

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

GENERAL ASSEMBLY

OFFICIAL RECORDS: THIRTY-THIRD SESSION

SUPPLEMENT No. 20 (A/33/20)



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NOTE

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CONTENTS

	<u>Paragraphs</u>	<u>Page</u>
I. INTRODUCTION	1 - 18	1
II. RECOMMENDATIONS AND DECISIONS	19 - 83	5
A. Report of the Scientific and Technical Sub-Committee	19 - 51	5
1. Remote sensing of the earth by satellites . . .	19 - 34	5
2. United Nations programme on space applications	35 - 40	8
3. Examination of the physical nature and technical attributes of the geostationary orbit	41 - 42	9
4. Other matters	43 - 46	9
5. Future work of the Sub-Committee	47 - 51	10
B. Report of the Legal Sub-Committee	52 - 69	10
C. Question of convening a United Nations conference on outer space	70 - 75	13
D. Other matters	76 - 83	15
1. Questions relating to the use of nuclear power sources in space	76	15
2. Questions relating to the geostationary orbit .	77 - 80	15
3. Wider participation in the work of the Committee	81	16
4. Procedural terminology	82	16
5. Preparation of the agenda	83	17
III. SCHEDULE OF WORK OF THE COMMITTEE AND ITS SUBSIDIARY BODIES	84	17

CONTENTS (continued)

ANNEXES

	<u>Page</u>
I. Opening statement by the Chairman of the Committee on the Peaceful Uses of Outer Space	18
II. Agreement Governing the Activities of States on the Moon and other Celestial Bodies: Working paper submitted by Austria	26
III. Views and recommendations of the Scientific and Technical Sub-Committee on the convening of a United Nations conference on outer space	35

I. INTRODUCTION

1. The Committee on the Peaceful Uses of Outer Space held its twenty-first session at United Nations Headquarters from 26 June to 7 July 1978 under the chairmanship of Mr. Peter Jankowitsch (Austria). Mr. Ion Datcu (Romania) served as Vice-Chairman and Mr. Carlos Moreira Garcia (Brazil) as Rapporteur. The verbatim records of the Committee's meetings are contained in documents A/AC.105/PV.179-188.

Meetings of subsidiary bodies

2. The Scientific and Technical Sub-Committee held its fifteenth session at United Nations Headquarters from 13 February to 2 March 1978 under the chairmanship of Professor J. H. Carver (Australia). The summary records of the Sub-Committee's meetings are contained in documents A/AC.105/C.1/SR.188-206. The report of the Sub-Committee was issued under the symbol A/AC.105/216.

3. The Legal Sub-Committee held its seventeenth session at the United Nations Office at Geneva from 13 March to 7 April 1978 under the chairmanship of Mr. Eugeniusz Wyzner (Poland). The summary records of the Sub-Committee's meetings appear in documents A/AC.105/C.2/SR.284-301. The report of the Sub-Committee was issued under the symbol A/AC.105/218.

Twenty-first session of the Committee

4. At its opening meeting, on 26 June 1978, the Committee on the Peaceful Uses of Outer Space adopted the following agenda:

1. Adoption of the agenda.
2. Statement by the Chairman.
3. General debate.
4. Report of the Scientific and Technical Sub-Committee (A/AC.105/216).
5. Report of the Legal Sub-Committee (A/AC.105/218).
6. Question of convening a United Nations conference on outer space.
7. Other matters.
8. Report of the Committee to the General Assembly.

5. Having been informed that its former Rapporteur, Mr. Luiz Paulo Lindenberg Sette, had been assigned to a new post, the Committee at its 179th meeting elected Mr. Carlos Moreira Garcia (Brazil) as its new Rapporteur. The Committee expressed its deep appreciation to its former Rapporteur for the outstanding manner in which he had discharged his duties.

6. Representatives of the following 43 Member States attended the session: Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Canada, Chile, Colombia, Czechoslovakia, Ecuador, Egypt, France, German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Iran, Iraq, Italy, Japan, Kenya, Mexico, Mongolia, Netherlands, Niger, Nigeria, Pakistan, Philippines, Poland, Romania, Sierra Leone, Sudan, Sweden, Turkey, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United Republic of Cameroon, United States of America, Venezuela and Yugoslavia.

7. At its 180th meeting, the Committee agreed to invite the representatives of Portugal and Uruguay to attend the meetings of the Committee, without the right to vote, in the deliberations of the Committee when items of interest to them were being considered, on the understanding that it would not constitute a precedent in dealing with future requests of this nature, nor would it involve the Committee in any further decisions concerning status.

8. Representatives of the Centre for Natural Resources, Energy and Transport (CNRET) of the United Nations Secretariat and the United Nations Environment Programme (UNEP) also attended the session.

9. Representatives of the following specialized agencies attended the session: Food and Agriculture Organization of the United Nations (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO), International Telecommunication Union (ITU), World Meteorological Organization (WMO) and the International Atomic Energy Agency (IAEA). The representatives of the European Space Agency (ESA), the Committee on Space Research (COSPAR) of the International Council of Scientific Unions (ICSU), and the International Astronautical Federation (IAF) also attended the session.

10. A list of the representatives of Member States and specialized agencies attending the session is contained in document A/AC.105/XXI/INF.1 and Add.1.

11. In addition to the reports of its subsidiary bodies, the Committee had before it the following documents:

A/AC.105/212 and Add.1-4 Review of national and co-operative international space activities for the calendar year 1977;

A/AC.105/214 and Corr.1 Note verbale dated 8 February 1978 from the Permanent Representative of Canada addressed to the Secretary-General;

A/AC.105/217 Note verbale dated 3 March 1978 from the Permanent Representative of Canada addressed to the Secretary-General;

- A/AC.105/219 and Add.1-2 Importance of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies for the development of international co-operation in the practical application of space technology;
- A/AC.105/220 and Add.1 Question relating to the use of nuclear power sources in outer space. Report of the Secretariat (Replies to a note dated 21 March 1978 from the Secretary-General requesting information from Member States relevant to questions concerning the use of nuclear power sources in outer space from Belgium, Canada, France, Germany, Federal Republic of, Greece, Italy, Spain, Sweden, the United Kingdom of Great Britain and Northern Ireland, the United States of America and IAEA);
- A/AC.105/221 and Add.1-4 Views of Member States on ways and means of allowing participation of additional Member States in the work of the Committee on the Peaceful Uses of Outer Space;
- A/AC.105/L.102 Uses of radio-active (nuclear) materials by the United States of America for space power generation - working paper submitted by the United States of America;
- A/AC.105/L.103 and Corr.1 Provisional agenda, with annotations, for the twenty-first session.

12. At the opening of the session, at the 179th 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. The text of the Chairman's statement is annexed to the present report (annex I).

13. The Committee held its general debate on the items before it at the 179th to 185th and 188th meetings from 26 to 30 June and 7 July 1978, in the course of which statements were made by the representatives of Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, Colombia, Czechoslovakia, Ecuador, France, the German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Iran, Italy, Japan, Kenya, Mexico, Mongolia, the Netherlands, Pakistan, the Philippines, Poland, Romania, Sudan, Sweden, Turkey, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, the United Republic of Cameroon, the United States of America and Yugoslavia. Those statements are contained in the verbatim records of the 179th to 185th and 188th meetings of the Committee (A/AC.105/PV.179-185, and 188).

14. The Under-Secretary-General for Political and Security Council Affairs and the Chief of the Outer Space Affairs Division, as well as the representatives of FAO, ITU, COSPAR and IAF, also made statements. Those statements are contained in the verbatim records of the 179th, 180th and 184th meetings of the Committee, respectively (A/AC.105/PV.179, 180 and 184).

15. At the 180th meeting, the Chairman of the Committee made a statement conveying the condolences of the Committee on the death of Academician Mstislav Vsevolodovich Keldysh, who was a world-renowned leader in space science and one of the initiators of the USSR space programme.

16. The Committee, at its 181st meeting, welcomed the news of the venture into outer space of the first Polish cosmonaut, major Mirosław Hermaszewski, together with the Soviet cosmonaut, Colonel Pyotr Klimuk, on board the Soviet space ship Soyuz-30. On this occasion, in recognition of the Committee's record of accomplishment in promoting the peaceful uses of outer space and its Chairman's outstanding contribution to the development of international co-operation in that field, Mr. Peter Jankowitsch, Chairman of the Committee, was presented with two commemorative medals of the Polish Academy of Sciences. Warm congratulations were extended to the Polish and Soviet delegations by the Chairman and members of the Committee to underline the important event in the exploration of outer space. On 5 July 1978, the Polish delegation informed the Committee that the two cosmonauts had returned safely to earth, having successfully performed their space mission as part of the INTERCOSMOS Programme. The Committee also welcomed the news that a Czechoslovak cosmonaut, Vladimir Remek, was sent into orbit aboard Soyuz-29 to work in the Salyut-6 space station.

17. At the 185th meeting, the Secretary of the Committee read a letter received from the Director-General of the Pugwash Conference on Science and World Affairs drawing the Committee's attention to a recommendation on remote sensing satellites from one of the working groups of the twenty-seventh Pugwash Conference, held at Munich in August 1977.

18. After considering the various items before it, the Committee at its meeting on 7 July 1978 adopted its report to the General Assembly containing the recommendations and decisions set out in the paragraphs below.

II. RECOMMENDATIONS AND DECISIONS

A. Report of the Scientific and Technical Sub-Committee

1. Remote sensing of the earth by satellites

19. The Committee noted with satisfaction that the Scientific and Technical Sub-Committee, in accordance with the recommendation of the Committee endorsed by the General Assembly in resolution 32/196 of 20 December 1977, gave priority to the consideration of questions relating to remote sensing of the earth from satellites. The Committee, however, noted that several delegations felt that owing to the limited number of meetings devoted to this question, it was not possible to give detailed consideration to all relevant aspects of remote sensing and welcomed the intention of the Sub-Committee to devote more time to this item at its future sessions, as noted in paragraphs 16 and 145 of its report.

