



General Assembly

Distr.: Limited
19 June 2003

Original: English

**Committee on the Peaceful
Uses of Outer Space**
Forty-sixth session
Vienna, 11-20 June 2003

Draft report

Addendum

Chapter II

Recommendations and decisions

B. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space

1. In accordance with General Assembly resolution 57/116, the Committee considered an item on the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).
2. In accordance with paragraph 28 of resolution 57/116, the Committee, at its 503rd meeting, on 11 June 2003, reconvened the working group to prepare a report for submission to the General Assembly, in order for the Assembly to review and appraise, at its fifty-ninth session, in 2004, the implementation of the recommendations of UNISPACE III and to consider further action and initiatives. The Chairman of the working group was Niklas Hedman (Sweden).
3. The Committee expressed its full support to the work being conducted by the working group.
4. At its [517]th meeting, on [20] June 2003, the Committee endorsed the recommendations of the working group as contained in the report of the working group (see annex [...] to the present report).
5. The Committee noted that, in accordance with General Assembly resolution 57/116, the Scientific and Technical Subcommittee at its fortieth session



had convened the Working Group of the Whole to consider the implementation of the recommendations of UNISPACE III. The Chairman of the Working Group of the Whole was Muhammad Nasim Shah (Pakistan). The Committee noted that the Working Group of the Whole had made recommendations on the following: (a) progress made by the action teams established by the Committee at its forty-fourth session; (b) establishment of an action team for recommendation 9 (“Improve knowledge-sharing through the promotion of universal access to space-based communication services”); and (c) input for the report of the Committee to the General Assembly at its fifty-ninth session, in 2004, for its review of the implementation of the recommendations of UNISPACE III (A/AC.105/804, annex II).

6. The Committee stressed the importance of the implementation of the recommendations of UNISPACE III. The Committee recalled that the responsibility to implement the recommendations rested with member States, the Office for Outer Space Affairs under the guidance of the Committee and its subsidiary bodies, intergovernmental organizations for multilateral cooperation and other entities with space-related activities.

7. The Committee noted that all 11 action teams established at its forty-fourth session had reported on the progress made in their work to the Scientific and Technical Subcommittee at its fortieth session and to the Committee at the forty-sixth session (A/AC.105/L.247, A/AC.105/2003/CRP.9, A/AC.105/2003/CRP.10 and A/AC.105/2003/CRP.17).

8. The Committee expressed its satisfaction with the progress made by the action teams in their work and gave its full support for the work of the action teams. Having noted that the level of participation of members was limited in the case of some action teams, the Committee urged all members of the action teams to actively participate in and contribute to their work.

9. The Committee also noted that, in accordance with the work plans that they had submitted to the Subcommittee at its thirty-ninth session, the Action Team on Sustainable Development (recommendation 11) had submitted its final report (A/AC.105/C.1/L.264) to the Subcommittee and the Action Team on New and Innovative Sources of Funding (recommendation 32) had submitted its final report (A/AC.105/L.246) to the Committee.

10. The Committee noted that the Chairman of the Action Team on Sustainable Development had invited the Committee to evaluate how realistic and achievable the recommendations of that Action Team were and to identify entities that could implement those recommendations.

11. The Committee recognized the need to prepare for the implementation of pilot projects, detailed by action teams in a step-by-step manner, as necessary.

12. The Committee noted that the reasons for the low level of feedback and participation by members of some action teams could be related to the lack of capacity and institutionalized mechanisms, as well as the shortage of resources and expertise in gathering information and data exchange among national institutions.

13. The Committee noted that some action teams had divided tasks and responsibilities among members of action teams based on their capacities and

capabilities and that that method of work had proved to be beneficial and could be followed by some action teams.

14. The Committee noted that Greece and Malaysia would co-chair the Action Team on Knowledge-Sharing, established at the fortieth session of the Subcommittee to implement recommendation 9 of UNISPACE III. The Committee noted with satisfaction that the Action Team had submitted to it a document containing objectives, a plan of action and expected output (A/AC.105/2003/CRP.8).

15. The Committee heard the following presentations under this item:

(a) "FIDAE 2004 and space", by A. Lefno of Chile;

(b) "Global environmental monitoring strategy", by A. Movlyav of the Russian Federation;

(c) "The role and benefits of professional societies in creating and supporting local aerospace capabilities", by A. Iasiello of the United States;

(d) "Activities of the International GPS Service", by R. Neilan of the United States;

(e) "IAF/IAA/ISU/UNESCO Expert Workshop on Space and Education", by P. Willekens of ESA;

(f) "WSSD follow-up program", by M. Hales of the Committee on Earth Observation Satellites (CEOS);

(g) "Green paper on European space policy", by H. Bischoff of the European Commission.

