

**REPORT
OF THE
COMMITTEE
ON THE PEACEFUL USES
OF OUTER SPACE**

GENERAL ASSEMBLY

OFFICIAL RECORDS: FORTY-THIRD SESSION

SUPPLEMENT No. 20 (A/43/20)



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NOTE

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

[19 July 1988]

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I. INTRODUCTION

1. The Committee on the Peaceful Uses of Outer Space held its thirty-first session at United Nations Headquarters from 13 to 23 June 1988. The officers of the Committee were the following:

Chairman: Mr. Peter Jankowitsch (Austria)

Vice-Chairman: Mr. Petre Tanasie (Romania)

Rapporteur: Mr. Flavio Miragaia Perri (Brazil)

The verbatim records of the Committee's meetings are contained in documents A/AC.105/PV.308-321.

Meetings of subsidiary bodies

2. The Scientific and Technical Sub-Committee held its twenty-fifth session at United Nations Headquarters from 16 to 26 February 1988 under the chairmanship of Mr. John H. Carver (Australia). The report of the Sub-Committee was issued as document A/AC.105/409 and Corr.1.

3. The Legal Sub-Committee held its twenty-seventh session at the United Nations Office at Geneva from 14 to 31 March 1988, under the chairmanship of Mr. Ludek Handl (Czechoslovakia). The report of the Sub-Committee was issued as document A/AC.105/411. The summary records of the Sub-Committee's meetings are contained in documents A/AC.105/C.2/SR.480-503.

4. At its opening meeting, the Committee adopted the following agenda:

1. Adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views.
4. Ways and means of maintaining outer space for peaceful purposes.
5. Report of the Scientific and Technical Sub-Committee on the work of its twenty-fifth session.
6. Report of the Legal Sub-Committee on the work of its twenty-seventh session.
7. Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space.
8. Other matters.
9. Report of the Committee to the General Assembly.

Membership and attendance

5. In accordance with General Assembly resolutions 1721 E (XVI) of 20 December 1961, 3182 (XXVIII) of 18 December 1973, 32/196 B of 20 December 1977 and 35/16 of 3 November 1980, the Committee on the Peaceful Uses of Outer Space was composed of the following Member States: Albania, Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Czechoslovakia, Ecuador, Egypt, France, German Democratic Republic, Germany, Federal Republic of, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kenya, Lebanon, Mexico, Mongolia, Morocco, Netherlands, Niger, Nigeria, Pakistan, Philippines, Poland, Romania, Sierra Leone, Spain, Sudan, Sweden, Syrian Arab Republic, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela, Viet Nam and Yugoslavia.

6. At its 308th and 309th meetings, the Committee decided to invite, at their request, the representatives of the Libyan Arab Jamahiriya, Tunisia and Cuba to attend the thirty-first session of the Committee and address it, as appropriate, on the understanding that this would be without prejudice to further requests of this nature and that it would not involve any decision of the Committee concerning status.

7. The representative of the Department of Technical Co-operation for Development of the Secretariat attended the session.

8. Representatives of the International Atomic Energy Agency (IAEA), the International Telecommunication Union (ITU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) also attended the session.

9. Representatives of the European Space Agency (ESA), the Committee on Space Research (COSPAR) of the International Council of Scientific Unions (ICSU), the International Astronautical Federation (IAF), the International Telecommunications Satellite Organization (INTELSAT) and the International Maritime Satellite Organization (INMARSAT) also attended the session.

10. A list of representatives attending the session is contained in document A/AC.105/XXXI/INF/1.

Proceedings

11. At the opening of the session, at the 308th meeting, the Chairman of the Committee made a statement reviewing the work of the Committee's subsidiary bodies and outlining the work of the Committee. He reviewed the scientific and technological advances achieved in the field of peaceful exploration of outer space in the past year, and called upon the Committee to consider what further contributions of its own it might make towards the strengthening of international co-operation. The text of the Chairman's statement is annexed to the present report (annex I).

12. Having been informed that the Committee's Vice-Chairman, Mr. Teodor Marinescu, and its Rapporteur, Mr. Henrique Rodrigues Valle, had been assigned to new posts, the Committee, at its 308th meeting, elected Mr. Petre Tanasie as its new Vice-Chairman and Mr. Flavio Miragaia Perri as its new Rapporteur.

13. At its 308th to 312th meetings, from 13 to 15 June 1988, the Committee held a general exchange of views, in the course of which statements were made by the representatives of Argentina, Austria, Brazil, Bulgaria, Canada, Chile, China, Colombia, Cuba, Czechoslovakia, Egypt, France, the German Democratic Republic, Germany, Federal Republic of, India, Indonesia, Iraq, Japan, Mexico, Mongolia, the Netherlands, Pakistan, the Philippines, Poland, Romania, Sweden, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, the United States of America, Uruguay, Viet Nam and Yugoslavia (see A/AC.105/PV.308-312).

14. The representatives of ITU, ESA, COSPAR, IAF, INMARSAT and INTELSAT, as well as the United Nations Expert on Space Applications, also made statements (see A/AC.105/PV.309, 311, 312 and 315).

15. During the session, special presentations were made by: Professor Reimar Lüst, Director General of ESA, on "The role of the European Space Agency in international space co-operation"; Mr. Guy Duchossois, ERS-1 Mission Manager of ESA, on "The benefits from data of microwave sensors of remote sensing satellites"; and Mr. Donald Friedman, Chief, Office of Commercial Programs, National Aeronautics and Space Administration (NASA), Goddard Space Flight Center, on "Space technology spin-off: programmable implantable medication system".

16. After considering the various items before it, the Committee, at its 321st meeting, on 23 June 1988, adopted its report to the General Assembly containing the recommendations and decisions set out in the paragraphs below.

II. RECOMMENDATIONS AND DECISIONS

A. Ways and means of maintaining outer space for peaceful purposes (agenda item 4)

17. In accordance with paragraph 20 of General Assembly resolution 42/68 of 2 December 1987, the Committee continued its consideration, as a matter of priority, of ways and means of maintaining outer space for peaceful purposes.

18. The Committee recognized the need to maintain outer space for peaceful purposes and agreed that it could make important contributions to that end. The Committee furthermore agreed that an effective way to maintain outer space for peaceful purposes was to strengthen international co-operation in the exploration and peaceful uses of outer space. This could be done through multilateral, regional and bilateral co-operative activities and through the promotion of specific projects to assist all countries, in particular developing countries.

19. Some delegations expressed the view that the Committee should complement the work being done in bilateral and multilateral forums towards the prevention of the extension of the arms race into outer space. They were of the view that the Committee and its two sub-committees had expertise in that area and consequently could provide substantive input to assist the discussions and negotiations in the Conference on Disarmament. Other delegations expressed the view that disarmament questions did not fall within the competence of the Committee. They pointed out that the question of the prevention of an arms race in outer space was properly a matter for the First Committee of the General Assembly and for the Conference on Disarmament.

20. Some delegations recalled that, as stated in paragraph 14 of the report on the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, "the prevention of an arms race and hostilities in outer space is an essential condition for the promotion and continuation of international co-operation in the exploration and use of outer space for peaceful purposes". ^{1/} They expressed the view that the prevention of the extension of the arms race into outer space and the promotion of international co-operation in space were both essential for maintaining outer space for peaceful purposes. They were also of the view that, irrespective of the specific forums for the consideration of these questions, both aspects should be pursued vigorously and necessary agreements concluded so that the goals outlined in this agenda item could be realized. They expressed the profound hope that the Conference on Disarmament would be able to conduct negotiations and conclude agreements so as to prevent the extension of the arms race into outer space, thus enhancing the prospects of co-operation in the peaceful uses of outer space.

21. Some delegations pointed out the proposals that had been made for the establishment of a world space organization (WSO) and for the creation of an international centre for joint research and technology for the benefit of developing countries, and also for a comprehensive programme of joint practical activities by States on the peaceful exploration and exploitation of outer space up to the year 2000 (A/AC.105/407). In this connection, a working paper (A/AC.105/L.171) (see annex II below) was submitted setting forth basic provisions of the charter of a WSO, such as its aims, functions, structure and financing. It was emphasized that the comprehensive presentation of the concept of a WSO in the

form of the basic provisions of its charter was intended to facilitate a specific exchange of views on the possibility of creating a WSO among the delegations represented in the Committee and to find a mutually acceptable solution. They called upon the Committee to establish a working group to elaborate further the ideas put forward in that working paper and pointed out that the question of creating a WSO was within the competence of the Committee, one of whose main tasks was to encourage peaceful international co-operation among States in the peaceful exploration and exploitation of outer space. Other delegations expressed the view that the proposed organization would undermine the functions of the Committee, and that it would be unrealistic and inappropriate to combine disarmament inspection and commercially oriented functions in a single organization and that the Committee was not competent to discuss a number of aspects of that proposal. They furthermore saw no need for such a working group, since, in their view, such proposals did not represent a promising area for consideration by the Committee.