20. The Committee noted that the Sub-Committee had continued to consider both the current pre-operational/experimental phase of remote sensing, as well as possible future operational satellite remote sensing systems.

21. The Committee noted that the Sub-Committee had continued its consideration of questions relating to a proposal for classifying remote sensing data into three categories - global, regional and local based on spatial resolution with a view to facilitating the dissemination of data.

22. The Committee noted in this connexion that in accordance with a recommendation made by it at its last session the Secretariat had submitted a report with the assistance of COSPAR entitled "Characteristics and capabilities of sensors for earth resources surveys" (A/AC.105/204), with a view to facilitating the discussions of the Sub-Committee concerning the classification and dissemination of data. The report, inter alia, noted that information currently available is not sufficient to permit exact determination of technical parameters required of remote sensing systems in order to achieve specific application objectives. The Committee, however, noted the view expressed in the Sub-Committee concerning certain short-comings in the report and the need for a supplemental study. According to experience gained so far in comparing the imagery capability of photographic systems and scanner systems, the ratio between photographic spatial resolution and the instantaneous field of view (IFOV) of a scanner as well as television resolution was approximately between two and three to one.

23. The Committee also took note of the varying views expressed by delegations concerning the need and method of classifying remote sensing data particularly with regard to the proposal to classify data into global, regional and local as reported in paragraphs 28 and 29 of the Sub-Committee's report.

24. The Committee, noting the view of the Sub-Committee that it was not in a position at its last session to agree upon the need for classification of data nor the manner in which such classification might be made, agreed with the suggestion of the Sub-Committee that the work in this field initiated by COSPAR could be continued theoretically and experimentally to gather relevant information to relate

different classes of data with various applications as well as further elaboration on the relationship of system characteristics, spatial resolution, and instantaneous field of view, and that therefore the Secretariat should submit a supplemental study thereon to the Sub-Committee for consideration at its next session.

25. The Committee endorsed, once again, the view of the Sub-Committee that there was no scientific or technical basis for a sensed State not having timely and non-discriminatory access to data of its territory.

26. Some delegations reiterated the view that the dissemination of data obtained by remote sensing must be subject to prior consent and should be made available freely to the sensed State as an expression of respect for its sovereignty and not be distributed to third parties without its consent. Other delegations were of the view that primary data ought to be available for open dissemination. Some delegations also expressed the view that analysed information was the work product, and the property, of the analyser and therefore could not be treated in the same manner as primary data. Still other delegations expressed the view that remote sensing data with a certain spatial resolution should be circulated solely with the consent of sensed States.

27. The Committee noted the finding of the Sub-Committee (A/AC.105/216, paras. 31-49), that several pre-operational space segments were functioning or were being planned and that operational remote sensing systems are envisaged for natural resources and environmental observation. The Committee further noted that ITU is conducting important studies and making provision for the use of frequencies in this field.

28. The Committee shared the view of the Sub-Committee that progress to date suggested that satellite remote sensing systems would one day, like weather and communication systems, become operational and, as that occurred, the use of satellite data could be expected to become an integral part of national economies and their planning activities. It therefore endorsed the conclusion that international co-operation was needed as that was the only cost-effective approach for acquiring the benefits of satellite remote sensing for the majority of countries, keeping in mind the special needs of the developing countries.

29. The Committee also noted that several future operational systems with quite different operational roles and different characteristics might be implemented by various nations or agencies. The Committee further noted the view of the Sub-Committee that there would be an important role for the United Nations to play in encouraging the greatest practicable degree of compatibility of the technical features of such systems as well as complementarity in terms of capabilities and roles. In this connexion, the Committee noted that, as requested by the Committee, the Secretariat had submitted a report entitled "Feasibility study on a possible co-ordination function for the United Nations in future operational activities in remote sensing from satellites: revised concept" (A/AC.105/154/Add.2) in which it suggested the establishment of a panel of experts to carry out a number of co-ordinative and recommendatory functions.

30. The Committee noted the views of the Sub-Committee on the question of the proposed panel of experts, as reported in paragraphs 62 to 66 of its report; and endorsed the view in paragraph 67 of its report that, as the matter had been under study for more than three years, the Sub-Committee, in the light of the reservations of some delegations on the issue of the establishment of a possible

panel of experts, should invite the members of the Committee on the Peaceful Uses of Outer Space and organizations which have observer status with it, to make known to the Secretariat their views as to the particular utility of the panel, its composition, functions, time of establishment, if necessary, and method of reporting so that the Secretariat could submit to the Sub-Committee a report in advance of its next session with a view to taking some definitive action in this regard at that session.

31. The Committee noted with pleasure that many countries were already using data from the United States LANDSAT system and that the Soviet Union was ready to extend dissemination of available remotely-sensed data to all interested States on the basis of agreements to be reached with countries needing such information. In this connexion, the Committee noted the Convention on the transfer and use of data of the remote sensing of the earth from outer space which was concluded by a group of socialist countries and open to all other States, a copy of which was circulated during the current session of the Committee (A/33/162). The Committee welcomed these activities which were designed to strengthen international co-operation in this area of peaceful exploration and use of space technology for the benefit of all countries. The Committee continues to believe that substantial benefits are being realized from the use of remote sensing systems and reaffirmed its earlier endorsements and recommendations of the use and regional co-operation in use of systems such as the pre-operational LANDSAT system.

32. The Committee also welcomed the efforts being made by the United Nations and its agencies, in particular the Office of the United Nations Disaster Relief Co-ordinator (UNDRO), UNESCO, FAO, WHO and the World Bank, to utilize and apply satellite remote sensing data in their programmes on behalf of developing countries and agreed with the Sub-Committee on the importance of providing adequate training facilities, including on-site training in all aspects of remote sensing, particularly to developing countries to enable them to derive maximum benefits from this new technology, and called upon Member States to co-operate to the maximum extent possible in those programmes. It further noted with appreciation that several Member States, specialized agencies and other international organizations were co-operating with the United Nations in conducting several education and training programmes relating to remote sensing, as noted in paragraphs 50 to 59 of the Sub-Committee's report.

33. The Committee further noted in this connexion that satisfactory progress is being made in developing the two international centres for remote sensing established at FAO and CNRET, as recommended by the Committee at its last session. In this connexion, the Committee endorsed the recommendation of the Sub-Committee that FAO should continue to strengthen its Rome centre within existing means so as to provide an international centre for renewable resources and that CNRET should integrate into its programme existing expertise and the management structure needed to carry out the tasks of the international centre for non-agricultural resources and that they should report on their progress to the Committee at its next session. The Committee also endorsed the hope expressed by the Sub-Committee in paragraph 57 of its report that countries would provide assistance for the strengthening of the international centres for remote sensing at FAO and CNRET, and that the Secretary-General, in consultation, as appropriate, with the Director-General of FAO, should explore the matter and report thereon to the next session of the Sub-Committee. The Committee further noted the view expressed by several Member States in the Scientific and Technical Sub-Committee, as noted in paragraph 59 of its report,

and at the current session concerning the desirability of establishing a third international centre for remote sensing in a developing country.

34. The Committee also welcomed the co-ordination of activities between the Scientific and Technical Sub-Committee and the Legal Sub-Committee in the area of remote sensing and emphasized the need to continue such co-ordination at their future sessions.

2. United Nations programme on space applications

35. The Committee noted that the United Nations programme on space applications as set out in section II of the report of the Sub-Committee had been implemented satisfactorily, and commended the work of the expert who had carried out the programme within the limited funds available to it.

36. The Committee endorsed the United Nations programme on space applications for 1979 as proposed to the Scientific and Technical Sub-Committee by the Expert on Space Applications. It noted in particular that several delegations had expressed the view that the United Nations space applications programme should be extended as regards both its content and its scope and that it should receive greater financial support, including from the United Nations Development Programme (UNDP), if it was to respond better to the need of the developing countries.

37. The Committee expressed its appreciation to the Government of the Union of Soviet Socialist Republics for having acted as host to the United Nations training seminar on remote sensing applications held in Baku from 3 to 19 October 1977; to the Government of India for having acted as host to a joint United Nations/UNESCO Panel meeting on Satellite Instructional Television Experiment (SITE) in Ahmedabad from 31 October to 5 November 1977; and to the Government of Bolivia for having acted as host to the United Nations/FAO regional training seminar on the applications of remote sensing from satellite in La Paz from 1 to 9 December 1977.

38. It expressed its appreciation to the Government of Kenya for agreeing to host the United Nations regional training seminar on remote sensing applications co-sponsored by Sweden/UNEP to be held at Nairobi from 5 to 15 September 1978; to the Government of Sweden for its generous financial support for the above training seminar; to the Government of Japan for agreeing to host the United Nations/WMO training workshop on meteorological satellite data interpretation, analysis and use from 23 October to 3 November 1978; and to the Government of India for agreeing to host the United Nations/FAO training workshop on remote sensing applications for agricultural resources from 6 to 25 November 1978.

39. The Committee also shared the appreciation of the Sub-Committee that the second international training course on remote sensing for agriculture applications with emphasis on crop statistics and agricultural census was organized by the United Nations at FAO headquarters in Rome from 25 April to 13 May 1977, in co-operation with the Government of Italy, FAO and UNESCO. The Committee was equally gratified to note that a third international training course on remote sensing applications in agriculture with emphasis on forestry was held at FAO from 15 May to 2 June 1978, also in co-operation with the Government of Italy, FAO and UNESCO. It noted further that a fourth international training course on remote sensing would be held in 1979, in co-operation with the Government of Italy, FAO and UNESCO.

40. The Committee further expressed its appreciation to the specialized agencies, particularly to FAO, UNESCO, WMO, UNDRO and UNEP for the assistance they had

provided in sponsoring or participating in the United Nations seminars and workshops. The Committee also expressed its appreciation to the Governments of Belgium, India and Italy for having offered fellowships through the United Nations to developing countries for advanced study and training in areas related to space applications.