16. The Committee noted that the annual report on the international celebration of World Space Week in 2002, prepared by the Space International Association in cooperation with the Office for Outer Space Affairs, had been made available in a special publication (ST/SPACE/19).

17. The Committee noted that many activities of non-governmental entities had relevance to the implementation of recommendations of UNISPACE III.

18. The Committee noted that, following the Fourth United Nations/United States of America Workshop on the Use of Global Navigation Satellite Systems, organized by the Office for Outer Space Affairs in Lusaka in July 2002, the Windhoek Declaration had been prepared by heads or representatives of national mapping agencies in December 2002 with a view to developing an African Reference Frame, involving more than 50 countries in Africa. The Committee noted with satisfaction that that development was a concrete example of how the Office for Outer Space Affairs could have a significant effect on efforts to further activities to benefit developing countries.

[Section C is contained in document A/AC.105/L.248/Add.1.]

D. Report of the Legal Subcommittee on its forty-second session

19. The Committee took note with appreciation of the report of the Legal Subcommittee on its forty-second session (A/AC.105/805), which contained the

results of its deliberations on the items assigned to it by the General Assembly in resolution 57/116.

20. The Chairman of the Legal Subcommittee made a statement on the work of the Subcommittee at its forty-second session.

1. Status and application of the five United Nations treaties on outer space

21. The Committee noted that, in accordance with General Assembly resolution 57/116, the Legal Subcommittee had considered the status and application of the five United Nations treaties on outer space as a regular item and had reconvened its working group on the item under the chairmanship of Vassilios Cassapoglou (Greece).

22. The Committee noted that the terms of reference of the working group included the status of the treaties, review of their implementation and obstacles to their universal acceptance, the promotion of space law, especially through the United Nations Programme on Space Applications, review of the application and implementation of the concept of the “launching State”, as reflected in the conclusions of the Subcommittee’s consideration of the three-year work plan on “Review of the concept of the ‘launching State’”, as well as any new, similar issues that might be raised in discussions in the working group, provided that those issues fell within the existing mandate of the working group (A/AC.105/805, para. 37).

23. The Committee noted that the Legal Subcommittee had been provided with a report on the current status of signatures and ratifications of the international treaties governing the use of outer space, in accordance with information provided to the Secretariat by the depositaries of those treaties.

24. The Committee welcomed the information provided by some delegations on the current status of and further intended action concerning their accession to or ratification of the five United Nations treaties on outer space. The Committee also welcomed the reports from member States indicating their progress in developing national space laws.

25. The Committee welcomed the recent accession of Greece to the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex).

26. The Committee agreed that the treaties on outer space had established a framework that had encouraged the exploration of outer space and benefited both space-faring and non-space-faring States and that the Legal Subcommittee should undertake activities that supported the continued vitality of that legal framework.

27. The view was expressed that States that had accepted those instruments should examine their national laws to determine whether they were sufficient to implement them.

28. The view was expressed that member States should be encouraged to ratify, in particular, the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (General Assembly resolution 34/68, annex), as that instrument had a low number of ratifications.

29. Some delegations expressed the view that an important step towards promoting the implementation of the key space law instruments would be for the

Committee to increase the number of States parties to those treaties by raising the level of their international acceptance.

30. The Committee recalled that the Legal Subcommittee, at its forty-second session, had received a proposal for a draft resolution, for consideration by the General Assembly, on the application of the legal concept of the “launching State” (A/AC.105/C.2/L.242 and Add.1). The Committee noted that informal consultations on the matter had been conducted jointly by Germany and Greece.

31. The Committee agreed that the Legal Subcommittee should consider, at its forty-third session, the revised text of the proposal for a draft resolution, for consideration by the General Assembly, on the application of the legal concept of the “launching State”, as contained in document A/AC.105/L.249.

32. Some delegations supported the adoption by the General Assembly of a resolution on the application of the concept of the “launching State”, which would be based on the conclusions of the Legal Subcommittee following the completion of the three-year work plan on the review of the concept of the “launching State” (A/AC.105/787, annex IV, appendix).

33. The view was expressed that emphasis should be placed on existing outer space treaties and that the Legal Subcommittee should consider the application of the concept of the “launching State”, taking into account the increasing participation of non-governmental organizations in space activities. That delegation was of the view that the Committee and its Legal Subcommittee should provide more guidance on areas requiring national legislation.