22. Some delegations reiterated the view that the best way for the Committee to contribute to maintaining outer space for peaceful purposes was to promote international co-operation further by revitalizing its work and that of its sub-committees. Some of these delegations submitted a working paper (A/AC.105/L.172) (see annex III below), in which they suggested some specific ideas to improve the quality and efficiency of the work of the Committee as well as its two sub-committees in line with its mandate and the efforts undertaken by the General Assembly and the Secretary-General. They called upon the Committee to establish a working group to consider proposals for rationalizing and improving the working methods of the Committee and its two sub-committees, including the frequency and duration of the sessions and the flexibility of their agendas. Other delegations felt that the current Committee procedures were adequate and that there was no need for such a working group. They also noted that the question of the methods of work of the Committee and its sub-committees had no relationship to the agenda item "Ways and means of maintaining outer space for peaceful purposes". The view was also expressed that any changes in the organization of the Committee's work should be clearly linked to the furthering of the objective of enhancing the substantive results of the Committee's work, especially those concerned with international co-operation.

23. Some delegations referred to the Stockholm Declaration adopted in January 1988 by the heads of State or Government of Argentina, Greece, India, Mexico, Sweden and the United Republic of Tanzania, which stated, inter alia, that "military competition must not be introduced into new fields. Space belongs to us all, and the number of countries growing more and more dependent on the benefits of the peaceful utilization of outer space is increasing. It must not be used for destructive purposes. There is still time to prevent an arms race in space. We reiterate our call for a complete banning of anti-satellite weapons. Specifically, and as an interim measure, we propose an agreement banning the testing of such weapons" (A/43/125-S/19478, annex).

24. Some delegations expressed the view that the discussion of ways and means of maintaining outer space for peaceful purposes should also include the search for means on how to broaden international co-operation in outer space, how to keep open the flow of information between all nations and to assist financially those nations that do not have the necessary funds for the development of space technology, including the establishment of a special assistance programme under the auspices of the United Nations to promote international space co-operation, taking into account the specific needs of each developing country. In this connection, the proposal

was made that, before further consideration of the matter, the Committee should examine the amount of resources available for development assistance, the sources of those funds, their utilization as well as the real and practical needs of developing countries. On this question a working paper (A/AC.105/L.176) (see annex IV below) was submitted, whereby the establishment of a working group was suggested in order to assess the data requested and to study and propose an overall plan that would outline the priorities and allocate the funds available to the Committee.

25. The Committee's attention was also drawn to a proposal made in a working paper (A/AC.105/C.2/L.159), concerning enhanced co-operation in the event of an emergency on board a manned space object endangering the crew. It was also suggested that agreement on such an issue would contribute to maintaining outer space for peaceful purposes by responding in a humanitarian way to the increasingly co-operative and international nature of space exploration.

26. It was also proposed that the Secretariat should make available, perhaps for the thirty-second session of the Committee, the annual reports of the United Nations agencies involved in space activities and the report of the Economic and Social Council dealing with the funding of those agencies. Some delegations proposed that, on the basis of the relevant replies from States, the Secretary-General should prepare a report on the needs of States, particularly those of developing countries, regarding the use of space technology, taking into account existing possibilities and also the prospects for the development of space systems.

B. Report of the Scientific and Technical Sub-Committee on the work of its twenty-fifth session

Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (agenda items 5 and 7)

27. The Committee conducted a joint consideration of agenda items 5 and 7 entitled "Report of the Scientific and Technical Sub-Committee on the work of its twenty-fifth session" and "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space", respectively.

28. The Committee took note with appreciation of the report of the Scientific and Technical Sub-Committee on the work of its twenty-fifth session (A/AC.105/409 and Corr.1), covering the results of its deliberations of the items assigned to it by the General Assembly in its resolution 42/68. The Committee further noted with satisfaction that, in accordance with Assembly resolution 42/68, the Sub-Committee had given priority consideration to the item entitled "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space" and had re-established the Working Group of the Whole to evaluate the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, 1/ under the chairmanship of Mr. Carlos Amorín (Uruguay).

29. The Committee endorsed the recommendations of the Working Group of the Whole, as contained in its report (see A/AC.105/409 and Corr.1, annex II).

30. The Committee recommended that the Working Group of the Whole should be reconvened the following year to continue its work.

31. The Committee, while expressing its appreciation to all Governments that had made or expressed their intention to make contributions towards carrying out the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, took note of the disappointment expressed by the developing countries at the lack of financial resources to implement these recommendations.

32. The Committee decided to consider at its next session the advisability of the United Nations General Assembly declaring 1992 as international space year. The Committee took note of the major contributions of COSPAR, the IAF and other organizations in planning an international space year and welcomed future progress reports. The Committee agreed that any effort it might undertake in respect to an international space year should be done within existing resources. The resources devoted to this activity should be provided either through voluntary contributions or, if necessary, through agreed rearrangements of priorities in the Outer Space Affairs Division. The Committee recommended that the Scientific and Technical Sub-Committee at its next session should consider recommendations regarding possible activities which might be undertaken during an international space year. In this context, a proposal was made that the focus of an international space year should be on the educational aspects and the Programme on Space Applications, especially involving the developing countries.

1. Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space

(a) United Nations Programme on Space Applications

33. At the outset of the Committee's deliberations on this item, the Expert on Space Applications made a statement briefing the Committee on the various activities carried out or planned under the Programme on Space Applications during the period 1987-1989. He also dealt with the recommendations of the Working Group of the Whole, as contained in annex II of the Sub-Committee's report (A/AC.105/409 and Corr.1). The Committee expressed its appreciation to the Expert on Space Applications for the effective manner in which he had implemented the Programme within the limited funds at his disposal.

34. Some delegations drew the Committee's attention to the scarce economic resources available to the Programme on Space Applications. They therefore requested that the financial resources be increased so that the Programme's activities could be implemented.

35. The Committee took note of the Programme on Space Applications, as set out in the report of the Sub-Committee. The Committee was pleased to note that further progress was being made in the implementation of the Programme activities planned for 1988.

36. Some delegations expressed the view that the time was now ripe for the Programme on Space Applications to reorient its focus from short-term training programmes, workshops and seminars towards in-depth on-the-job training. The Programme should also develop, within the developing countries, the capability to

train indigenous manpower by providing material assistance, such as teachers, assistance in the drafting of syllabi and teaching materials. In addition, the Programme should provide for consultancy services, supply of hardware and software, supply of remote-sensing data products and equipment for the demonstration of space technology applications. These delegations also suggested that the United Nations space information service be strengthened and made easily accessible to the developing countries.

37. The Committee noted with satisfaction that a guidebook on Fellowship and Training Opportunities Offered Within the Framework of the United Nations Space Applications Programme (SAP/88/001) had been issued, along with the corresponding booklets (SAP/88/002 and SAP/88/003) for the use of potential applicants to the long-term fellowship programme and the short-term training courses, respectively.

(i) Long-range fellowships for in-depth training

38. The Committee expressed its appreciation to the Governments of Austria, Brazil, the German Democratic Republic and the Union of Soviet Socialist Republics, as well as to the European Space Agency (ESA), for offering fellowships through the United Nations in 1987-1988 and for renewing their offers of fellowships for 1988-1989, noting that the number of fellowships offered yearly by the USSR had been increased to 15.

(ii) Technical advisory services

39. Regarding technical advisory services, the Committee noted that, in 1987, the Programme had undertaken a technical advisory service mission in the region of the Economic Commission for Africa (ECA) to develop a project document for the establishment of a programme for the development of indigenous capability, and that project proposals had been developed for the consideration of the Government of China, the Economic and Social Commission for Western Asia (ESCWA) and the Interministerial Committee of the Indian Ocean Marine Affairs Co-operation (IOMAC).

(iii) United Nations workshops/training courses/seminars/meetings of experts

40. Regarding the United Nations workshops/training courses/seminars/meetings of experts, the Committee endorsed the activities proposed for 1989 as outlined by the Expert in his report (see A/AC.105/396, para. 35 (c)) and recommended these activities for approval by the General Assembly. The Committee also noted that, depending on the resources available to the Programme in 1989, an international meeting of experts on the development of indigenous capability and a fourth training course on remote-sensing applications to geological sciences might also be held. In so doing, the Committee welcomed the invitations from the Governments of Australia, the German Democratic Republic, Italy and the Union of Soviet Socialist Republics, as well as from the Food and Agriculture Organization of the United Nations (FAO) and the European Space Agency, to host and/or co-sponsor the activities concerned.