3. Examination of the physical nature and technical attributes of the geostationary orbit

41. The Committee noted that, in accordance with a recommendation made by it at its last session, the Scientific and Technical Sub-Committee had examined the physical nature and technical attributes of the geostationary orbit, with a view to enabling the consideration of the different aspects of its utilization with the assistance of a useful and informative report on the question prepared by the Secretariat (A/AC.105/203). The Committee also recommended that the Secretariat study on this question should be updated if and when necessary.

42. The Committee noted in this connexion the differing views expressed by the Member States as reported in paragraphs 118 to 120 of the Sub-Committee's report as well as those expressed by them at the current session of the Committee. The Committee, furthermore, noting the recommendation of the Sub-Committee in paragraph 146 of its report, suggested that the Sub-Committee continue to follow developments in that field and report thereon to the Committee.

4. Other matters

43. The Committee shared the satisfaction expressed by the Sub-Committee in paragraph 127 of its report on the work carried out at the Thumba Equatorial Rocket Launching Station of the Vikram Sarabhai Space Centre in India and the CELPA Mar del Plata Rocket Launching Station in Argentina relative to the use of sounding rocket facilities for international co-operation and training in the peaceful scientific exploration of outer space. The Committee, accordingly, recommended that the General Assembly continue to grant sponsorship to these two ranges.

44. The Committee noted with appreciation the reports submitted by Member States on their national and co-operative space programmes during the calendar year 1977 (A/AC.105/212 and Add.1-4).

45. The Committee also noted with appreciation the participation in its work and that of its sub-committees by representatives of United Nations bodies, the specialized agencies and other international organizations, and found the reports they had submitted helpful in enabling the Committee and its subsidiary bodies to fulfil their role as a "focal point" for international co-operation, especially with respect to the practical application of space science and technology in developing countries. In this connexion, the Committee noted in particular that a World Radio Administrative Conference for Space Communications is planned by ITU for 1979, the first of its kind in 20 years, at which decisions of a binding nature will be taken on the whole gamut of radio communications, including space radio communications, and looked forward to receiving a report thereon.

46. The Committee was gratified with the participation of COSPAR and IAF in the work of the Sub-Committee and for the valuable information they had provided in submitting their reports on scientific and technical developments in the exploration

and practical uses of outer space, which were considered useful by the Sub-Committee, and expressed the hope that they would submit similar reports in the future emphasizing, whenever possible, areas and problems under discussion in the Committee and its sub-committees.

5. Future work of the Sub-Committee

47. The Committee took note of the views of the Scientific and Technical Sub-Committee regarding its future role and work as expressed in paragraphs 143 to 150 of the Sub-Committee's report. In particular, the Committee noted with approval the views expressed by the Sub-Committee in paragraph 147 concerning the decision of the Sub-Committee to consider a new item relating to space transportation systems at its next session.

48. In particular, the Committee took note of the observations made by the Sub-Committee in paragraph 149 of its report and recommended that the Sub-Committee at its sixteenth session should give priority to the following four items:

- (a) Questions relating to remote sensing of the earth by satellites;
- (b) Consideration of the United Nations programme on space applications and the co-ordination of space activities within the United Nations system;
- (c) Question of convening a United Nations conference on outer space;
- (d) Questions relating to space transportation systems.

49. Furthermore the Committee recommended that the Scientific and Technical Sub-Committee should consider questions relating to the use of nuclear power sources in outer space, in accordance with paragraph 76 of the Committee's report.

50. The Committee also recommended that the Sub-Committee continue to follow developments relating to the physical nature and technical attributes of the geostationary orbit and report thereon.

51. The view was also expressed that questions relating to solar energy and search for extraterrestrial intelligence should be included in the agenda of the Scientific and Technical Sub-Committee.

B. Report of the Legal Sub-Committee

52. The Committee took note with appreciation of the report of the Legal Sub-Committee on the work of its seventeenth session (A/AC.105/218) covering the results of its deliberations on the four items assigned to it by the General Assembly in its resolution 32/196 A of 20 December 1977.

53. The Committee took note of the work done by the Legal Sub-Committee in the elaboration of draft principles governing the use by States of artificial earth satellites for direct television broadcasting, in accordance with General Assembly resolution 32/196. In particular, the Committee noted that the Sub-Committee, through its Working Group II, had concentrated on the draft principle on "Consultations and agreements between States". The Committee also noted that there had been an exchange of views on the other remaining issues as well as on the preamble but that no agreement was possible owing to a lack of consensus.

54. The Committee, having heard the views of its members on the outstanding issues, recommended that the Legal Sub-Committee, at its eighteenth session, should continue to consider, as a matter of priority, the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting, in accordance with General Assembly resolution 32/196 A and previous Assembly resolutions relating to this item.

55. The Committee noted that the Legal Sub-Committee, in continuing its detailed consideration of the legal implications of remote sensing of the earth from space as requested by the General Assembly in resolution 32/196, had made further progress. In particular, the Committee noted that, through its Working Group III, the Legal Sub-Committee had been able to give consideration to the formulation of five additional draft principles on the key issues involved but that, due to lack of consensus, the texts of those draft principles had to be placed within square brackets. The Committee also noted with satisfaction that it had been possible to adopt a tentative text on definitions incorporating the technical definitions previously formulated by the Scientific and Technical Sub-Committee.

56. The Committee, having heard the views of its members on the outstanding issues, recommended that the Legal Sub-Committee should continue, on the basis of priority, to give detailed consideration to the legal implications of remote sensing from space, with the aim of formulating draft principles relating to remote sensing.

57. The Committee took note of the work done by the Legal Sub-Committee in its effort to complete the text of the draft treaty relating to the moon and other celestial bodies. The Committee noted, in particular, that Working Group I of the Sub-Committee continued to give priority to the question of natural resources of the moon, which was widely considered as the key issue whose solution could facilitate an agreement on the other remaining issues. The Committee was gratified to note that, through informal consultations, the text of a tentative draft treaty was elaborated by the Austrian delegation with the hope that it could serve as a basis for the definitive formulation of an international instrument but that owing to lack of time it was not possible to consider it in the Working Group and therefore it was annexed to its report (A/AC.105/218, annex I, appendix) for future consideration.

58. In this connexion, the Committee noted the hope expressed by the Working Group in paragraph 4 of its report (A/AC.105/218, annex I) that the work on the agreement could be taken up again at the current session of the Committee on the Peaceful Uses of Outer Space.

59. In response to this recommendation, the Committee, at its 183rd meeting, agreed to establish an informal working group of the whole to review the outstanding matters.

60. The informal working group reviewed the matter under the chairmanship of Mr. Gyula K. Szelei (Hungary), who reported to the Committee at its 186th meeting.

61. The Committee, having heard the views of its members and having noted the report of the Chairman of the informal working group, expressed its appreciation to the delegation of Austria for the efforts made by it to facilitate a compromise on the unresolved issues with a view to reaching a consensus on this item and was of the view that the text of the tentative draft agreement elaborated by Austria

and which is annexed to this report (annex II) could facilitate the reaching of a consensus on an international instrument relating to the moon and other celestial bodies. In this connexion, the Committee noted that there are other proposals on this item presented at previous sessions which could facilitate the work of the Sub-Committee.

62. The Committee accordingly recommended that the Legal Sub-Committee, at its eighteenth session, should continue to consider, as a matter of priority, the draft treaty relating to the moon and other celestial bodies.

63. In the course of its current session, the Committee also heard statements by its members underlining some basic issues with which the Sub-Committee had been confronted on the aforementioned three priority items on the agenda of the Legal Sub-Committee and also expressing their concern at the lack of progress in the Legal Sub-Committee on the three priority items. The Committee therefore requested the Legal Sub-Committee to make every effort to accelerate its work with a view to completing consideration of the three priority items on its agenda.

64. The Committee noted that some delegations supported the proposal for establishment of a conditional boundary between the outer space and air space at a certain altitude above sea level. In this connexion, the view was expressed that the process of agreeing on such a boundary should take place in several stages. By way of a first step it might be agreed that the space higher than 100-110 km above sea level should be considered as outer space; in doing so, the space objects should maintain the right of flight over the territories of States at lower altitudes when they go into orbit or return to earth in the territory of the launching State; this would not, however, imply that altitude of 100-110 km above sea level will automatically be adopted as the ceiling for air space; the question of the régime of space below that altitude must be the object of further discussion and negotiations up to the moment when a final agreement would be reached and boundary established between air space and outer space; the establishment of such a conditional boundary should be made in a treaty form. Other delegations expressed the view that space activities have been conducted for over 20 years without such definition/delimitation and neither the Scientific and Technical nor the Legal Sub-Committee has identified any problem that would be solved by establishing an arbitrary altitude delimitation having no scientific or technical basis. These delegations, therefore, saw no compelling need for a definition/delimitation at this time. Some other delegations expressed the view that it was necessary to concretely define and delimit outer space rather than leaving it vague.

65. The Committee noted that in the course of the discussion on the item relating to definition and/or delimitation of outer space in the Legal Sub-Committee extensive consideration was also given this year to the question of the geostationary orbit. The Committee noted that there was a variety of views on this matter as reported in paragraphs 40 to 45 of the Legal Sub-Committee's report. Divergence of views was also noticeable at the current session of the Committee; among other views which were expressed, some delegations considered that the geostationary orbit, both because of its physical characteristics and technical attributes, and because of existing legal regulations, constituted a limited natural resource over which equatorial countries exercise sovereign rights in accordance with international law, while other delegations held the view that geostationary orbits are inseparable from outer space and all relevant provisions of the Outer Space Treaty of 1967 are applicable to them and, therefore, that they are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

66. The Committee recommended that, at its eighteenth session, the Legal Sub-Committee should pursue its work on the questions related to definition and/or delimitation of outer space and outer-space activities, bearing in mind also questions relating to the geostationary orbit. The view was also expressed that questions relating to the definition and/or delimitation of outer space and outer-space activities should be given high priority.

