of expertise for the implementation of the UN-SPIDER programme.

44. The Subcommittee congratulated Colombia and Hungary on the establishment of regional support offices in those countries, which demonstrated their support for the UN-SPIDER programme. It noted with appreciation the strong support of Member States for the development of space-based information for disaster management.

45. The Subcommittee noted with satisfaction the voluntary contributions that were being made by Member States, including cash contributions from Austria, China and Germany, and encouraged Member States to provide, on a voluntary basis, all support necessary, including financial support, to UN-SPIDER to enable it to carry out its workplan for the biennium 2012-2013.

46. The Working Group of the Whole, reconvened pursuant to General Assembly resolution 66/71, also considered agenda item 9. At its […] meeting, on […] February, the Subcommittee endorsed the report of the Working Group of the Whole, contained in annex I to the present report.

VIII. Use of nuclear power sources in outer space

47. In accordance with General Assembly resolution 66/71, the Subcommittee considered agenda item 11, “Use of nuclear power sources in outer space”.

48. The representatives of the United States and Venezuela (Bolivarian Republic of) made statements under agenda item 11. During the general exchange of views, statements relating to the item were also made by representatives of other member States, the representative of Ecuador on behalf of the Group of Latin American and Caribbean States and the representative of South Africa on behalf of the Group of African States.

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

(a) “The safety framework for nuclear power sources in outer space: current and planned applications, and challenges”, by the representative of France;

(b) “European space nuclear power programme: UK Activities”, by the representative of the United Kingdom;

(c) “US space nuclear power program at 50 years”, by the representative of the United States.

50. The Subcommittee encouraged States and international intergovernmental organizations to begin or to continue implementing the Safety Framework for Nuclear Power Source Applications in Outer Space (A/AC.105/934).

51. Some delegations were of the view that more missions enabled or enhanced by nuclear power sources would be envisaged in the future and that the Safety Framework would facilitate the conduct of such missions on a bilateral and multilateral basis between States and international intergovernmental organizations. Those delegations were of the view that the widespread implementation of the Safety Framework would provide assurance to the global community that NPS applications were being developed, launched and used in a safe manner.

52. Some delegations expressed the view that more consideration should be given to the use of NPS in geostationary orbit and low Earth orbit in order to address the problem of potential collisions of NPS objects in orbit, as well as their accidental re-entry in the Earth’s atmosphere. Those delegations were of the view that more attention should be given to this matter through adequate strategies, long-term planning and regulations, including the Safety Framework for Nuclear Power Source Applications in Outer Space.

53. Some delegations were of the view that in order to ensure the safe use of nuclear power sources, it would be important for space actors with proven capabilities in this field to make available to other States their know-how and information on measures taken for ensuring the safety of objects using NPS.

54. The view was expressed that the use of nuclear power sources in outer space should be as limited as possible and that, while NPS were needed for some interplanetary missions, no justification existed for their use in terrestrial orbits, for which other sources of energy were available that were much safer and had been proved to be efficient. The delegation expressing that view also considered that the Sun was a source of energy that could effectively serve present and future needs of humankind in the areas of satellite applications, such as Earth observation, telecommunications, tele-health and tele-education.

55. The view was expressed that in using NPS in outer space, States should consider the limited nature of the near-Earth space environment.

56. The view was expressed that the proliferation of NPS in outer space, including terrestrial orbits, should not be allowed, as the effects of their use in outer space on humankind and the environment had not been assessed and there was no definite framework establishing responsibilities and introducing technical and legal tools that could effectively address critical situations that might arise because of undue practices.

57. The view was expressed that the Safety Framework was not adequate in its present form to meet the challenges posed by the use of NPS in outer space and that, in the regulation of the use of NPS in outer space, due consideration should be given to relevant norms of international law, the Charter of the United Nations and the United Nations treaties and principles on outer space. The delegation expressing that view also considered that there should be greater coordination and interaction between the Scientific and Technical Subcommittee and the Legal Subcommittee in

order to develop binding legal instruments to define the responsibility of States in the use of nuclear power sources in outer space and to undertake research on the ways and means of optimizing or substituting for the use of nuclear energy in outer space activities.

58. The view was expressed that the application of NPS in space missions was important because it could help States to further the objectives of space exploration.

59. Pursuant to General Assembly resolution 66/71, the Working Group on the Use of Nuclear Power Sources in Outer Space was reconvened under the chairmanship of Sam A. Harbison (United Kingdom). The Working Group held three meetings.

60. The Subcommittee welcomed the holding of the workshop on the use of nuclear power sources in outer space in the afternoon of 8 February, during the first meeting of the Working Group.

61. At its […] meeting, on […] February, the Subcommittee endorsed the report of the Working Group, including the report on the above-mentioned workshop. The report of the Working Group is contained in annex […] to the present report.