41. Regarding the United Nations workshops/training courses/seminar for 1988, the Committee also expressed its appreciation to the Government of France as well as to FAO, WMO and ESA for co-sponsoring the United Nations/ESA Training Course on the Applications of Remote Sensing and Agrometeorological Data to Drought Assessment and Vegetation Monitoring, and to the Regional Centre for Services in Surveying,

Mapping and Remote Sensing at Nairobi for hosting this course; to the Government of Italy as well as to FAO and UNESCO for co-sponsoring the thirteenth United Nations/FAO/UNESCO International Training Course on Remote Sensing Applications to Water Resources; to the Government of China for offering to host and co-sponsor the United Nations International Seminar on Developments and Applications of Communications Systems; to the Government of Thailand for offering to host and co-sponsor, as well as to ESA for co-sponsoring the United Nations/ESA Workshop on Microwave Remote Sensing Technology; and to the Government of Peru for offering to host and co-sponsor the United Nations Workshop on Regional Space Information Systems. The Committee noted with appreciation the financial and other assistance provided and being offered by the Governments of China, France, Italy, Peru and Thailand, as well as by FAO, UNESCO, WMO, ESA and the Regional Centre for Services in Surveying, Mapping and Remote Sensing (Nairobi), in connection with these workshops, training courses and the seminar. The Committee also noted with appreciation the financial contributions of \$20,000, \$5,000 and \$15,000 made by the Governments of Austria, Nigeria and Pakistan, respectively, in support of the Programme, and further expressed its appreciation to the Government of the United Kingdom for having informed the United Nations that it planned to provide up to £15,000 in 1988 for the Programme.

(iv) Promotion of greater co-operation in space science and technology

42. Regarding the promotion of greater co-operation in space science and technology, the Committee noted with satisfaction that the United Nations Programme on Space Applications, with financial assistance from ESA, had participated in and supported the Second Latin American Symposium on Remote Sensing and the Second Meeting of the Joint Board on Remote Sensing Activities, both of which were held at the Instituto Geográfico Augustin Codazzi (IGAC) at Bogotá in 1987. The Committee noted that the United Nations Programme on Space Applications would collaborate with COSPAR during its 27th plenary meeting to be held in Finland in July 1988 and with other international organizations to organize and support Workshop XXV on "Atmospheric research and infrastructure needed in developing countries". It further noted that the Programme would collaborate with the International Society for Photogrammetry and Remote Sensing (ISPRS) and support its 1988 Congress in addressing the subject of "Remote sensing information systems", and with IAF by co-sponsoring a workshop on "Outer space and education" during its 1988 Congress to be held in India.

(b) International space information service

43. With regard to the international space information service, the Committee noted with satisfaction that an addendum to the publication entitled Education, Training, Research and Fellowship Opportunities in Space Science and Technology and its Applications: A Directory (A/AC.105/366 and Add.1 and 2) and a publication entitled Information Systems on Space Science and Technology: A Directory (A/AC.105/397/Rev.1) had been issued. The Committee noted that both directories would be updated as may be necessary.

(c) Studies

44. The Committee noted with satisfaction that the preparation of certain studies and reports on subjects of relevance to the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space had been undertaken pursuant to the recommendations of the Working Group of the Whole made

at its first session held in 1987 and as endorsed by the General Assembly in its resolution 42/68, paragraph 10. The Committee also noted that the final COSPAR report on space debris, as requested by the Working Group of the Whole at its first session (A/AC.105/383 and Corr.1, annex II, para. 13 (d)), would be submitted to the twenty-sixth session of the Scientific and Technical Sub-Committee, and that further studies and reports would be undertaken to implement the recommendations which had been made by the Working Group of the Whole at its second session held in 1988.

(d) Co-ordination of space activities within the United Nations system and inter-agency co-operation

45. With regard to co-ordination of outer space activities within the United Nations system and inter-agency co-operation, the Committee noted the request of the General Assembly, contained in its resolution 42/68, to all organs, organizations and bodies of the United Nations system to co-operate in the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space.

46. The Committee further noted with appreciation that the Scientific and Technical Sub-Committee had continued to stress the necessity of ensuring continuous and effective consultations and co-ordination in the field of outer space activities among organizations within the United Nations system. The Committee noted with satisfaction that the ninth Inter-Agency Meeting on Outer Space Activities had been held in 1987 (ACC/1987/PG/13), and that a special ad hoc group of the Inter-Agency Meeting had been established in 1987 and was in the process of undertaking, as a first step, an in-depth review of remote sensing applications within the United Nations system. The Committee also noted with appreciation that the tenth Inter-Agency Meeting on Outer Space Activities would be held in October 1988 at the headquarters of the World Meteorological Organization (WMO) at Geneva and would discuss, inter alia, the implementation of recommendations of the Conference.

47. The Committee noted with appreciation the participation in all stages of its work and in that of its Sub-Committee by representatives of United Nations bodies, the specialized agencies and other international organizations. The Committee found the reports submitted by these bodies helpful in enabling it and its subsidiary bodies to fulfil their role as a focal point for international co-operation, especially with respect to the practical applications of space science and technology in developing countries.

48. The Committee endorsed the view of the Sub-Committee that the United Nations should continue to seek the support of the United Nations Development Programme (UNDP) and other international funding institutions and that the Secretariat should take note of, and operate within, UNDP funding procedures.

49. With a view to reinforcing the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, the proposal was made that the Secretary-General should prepare a quantitative report with comprehensive and detailed information on the financial and human resources available within and, to the extent possible, outside the United Nations system, particularly for the benefit of the developing countries.

(e) Regional and interregional mechanisms of co-operation

50. Regarding regional and interregional mechanisms of co-operation, the Committee noted with satisfaction that, pursuant to General Assembly resolution 42/68, the Secretariat had continued to seek to strengthen regional mechanisms of co-operation by carrying out various activities in the implementation of the recommendations of the Conference, in particular those under the Programme on Space Applications, such as the United Nations (interregional) Meeting of Experts on Space Science and Technology and its Applications within the Framework of Educational Systems, held at Lagos from 27 April to 1 May 1987.

51. The Committee noted the contributions made by other international organizations towards the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space. In particular, the Committee noted that the International Telecommunication Union (ITU) had carried out studies on the development of small Earth stations and on technical factors influencing the efficient use of the geostationary orbit, had provided assistance to States through advisory services, project support, seminars and dissemination of information, was the lead agency in a feasibility study of a regional satellite communication system for Africa, and this year would be holding the second session of the World Administrative Radio Conference on the use of the geostationary orbit and the planning of space services utilizing it. The Committee also noted that INMARSAT had developed a small, inexpensive ship communication terminal, had improved capabilities for the collection and dissemination of marine meteorological, safety and disaster relief information, would be providing aeronautical mobile communications in 1988, was studying satellite navigation services and possible future land mobile applications, and was supporting training programmes for developing countries with respect to various applications of mobile satellite communications. The Committee also noted that INTELSAT had developed new programmes for services to rural and remote regions, for global humanitarian television events sponsored by the United Nations, and for transportable communication facilities for short-term or emergency requirements such as disaster relief operations.

2. Matters relating to remote sensing of the Earth by satellites, including, inter alia, applications for developing countries

52. The Committee noted that, in accordance with General Assembly resolution 42/68, the Scientific and Technical Sub-Committee had given priority consideration to the item concerning matters relating to remote sensing of the Earth by satellites, which had been reformulated by the Assembly at its forty-second session.

53. The Committee also noted that, in the course of the debate in the Sub-Committee, delegations had reaffirmed their basic positions relating to remote sensing, which had been reflected in the reports of the previous sessions of the Sub-Committee.

54. The Committee recognized the importance of continuing international efforts to ensure the continuity, compatibility and complementarity of systems for remote sensing of the Earth.

55. The Committee recognized the example of international co-operation given by the free distribution of meteorological information. All countries and agencies were urged to continue this practice.

56. The Committee endorsed the decision of the Sub-Committee that this item should be retained on its agenda as a priority item for the next session and that sufficient time should be allocated for its consideration.

57. The Committee noted that some delegations had expressed serious concern over the commercialization of remote-sensing activities and had suggested that the prices of remote-sensing data products and access fees for data reception should be reduced significantly so as to make these affordable for the developing countries and enable them to benefit fully from the use of remote-sensing technology.

3. Use of nuclear power sources in outer space

58. The Committee noted that, in accordance with General Assembly resolution 42/68, the Scientific and Technical Sub-Committee had reconvened its Working Group on the Use of Nuclear Power Sources in Outer Space to conduct additional work on the basis of its previous reports and of subsequent reports of the Sub-Committee.

59. The Committee noted that the Sub-Committee had adopted the report of the Working Group as contained in annex III of the report of the Sub-Committee (A/AC.105/409 and Corr.1).

60. The Committee took note of the discussion on this item as reflected in the report of the Scientific and Technical Sub-Committee (A/AC.105/409 and Corr.1, paras. 58-61) and in the report of the Working Group (A/AC.105/409 and Corr.1, annex III).