67. The Committee, having discussed the report of the Legal Sub-Committee relating to (a) the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting, referred to in paragraphs 53 and 54 above, (b) legal implications of remote sensing of the earth from space, as referred to in paragraphs 55 and 56 above, (c) the draft treaty relating to the moon, referred to in paragraphs 57 to 62 above, and (d) matters relating to the definition and/or delimitation of outer space and outer-space activities, bearing in mind also questions relating to the geostationary orbit, as referred to in paragraphs 64 to 66 above, and having heard the views expressed by its members in regard to the programme of work and the priority items to be considered by the Legal Sub-Committee at its next session, recommended that the Legal Sub-Committee should continue to consider with the same priority the issues covered by items (a), (b) and (c), and called upon the Legal Sub-Committee to continue its work on this basis at its following session bearing in mind paragraph 63 above. The Committee also recommended that the Legal Sub-Committee should continue its work on item (d) above. The Committee further recommended that the Legal Sub-Committee should include in its agenda an item entitled "Other matters".

68. The Committee noted General Assembly resolution 32/195 of 20 December 1977 commemorating the tenth anniversary of the entry into force of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, which, inter alia, called upon the Secretary-General to undertake research analysing the experience gained in the application of the Treaty and recommended that the Committee on the Peaceful Uses of Outer Space should consider at its current session possible measures to encourage the largest possible number of States to participate in the Treaty.

69. The Committee noted, in this connexion, that the Secretary-General had submitted to the Committee a report in response to the request of the General Assembly (A/AC.105/219 and Add.1-2) giving the views of States on the experience gained by them in the application of the Treaty. Having taken note of this report, the Committee recommended that attention of the Member States which, as yet, have not become parties to the Treaty should be drawn to this report by the General Assembly by way of encouraging them to ratify this important international instrument or accede to it.

C. Question of convening a United Nations conference
on outer space

70. Following the general debate at its current session, the Committee decided to establish an informal working group under the chairmanship of Mr. Raymond James Greet (Australia) to give more detailed consideration to the views and recommendations of the Scientific and Technical Sub-Committee on the question of convening a United Nations conference on outer space.

71. The informal working group held two meetings. The views and recommendations of the Committee concerning the question of convening of a United Nations conference on outer space matters are set out below.

72. The Committee noted with satisfaction that, in accordance with a recommendation made by it at its 1977 (twentieth) session and endorsed by the General Assembly at its thirty-second session, an ad hoc working party of the Scientific and Technical Sub-Committee had considered all relevant factors and information relating to a proposed United Nations conference on outer space matters, including views expressed by Members of the United Nations on the question, and had reported thereon to the Scientific and Technical Sub-Committee at its fifteenth session.

73. The Committee also noted with satisfaction that the Scientific and Technical Sub-Committee at that session had given detailed consideration to the question, including the report submitted to it by the ad hoc working party. The Committee noted the view expressed in this connexion by the Scientific and Technical Sub-Committee that during the decade following the 1968 United Nations Conference on Exploration and Peaceful Uses of Outer Space there has been a rapid progress and growth in space exploration and in the development of space technology and its applications.

74. In the light of the discussions in the informal working group, and the views expressed thereon at this session, the Committee endorsed the views and recommendations of the Sub-Committee expressed in paragraphs 98 to 114 of its report, the text of which, for necessary reference, is annexed to this report (see annex III).

75. The Committee, having discussed the views of the informal working group, agreed to make the following recommendation to the General Assembly:

(a) That the General Assembly decide that a second United Nations Conference on the Exploration and Peaceful Uses of Outer Space be convened;

(b) That the Committee on the Peaceful Uses of Outer Space be designated as the Preparatory Committee for the conference and the Scientific and Technical Sub-Committee be designated as its advisory committee;

(c) That the Preparatory Committee submit to the General Assembly at its thirty-fourth session a recommendation on the date and venue of the conference, taking into account that the date could not be earlier than two to three years following the decision of the Assembly, but in any case, not later than 1983;

(d) That the Preparatory Committee also submit its initial recommendations on the preparations for the conference, including its agenda, the officers of the conference and the ceiling to be set for the cost of the conference, taking into account the views and recommendations submitted by the Scientific and Technical Sub-Committee, including those in paragraphs 98 to 114 of the report of its fifteenth session, as well as the views of Member States thereon to be submitted to the Secretary-General;

(e) That, with a view to enabling careful and comprehensive preparations, the Committee on the Peaceful Uses of Outer Space, acting as the Preparatory Committee for the conference, may, if necessary, extend its 1979 session by one week, and that the Scientific and Technical Sub-Committee act as its advisory committee;

(f) That, to facilitate the task of the Preparatory Committee, the Secretary-General be requested to circulate to Member States the report on the fifteenth session of the Scientific and Technical Sub-Committee (A/AC.105/216), drawing their attention to the text of section III of that report and inviting their comments in particular on paragraphs 108 to 114 of that report and to make their comments available to the 1979 session of the Scientific and Technical Sub-Committee.

D. Other matters

1. Questions relating to the use of nuclear power sources in space

76. The problem of nuclear power sources in outer space was brought to the attention of the Committee in accordance with paragraph 141 of the report of its Scientific and Technical Sub-Committee (A/AC.105/216) and paragraph 17 of the report of its Legal Sub-Committee (A/AC.105/218). The Committee also had before it a report of the Secretariat on questions relating to the use of nuclear power sources in outer space (A/AC.105/220 and Add.1) containing replies of Member States to a letter addressed to them by the Secretary-General requesting information relating to questions concerning the use of nuclear power sources in outer space. After a general exchange of views on the problem the Committee decided to request the Scientific and Technical Sub-Committee to include in the agenda of its sixteenth session consideration of technical aspects and safety measures relating to the use of nuclear power sources in outer space, taking into account the views of Governments as set out, in particular, in paragraph 139 of its report (A/AC.105/216) and information furnished and to report to the Committee on these matters. Member States are accordingly invited to include in their delegations to the session of the Sub-Committee experts competent to participate in the consideration of technical aspects and safety measures relating to the use of nuclear power sources in outer space. In this connexion, the Committee recommended that the Scientific and Technical Sub-Committee should, unless it decides otherwise, create a working group of experts open to all its members to meet during the session and to report to the Sub-Committee. In this case, the working group should preferably meet during the first week of the session of the Sub-Committee in order that a report could be submitted to the Sub-Committee before the conclusion of its session. For that purpose, the Committee recommended that, if necessary, the session of the Sub-Committee could be extended by not more than one week. (See also the record of the consensus arrived at by the Committee at its 188th meeting (A/AC.105/PV.188).)

2. Questions relating to the geostationary orbit

77. Some delegations reiterated their claim to national sovereignty over those segments of the geostationary orbit which correspond to their respective territories, noting that the special characteristics of that orbit and its direct relation with earth gravity have made that orbit a limited natural resource which does not constitute part of outer space, whose definition or delimitation is in any case yet to be agreed upon. They also expressed their concern at the increasing number of satellites placed in that orbit, which has rendered imminent the saturation of the geostationary orbit, and which would therefore not be in conformity with the principle of its efficient and equitable utilization for the benefit of all countries and, in particular, the developing countries.

78. Other delegations maintained that the geostationary orbit is an integral and inseparable part of outer space subject to the provisions 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. Those delegations maintained that satellites cannot remain steadily in a geostationary orbit by natural force alone but require mechanical assistance, and that no technical or legal arguments exist that support a claim to sovereignty over this orbit. These delegations further added that the interrelationship of the total mass of the earth, the gravity of the sun, other natural physical forces and the physical peculiarities of outer space combine to create a relatively indefinable and variable band known as the geostationary orbit, that it is inseparable from outer space as a whole, that it is not subject to national appropriation by claims of sovereignty by means of use or occupation or by any other means. They consider that geostationary orbits continue to be free for use by all States without discrimination of any kind on a basis of equality and in accordance with international law. They also consider that the placing of satellites into geostationary orbit by States creates no right of ownership over the respective orbital positions of the satellites or over segments of the orbits.

79. Other delegations maintained the need for establishing an internationally agreed legal régime for the use of the geostationary orbit which would be based on the recognition of the sui generis nature of the geostationary orbit as a limited natural resource and of the legitimate interests of all States.

80. Some delegations recommended that a study should be prepared by the Secretariat on the legal implications of the use by States and private or public entities of the geostationary orbit with a view to facilitating the formulation of an internationally agreed legal régime for the use of such orbit.

3. Wider participation in the work of the Committee

81. The Committee discussed the question relating to wider participation by Member States as referred to in General Assembly resolution 32/196 B. In this connexion, it had before it a document (A/AC.105/221 and Add.1-4) containing the views of Member States as submitted to the Secretary-General. In the course of the discussion of this item, some delegations expressed the view that the wider participation of Member States in its work could be accomplished by their participation in the proposed United Nations conference on outer space. Other delegations felt that the membership of the Committee should be expanded or rotated in order to allow for such participation and that, in the event of any expansion, the interest of developing countries should be kept in mind. Still other delegations felt that through the expansion of the Committee last year as well as through the established practice of the Committee, participation by interested Member States has already been provided for without the need for further expansion of membership. Other delegations felt that a certain period of time should elapse for evaluation of the results of this expansion before a decision for any further expansion is taken. The view was expressed that the question of wider participation, as referred to in General Assembly resolution 32/196 B, required further reflection and discussion, and that the Committee might return to this matter at its next session in 1979.