34. The view was expressed that it was important to bring greater clarity and certainty to the application of the concept of the “launching State” and that the proposal for a draft resolution on the subject, for consideration by the General Assembly, could contribute to resolving some uncertainties. However, that delegation was of the view that the proposed draft resolution did not bring clarity and certainty in cases where ownership could not easily be determined due to complex financing arrangements, where multiple States were involved or where a space object was owned or controlled by a State that was not a party to the Liability Convention, and that such issues should be considered.

35. The view was expressed that the Committee and the General Assembly were not the appropriate bodies to interpret the provisions of the Liability Convention or the Registration Convention. Interpretation of the provisions of the treaties could be undertaken only by conferences of the parties to those conventions.

36. The Committee noted with appreciation that the first United Nations Workshop on Capacity-Building in Space Law, organized by the Secretariat in cooperation with the International Institute of Air and Space Law of the University of Leiden and the Government of the Netherlands, had been held in The Hague from 18 to 21 November 2002. The Committee welcomed the announcement that the next workshop on space law would be hosted by the Republic of Korea and held in Daejeon, Republic of Korea, from 3 to 6 November 2003.

2. Information on the activities of international organizations relating to space law

37. The Committee noted that, in accordance with General Assembly resolution 57/116, the Legal Subcommittee had considered information on the activities of international organizations relating to space law as a regular item.

38. The Committee noted with satisfaction that the Legal Subcommittee had been provided with reports from various international organizations on their activities relating to space law and endorsed the agreement by the Legal Subcommittee that the Secretariat should again invite international organizations to provide reports to the forty-third session of the Subcommittee, in 2004.

39. The Committee noted that the Group of Experts invited by the Committee at its forty-fourth session to identify which aspects of the report of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) of UNESCO might need to be studied by the Committee and to draft a report in consultation with other international organizations and in close liaison with COMEST had presented its report to the Legal Subcommittee (A/AC.105/C.2/L.240/Rev.1).

40. The Committee agreed that the report, including its annex, be transmitted to the Director-General of UNESCO with the request that UNESCO keep the Committee and its subcommittees informed about the activities of UNESCO relating to outer space, in the framework of their cooperation, taking into due account their respective competencies.

41. The Committee noted that the Subcommittee had agreed that the issue of ethics of activities in outer space could continue to be considered under that agenda item.

3. Matters relating to: (a) the definition and delimitation of outer space; and (b) the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union

42. The Committee noted that, in accordance with General Assembly resolution 57/116, the Legal Subcommittee had continued to consider as a regular item matters relating to: (a) the definition and delimitation of outer space; and (b) the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

43. The Committee noted that the working group on this item had been re-established under the chairmanship of Taous Feroukhi (Algeria) to consider only matters relating to the definition and delimitation of outer space, in accordance with the agreement reached at the thirty-ninth session of the Legal Subcommittee and endorsed by the Committee at its forty-third session.

44. The view was expressed that advances in space science and technology and the commercialization of space made it necessary to define and delimit outer space and it would be appropriate to delimit outer space at 100-110 km above sea level. That delegation was also of the view that a serious discussion on the definition and delimitation of outer space could take place at such time as a specific need and practical basis emerged.

45. The view was expressed that the replies to the questionnaire on possible legal issues with regard to aerospace objects should be examined carefully by the Legal Subcommittee as they could constitute a good basis for discussions with a view to finding comprehensive solutions to the problems of the definition and delimitation of outer space.

46. Some delegations reiterated the view that the geostationary orbit was a limited natural resource with sui generis characteristics that risked saturation and that its utilization should be based on the principle of rational and equitable access for all countries, taking into account the special needs of developing countries and the geographical position of certain countries.

47. The view was expressed that the geostationary orbit constituted an integral part of outer space. That delegation was of the view that the geostationary orbit was a unique international resource and that equitable access to the geostationary orbit should be guaranteed to all States, taking into account the needs of developing countries.

48. The view was expressed that the agreement reached by the Subcommittee at its thirty-ninth session on the question of the character and utilization of the geostationary orbit (A/AC.105/738, annex III) was an important basis for promoting international cooperation to ensure that the principle of equity would be applied and that all States would have access to the geostationary orbit.

49. Some delegations expressed the view that it was important for the Committee and its subcommittees to continue its consideration of the character and utilization of the geostationary orbit with a view to achieving consensus.

4. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space

50. The Committee noted that, in accordance with General Assembly resolution 57/116, the Legal Subcommittee had continued its consideration of the review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as a single issue/item for discussion.

51. The Committee noted that an exchange of views had taken place in the Legal Subcommittee on the review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, as reflected in its report (A/AC.105/805, paras. 97-104), in which reference was made to the work currently being undertaken by the Scientific and Technical Subcommittee under the item entitled "Use of nuclear power sources in outer space".