61. The Committee noted that the United Nations had received two notifications containing information concerning the situation of a satellite with a nuclear power source on board (ST/SG/SER.E/176/Add.1 and 2). Furthermore, during the course of the session, the Committee was provided with additional information on this matter. Some delegations expressed concern over the consequences of the possible re-entry of a satellite into the atmosphere and on the surface of the Earth and, in accordance with principle 5 (notification of re-entry) agreed by the Working Group on the Use of Nuclear Power Sources in Outer Space, and called for updated information concerning the expected orbital lifetime, trajectory and impact region. The view was expressed that there was a need for further information concerning the satellite, including information on the technical design, form and quantity of nuclear fuel, radioactive components and safety mechanisms on the satellite, as well as emergency plans for dealing with the re-entry.

62. Some delegations expressed the view that nuclear power sources should not be used on board satellites in near Earth orbit, but rather that nuclear power sources should be used only for interplanetary missions when it becomes inevitable to do so. For such missions, activation of nuclear power sources should be carried out only after the spacecraft leaves Earth orbit.

63. The Committee endorsed the recommendation of the Sub-Committee that the item should be retained on its agenda as a priority item for the next session and that the Working Group on the Use of Nuclear Power Sources in Outer Space should continue its work at that session.

4. Space transportation systems

64. The Committee noted that, in accordance with General Assembly resolution 42/68, the Sub-Committee had continued the consideration of the item relating to space transportation systems and their implications for future activities in space. The Committee also noted that some delegations had expressed the view that account should be taken of the fact that developing countries should have opportunities to carry out launchings of satellites or payloads on a reasonable basis.

65. The Committee took note of the progress being achieved in the various programmes in operation or planned by China, France, India, Japan, the USSR, the United Kingdom of Great Britain and Northern Ireland, the United States of America and the European Space Agency.

66. The Committee endorsed the recommendation of the Sub-Committee to continue consideration of the item at its next session.

5. Examination of the physical nature and technical attributes of the geostationary orbit. Examination of its utilization and applications, including, inter alia, in the field of space communications, as well as other questions relating to space communications developments, taking particular account of the needs and interests of developing countries

67. The Committee noted that, in accordance with General Assembly resolution 42/68, the Sub-Committee had given consideration to this item which had been reformulated by the General Assembly at its forty-second session.

68. The Committee noted that delegations had reiterated and elaborated on the views concerning the question of the geostationary orbit that had been expressed at earlier sessions and reflected in earlier reports of the Committee and its two sub-committees.

69. The Committee noted with satisfaction that the study of the physical nature and technical attributes of the geostationary orbit (A/AC.105/203 and Add.1-4) had been updated in document A/AC.105/404 as requested by the Committee at its 1987 session, and took note of the views on the study expressed in paragraph 69 of the report of the Sub-Committee on its twenty-fifth session (A/AC.105/409 and Corr.1).

70. The Committee endorsed the recommendation of the Sub-Committee that it continue consideration of the item at its next session.

6. Matters relating to life-sciences, including space medicine; progress in the geosphere-biosphere (global change) programme; matters relating to planetary exploration; matters relating to astronomy

71. The Committee noted that, in accordance with General Assembly resolution 42/68, the Sub-Committee had considered the items concerning matters relating to life-sciences, including space medicine; progress in the geosphere-biosphere

(global change) programme; matters relating to planetary exploration; and matters relating to astronomy.

72. The Committee noted with satisfaction that a series of special presentations by various experts were held under the items.

73. The Committee endorsed the decision of the Sub-Committee to continue consideration of these items at its following session. It further endorsed the recommendation of the Sub-Committee that COSPAR and IAF should be invited to present reports and arrange a special presentation on progress in the geosphere-biosphere (global change) programme.

7. The themes fixed for special attention of the 1988 and 1989 sessions of the Scientific and Technical Sub-Committee

74. The Committee noted that, in accordance with General Assembly resolution 42/68, the Sub-Committee had considered the item relating to the theme fixed for special attention of the 1988 session of the Scientific and Technical Sub-Committee: "Microgravity experiments in space and their applications".

75. The Committee noted with satisfaction that, in accordance with General Assembly resolution 42/68, COSPAR and IAF had conducted a symposium in two sessions on this question and expressed its appreciation to COSPAR and IAF for their generous support of the work of the Sub-Committee.

76. The Committee endorsed the recommendation of the Sub-Committee that the new theme fixed for special attention of the 1989 session of the Sub-Committee should be "Space technology as an instrument for combating environmental problems, particularly those of developing countries" (the theme would relate to problems such as desertification, deforestation, floods, erosion, and pest infestation which are of particular interest to developing countries). It also endorsed the recommendation of the Sub-Committee that COSPAR and IAF should be invited to arrange a symposium on that theme, with as wide a participation as possible, to be held during the first week of the Sub-Committee's session after the adjournment of its meetings.

C. Report of the Legal Sub-Committee on the work of its twenty-seventh session (agenda item 6)

77. The Committee took note with appreciation of the report of the Legal Sub-Committee on the work of its twenty-seventh session (A/AC.105/411), which contained the results of its deliberations on the items assigned to it by the General Assembly in its resolution 42/68.

78. The proposal was made to organize symposia on legal matters during the sessions of the Legal Sub-Committee and to call upon the help of such organizations as COSPAR and IAF.

1. The elaboration of draft principles relevant to the use of nuclear power sources in outer space

79. The Committee noted that the Sub-Committee, in giving detailed consideration to this item during its twenty-sixth session, had re-established its Working Group on the item, under the chairmanship of Mr. H. Winkler (Austria).

80. The Committee noted the work carried out by the Working Group, as reflected in the report of the Legal Sub-Committee (A/AC.105/411, paras. 19-28 and annex I), and welcomed the consensus reached on the text of a draft principle relating to the applicability of international law.

81. Some delegations expressed the view that it was necessary to bring the draft principles relevant to the use of nuclear power sources in outer space into accord with the provisions of the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency as drawn up under the auspices of the International Atomic Energy Agency (IAEA) in 1986. Noting the challenge to the credibility of the Committee posed by actual developments concerning nuclear power sources, some delegations called for an early notification and continuing supply of information to the Secretary-General on malfunctions of nuclear power sources based on existing conventions and on principles agreed upon in the Legal Sub-Committee.

82. The Committee recommended that the Legal Sub-Committee should continue consideration of the item at its next session.

2. Matters relating to the definition and delimitation of outer space and to 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

83. The Committee noted that the Legal Sub-Committee, in accordance with General Assembly resolution 42/68, had continued to consider this item through its Working Group under the chairmanship of Mr. R. Lagorio (Argentina).

84. The Committee noted that a variety of views had been expressed on the question, as reflected in paragraphs 29 to 36 and annex II of the report of the Legal Sub-Committee (A/AC.105/411). Those views were elaborated on and reiterated during the current session of the Committee. In this connection, some delegations indicated that it was necessary to have a conventionally defined boundary between air and outer space. They supported the proposal that any object launched into outer space be considered as being in outer space at all stages of its flight after launch at which its altitude above sea level was 110 kilometres or more. Other delegations expressed the view that the need for such a definition or delimitation had not yet been established, that attempts to establish prematurely such a definition or delimitation might complicate and impede progress in the peaceful exploration and use of outer space, that consideration of this matter was not productive, and that the question of the definition and delimitation of outer space should be removed from the agenda.

85. The Committee noted that some progress had been made towards a convergence of views on the question of the activities of States in the utilization of the geostationary orbit, and expressed the hope that a consensus on this question could be reached in the near future.

86. The Committee recommended that the Legal Sub-Committee should continue consideration of the item at its next session.

3. Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries

87. The Committee noted that, in accordance with General Assembly resolution 42/68, the Legal Sub-Committee had considered the finalization of the choice of a new item for the agenda, taking into account the proposal made by the Group of 77 and other proposals, in order to begin its consideration at the Sub-Committee's twenty-seventh session.

88. The Committee noted with satisfaction that the Sub-Committee had adopted by consensus a new item for its agenda: "Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries".

89. In this connection, the Committee took note of the decision of the Sub-Committee to let interested delegations raise the subject of the legal aspects related to developments in the exploration and utilization of outer space during the general exchange of views starting with next year's session of the Sub-Committee.

90. The Committee agreed that, in order to assist the Legal Sub-Committee in its deliberations, the Secretary-General should invite Member States to submit their views as to the priority of specific subjects under this agenda item and to provide information on their national legal frameworks, if any, relating to the development of the application of the principle contained in article 1 of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (General Assembly resolution 2222 (XXI), annex). The information provided by Member States should be submitted to the Legal Sub-Committee at its twenty-eighth session.

91. The Group of 77 proposed that the Legal Sub-Committee, in order to facilitate the discussions under this agenda item, should, as a first step, establish a working group to consider this item and that the Secretariat should compile a statement of the international legal instruments and any other international norms relating to international co-operation, particularly in space activities, and submit that information to the working group at the twenty-eighth session of the Legal Sub-Committee (see annex V below). Some delegations expressed the view that the discussion and analysis of existing legal norms should be done by the Sub-Committee itself rather than by the Secretariat or outside experts.