4. Procedural terminology

82. The Committee welcomed the decision of its Legal Sub-Committee on the terminology to be used in its reports when the views of delegations are referred

to in them, as reflected in paragraph 18 of its report (A/AC.105/218). The decision of the Legal Sub-Committee was as follows: "the term 'The view was expressed' will be used when reference is made to a view expressed by only one delegation; the term 'Some delegations' will be used when reference is made to a view expressed by more than one delegation; and when reference is made to a contrary view expressed by more than one delegation the term 'Other delegations' will be used. Terms such as 'few', 'a number', 'certain', 'several', 'many', 'most' will no longer be used". The Committee decided that this terminology will be henceforth used in its own reports as well as the reports of its subsidiary bodies when referring to views of delegations.

5. Preparation of the agenda

83. The Committee also expressed the wish that in future, on a trial basis, the agenda of its next session be drawn up in a more detailed item-by-item form, expressly mentioning each of the questions to be studied, instead of the mere examination of the reports of its two sub-committees.

III. SCHEDULE OF WORK OF THE COMMITTEE AND ITS SUBSIDIARY BODIES

84. The Committee having noted the recommendations of the Scientific and Technical Sub-Committee in paragraph 150 of its report and the Legal Sub-Committee in paragraph 19 of its report concerning their next session and, after reviewing the annual schedule of meetings, agreed on the following time-table for 1979 and 1980:

	<u>Time</u>	<u>Location</u>
Scientific and Technical Sub-Committee	5-23 February 1979 <u>1/</u>	New York
	4-15 February 1980	New York
Legal Sub-Committee	12 March-6 April 1979	New York
	10 March-4 April 1980	Geneva
Committee on the Peaceful Uses of Outer Space	18 June-6 July 1979 <u>2/</u>	New York
	16-27 June 1980	New York

1/ The third week contemplated might be used for consideration of questions mentioned in paragraph 76 on nuclear power sources in outer space, and on the question relating to the convening of a United Nations conference on outer space mentioned in paragraph 75 (e).

2/ The third week contemplated might be used only in the event that the session of the Committee will have to be extended in accordance with paragraph 75 concerning the United Nations conference on outer space.

ANNEX I

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

It is with great pleasure that I welcome representatives to the twenty-first session of the Committee on the Peaceful Uses of Outer Space. This is the first session of the Committee at which I can extend a cordial and special welcome, as is due, to our new members: Benin, Colombia, Ecuador, Iraq, Netherlands, Niger, Philippines, Turkey, United Republic of Cameroon and Yugoslavia. The decision of the General Assembly to enlarge the membership of this Committee from 37 to 47 was aimed in the first place at providing a higher measure of equitable geographical distribution in this Committee and in particular at affording wider representation of developing countries in its work. The decision also reflects - and this is a most welcome fact - the growing interest that an increasing number of Members of the United Nations have shown in the expanding work of the Committee. The work of the Committee will, I trust, benefit greatly from the participation of the new members. I look forward to working in close co-operation with all members, old and new, in the constructive spirit which has always characterized our work.

The greetings of the Committee, and of course of its Chairman, are also addressed to the new head of the Department for Political and Security Council Affairs, Under-Secretary-General Mikhail Sytenko. His outstanding abilities and the tact, energy and experience that he has brought to his new assignment make us look forward with great confidence to co-operating with him.

The past year has been one of further progress in the exploration and uses of outer space. Significant developments have taken place in all areas of space science and technology as well as in their application. All the countries which have made new progress in space activities deserve our admiration and respect.

The activities of the Union of Soviet Socialist Republics and the United States of America have continued to record further success. The two Soviet cosmonauts, Yuri Romanenko and Georgi Grechko, aboard space station SALYUT 6 established a new endurance record in space. Cosmonauts Vladimir Remek of Czechoslovakia, who, along with Cosmonaut Alexei Gubarev of the Soviet Union, was on board a spacecraft launched in March this year, became the first man in outer space from a country other than the two major space Powers - and I understand that an astronaut from Poland will soon follow him. The development of the United States space shuttle orbiter Enterprise, now in its final stage of successful preparation, is ready for launching next year. The shuttle will open up a new era in space exploration, and its importance is being demonstrated by the fact that demand for the shuttle service has already been booked well into 1981.

The space activities of other countries are continuing, individually and collectively, at great speed. In particular, I wish to congratulate those

countries which have successfully launched satellites for space applications purposes during the last year, such as Indonesia's second telecommunications satellite, Palapa; Japan's meteorological and telecommunications satellites, GMS-1 and Sakura; and Italy's experimental communications satellite, SIRIO. The Committee looks forward to the success of these and other activities undertaken by a growing number of countries entering the realm of space exploration.

In our own Committee, our subsidiary bodies have accomplished a great deal of work during the year under review. Their success was in large measure due to the able leadership of their chairmen. And here I wish to pay a tribute to Professor Carver of Australia, Chairman of the Scientific and Technical Sub-Committee and Ambassador Eugeniusz Wyzner of Poland, Chairman of the Legal Sub-Committee.

In accordance with General Assembly resolution 32/196 A, the Legal Sub-Committee at its last session gave priority to three principal areas of work: first, the elaboration of draft principles governing the use by States of artificial earth satellites for direct television broadcasting; secondly, consideration of legal implications of remote sensing of the earth from space with the aim of formulating draft principles; thirdly, the draft treaty relating to the moon.

In order to speed up work on those subjects, Working Groups on the moon treaty, on direct broadcasting by satellites and on remote sensing of the earth by satellites were established; these Working Groups were chaired respectively by Professor G. Haraszti of Hungary, Mr. El Ibrashi of Egypt and Mr. Helmut Tuerk of Austria.

The reports of the Working Groups - which were accepted by the Sub-Committee without any substantive changes - reflect the difficult subject-matter that confronted the Sub-Committee.

I should like to begin by reporting briefly on the work on the draft moon treaty. As members will recall, work on that draft treaty began in 1972 and by 1973 resulted in agreement on the text of 21 articles and the preamble. But since then not much progress has been registered. The last session focused, therefore, on the most difficult question of the legal régime governing the exploitation of the natural resources of the moon. A new proposal was introduced this year which seems to attract agreement from many delegations.

As a result of informal negotiations on this proposal as well as on various others, the gap between the views held by member States on the main outstanding issues could be narrowed considerably. In view of this, the delegation of Austria was able to present a consolidated text reflecting the level of compromise that could be attained in the present situation. This text is before us in the appendix of annex I of the Legal Sub-Committee's report (A/AC.105/218), and I recommend it for the Committee's attention. I trust that Governments have had an opportunity to study this text in the interim and I hope that we shall be able to agree on the final text at the current session of this Committee, as was envisaged by Working Group I of the Legal Sub-Committee.

I shall, of course, make myself available for any formal or informal action that the Committee might wish to take with a view to facilitating such an

agreement. The adoption of a new international agreement - the fifth in the series which has been drafted by this Committee - would be an event of great significance in the progressive development of the international law of outer space.

The main task assigned to the Legal Sub-Committee in regard to direct broadcast satellites was the formulation of principles governing such activities. It will be recalled that by 1976 the Legal Sub-Committee had completed the text of nine principles. In 1977 further progress was made in drafting the text of the preamble and of a tentative text on the central issue which we face in this context, namely, "consultations and arrangements between States".

Intensive consultations, both formal and informal, were again held with a view to finalizing this text as well as other outstanding issues. However, no final progress could be registered. Principles concerning the central issue, involving the reconciliation of the principle of the sovereignty of States and the principle of freedom of information, remain to be drafted in a manner agreeable to all. The Sub-Committee has in paragraph 29 of its report (A/AC.105/218) recommended that this Committee, by considering the question of direct television broadcasting at the current session, should also consider whether the elaboration of draft principles on this subject could be completed or whether further progress could at least be achieved during this session. I hope that the Committee will be able to respond to this particular recommendation of the Legal Sub-Committee.

With regard to the third priority item, concerning remote sensing of the earth by satellites, members will recall that 11 draft principles had emerged during sessions of the Legal Sub-Committee in previous years. That Sub-Committee, through Working Group III, was able to make further progress this year by elaborating five new draft principles. But no final agreement was reached and they were therefore placed within square brackets. Further agreement, already reached in the Working Group, was also achieved on applying the principles governing remote sensing of natural resources of the earth to the environment as well. Agreement on the scope of the principles which has so far eluded the Sub-Committee was thus reached. The Working Group finally adopted and incorporated in a new principle definitions worked out by the Scientific and Technical Sub-Committee concerning the definition of primary data and analysed and related information.

Although much progress has thus been made, draft principles relating to the central issue of State activity in outer space and the freedom of dissemination of remote sensing information, on the one hand, and the concept of a State's sovereignty over its natural resources and information, on the other, are yet to be worked out. Further discussion of these central issues in this Committee should help to guide the work of the Legal Sub-Committee next year, so that it will be able to finalize its work in this field at the earliest possible time.

The Legal Sub-Committee also considered the question of definition and/or delimitation of outer space and space activities, including matters relating to geostationary orbit. For the first time this subject was discussed in considerable detail in the Sub-Committee. The views expressed by various delegations on this question are reflected in section IV of the report of the Legal Sub-Committee (A/AC.105/218). During the discussion the importance of the subject was stressed and the hope was expressed that the matter will be considered in further detail at future sessions of the Legal Sub-Committee.

Finally, there was an exchange of views on the legal aspects of the use of nuclear power sources in outer space, a subject to which I shall make reference later.

Turning now to the work of the Scientific and Technical Sub-Committee, that body gave detailed consideration to several important items.

Priority was granted, first, to the consideration of the question relating to remote sensing. The Sub-Committee had before it several reports prepared by the Secretariat which helped it in its discussions. It gave particular consideration to the classification and dissemination of remote sensing data. Having considered the reports before it and various views of Member States, the Sub-Committee was not able to agree upon specific recommendations on the need for classification of data or the manner in which such classification might be made. It therefore noted that the work in this field initiated by the Committee on Space Research (COSPAR) should be continued and it agreed that the Secretariat should be requested to submit a supplemental study to the Sub-Committee for consideration at its next session.