5. Examination of the preliminary draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment (opened for signature in Cape Town on 16 November 2001)

52. The Committee noted that, in accordance with General Assembly resolution 57/116, the Legal Subcommittee had considered a single issue/item for discussion entitled "Examination of the preliminary draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment (opened for signature in Cape Town on 16 November 2001)".

53. The Committee noted that, in accordance with resolution 57/116, the Legal Subcommittee had considered two sub-items under that agenda item:

(a) Considerations relating to the possibility of the United Nations serving as supervisory authority under the preliminary draft protocol;

(b) Considerations relating to the relationship between the terms of the preliminary draft protocol and the rights and obligations of States under the legal regime applicable to outer space.

54. The Committee noted that, in accordance with resolution 57/116, the Legal Subcommittee had established a working group on that item. The chairman of the working group was Sergio Marchisio (Italy).

55. The Committee noted that the Legal Subcommittee had considered the report of the Secretariat on considerations relating to the possibility of the United Nations serving as supervisory authority under the protocol (A/AC.105/C.2/L.238).

56. The Committee noted that the first session of an International Institute for the Unification of Private Law (Unidroit) committee of governmental experts for the consideration of the preliminary draft protocol would be held in Rome from 15 to 19 December 2003 and that in addition to member States, all member States of the Committee and the Office for Outer Space Affairs would be invited to attend the session.

57. Some delegations expressed the view that the Convention on International Interests in Mobile Equipment and a protocol on matters specific to space assets would contribute to the expansion of space activities of developing countries, as well as developed countries, by reducing the financial risks and burdens arising from such an increase in space activities.

58. The view was expressed that the adoption of the Convention on International Interests in Mobile Equipment and a protocol on matters specific to space assets appeared to be more in the interest of financing agencies than in the interest of assisting developing countries in financing space activities.

59. Some delegations expressed the view that it was important to continue to consider carefully the possibility of the United Nations serving as supervisory authority, taking into account the following: the present mandate and current activities of the United Nations; the need to avoid any risk of the United Nations incurring liability for damages; the fact that no additional financial burden should be placed on the United Nations; and the lack of practical experience of the United Nations in fulfilling such functions.

60. Some delegations expressed the view that it would be useful to continue to study the practical experiences of the International Civil Aviation Organization (ICAO) in its role as Supervisory Authority under the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment before taking a final decision concerning the role of the United Nations under a future protocol on space assets.

61. Some delegations expressed the view that the United Nations was, in principle, the most appropriate organization to exercise the functions of supervisory authority and that for the United Nations to carry out those functions would be fully consistent with the interests of both developed and developing countries. Those

delegations were of the view that, by serving as the supervisory authority, the United Nations could ensure an international institutional framework for the registration system.

62. Some delegations expressed the view that it would be inappropriate for the United Nations to take up the functions of supervisory authority as those functions were beyond the mandate of the United Nations, especially the General Assembly.

63. The view was expressed that there would be no conflict with the Charter of the United Nations if the United Nations were to assume the role of supervisory authority.

64. The view was expressed that member States could address the interests of their national entities and the financing organizations by enacting national legislation and through existing international commercial practices. That delegation was of the view that one of the international trade organizations or any international banking organization would be best suited to serve as the supervisory authority.

65. The view was expressed that other options, including the establishment of a supervisory authority consisting of States parties to the Convention, should be actively pursued.

66. Some delegations reiterated the view that the Convention and the protocol should neither undermine nor compromise existing principles of international space law and that, in case of conflict, the existing principles should prevail.

67. In that respect, the view was expressed that provisions should be included both in the preamble and elsewhere in the protocol in order to ensure its compatibility with the United Nations treaties on outer space.

68. The view was expressed that the protocol on matters specific to space assets and the existing United Nations treaties on outer space could be compatible if, during the drafting of the protocol, areas of possible conflict were thoroughly and carefully considered.

6. Draft provisional agenda for the forty-third session of the Legal Subcommittee

69. The Committee noted that, in accordance with General Assembly resolution 57/116, the Legal Subcommittee had considered an item entitled "Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-third session".

70. The Committee noted that an exchange of views had taken place in the Legal Subcommittee on numerous proposals by member States for new agenda items and that agreement had been reached on a proposal to the Committee for the agenda of the forty-third session of the Subcommittee, in 2004, as reflected in its report (A/AC.105/805, paras. 135-154).

71. The Committee noted that during the forty-second session of the Legal Subcommittee, informal consultations, coordinated by Niklas Hedman (Sweden), had been held with a view to reaching agreement on the various proposals before the Subcommittee for consideration under the agenda item.