92. The Committee recommended that the question of the establishment of a working group should continue to be considered during the forthcoming session of the General Assembly and, if necessary, at the next session of the Legal Sub-Committee.

93. The Committee also noted the exchange of views on the question of enhancing the work of the Sub-Committee as set out in the report of the Sub-Committee (A/AC.105/411, paras. 51-72).

94. The Committee recommended that the Legal Sub-Committee take up consideration of the item at its next session.

D. Other matters (agenda item 8)

95. The Committee noted with appreciation the participation in its work and that of its sub-committees by representatives of United Nations bodies and specialized agencies, and found the reports they had submitted helpful in enabling the Committee and its subsidiary bodies to fulfil their role as a focal point of international co-operation in the peaceful uses of outer space. The Committee also noted with appreciation the participation in its work and that of its sub-committees by the representatives of ITU, INTELSAT, INMARSAT, the European Space Agency, COSPAR and IAF. The Committee requested that concerned organizations should continue to keep it informed of their activities relating to the peaceful uses of outer space.

E. Future work

96. The Committee noted the views expressed by the Scientific and Technical Sub-Committee, as contained in paragraphs 92 to 95 of its report (A/AC.105/409 and Corr.1), and endorsed the recommendations contained in these paragraphs concerning the agenda of the twenty-sixth session of the Sub-Committee.

97. Regarding the agenda of the Legal Sub-Committee, the Committee recommended that the Legal Sub-Committee, at its twenty-eighth session, should:

(a) Continue the elaboration of draft principles relevant to the use of nuclear power sources in outer space through its Working Group;

(b) Continue, through its Working Group, its consideration of matters relating to the definition and delimitation of outer space and to 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;

(c) Consider the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries.

98. The Committee agreed that more time should be allocated to the consideration of the safe use of nuclear power sources on the agenda of the Scientific and Technical Sub-Committee as well as the Legal Sub-Committee for the coming year.

The Committee recommended that the Secretariat should take this into account in preparing the provisional agenda of the Sub-Committees.

99. The Committee decided to recommend, on the basis of several proposals made during the debate, including one in a working paper (A/AC.105/L.173) (see annex VI below), to include a new item on the agenda of its next session entitled "Spin-off benefits of space technology: review of current status".

100. The proposal was made to add two new agenda items for the Scientific and Technical Sub-Committee entitled "Applications of space technology of special relevance to the needs of developing countries and possibilities for international co-operation" and "Ways and means of maintaining outer space free of debris and pollution". On the subject of space debris, it was proposed that a report should be submitted annually to the Scientific and Technical Sub-Committee with updated information on the question of space debris.

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

101. The Committee indicated the following tentative timetable for 1989:

	<u>Dates</u>	<u>Location</u>
Scientific and Technical Sub-Committee	21 February-3 March	New York
Legal Sub-Committee	20 March-7 April	New York
Committee on the Peaceful Uses of Outer Space	5-16 June	New York

G. Tribute to the Rapporteur

102. Mr. Henrique Rodrigues Valle left New York to take up an assignment in Brazil, relinquishing his duties as Rapporteur of the Committee. The Committee expressed its sincere appreciation for the important work, the assistance and the co-operation that Mr. Rodrigues Valle had given to the Committee over several years.

Notes

1/ Report of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, Vienna, 9-21 August 1982 (A/CONF.101/10 and Corr.1 and 2).

ANNEX I

Opening statement by the Chairman of the Committee
on the Peaceful Uses of Outer Space

1. May I, in opening the thirty-first session of the Committee on the Peaceful Uses of Outer Space, first of all extend a most cordial word of welcome to all members of the Committee, to delegates attending this body for the first time, as well as to those who can already look back on many years of distinguished service to the aims and purposes of international co-operation in outer space. May I also welcome the representatives of governmental and non-governmental international organizations which over the years have provided so much support to this Committee.
2. I trust that we shall unite once again and with a common sense of purpose in discharging an important political mandate and in shaping a clear United Nations role in the many fields and areas of space co-operation, a role and a mandate inspired by our common approach, our common philosophy towards outer space - the philosophy of exclusively peaceful uses of this exciting environment.
3. As we are assembled in this common endeavour, I believe that we are indeed favoured at this moment in time by the unusual combination of a much improved international atmosphere and a renewed appearance of political will to solve even longstanding and tenacious international crises. Meeting in the aftermath of the Moscow Summit between the United States of America and the Union of Soviet Socialist Republics, a summit that has led both Powers further along the road of a more constructive and productive relationship, we might be on the eve of further important international agreements - at the Vienna Conference on Security and Co-operation in Europe or in the settlement of regional conflicts in Africa or Asia.
4. May I express the hope, therefore, that this new climate and this new atmosphere so rich in promises of peace and compromise will also reflect favourably on the work of our Committee and inspire our debates as well as our decisions. And indeed seen against the background of some of the most recent developments in the peaceful uses of outer space there seems to be much scope for initiative and challenge.
5. Thus, over the last year, the network of international space co-operation among States and international organizations has become wider once again, not the least due to the strenuous efforts this Committee has made in that regard over the last three decades. Similarly, there has been impressive progress in space science and technology, in developing as well as industrialized countries, in North and South, East and West, progress achieved by Governments attaching a high priority to space as well as progress achieved through increasing involvement of the private sector.
6. New co-operative efforts, such as the agreement signed by Canada and China on 2 March 1988 extending co-operation in telecommunications, which includes satellite-communications and microwave networking, can be registered and advance the wide area of bilateral co-operation in space uses and exploration. The number of such co-operative space projects cannot be counted anymore: States co-operate on spacecraft projects; thousands of scientists from many parts of the world and many international organizations are carrying out experiments in the context of space exploration, and co-operation on the ground is expanding. In the area of

launches, we are witnessing an ever-increasing number of States not only taking part in the space launching activities of other nations but also developing their own launching capabilities. New civilian space organizations dedicated to furthering space programmes are being set up in more and more countries. Recent examples are the British National Space Centre and the Soviet Glavkosmos Agency. Australia, Canada, the Federal Republic of Germany and Italy are considering the establishment of similar civilian space organizations in their countries.

7. A global effort is developing to promote space science and applications as part of the International Space Year scheduled for 1992, which marks the anniversaries of several important national and international events. Many countries are already active in co-ordinating space science and technology efforts for 1992. I want to remind you that the Working Group of the Whole of the Scientific and Technical Sub-Committee made a recommendation on this subject to which I shall return later on. As the International Geophysical Year in 1957, 1992 could therefore, 35 years later, herald new breakthroughs and ventures many of which will be, I hope, also of an international, multilateral nature involving the United Nations.

8. Since the Committee met last year, there have been many accomplishments in the field of outer space which I want to mention before I comment upon the work of the two sub-committees this year. Particularly noteworthy are the following activities.

9. In 1987, the Soviet Union has orbited 116 space objects in 96 launches. These space objects included Cosmos, Molnya, Raduga, Meteor, Gorizont and Cargo Spacecraft, and the Kvant astrophysical module of the Mir Orbital Station. We should furthermore recall the record-breaking stay of Yuri Romanenko in space, who after 326 days in space, returned to Earth on 29 December 1987. An important event included the launching of a three-man crew aboard Soyuz TM-4 on 21 December 1987 with a most ambitious mission of attempting to spend an entire year in space aboard the Mir Orbital Station. Energia, a new heavy lift booster allows the Soviet Union to place payloads of up to 200,000 lb in low-earth orbit. And even as we meet, Soviet cosmonauts Anatoli Solowjow and Viktor Sawinych, as well as Bulgarian cosmonaut Alexander Alexandrow, form an international mission to conduct scientific work on board Soyuz TM-5 and the Mir Orbital Station.

10. We congratulate the Soviet Union on this impressive record.

11. On 17 March 1988, the IRS Indian Remote Sensing satellite was launched successfully into a sun-synchronous polar orbit on a Soviet SL-3 booster.

12. The United States Space Shuttle is to resume its launches shortly and we wish the United States much success in their future Space Shuttle flights. A number of satellites have been launched on expandable launch vehicles for missions where the unique capabilities of the Space Shuttle were not required. A recent example includes the launching of a meteorological satellite on 2 February 1988. Among many programmes currently developed, executed and advanced by the National Aeronautics and Space Administration (NASA) in the fields of space science and space applications, let me just mention the United States Space Station, a major project with a broad scope for international space co-operation.