The Scientific and Technical Sub-Committee also reviewed the various experimental remote sensing programmes using satellites and the plans for an operational remote satellite system for natural resources and environmental observation that is to be undertaken by the Soviet Union.

It noted the importance of providing adequate training facilities - including on-site training in all aspects of remote sensing - particularly to the developing countries to enable them to derive maximum benefit from this new technology.

The Sub-Committee also considered the co-ordinating role of the United Nations in the area of remote sensing. A report was submitted by the Secretariat on this question, concerning particularly a proposed panel of experts to be established under United Nations auspices to co-ordinate national and international activities in this field. The Sub-Committee recommended that, as the matter had been under study for more than three years, and in the light of the reservations of some delegations on the issue of a commitment to establish a possible panel of experts, members of the Committee should be invited to make known their views on the practicability and utility of this panel and its composition, functions, time of establishment and method of reporting. The Secretariat was requested to present a single panel approach in a report for the next session of the Sub-Committee so that the Sub-Committee could make a definitive decision on the matter at that session.

Finally, the Sub-Committee, recognizing the importance of co-ordinating its activities relating to remote sensing with those of the Legal Sub-Committee drew the attention of the Legal Sub-Committee to its views expressed in connexion with remote sensing. The Legal Sub-Committee, in response, did in fact take those views into account in its consideration of the matter. The Committee, therefore, will be pleased to note that there has been due co-ordination on activities of the two Sub-Committees concerning questions relating to remote sensing.

In regard to the United Nations space applications programme, continued and strong efforts were made - within the limited financial resources available - to

make worth-while contributions in bringing to the attention of developing countries benefits of space exploration. Emphasis was laid on educational and training activities conducted under this programme.

Among them, note should be taken of training courses held in Rome - with the co-operation of the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) - in the Union of Soviet Socialist Republics, in India and in Bolivia. Several others are planned for the immediate future - forestry, land use and mapping courses to be held in Kenya and in Brazil and several more panel meetings and seminars scheduled for 1979, including two training seminars on remote sensing applications which will be held in Greece and Nigeria respectively.

A number of fellowships offered by Member States in various disciplines relating to space applications are also being administered by the United Nations space applications programme.

In concluding my remarks on the space applications programme, I should like to express on behalf of the Committee our appreciation to the expert on space applications, Mr. Murthy, for continuing to conduct a useful programme on space applications and also to call the Committee's attention to the fact that some delegations have suggested, as noted in paragraph 90 of the Sub-Committee's report (A/AC.105/216), "the need to expand the United Nations space applications programme".

The Scientific and Technical Sub-Committee also discussed the possibility of holding a second United Nations conference on outer space matters. In accordance with the recommendation made by the Committee at its last session, which was endorsed by the General Assembly, a working party of the Sub-Committee met under the chairmanship of Mr. Carver. It is encouraging to note that after a few years of intensive discussion on the matter, the Sub-Committee is now in a position to present its views and recommendations on suitable action to be taken.

In particular, the Sub-Committee noted that it has been a decade since the last United Nations conference on exploration and peaceful uses of outer space was held at Vienna in 1968. During this decade rapid progress and growth in exploration and development of space technology and its applications has taken place. It therefore pointed to the need to assess these developments, to exchange information and experience on their present and potential impact, and to assess the adequacy and effectiveness of institutional and co-operative means for realizing the benefits of space technology. The Working Group also held that there is a need to examine the requirements such as training and infrastructure, for improved utilization of available applications, the needs of users and all obstacles to optimum utilization as well as potential benefits and hazards of future developments in this field.

The Sub-Committee, therefore, recognized the need for a second United Nations conference in outer space matters. It noted that the agenda of the conference should be broad and permit discussion of scientific, technical, social, economic and organizational aspects and their interrelationship. The Sub-Committee has proposed for consideration of this Committee a set of specific objectives and an agenda for the conference, as well as organizational steps that should

be taken. The Sub-Committee further recommends that, at the current session of this Committee, its report should be discussed and consensus be sought on the draft agenda and organization of the proposed conference.

I trust that, as recommended by the Scientific and Technical Sub-Committee, the question concerning the convening of the United Nations conference on outer space matters will receive full consideration by the Committee, and it is hoped that we will be able to make definitive proposals concerning the convening of such a conference.

The Scientific and Technical Sub-Committee also gave consideration to the question of the physical nature and the technical attributes of the geostationary orbit. The views expressed by Member States are reflected in section IV of the report (*ibid.*, para. 120) which also stated that "some delegations expressed the view that this item should be retained on the agenda of the next session of the Scientific and Technical Sub-Committee".

The Sub-Committee then examined the need for ensuring the effective co-ordination of the activities of the United Nations and the specialized agencies in the area of space applications and it noted with pleasure that the Administrative Committee on Co-ordination Sub-Committee on outer space activities had been able to discuss matters of mutual interest relating to co-ordination of such activities, as reported to the Sub-Committee by the Secretary-General.

The Sub-Committee has also expressed its appreciation to the specialized agencies as well as to COSPAR and the International Astronautical Federation (IAF), which had submitted reports on various space activities for consideration by the Sub-Committee, and it called upon this Organization to continue to submit such reports.

Finally, the Scientific and Technical Sub-Committee discussed questions relating to the use of nuclear power sources in outer space, a matter that was brought to the attention of the Sub-Committee by the delegation of Canada. In the light of exchanges of views on this matter a working paper was submitted by several delegations calling for the establishment of an ad hoc working group of the Sub-Committee to consider and assess the relevant factors relating to the safety aspects of nuclear power sources in outer space. Because of divergent views on this matter the Sub-Committee was unable to reach a consensus. However, in paragraph 141 of its report the Sub-Committee has recommended that, in order to continue to deal with the question in an orderly and constructive manner, this Committee should at its current session pursue the exchange of views on this question without prejudice to the consideration of items already included in its agenda. The Sub-Committee further recommended that in doing so the Committee consider the matter with a view to determining the role the Committee and its two sub-committees could play in this regard, as well as the procedures and mechanisms most appropriate to carry out such a role, including the possibility of establishing a working group of experts. To facilitate the work of the Committee, the Secretariat was requested to make available relevant information concerning this question received from States and appropriate international scientific organizations, and information received thus far has been circulated in document A/AC.105/220 and Add.1.

As noted earlier, this is a matter that was also discussed in the Legal

Sub-Committee. A working paper on the question was circulated in the Legal Sub-Committee by a number of delegations and is reproduced as annex IV of the Sub-Committee's report. The document outlines the principal matters that will require examination and suggests appropriate follow-up action in this field.

In paragraph 17 of its report, the Sub-Committee agreed to request this Committee to decide whether the matter required further consideration by the Legal Sub-Committee and requested the Committee to consider and determine the steps that the Committee itself and its Sub-Committees should take in this regard.

In connexion with this question members will note that both the Legal Sub-Committee and the Scientific and Technical Sub-Committee have requested the Committee to consider this matter with a view to determining what future action should be taken by the Committee and its two subsidiary bodies. We already have the two proposals made to the two Sub-Committees to which I have referred. I therefore trust that the Committee will be able to consider this matter and will take whatever action is necessary should it recognize that further consideration of this matter is needed.

From the review I have given of the work of the two Sub-Committees, members will, I hope, recognize that this Committee has to perform a heavy task over the next few days. Members will recall that General Assembly resolution 32/196, by which the General Assembly decided to expand the membership of the Committee, requests the Secretary-General to ascertain the views of Member States and the views of this Committee on ways and means of allowing greater participation by Member States in the work of this Committee and to report thereon to the General Assembly at its next session.

We have now entered the third decade of co-operation to promote the peaceful uses of outer space. The first two decades, beginning with the first and still timid signals of the first Sputnik, were full of the drama that only the exploration of a new dimension of human life and endeavour can bring. But the third decade of space exploration and co-operation might make new and stronger demands of us, because it might be the one in which the human presence in outer space becomes a more permanent feature, a decade in which we really begin to push forward the frontiers of our planet.

As Dean Cheston of the Graduate School of Georgetown University reminded a distinguished audience of space lawyers the other day, our earlier conception of the human presence in space was that of a relatively few physically fit individuals, exclusively male, operating on a temporary basis in a very hostile environment for almost purely scientific and exploratory purposes. The implicit assumption here was that the human presence in space is clinical, artificial and almost totally lacking in flexibility and spontaneity. The credentials for being there were an extraordinarily high level of technical training, self-discipline and the natural ability to handle crises with cool logic. This was not the arena for the ordinary person, the sloppy-minded, those of us who were imperfect in our self-control. It was reserved for those splendid heroes whose traditions date from the warriors of ancient Greece and who today carry the revered name of astronaut or cosmonaut.

But some of the new uses of outer space now under discussion, in particular such uses as space industrialization or the establishment of satellite solar power stations, provide features that point to the permanent habitation of space. They require large numbers of people to be physically present in orbit, and there is

room, and need indeed, for both men and women. Given the cost of transporting people into and out of orbit, there is every incentive to keep them there a long time, without the no-quick-return aspect of a Mars mission. The reason for being there is economic and therefore apparently social, rather than the elegant science of an expedition to the red planet.

And these ideas are now far from utopian, because recent research activity has suggested that we might move in essence rapidly from the shuttle to a mini-industrial system in space whose parts might include, for instance, a lunar mining operation and materials launcher, a catcher to gather in orbit raw materials launched from the lunar surface, a factory in the earth-moon system to process these materials, satellite solar power stations and, finally, a transport system linking these various components.