72. The Committee welcomed the agreement by the Legal Subcommittee to begin, on the basis of the working paper submitted by Australia, Austria, Canada, the

Czech Republic, France, Germany, Greece, India, Japan, the Netherlands, Sweden, Ukraine, the United Kingdom and the United States (A/AC.105/C.2/L.241 and Add.1), consideration of a new agenda item entitled “Practice of States and international organizations in registering space objects” under the following four-year work plan:

- 2004 Presentation by member States and international organizations of reports on their practice in registering space objects and submitting the required information to the Office for Outer Space Affairs for inclusion on the Register
- 2005 Examination by a working group of the reports submitted by member States and international organizations in 2004
- 2006 Identification by the working group of common practices and drafting of recommendations for enhancing adherence to the Registration Convention
- 2007 Report to the Committee on the Peaceful Uses of Outer Space

The Committee took note that the Legal Subcommittee had agreed that a working group would be established to consider that item in 2005 and 2006.

73. The Committee agreed that, in addition to reports, member States could make presentations at the forty-third session of the Legal Subcommittee on their practices in registering space objects. The Committee also agreed that the Office for Outer Space Affairs should make a presentation on the Register of Objects Launched into Outer Space.

74. The Committee welcomed the agreement by the Subcommittee to consider a new agenda item entitled “Contributions by the Legal Subcommittee to the Committee on the Peaceful Uses of Outer Space for the preparation of its report to the General Assembly for its review of the progress made in the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)” as a single issue/item for discussion.

75. Some delegations expressed the view that discussion on the development of an international convention on remote sensing, as proposed by Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Greece, Mexico and Peru at the forty-second session of the Legal Subcommittee, was necessary in order to update the Principles Relating to Remote Sensing of the Earth from Outer Space (General Assembly resolution 41/65, annex) and to take into account emerging issues in that field, especially those resulting from the increasing participation of the private sector in remote sensing activities and the recommendations of UNISPACE III.

76. The view was expressed that it was not necessary to update the Principles, as they were operating well and, given the current problems faced by the global satellite industry, it would not be advisable to open a discussion on an international regulatory regime for which no need had been demonstrated.

77. Some delegations expressed the view that the Legal Subcommittee should consider the appropriateness and desirability of drafting a universal comprehensive convention on international space law. Those delegations expressed the view that discussion of such a convention would allow the international community to

consider in a unified manner a number of issues resulting from new developments in space activities, as well as possible lacunae in the international space law system. Those delegations also noted that, under the proposed agenda item, the Subcommittee would only discuss the appropriateness and desirability of drafting a universal comprehensive convention and that the development of the convention would not reopen the debate on existing principles of international space law contained in the United Nations treaties on outer space. A universal comprehensive convention would help to close the gaps within the current international space law system without undermining the existing treaties.

78. Some delegations expressed the view that key space law instruments had established a framework that had encouraged the exploration of outer space and benefited both space-faring and non-space-faring countries and that to entertain the possibility of the negotiation of a new, comprehensive space law instrument would only undermine the principles of the existing space law regime.

79. The Committee recalled that the Legal Subcommittee had considered a proposal by France, supported by member and cooperating States of ESA, for the Subcommittee to consider including on its agenda a four-year work plan on the legal implications of the IADC space debris mitigation guidelines, covering the period 2005-2008.

80. The view was expressed that the IADC space debris mitigation guidelines should be submitted to the Legal Subcommittee and considered by the Subcommittee in 2005.

81. The view was expressed that it was premature for the Legal Subcommittee to consider legal aspects of space debris as the IADC space debris mitigation guidelines were preliminary and still needed to be carefully examined by States.

82. On the basis of the deliberations of the Legal Subcommittee at its forty-second session and the discussions reflected in paragraphs [...] above, the Committee agreed on the following draft provisional agenda for the forty-third session of the Legal Subcommittee, in 2004:

Regular items

1. Opening of the session, election of the Chairman and adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views.
4. Status and application of the five United Nations treaties on outer space.
5. Information on the activities of international organizations relating to space law.
6. Matters relating to:
 - (a) The definition and delimitation of outer space;
 - (b) The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

Single issues/items for discussion

7. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space.
8. Examination of the preliminary draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment (opened for signature in Cape Town on 16 November 2001):
 - (a) Considerations relating to the possibility of the United Nations serving as supervisory authority under the preliminary draft protocol;
 - (b) Considerations relating to the relationship between the terms of the preliminary draft protocol and the rights and obligations of States under the legal regime applicable to outer space.
9. Contributions by the Legal Subcommittee to the Committee on the Peaceful Uses of Outer Space for the preparation of its report to the General Assembly for its review of the progress made in the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).