13. Many other Member States of this Committee launched new space missions during the last year. China launched its twentieth and twenty-first satellites on 5 August and 9 September 1987, respectively, using the CZ-2 launch vehicles to

orbit payloads which were subsequently recovered; recently, on 7 March 1988, an STW telecommunications satellite was successfully launched into geostationary orbit on a Long March 3; on 19 February 1988, Japan launched its H-1 launch vehicle carrying the third generation Communications Satellite CS-3a into orbit. The European Space Agency successfully launched Ariane vehicles in September and November of 1987, carrying communication satellites ECS of the European Space Agency, Aussat of Australia and TV-SAT of the Federal Republic of Germany; on 11 March 1988, the French Telecom 1C and United States GTE Spacenet communication satellites were also launched by Ariane. Italy, in co-operation with the United States, launched an international atmospheric research satellite on a NASA Scout rocket on 25 March 1988.

14. Distinguished delegates, let us now turn to the agenda items before the Committee.

15. As in past years, the General Assembly at its forty-second session, instructed us to consider as a matter of priority "ways and means of maintaining outer space for peaceful purposes" and to report thereon to its forty-third session.

16. As you may recall, this Committee, at its thirtieth session, recognized the need to maintain outer space for peaceful purposes and agreed that it could make important contributions to that end. a/ It also agreed that an effective way to maintain outer space for peaceful purposes was to strengthen multilateral, regional and bilateral co-operative activities and to promote specific projects to assist all countries, in particular developing countries. I wish to remind you that this wording goes a step beyond what the Committee was able to agree upon at earlier sessions where it had not been possible to define in more concrete terms as to how the desire to maintain outer space for peaceful purposes should actually be realized. Let us continue to make progress by expanding common ground on this admittedly difficult question. As I said before, the easing of political tensions between East and West should be conducive to achieving substantive results.

17. Before going into detail about the work of the two sub-committees, I should like to express, on behalf of the Committee, our deep appreciation to Professor John Carver of Australia, Chairman of the Scientific and Technical Sub-Committee, and to Ambassador Ludek Handl of Czechoslovakia, Chairman of the Legal Sub-Committee. Indeed, the Committee is much indebted to these distinguished Chairmen for the smooth and productive functioning of its two subsidiary bodies, which serve as the basis for a successful session of the Committee.

18. The Scientific and Technical Sub-Committee's report on its twenty-fifth session is before us in document A/AC.105/409 and Corr.1.

19. The Sub-Committee, as it did over the last two years, combined consideration of the United Nations Space Applications Programme and the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, since the expansion and reorientation of the Space Applications Programme is an integral part of the implementation of the recommendations of the Conference. In considering these agenda items, the Sub-Committee was well aware of the position of the General Assembly, which, at its forty-second session, once again emphasized the urgency and importance of fully implementing the recommendations of the Conference held six years ago and made four recommendations concerning particularly urgent questions.

20. Thus, in accordance with General Assembly resolution 42/68 of 22 December 1987, the Sub-Committee re-established the Working Group of the Whole to evaluate the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space. The report of the Working Group is contained in annex II of the Sub-Committee's report; the Working Group was ably chaired by Mr. Amorín of Uruguay.

21. The report of the Working Group of the Whole, which was adopted by the Sub-Committee and is now before this Committee for action, contains, besides a number of recommendations of a more general nature, some specific recommendations calling for actions by Member States, by the Secretariat of the United Nations and by other international organizations.

22. The Working Group of the Whole made three specific recommendations concerning information that the Committee might request from Member States or international organizations: information from Member States concerning space activities in which there could be greater international co-operation, a request which was repeated from last year's session of the Committee; information from international organizations on international co-operative space activities; and annual reports on techniques resulting from medical studies carried out in outer space.

23. The Working Group of the Whole also recommended that the Outer Space Affairs Division, within existing resources and if other priorities permit, convene a meeting of governmental experts representing developed and developing countries regarding the strengthening of data banks at national/regional levels and the establishment of an international information service; it further requested the Division to update annually the report on the existing training centres at the regional level.

24. It is not necessary here to insist on the importance of information in the context of international space activities, an importance growing daily as national and international actors expand their work. Let me, therefore, express the hope that in 1988 and 1989 further progress will be made towards the creation of an international space information service proposed by the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space.

25. Finally, the Working Group of the Whole recommended that the Scientific and Technical Sub-Committee defer to the Committee on the question of declaring the year 1992 as international space year. Our Committee may wish to consider whether it should make a recommendation to the General Assembly on this question.

26. The recommendations made by the Working Group of the Whole offer a basis for further substantive action by the Committee for promoting international co-operation in the peaceful uses of outer space. I believe that it is important to give careful attention to these recommendations and strive for their implementation. Such has been the case with the studies and reports before this year's session of the Scientific and Technical Sub-Committee, which were submitted in response to the recommendations the Working Group of the Whole made at its first session last year. Serious work on the recommendations of the Working Group of the Whole will only be to the benefit of this Committee and its subsidiary bodies as well as to all Member States.

27. In addition, the Scientific and Technical Sub-Committee reviewed the wide range of activities of the United Nations Programme on Space Applications and commended the work carried out during the past year. It also approved or took note

of the activities proposed for 1988 and 1989. It noted as well the appeal by the Expert on Space Applications to Member States and international organizations to provide support for the programme and the attempts being made by the Outer Space Affairs Division to seek the support of the United Nations Development Programme for the Space Applications Programme. In this connection, the Sub-Committee expressed its satisfaction that the funding from the regular budget of the programme had been restored to its original level for the first half of 1988.

28. As much as we welcome this positive development regarding the financial situation of the United Nations Programme on Space Applications, we should not relinquish our efforts to secure the financial soundness of the programme for the years to come. At this time, we do not know whether the restoration of funds is permanent. Let us therefore continue in our efforts to ensure that the programme's financial basis will further improve in the years to come.

29. In saying this, I certainly remain within the limits of moderation and restraint that not only this Committee but particularly the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space have displayed when addressing the question of financial resources dedicated to United Nations activities in outer space. It is clear, however, that not only the Space Applications Programme but also related activities will need a much higher level of funding over the coming years if the United Nations and other international organizations, specialized agencies, the United Nations University and others should be allowed to play a full part in the international effort to open access to space and space applications to all nations of the world, particularly developing countries.

30. The Sub-Committee continued its consideration of remote sensing from outer space under a slightly reformulated agenda item and reiterated its view that remote sensing from outer space should be carried out, taking into account the particular needs of the developing countries.

31. Regarding the question of the use of nuclear power sources in outer space, the General Assembly had decided at its 1987 session that the Working Group on the Use of Nuclear Power Sources in Outer Space should be reconvened at this year's session of the Scientific and Technical Sub-Committee. As you know, the Working Group did not meet for two years, owing to a lack of consensus on this question. We welcome the resolution of this matter which proves once again that consensus is possible even on the most difficult questions when there is a will to seek compromise and co-operation.

32. The report of the Working Group, which was chaired by Professor Carver, is attached as annex III to the report of the Sub-Committee. Though the report does not contain any specific recommendations, it clearly shows that the Working Group had a thorough exchange of views and expanded its discussion to aspects of the question which had not previously been considered. I am referring here particularly to such subjects as complete dispersal or burn-up, of nuclear fuel re-entering the atmosphere and the design of nuclear power sources. The Sub-Committee made the recommendation that the Working Group should continue its work at next year's session.

33. The relevance of this work is underscored time and again by the reality of space operations such as the recent problems appearing in the operation of COSMOS 1900.

34. Regarding questions relating to space transportation systems, the Sub-Committee reviewed the national and co-operative programmes in space transportation systems. The question relating to the examination of the physical nature and technical attributes of the geostationary orbit was considered by the Sub-Committee under a reformulated agenda item, which also includes, inter alia, questions relating to space communications developments. However, little progress was made regarding this question.

35. This was the second year for the Sub-Committee to discuss, as agenda items, a number of scientific matters: matters relating to life sciences, including space medicine, progress in the geosphere-biosphere (global change) programme, matters relating to planetary exploration and matters relating to astronomy. The official theme for the session had been: "Microgravity experiments in space and their applications".

36. In the context of the theme that had been selected for this year's session, a series of most valuable and informative technical presentations were given by specialists in a two-day symposium organized by the Committee on Space Research (COSPAR) and the International Astronautical Federation (IAF). To continue these very informative and successful annual discussions on specific aspects of space technology and applications, the Sub-Committee proposed as a theme for its next session: "Space technology as an instrument for combating environmental problems, particularly those of developing countries". The support of COSPAR and IAF is again requested in the form of presentations and a symposium. I have no doubt that these recommendations will be considered favourably by this Committee as they have been in the past.

37. It appears appropriate at this juncture to extend once again the gratitude of this Committee to IAF and COSPAR for their unceasing assistance in promoting the scientific work of the Committee.

38. The Legal Sub-Committee re-established its Working Group on the Use of Nuclear Power in Outer Space, chaired by Mr. Winkler of Austria, in order to continue its consideration of the elaboration of draft principles relevant to the use of nuclear power sources in outer space. Detailed consideration was given to those draft principles on which no consensus had been achieved in the past. The Working Group was able to reach consensus on a text for a draft principle relating to the applicability of international law. The Working Group furthermore reached a general understanding on most of the other principles as reflected in its report, contained in annex I to the report of the Sub-Committee. This substantive progress achieved makes me hopeful that the Working Group will be able to agree on a text of principles perhaps at its session next year.