The implications and the demands of this new and exciting development are all too clear, because if indeed the human presence in outer space is to become more than a passing phenomenon we must redouble our efforts to strengthen the basis - in international law and, most of all, in international treaties - of international co-operation for peaceful, and exclusively peaceful, uses of outer space, because the more outer space assumes the roles dreamers and utopians of former ages have suggested, which the scientists of our time are now about to confirm, the more we shall feel obliged to protect this new environment from the ills, from the evils and from the burdens of our old terrestrial spheres. We must make sure that outer space can be spared the fate of so many human discoveries of previous ages - namely, becoming a mere battlefield, as a recent publication of the Stockholm International Peace Research Institute (SIPRI), a prestigious research institute monitoring the international arms race, has suggested.

In this endeavour for peace in outer space the Committee holds an important role. Let us dedicate this session to this objective and remain worthy of the trust that the Members of the Organization have placed in us.

ANNEX II

Agreement Governing the Activities of States on the Moon and other Celestial Bodies: working paper submitted by Austria

The States Parties to this Agreement,

Noting the achievements of States in the exploration and use of the moon and other celestial bodies,

Recognizing that the moon, as a natural satellite of the earth, has an important role to play in the exploration of outer space,

Determined to promote on the basis of equality the further development of co-operation among States in the exploration and use of the moon and other celestial bodies,

Desiring to prevent the moon from becoming an area of international conflict,

Bearing in mind the benefits which may be derived from the exploitation of the natural resources of the moon and other celestial bodies,

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, the Convention on International Liability for Damage Caused by Space Objects, and the Convention on Registration of Objects Launched into Outer Space,

Taking into account the need to define and develop the provisions of these international instruments in relation to the moon and other celestial bodies, having regard to further progress in the exploration and use of outer space,

Have agreed on the following:

Article I

1. The provisions of this Agreement relating to the moon shall also apply to other celestial bodies within the solar system, other than the earth, except in so far as specific legal norms enter into force with respect to any of these celestial bodies.

2. For the purposes of this Agreement reference to the moon shall include orbits around or other trajectories to or around it.

3. This Agreement does not apply to extraterrestrial materials which reach the surface of the earth by natural means.

Article II

All activities on the moon including its exploration and use, shall be carried out in accordance with international law, in particular, the Charter of the United Nations, and taking into account the Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, adopted by the General Assembly on 24 October 1970, in the interest of maintaining international peace and security and promoting international co-operation and mutual understanding, and with due regard to the corresponding interests of all other States Parties.

Article III

1. The moon shall be used by all States Parties exclusively for peaceful purposes.
2. Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited. It is likewise prohibited to use the moon in order to commit any such act or to engage in any such threat in relation to the earth, the moon, spacecraft, the personnel of spacecraft or man-made space objects.
3. States Parties shall not place in orbit around or other trajectory to or around the moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the moon.
4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration and use of the moon shall also not be prohibited.

Article IV

1. The exploration and use of the moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living conditions of economic and social progress and development in accordance with the Charter of the United Nations.
2. States Parties shall be guided by the principle of co-operation and mutual assistance in all their activities concerning the exploration and use of the moon. International co-operation in pursuance of this Agreement should be as wide as possible and may take place on a multilateral basis, on a bilateral basis, or through international intergovernmental organizations.

Article V

1. States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest

extent feasible and practicable, of their activities concerned with the exploration and use of the moon. Information on the time, purposes, locations, orbital parameters and duration shall be given in respect of each mission to the moon as soon as possible after launching, while information on the results of each mission, including scientific results, shall be furnished upon completion of the mission. In case of a mission lasting more than 60 days, information on conduct of the mission including any scientific results shall be given periodically at 30 days' intervals. For missions lasting more than six months, only significant additions to such information need be reported thereafter.

2. If a State Party becomes aware that another State Party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the moon, it shall promptly inform the other State of the timing of and plans for its own operations.

3. In carrying out activities under this Agreement, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the moon, which could endanger human life or health, as well as of any indication of organic life.

Article VI

1. There shall be freedom of scientific investigation on the moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law.

2. In carrying out scientific investigations in furtherance of the provisions of this Agreement the States Parties shall have the right to collect on and remove from the moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the moon in quantities appropriate for the support of their missions.

3. States Parties agree on the desirability of exchanging scientific and other personnel on expeditions to or installations on the moon to the greatest extent feasible and practicable.

Article VII

1. In exploring and using the moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment whether by introducing adverse changes in such environment, its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to prevent harmfully affecting the environment of the earth through the introduction of extraterrestrial matter or otherwise.

2. States Parties shall inform the Secretary-General of the United Nations of

the measures being adopted by them in accordance with paragraph 1 of this article and shall also to the maximum extent feasible notify him in advance of all placements by them of radio-active materials on the moon and of the purposes of such placements.

3. States Parties shall report to other States Parties and to the Secretary-General concerning areas of the moon having special scientific interest in order that, without prejudice to the rights of other States Parties, consideration may be given to the designation of such areas as international scientific preserves for which special protective arrangements are to be agreed in consultation with the competent organs of the United Nations.

Article VIII

1. States Parties may pursue their activities in the exploration and use of the moon anywhere on or below its surface, subject to the provisions of this Agreement.

2. For these purposes States Parties may, in particular:

(a) Land their space objects on the moon and launch them from the moon;

(b) Place their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the moon.

Personnel, space vehicles, equipment, facilities, stations and installations may move or be moved freely over or below the surface of the moon.

3. Activities of States Parties in accordance with paragraphs 1 and 2 of this article shall not interfere with the activities of other States Parties on the moon. Where such interference may occur, the States Parties concerned shall undertake consultations in accordance with article XV, paragraphs 2 and 3.

Article IX

1. States Parties may establish manned and unmanned stations on the moon. A State Party establishing a station shall use only that area which is required for the needs of the station and shall immediately inform the Secretary-General of the United Nations of the location and purposes of that station. Subsequently, at annual intervals that State shall likewise inform the Secretary-General whether the station continues in use and whether its purposes have changed.

2. Stations shall be installed in such a manner that they do not impede the free access to all areas of the moon of personnel, vehicles and equipment of other States Parties conducting activities on the moon in accordance with the provisions of this Agreement or of article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies.

Article X

1. States Parties shall adopt all practicable measures to safeguard the life and health of persons on the moon. For this purpose they shall regard any person on the moon as an astronaut within the meaning of article V of the Treaty on Principles Governing the Activities of States on the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies and as part of the personnel of a spacecraft within the meaning of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

2. States Parties shall offer shelter in their stations, installations, vehicles and other facilities to persons in distress on the moon.

Article XI

1. For the purposes of this Agreement, the moon and its natural resources shall be considered the common heritage of mankind, which finds its expression in the relevant provisions of this Agreement and in particular in paragraph 5 of this article.

2. The moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.

3. Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person. The placement of personnel, space vehicles, equipment facilities, stations and installations on or below the surface of the moon, including structures connected with their surface or subsurface, shall not create a right of ownership over the surface or the subsurface of the moon or any areas thereof. The foregoing provisions are without prejudice to the international régime referred to in paragraph 5 of this article.

4. States Parties have the right to exploration and use of the moon without discrimination of any kind on a basis of equality, and in accordance with international law and the terms of this Agreement.

5. States Parties to this Agreement hereby undertake to establish an international régime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with article XVIII of this Agreement.

6. In order to facilitate the establishment of the international régime referred to in paragraph 5 of this article, States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community to the greatest extent feasible and practicable of any natural resources they may discover on the moon.

7. The main purposes of the international régime to be established shall include:

- (a) The orderly and safe development of the natural resources of the moon;

- (b) The rational management of those resources;
- (c) The expansion of opportunities in the use of those resources; and
- (d) An equitable sharing by all States Parties in the benefits derived from those resources,

whereby the interests and needs of the developing countries as well as the efforts of those countries which have contributed to the exploration of the moon shall be given special consideration.

8. All the activities with respect to the natural resources of the moon shall be carried out in a manner compatible with the purposes specified in paragraph 7 of this article and the provisions of article VI, paragraph 2, of this Agreement.

Article XII

1. States Parties shall retain jurisdiction and control over their personnel, vehicles, equipment, facilities, stations and installations on the moon. The ownership of space vehicles, equipment, facilities, stations and installations shall not be affected by their presence on the moon.

2. Vehicles, installations and equipment or their component parts found in places other than their intended location shall be dealt with in accordance with article V of the Agreement on Assistance to Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

3. In the event of an emergency involving a threat to human life, States Parties may use the equipment, vehicles, installations, facilities or supplies of other States Parties on the moon. Prompt notification of such use shall be made to the Secretary-General of the United Nations or State Party concerned.

Article XIII

A State Party which learns of the crash landing, forced landing or other unintended landing on the moon of a space object, or its component parts, that were not launched by it, shall promptly inform the launching State Party and the Secretary-General of the United Nations.

Article XIV

1. States Parties to this Agreement shall bear international responsibility for national activities on the moon whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Agreement. States Parties shall ensure that non-governmental entities under their jurisdiction shall engage in activities on the moon only under the authority and continuing supervision of the appropriate State Party.

2. States Parties recognize that detailed arrangements concerning liability for damage sustained on the moon, in addition to the provisions of the Treaty on

Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies and the Convention on International Liability for Damage Caused by Space Objects, may become necessary as a result of more extensive activities on the moon. Any such arrangements shall be elaborated in accordance with the procedure provided for in article XVIII of this Agreement.

Article XV

1. Each State Party may assure itself that the activities of other States Parties in the exploration and use of the moon are compatible with the provisions of this Agreement. To this end, all space vehicles, equipment, facilities, stations and installations on the moon shall be open to other States Parties. Such States Parties shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited. In pursuance of this article, any State Party may use its own means, or may act with the full or partial assistance of any other State Party, or through appropriate international procedures within the framework of the United Nations and in accordance with the Charter.