Agenda items considered under work plans

10. Practice of States and international organizations in registering space objects.

(Presentation by Member States and international organizations of reports on their practice in registering space objects and submitting the required information to the Office for Outer Space Affairs for inclusion in the Register.)

New items

11. Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-fourth session.

E. Spin-off benefits of space technology: review of current status

83. In accordance with paragraph 43 of General Assembly resolution 57/116, the Committee resumed its consideration of the item entitled "Spin-off benefits of space technology: review of current status".

84. The publication *Spinoff 2002*, submitted by the National Aeronautics and Space Administration (NASA) of the United States, was made available to the Committee.

85. The Committee agreed that spin-offs of space technology were yielding many substantial benefits. It noted the efforts of numerous countries to promote spin-off benefits and to disseminate information on the subject to other interested countries. The Committee noted the importance of promoting the newer spin-offs of research and development activity in order to increase awareness of the importance of space

activities among users and decision makers and to obtain the necessary support for developing and maintaining space programmes. The Committee also noted that utilization of space technology had become an efficient way to advance economic development, especially in developing countries.

86. In the field of agriculture, the Committee noted that microgravity research was of great importance in breeding varieties of crops such as rice and oil crops with increased yield and vitamin content. For example, scientists had used space research to develop a new breed of fungus that had formed the basis for a new range of health foods, including products to regulate cholesterol level, blood sugar and blood pressure. Space research was also being used to develop crops that could be grown under harsh conditions such as drought, salinity and alkalinity.

87. In the field of medical research, the Committee took note of an early assessment system for osteoporosis, using “camera-on-a-chip” sensor technology. The system allowed physicians to assess bone density and future fracture risk in a fraction of the time required for traditional osteoporosis tests, and testing could be carried at a peripheral site, such as the finger, as opposed to traditional tests on the hip and spine. The Committee also took note of work to miniaturize eye-tracking devices, enabling people with severely limited movement and speech to communicate and control their environment using only their eye movements; the reduction of the size and weight of the devices not only increased portability but also improved energy efficiency.

88. In the field of transportation safety, the Committee took note of an “infra-hot-box” detection system to prevent train accidents caused by overheated axles. The system was based on technologies developed for satellite infrared remote sensing, artificial intelligence and information processing. The Committee also took note of a new, low-cost ballistic parachute system under which an attached aircraft could float to the ground in the event of an emergency; the system had already saved 148 lives.

89. In the field of the environment and resource management, the Committee noted a process to facilitate the removal of dangerous impurities—ammonium perchlorate and nitrate—from water. The system had been developed by a company that had earlier developed a water purification system for the International Space Station and an air purifier for future Moon base and Mars missions. The Committee also noted that another water purification system using nitrifying agents, developed for closed environments in space, was currently being used for water purification in aquaria.

90. In the field of public safety, the Committee noted a smoke escape hood and filtration system to protect the public from injury and death from smoke inhalation. The products used a catalyst that converted carbon monoxide to non-toxic carbon dioxide at room temperature and could produce breathable air for 20 minutes. The innovation had been initially developed for research involving carbon dioxide lasers.

91. The Committee noted that thermal insulation technologies developed for launch vehicles, as well as heat-proof technologies developed for a space orbital plane, were being applied to facilities on the ground.

92. The Committee noted the application of satellite resistor technologies in international underseas telephone cables.

93. The Committee noted that satellite Earth observation was becoming an increasingly important technology in fields such as environmental monitoring, rural and urban property evaluation, natural resource management and agriculture. The Committee noted the important work being carried out by the regional centres for space science and technology education, affiliated to the United Nations, to increase the capacity of developing countries to apply that technology.

94. The Committee took note of the Digital Map Archive, an online system presenting geographical information from databases over the Internet and allowing aid to be provided more effectively in crisis situations. The Committee also took note of activities that had utilized information derived from remote sensing to combat the flooding in Europe in 2002, as well as initiatives to improve flood forecasts and early warning using space images.

95. The Committee took note of efforts to use satellite communications for the benefit of rural populations, such as distance education and connecting populations in remote areas to the World Wide Web through satellite links.

96. The Committee recommended that it should continue its consideration of the item at its forty-seventh session, in 2004.

F. Space and society

97. In accordance with General Assembly resolution 57/116, the Committee continued to consider an item entitled "Space and society".

98. The Committee heard the following:

(a) Presentation entitled "Japanese space activities" by K. Tanabe and T. Oida of Japan;

(b) Presentation entitled "Improving life for all humankind" by E. Pulham of the United States;

(c) Presentation entitled "The Space Education Project of UNESCO" by Y. Berenguer of UNESCO.