39. The re-established working group of the Legal Sub-Committee on the definition and delimitation of outer space and the geostationary orbit, under the chairmanship of Mr. Lagorio of Argentina, again made little progress this year. I would hope that the Committee could provide some guidance on this matter.

40. The Legal Sub-Committee, as requested by the General Assembly in its resolution 42/68, finalized the choice of a new item for its agenda, taking into account the proposal made by the Group of 77 and other proposals. After intensive negotiations, it was able to adopt by consensus as a new item: "Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the

interests of all States, taking into particular account the needs of developing countries".

41. We welcome this compromise, which broke the impasse existing at last year's session of the Legal Sub-Committee, and there is no doubt that this resolution of the matter will be considered favourably by the Committee.

42. Let me thus conclude this brief overview of the work of our two sub-committees. While it is disappointing to see little substantive progress in some areas, it is, on the other hand, encouraging to be witness to concrete results on such questions as the re-establishment of the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Sub-Committee, the new agenda item for the Legal Sub-Committee and agreement on other matters.

43. As we look forward to 1992, the Committee should consider what further contributions of its own it might make towards the strengthening of international co-operation in outer space, what new chapters to an already impressive code of space law it might add in order to extend the rule of law to this new environment, or what measures and steps it might propose to close the technology gap, wider perhaps today than at any given moment in the past between space faring and non-space faring nations, between nations beginning to enjoy at least some of the benefits of the space age and others still far removed from this goal.

44. In venturing along this path, the Committee might not only make an important contribution to establish peace, international co-operation and mutual responsibility as guiding principles for man's presence in outer space, the Committee might also help to prevent the appearance of new tension, of new confrontation in an environment whose peaceful nature is of such overriding importance to mankind as a whole.

Notes

a/ See Official Records of the General Assembly, Forty-second Session, Supplement No. 20 (A/42/20).

ANNEX II

Ways and means of maintaining outer space for peaceful purposes

Basic provisions of the Charter of a World Space Organization (WSO): working paper submitted by the Union of Soviet Socialist Republics under agenda item 4*

I. AIMS

The purposes of the World Space Organization, hereinafter referred to as WSO, are as follows:

To serve as a focal point for broad international co-operation for the exploration and use of outer space exclusively for peaceful purposes;

To co-ordinate efforts undertaken by States and international organizations in the context of peaceful space activities;

To facilitate for all States access to and participation in space activities and the benefits derived therefrom;

To verify compliance with international agreements to prevent the extension of an arms race into outer space.

II. FUNCTIONS

1. To encourage all forms of activity relating to the exploration and peaceful uses of outer space and to the development of international co-operation in this field in the interests of the socio-economic advancement of all countries.
2. To elaborate and implement international co-operation projects relating to various aspects of space exploration and application and the practical exploitation for peaceful purposes of the achievements of space science and technology.
3. To co-ordinate international activity in the exploration and peaceful uses of outer space.
4. To provide support to States in the elaboration and implementation of their national space programmes, taking particular account of the needs and interests of developing countries.
5. To launch special ventures which will operate under the auspices of WSO.
6. To create a system for the collection and dissemination of information on various aspects of the exploration and peaceful uses of outer space.

* Previously circulated as document A/AC.105/L.171.

7. To assist States in training scientific and technical space specialists, taking particular account of the needs and interests of developing countries.

8. To help to strengthen the rule of law in space and to contribute to the progressive development of international space law.

For the purpose of carrying out these tasks, WSO may lease, acquire or develop the necessary elements of a research and production base, including space objects, equipment, launchers, ground facilities, tracking and flight-control stations and laboratories.

III. IMPLEMENTATION OF INTERNATIONAL CO-OPERATION PROJECTS

1. WSO shall use its own resources to elaborate and implement international co-operation projects in various areas of space exploration and its practical applications.

2. International co-operation projects, financed by the member States concerned by means of special funds or earmarked contributions, may be carried out under the auspices of WSO. Proposals for the initiation of such projects shall be made by the member States concerned.

IV. SPECIAL VENTURES

1. WSO may establish, in areas involving the practical uses of outer space, special ventures operating on a fully self-financing basis or on the principle of commercial enterprises.

2. Once established, the special ventures shall operate autonomously and independently but shall be obliged to take into consideration the recommendations of WSO, to which they shall submit regular reports on their activity.

3. The financial activity of the special ventures shall be independent of the financial activity of WSO, except that a portion of their profits, as determined in their constituent instruments, shall be transferred to the WSO budget.

4. WSO may participate in the special ventures as one of the shareholders.

V. DEVELOPMENT FUND

1. A WSO Development Fund shall be established for the funding of international projects designed primarily to provide aid and assistance to the developing countries in the practical applications of space science and technology.

2. The annual contributions of member States to the Development Fund shall be apportioned on the basis of the following principle:

(a) 60 per cent: States members of the WSO Council, being the States most actively engaged in the exploration and use of outer space (equal shares);

(b) 30 per cent: other member States actively engaged in the exploration and use of outer space (equal shares according to a list approved by the Assembly of WSO);

(c) 10 per cent: all other member States (equal shares on the basis of a scale approved by the Assembly).

VI. VERIFICATION OF COMPLIANCE WITH AGREEMENTS TO PREVENT THE EXTENSION OF AN ARMS RACE INTO OUTER SPACE

1. WSO shall create a system of international verification of compliance with agreements to prevent the extension of an arms race into outer space.
2. To this end, it shall use the technical resources which may either belong to it or be placed at its disposal or leased to it by member States.
3. On the basis of a special agreement with the United Nations, the WSO verification system may also be used to monitor compliance with other agreements on the limitation and cessation of the arms race.

VII. FINANCING THE WORK OF WSO

1. The financial resources of WSO shall consist of the obligatory annual contributions of member States and a proportion of the profits of the special ventures, together with the earmarked and voluntary contributions of States, international organizations and non-governmental corporate bodies.
2. The financial resources of WSO shall be utilized for:
 - (a) The implementation of international co-operation projects;
 - (b) The establishment and maintenance of the Development Fund;
 - (c) Shared participation in the implementation of the special ventures;
 - (d) Support for the system of international verification of compliance with agreements to prevent the extension of an arms race into outer space;
 - (e) Development of the equipment and technical resources of WSO and establishment of the corresponding infrastructure;
 - (f) Administrative requirements.
3. The activity of WSO shall be organized on the basis of biannual budgets.

VIII. RELATIONS WITH THE UNITED NATIONS

1. WSO and the United Nations shall conclude agreements on co-operation and consultation, including a possible agreement on the use of the verification system of WSO to monitor compliance with agreements on the limitation and cessation of the arms race.

2. WSO shall submit to the United Nations annual reports, which shall be examined by the Committee on the Peaceful Uses of Outer Space and then by the General Assembly. In the light of its consideration of those reports, the General Assembly may make appropriate recommendations, to which WSO shall give due consideration.

IX. RELATIONS WITH OTHER INTERNATIONAL ORGANIZATIONS AND AGENCIES INVOLVED IN THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

1. In order to avoid duplication of effort and to make the most efficient use of resources, WSO shall co-ordinate its activities on the basis of appropriate understandings or agreements with other international organizations and agencies involved in the exploration and peaceful uses of outer space. Such organizations and agencies, which shall operate on a commercial basis, may obtain the status of WSO special ventures.

2. WSO shall provide for other international organizations and agencies a unified approach to the global development of international co-operation in the exploration and peaceful uses of outer space, together with a mechanism for making the best use of the potential of such organizations and agencies in the implementation of that approach.

X. MEMBER STATES

Membership in WSO shall be open to all States which have signed and ratified its Charter or which have acceded to it.

XI. STRUCTURE

The principal bodies of WSO shall be:

- A. The Assembly;
- B. The Council;
- C. The Secretariat.

A. The Assembly

1. The Assembly shall consist of all States members of WSO.
2. The Assembly shall discuss any questions or matters belonging within the scope of the Charter and shall, in particular:
 - (a) Establish the policies governing the organization's activities;
 - (b) Approve international co-operation projects submitted by the Council which are to be carried out by WSO;
 - (c) Approve the constituent instruments of the special ventures and the principles governing their activities;

- (d) Establish the principles governing the system for monitoring compliance with agreements to prevent the extension of an arms race into outer space;
 - (e) Develop a unified approach to the global development of international co-operation in the exploration and peaceful uses of outer space;
 - (f) Establish a scale of annual contributions of member States to the regular budget and the Development Fund;
 - (g) Review and approve the budget of WSO;
 - (h) Establish the Council;
 - (i) Receive and consider reports of the Council and other bodies;
 - (j) Appoint the Director-General of WSO.
3. Regular sessions of the Assembly shall be held once a year. Special sessions of the Assembly shall be held at the decision of the Assembly or the Council, or at the request of any member State, provided that such request is supported by the majority of member States.
4. Each member State shall have one vote in the Assembly.
5. Decisions on matters of procedure, including decisions on the holding of special sessions, shall be taken by a majority vote of member States present and voting.
6. Decisions on substantive matters shall be taken by a three-quarters majority of votes of the member States present and voting, provided that such a majority represents the majority of member States.