2. A State Party which has reason to believe that another State Party is not fulfilling the obligations incumbent upon it pursuant to this Agreement or that another State Party is interfering with the rights which the former State has under this Agreement may request consultations with that Party. A State Party receiving such a request shall enter into such consultations without delay. Any other State Party which requests to do so shall be entitled to take part in the consultations. Each State Party participating in such consultations shall seek a mutually acceptable resolution of any controversy and shall bear in mind the rights and interests of all States Parties. The Secretary-General of the United Nations shall be informed of the results of the consultations and transmit the information received to all States Parties concerned.

3. If the consultations do not lead to a mutually acceptable settlement which has due regard for the rights and interests of all the States Parties, the parties concerned shall take all measures to settle the dispute by other peaceful means of their choice and appropriate to the circumstances and the nature of the dispute. If difficulties arise in connexion with the opening of consultations or if consultations do not lead to a mutually acceptable settlement, any State Party may seek the assistance of the Secretary-General without seeking the consent of any other State Party concerned, in order to resolve the controversy. A State Party which does not maintain diplomatic relations with another State Party concerned shall participate in such consultations, at its choice, either itself or through another State Party or the Secretary-General, as intermediary.

Article XVI

With the exception of articles XVII to XXI, references in this Agreement to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Agreement and if a majority of the States members of the organization are States Parties to this Agreement and to the

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies. States members of any such organization which are States Parties to this Agreement shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the foregoing.

Article XVII

Any State Party to this Agreement may propose amendments to the Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

Article XVIII

Ten years after the entry into force of this Agreement, the question of the review of the Agreement shall be included in the provisional agenda of the United Nations General Assembly in order to consider, in the light of past application of the Agreement, whether it requires revision. However, at any time after the Agreement has been in force for five years, the Secretary-General of the United Nations, as depository, shall, at the request of one third of the States Parties to the Agreement and with the concurrence of the majority of the States Parties, convene a conference of the States Parties to review this Agreement. A review conference shall also consider the question of the implementation of the provisions of article XI, paragraph 5, on the basis of the principle referred to in paragraph 1 of that article and taking into account in particular any relevant technological developments.

Article XIX

1. This Agreement shall be open for signature by all States at United Nations Headquarters in New York. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.

2. This Agreement shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Secretary-General of the United Nations.

3. This Agreement shall enter into force among the States which have deposited instruments of ratification on the deposit of the fifth such instrument with the Secretary-General.

4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Agreement, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or an accession to this Agreement, the date of its entry into force and other notices.

Article XX

Any State Party to this Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

Article XXI

The original of this Agreement, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Agreement, opened for signature at New York on

ANNEX III

Views and recommendations of the Scientific and Technical
Sub-Committee on the convening of a United Nations
conference on outer space (A/AC.105/216, paras. 98-114)

98. It has been a decade since the last United Nations Conference on exploration and peaceful uses of outer space was held at Vienna in 1968. This decade has seen rapid progress and growth in space exploration, the development of space technology and its applications. Over the years, a confidence has been attained in the use of space technology, and the major areas of potential use have become clear. Use of satellites for communication, remote sensing, navigation, meteorology, scientific research, etc. has become common.

99. There is a need to assess these developments, to exchange information and experience on their present and potential impact, and to assess the adequacy and effectiveness of institutional and co-operative means of realizing the benefits of space technology.

100. There is furthermore a need, as expressed by the General Assembly at its thirty-second session, to allow wider participation of Member States in the activities of the United Nations in outer space matters.

101. Potential benefits of space technology and its applications are undoubtedly greater than those derived at the present stage in most instances and by most countries. In particular, most developing countries are far from having the capacity to utilize fully certain applications for their needs, e.g. the data available from remote sensing satellites.

102. There is, therefore, a need to examine the requirements, such as training and infrastructure, for improved utilization of available applications, the needs of users and present obstacles for optimum utilization.

103. New developments in space science and technology are being projected and envisaged in the next decade, such as space transportation and manufacturing and the establishment of solar power and other space stations. New applications will undoubtedly emerge from these and other future developments, opening up new opportunities and presenting new challenges.

104. There is a need to discuss such future developments and their potential benefits to mankind and possible implications for national development as well as international co-operation. It is also necessary to examine what hazards, if any, might arise from these activities.

105. While there are, presently, and will be in the near future fora dealing with space technology and its applications, their subjects, mandate and scope are often limited to specific questions and areas and do not encompass the entire or even a broad spectrum. In order to assess the benefits, both current and potential, and allow countries to draw conclusions and devise priorities, on an informed basis, there should be an opportunity to present and evaluate a wide range of research and applications and their implications.

106. There is a need to further increase awareness of the general public, decision-makers and policy-planners with regard to space technology and applications. A world-wide conference entirely devoted to this subject is more likely to meet this need than would a number of meetings at different times in different places limited in scope and focused on specific aspects.

107. In order to command truly world-wide interest and participation as well as assure beneficial results for all participating countries, the proposed conference should focus on matters of a global nature and the utilization of space technology with respect to them. Such matters include regional and economic development, education, communication, resources management and environment protection.

108. The conference should not be limited to discussion of science and technology but should also consider their relevance to man and his environment. The conference should invite the participation of the appropriate United Nations agencies.

109. The agenda should be broad enough to meet the objectives set out below and permit discussion of scientific, technical, social, economic and organizational aspects and their interrelationship.

110. It is recommended that the title for the proposed conference be "The United Nations Conference on the Peaceful Uses of Outer Space". The conference should have the following objectives:

- (a) Consideration of the current and future state of science and technology for space research and applications;

- (b) An elaboration of the current and potential benefits flowing from space technology, taking into account the present and foreseeable programmes, national and international, in areas of space research, and applications;

- (c) Considering the roles of the United Nations, its specialized agencies, other international organizations and programmes of bilateral and multilateral co-operation to ensure broad international co-operation on an equal basis in an examination of the possibilities and mechanisms for all States to realize practical benefits, bearing in mind the various levels of development, the varying capacities to absorb new technologies, the potential of international co-operation and technical assistance in this regard.

111. Within these objectives, the agenda of the conference could be organized:

- (a) To review and project the major developments in space science, technology and applications;

- (b) To assess the usefulness of these developments so far;

- (c) To look at the choices for utilizing space technology for countries at various stages of technological growth and to examine the difficulties they face in this regard;

- (d) To examine the existing infrastructure and technological development in various countries, especially the developing countries, and to suggest appropriate

steps to augment as required their capabilities to develop space technology and gain access to such technology, to participate and co-operate in space activities and to derive maximum benefit from space technology and its applications, keeping in view their needs and priorities;

(e) To discuss questions regarding compatibility and complementarity between various satellite systems, such as those used for remote sensing, meteorology, communications, navigation, etc.;

(f) To examine developments and system configurations appropriate to use space technology for education;

(g) To consider the implications of projected developments in the areas of space technology such as earth orbiting solar power stations, space manufacturing, space transportation, manned space stations, etc., and of the use of the geostationary orbit and the need and possibilities for optimizing that use;

(h) To discuss the nature of and ways of protecting the near-earth environment including the upper atmosphere and magnetosphere;

(i) To consider reports on the nature and extent of the bilateral and multilateral co-operation in outer space activities;

(j) To consider the report on the activities and role of the various international organizations dealing with peaceful uses and exploration of outer space and to explore the need for other international mechanisms;

(k) To discuss the role of the United Nations in the realization of benefits of space technology for all countries and to examine the need and possibilities for enhancing this role.

112. The conference could prepare a report to the General Assembly on its work, which might include its recommendations on conclusions and guidance for the future work of the United Nations in the field of peaceful uses of outer space. As appropriate, the General Assembly may reflect these recommendations in its guidance to the Committee on the Peaceful Uses of Outer Space for its future work.

Organization

113. Basically the steps outlined in the Secretariat's note A/AC.105/179 seem to be the best way to follow. They are given below with slight modification:

- (i) The fifteenth session of the Sub-Committee would discuss the report of the Working Party on the Convening of a United Nations Conference on Outer Space and make its recommendations to the twenty-first session of the Committee on the Peaceful Uses of Outer Space in 1978;
- (ii) At the twenty-first session of the Committee on the Peaceful Uses of Outer Space in 1978 the report of the Sub-Committee would be discussed and consensus would be sought on the draft agenda, organization, etc. of the proposed conference;
- (iii) Consideration of the Committee's report by the General Assembly at its thirty-third session;

- (iv) Following endorsement of the Committee's report by the General Assembly, the decision of the General Assembly to convene the conference might include arrangements for the preparation of the conference, taking into account the financial, organizational, and other aspects. These arrangements might include:
 - (a) The holding of a special or extended session of the Committee on the Peaceful Uses of Outer Space to work as a preparatory committee of the conference;
 - (b) The holding of a special or extended session of the Scientific and Technical Sub-Committee to work as an advisory committee of the conference;
- (v) The conference could not be held earlier than two to three years after the decision by the General Assembly.

Recommendations

114. It is recommended that:

- (i) The Secretary-General of the United Nations appoint a secretary-general of the conference or a scientific chairman for the conference, after the advisory committee or preparatory committee has made the appropriate request;
- (ii) The Outer Space Affairs Division provide the executive secretary and function as the secretariat of the conference. For this purpose, it might be augmented by additional temporary staff as required;
- (iii) The conference secretariat assist in the preparation of reports, studies, background papers, etc. required for the special or extended session of the Committee on the Peaceful Uses of Outer Space or of the Scientific and Technical Sub-Committee. When requested, the conference secretariat should also assist Member States in the preparation of national papers relating to the conference. In the preparation of national papers, Member States are encouraged to address, as far as practicable, the items for the proposed agenda;
- (iv) Thorough preparation should be made in order to assure the success of the conference. Experts, including scientists from States, competent organs of the United Nations, specialized agencies, governmental and non-governmental institutions and international organizations might be involved in and contribute to the preparation process. It is desirable to envisage broad participation in the conference from all nations, as well as international organizations and scientific institutions. Scientists, persons responsible for national development planning and policy-makers might be included in delegations.