99. The Committee noted that outer space influenced society in many ways. Services from outer space, such as remote sensing, telecommunications and navigation systems, were improving the lives of people throughout the world and helping to create a global society. The Committee noted important applications of space technology in many fields, such as distance education, weather forecasting, forecasting of agricultural yields, disaster management, transport, public safety and many others. Microgravity experiments were allowing biology and other sciences to be explored in ways not possible on Earth.

100. The Committee noted that space applications and technologies developed in connection with space exploration could help bridge gaps in society, including gaps between the educated and illiterate, urban and rural populations and gaps in connectivity between countries, both developed and developing. It was possible for developing countries to leapfrog stages of development by using space products and services. Space endeavours also helped to promote a culture of international cooperation.

101. The Committee noted that research and exploration in outer space were addressing fundamental scientific questions and were a source of inspiration for people in all countries. The first pictures of Earth from outer space had also profoundly changed people's view of the planet, giving them a better perspective and greater appreciation of the global environment.

102. The Committee noted that it was important to communicate the benefits of space to society and help raise the public's awareness of the benefits that space programmes could make to their daily lives.

103. The Committee noted that outer space was an important theme in all cultures and inspired art, music, film and literature.

104. The Committee noted that outer space was a theme that could attract children to science and mathematics and could increase the number of professionals entering those fields. Space applications also played an important role in enhancing educational opportunities, for example through satellite-based tele-education and electronic learning (e-learning). The Committee stressed the importance of education in space science and engineering in strengthening the capabilities of countries in the fields of science and industry.

105. The view was expressed that education in space science and technology should be considered a primary goal of global space programmes to avoid shortages of scientists and engineers. In addition, the migration of space professionals to a few developed countries could have the side effect of reducing the global space market. That delegation expressed the opinion that the Committee should consider making appropriate recommendations to member States on that issue. For instance, the participation of countries with lower space technology potential in international space missions and projects could be recommended as a way of building global capacity.

106. The Committee noted the contribution being made by regional centres for space science and technology education, established on the basis of affiliation with the United Nations in Africa, in Asia and the Pacific and in Latin America and the Caribbean. The Committee also took note of other important initiatives to promote space science and technology education at the national and regional levels.

107. The Committee noted with satisfaction activities of SGAC promoting the participation of young people in space activities.

108. The Committee noted that World Space Week, observed each year from 4 to 10 October pursuant to General Assembly resolution 54/68 of 6 December 1999, was a good opportunity to raise awareness about outer space, in particular among young people.

109. The Committee took note of several national educational initiatives, including the Satellite Instructional Television Experiment (SITE) and Gyandarshan, the educational television channel of India; the "Educator Astronaut" programme of NASA, in which teachers could become permanent members of the astronaut corps and anyone in the world could participate by joining the web-based "Earth crew", through which they could learn about space exploration and its benefits and take on mission-related assignments; the Global Learning and Observations to Benefit the Environment (GLOBE) programme, an environmental science and education programme in which 102 countries were participating; the "School Lab" programme

of Germany, in which scientists were teaching young people to perform experiments with technical equipment far too expensive and difficult to maintain in schools; an annual essay contest and a summer space camp for young people organized by the Hungarian Astronautical Society; space camps and tele-education programmes in Chile; World Space Week events organized by the Space and Upper Atmosphere Research Commission of Pakistan; and activities of space camps, summer schools and space teacher training colleges in Japan.

110. The Committee noted that the Japan Aerospace Exploration Agency (JAXA) would soon be formed by the merging of the Institute of Space and Astronautical Science, the National Aerospace Laboratory and the National Space Development Agency of Japan. The creation of JAXA would increase the country's contribution to efforts to utilize space to benefit society.

111. The Committee noted that a seminar on space and society in the context of Latin America would be organized by the Chilean Space Agency and co-sponsored by the Office for Outer Space Affairs at the International Air and Space Fair (FIDAE 2004), to be held in Santiago from 29 March to 4 April 2004.