B. The Council

1. The membership of the Council shall be constituted by the Assembly for a term of four years according to the following principle:
- (a) One third of the members shall be appointed from among the member States that are most active in the exploration and use of outer space, without regard for the principle of equitable geographical distribution; and
 - (b) Two thirds of the members shall be elected according to the principle of equitable geographical distribution;
 - (c) The Council shall not have more than 30 members.
2. The Council shall be the executive body of WSO. In this capacity it shall, inter alia:
- (a) Draw up international co-operation projects for adoption by the Assembly and supervise their implementation;
 - (b) Appoint the directors of international co-operation projects;

(c) Monitor the use of the resources of the Development Fund; and

(d) Supervise the functioning of the system for monitoring compliance with agreements to prevent the extension of an arms race into outer space.

3. The Council shall convene whenever necessary for the effective discharge of its functions, but no less often than three times a year.

4. The Council shall endeavour to take its decisions by consensus. If this is not possible, decisions of the Council shall be taken on the basis of a majority of three fourths of the votes of the member States present and voting, provided that such majority includes the majority of the member States of the Council.

C. The Secretariat

1. The Secretariat shall consist of a Director-General and such staff as WSO may require.

2. In discharging their duties, the Director-General and the staff of the organization shall function as international civil servants.

Ways and means of maintaining outer space for peaceful purposes

Enhancement of the efficiency of the work of the Committee on the Peaceful Uses of Outer Space and its two sub-committees: working paper submitted by Australia, Belgium, the Federal Republic of Germany, Italy, Japan, the Netherlands, the United Kingdom of Great Britain and Northern Ireland and the United States of America under agenda item 4*

1. The purpose of this paper is to suggest ways and means by which the Committee on the Peaceful Uses of Outer Space and its two sub-committees might improve the quality and efficiency of the work, in line with its mandate and with the efforts undertaken by the General Assembly and the Secretary-General.
2. The Committee has a number of significant achievements to its credit. As the only standing body of the General Assembly concerned exclusively with international co-operation in the exploration and peaceful uses of outer space, it should continue to play an important role as the international focal point in this field.
3. In annex II to the 1985 report of the Committee a/ and in working paper A/AC.105/L.163 submitted to the Committee at its twenty-ninth session, the co-sponsors have provided concrete ideas on strengthening the working methods of the Committee and its two sub-committees. In working papers A/AC.105/C.2/L.160, submitted to the twenty-sixth session of the Legal Sub-Committee, and A/AC.105/L.166, submitted to the thirtieth session of the Committee, the co-sponsors presented further suggestions to improve and rationalize the work of the Committee.
4. During the twenty-seventh session of the Legal Sub-Committee, for the first time a broad and useful debate took place on this matter. Against the background of this debate, the co-sponsors of this working paper believe it is appropriate that the present session of the Committee agree on ways of carrying this matter forward, in the interest of the long-term effectiveness of the Committee. The co-sponsors wish to make specific suggestions for rationalizing the working methods of the Committee and its sub-committees, including the frequency and duration of the sessions and the flexibility of their agendas.
5. The following are suggestions for ways in which the organization of the work of the Committee might be improved, for the consideration of its members:
 - (a) A single annual session of four weeks' duration, to be convened at United Nations Headquarters:
 - (i) The first three working days of the initial week would be devoted to a session of the Committee for the purpose of conducting a general exchange of views on all items on the agendas of the Committee and its two sub-committees;

* Previously circulated as document A/AC.105/L.172.

- (ii) Seven working days would then be designated for the work of the Scientific and Technical Sub-Committee;
 - (iii) Subsequently, an equal amount of time would be set aside for the work of the Legal Sub-Committee;
 - (iv) The final three working days would be devoted to a resumed session of the Committee to consider the reports of its sub-committees and to adopt its report to the General Assembly;
- (b) Two sessions annually, to be convened at United Nations Headquarters:
- (i) The first of these sessions would be of four weeks' duration distributed as follows: a meeting of the Committee during the first week for the purpose of conducting a general exchange of views on all items on the agendas of the Committee and its two sub-committees; a subsequent meeting of three weeks of the two sub-committees devoting equal time to each (meetings of the two sub-committees would not take place simultaneously);
 - (ii) The second session, of one week's duration, would be a resumed meeting of the Committee devoted to a short review of the first session, consideration of the reports of the Sub-Committees and consideration and adoption of the report of the Committee to the General Assembly.

6. As an initial step, it is proposed that an open-ended working group be established under agenda item 4 at the thirty-second session of the Committee with the following mandate:

"To consider proposals for rationalizing and improving the working methods of the Committee and its two sub-committees, including the frequency and duration of the sessions and flexibility of their agendas, and to make appropriate recommendations to the Committee."

Notes

a/ Official Records of the General Assembly, Fortieth Session, Supplement No. 20 (A/40/20 and Corr.1).

Ways and means of maintaining outer space for peaceful purposes:
working paper submitted by Egypt under agenda item 4*

1. In the view of the Government of Egypt, some of the major responsibilities of the Committee on the Peaceful Uses of Outer Space are to make space activities an international concern; to familiarize the developed countries with the new progresses and discoveries in their respective countries; to spread the interest and the benefits of space technologies to developing countries; and to find the ways of how to benefit the purposes of development. In this interdependent world, a huge technological or economic gap is not helpful to the international system.

2. There will come a day when all countries will need each other's help in the field of co-operation in space and facilities on the ground. Egypt therefore suggests the constitution of a working group that would consider the following in a business-like manner:

(a) Determining how much is available now for various assistance programmes with the aim of aiding the purposes of development;

(b) Encouraging more contributions by developed countries and organizations;

(c) Studying the different suggestions pertaining to allocating these funds and putting an overall plan on a geographical basis while identifying priorities as to which deserves what first;

(d) Using experts' views (from experienced countries, both developing and developed) to help define what is needed within the scope of realism to assist in the development projects and what is practical, workable and less expensive. Besides this assessment by experts, a questionnaire may be directed to countries to supplement and support the experts' views. In this respect, different suggestions were made that are worthy of elaboration, such as joined space flights, providing equipment and Earth centres and assistance in utilizing the data and making the best use of it.

* Previously circulated as document A/AC.105/L.176.

ANNEX V

Statement made by the representative of Tunisia, as Chairman of the Group of 77, to the Committee on the Peaceful Uses of Outer Space under agenda item 6

During the twenty-seventh session of the Legal Sub-Committee, an important agreement was reached on the inclusion of a new item entitled: "Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries". In order to facilitate the discussions under this agenda item, it is proposed that, in the first place, a working group of the whole should be constituted in the Legal Sub-Committee, which should lay down the broad guidelines for the discussions.

To assist the working group in its deliberations, the Secretary-General should ask the Member States to give views as to their priorities in terms of specific subjects falling under this agenda item, especially information on the national legal framework, if any, concerned with the promotion of international co-operation. At the same time, he should also ask the United Nations Secretariat to compile a statement of international legal instruments and any other international norms under which international co-operation proceeds. The information made available by the Member States and the Secretariat should be available to the working group of the whole at the twenty-eighth session of the Legal Sub-Committee.

ANNEX VI

Ways and means of maintaining outer space for peaceful purposes

Revitalizing the Committee on the Peaceful Uses of Outer Space: spin-offs from outer space programmes: working paper submitted by the United States of America under agenda item 4*

1. The selection of a new item for the Legal Sub-Committee dealing with the practical aspects of international co-operation in sharing the benefits of space exploration is particularly timely. Consideration of this important question will focus Member States' attention on the concrete results of national and international space activities and will play a part in reinvigorating the scientific and technical content of the Committee's work. In this regard, we recall the proposal in the working paper (A/AC.105/L.154) submitted by the United States of America and others that an item regarding "spin-offs" from outer space programmes could be included on the agenda of the Committee. The Committee could take a significant step forward by recommending at this session that the item be included on its agenda. Such an item would provide the opportunity for a useful exchange of information annually about such "spin-offs" and their potential applications.
2. While such an item has not been incorporated into the work of the Committee, the United States of America is pleased once again to provide information on recent developments in secondary applications of space technology. Copies of the publication entitled Spin-off: 1987, published by the United States National Aeronautics and Space Administration, are available for the information of the delegates to the thirty-first session of the Committee. The United States would welcome contributions from other Member States with similar programmes.

* Previously circulated as document A/AC.105/L.173.