112. Based on a proposal submitted by Colombia (A/AC.105/2003/CRP.14), the Committee agreed to continue its consideration of the item entitled "Space and society" in future years. "Space and education" was selected as a special theme for the focus of discussions for the period 2004-2006, in accordance with the following work plan:

2004 "Space in education and education in space"

Presentations by member States and intergovernmental and non-governmental entities on their efforts (a) to bring space into education and (b) to develop human resources in space science and technology and to ensure the availability of professionals in space-related areas for the future

Identification of elements of success

Identification of impediments to efforts to incorporate outer space into education and to develop human resources in space-related areas

Discussion on possible solutions to eliminate those impediments

Development of a plan of action, including the possible implementation of small projects

2005 "Space tools for education"

Presentations by member States and intergovernmental and non-governmental entities on the latest developments in space applications to enhance educational opportunities, in particular for women and girls

Examination of the availability and affordability of space-based services and systems for providing educational opportunities in developing countries

Identification of way in which space can benefit medicine in rural areas

Identification of possible impediments to expanding the use of such space-based services and systems in developing countries

Discussion on possible solutions to eliminate those impediments, giving particular attention to programmes in developing countries

Development of a plan of action, including possible implementation of small projects

2006 Conclusion of the work plan

Development of specific, concrete action plans for incorporating outer space into education, enhancing education in space, expanding space tools for education and ensuring that space-based services contribute to the achievement of the Millennium Development Goal on access to education

Preparation of a brief document by the Committee on the Peaceful Uses of Outer Space on the role of space in education, as well as the link between space and education, for transmission to the General Conference of the United Nations Educational, Scientific and Cultural Organization

113. The Committee requested the Office for Outer Space Affairs to invite organizations having permanent observer status with the Committee, as well as the action teams on UNISPACE III recommendations 9, 17 and 18, to contribute to the work plan, for instance by giving presentations on their activities, distributing materials and providing suggestions on how the Committee should address the issues to be considered.

G. Other matters

1. Composition of the bureaux of the Committee and its subsidiary bodies for the term starting in 2004

114. In accordance with the agreement reached during the intersessional informal consultations on the composition of the bureaux of the Committee and its subcommittees, contained in annex [...] to the present report, the Committee agreed upon the following officers for the bureaux of the Committee on the Peaceful Uses of Outer Space and its Subcommittees for 2004 and 2005:

Committee on the Peaceful Uses of Outer Space

Chairman: Adigun Ade Abiodun (Nigeria)

First Vice-Chairman: Ciro Arévalo Yepes (Colombia)

Second Vice-Chairman/Rapporteur: Parviz Tarikhi (Islamic Republic of Iran)

Scientific and Technical Subcommittee

Chairman: Dumitru Dorin Prunariu (Romania)

Legal Subcommittee

Chairman: Sergio Marchisio (Italy)

2. Membership of the Committee

115. In accordance with General Assembly resolution 57/116, the Committee considered the application of the Libyan Arab Jamahiriya for membership in the Committee.

116. The Committee welcomed the interest of the Libyan Arab Jamahiriya in membership in the Committee and noted that, in accordance with established procedures, member States needed to consider the geographical distribution of the membership of the Committee and that consultations would be necessary among the regional groups before a decision could be taken on the application of the Libyan Arab Jamahiriya.

117. The Committee noted that interested States could continue to participate in the work of the Committee as observers.

3. Observer status

118. The Committee noted that the Regional Centre for Remote Sensing of the North African States (CRTEAN), an intergovernmental organization, and the International Institute for Applied Systems Analysis (IIASA), a non-governmental organization in consultative status with the Economic and Social Council, had applied for observer status with the Committee and that the related correspondence and statutes of these entities had been made available during the present session of the Committee (A/AC.105/2003/CRP.4).

119. The Committee decided to grant permanent observer status to CRTEAN and IIASA.

4. New agenda item of the Committee

120. The Committee had before it a proposal by Austria for the inclusion of a new agenda item entitled "Space and water" in the agenda of the Committee (A/AC.105/2003/CRP.18).

121. The Committee agreed that the item should be included on the agenda of the Committee for its forty-seventh session.

5. Proposed programme budget for the biennium 2004-2005

122. The Committee had before it the proposed programme budget for the biennium 2004-2005 (A/58/6 (Sect. 6)).

123. The Committee noted with satisfaction that the proposed programme of work of the Office for Outer Space Affairs included the activities that had been recommended by the Committee and its subsidiary bodies.

6. Special lecture by Vladimír Kopal to the Committee

124. The Committee agreed that Vladimír Kopal would present to the Committee, at its forty-seventh session, a special lecture providing a historical perspective and his personal reflection on the development of the Committee.

H. Schedule of work of the Committee and its subsidiary bodies

125. The Committee agreed on the following tentative timetable for its session and those of its subcommittees in 2004:

	<i>Date</i>	<i>Location</i>
Scientific and Technical Subcommittee	16-27 February 2004	Vienna
Legal Subcommittee	29 March-8 April 2004	Vienna
Committee on the Peaceful Uses of Outer Space	2-11 June 2004	Vienna
