

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

GENERAL ASSEMBLY
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NOTE

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

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ABBREVIATIONS

FAO	Food and Agriculture Organization of the United Nations
ICAO	International Civil Aviation Organization
IMCO	Inter-Governmental Maritime Consultative Organization
ITU	International Telecommunication Union
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organization
WMO	World Meteorological Organization

I. INTRODUCTION

1. The Committee on the Peaceful Uses of Outer Space met at the United Nations Headquarters, New York, from 1 to 17 September 1970 under the chairmanship of Mr. Heinrich Haymerle (Austria). Mr. Gheorghe Diaconescu (Romania) served as Vice-Chairman and Mr. Celso A. de Souza e Silva (Brazil) as Rapporteur. The verbatim records of the Committee's meetings were circulated as documents A/AC.105/PV.85-95.

Meetings of subsidiary bodies

2. The Scientific and Technical Sub-Committee held its seventh session at United Nations Headquarters, New York, from 14 to 24 April 1970 under the chairmanship of Professor J.H. Carver (Australia). The summary records of the Sub-Committee's meetings were circulated as documents A/AC.105/C.1/SR.63, 64, 66, 68, 69, 70, 71, 74, 77 and 78. The report of the Sub-Committee was circulated as document A/AC.105/82.

3. The Legal Sub-Committee held its ninth session at the United Nations Office at Geneva, from 8 June to 3 July 1970, under the chairmanship of Mr. Eugeniusz Wyzner (Poland). The summary records of the Sub-Committee's meetings were circulated as documents A/AC.105/C.2/SR.132-151. The Sub-Committee's report was circulated as document A/AC.105/85.

4. The Working Group on Direct Broadcast Satellites, set up under General Assembly resolution 2453 B (XXIII) of 20 December 1968, held its third session at United Nations Headquarters, New York, from 11-21 May 1970 under the chairmanship of Mr. Olof Rydbeck (Sweden). The Working Group's report was circulated as document A/AC.105/83.

Thirteenth session of the Committee

5. The Committee on the Peaceful Uses of Outer Space met at the United Nations Headquarters from 20 to 23 January 1970, to discuss the organization of its work for the year and that of its subsidiary bodies. The work programme was contained in a statement made at the 84th meeting by the Chairman, who summed up the consensus which had emerged during consultations among members in a series of informal meetings of the Committee.

6. At its 85th meeting on 1 September 1970, when the Committee resumed its thirteenth session, it adopted the following agenda:

1. Adoption of the agenda.
2. Statement by the Chairman.
3. Consideration of the reports of:

- (a) The Scientific and Technical Sub-Committee (A/AC.105/82);
- (b) The Legal Sub-Committee (A/AC.105/85);
- (c) The Working Group on Direct Broadcast Satellites (A/AC.105/83).

4. Report of the Committee to the General Assembly.

7. At the opening meeting on 1 September 1970, after hearing the statement by the Chairman which is reproduced in annex I, and a statement by the Secretary, the Committee began a general debate in the course of which statements were made by the representatives of Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, France, India, Iran, Italy, Japan, Mexico, Romania, Sweden, the USSR, the United Arab Republic, the United Kingdom and the United States of America. The statements are reproduced in the verbatim records of the 85th to 88th meetings. Statements were also made by the representatives of WMO, ITU and UNESCO and reproduced in verbatim records of the 87th and 91st meetings.

8. During the course of the discussions, the members of the Committee welcomed the appointment of Professor Humberto Ricciardi of Argentina as the Expert on Applications of Space Technology, pursuant to General Assembly resolution 2601 (XXIV). At the 90th meeting of the Committee, the aforementioned Expert made a statement (see annex II).

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

(1) Report of the Secretary-General on co-ordination of Secretariat activities in the field of outer space (A/AC.105/L.55), which is reproduced as annex III;

(2) Selective bibliography on remote sensing (A/AC.105/L.56);

(3) Note by the Secretariat on the cost and execution of the programme of publication on (a) the value and benefits of broadcasting by satellites with community receptions; (b) earth resources surveying by satellites; and (c) weather prediction based in part on data derived from satellites (COPUOS/XIII session/CRP.1);

(4) Note by the Secretariat on the financial and other implications and advantages of holding future meetings of the Scientific and Technical Sub-Committee at the headquarters of the regional economic commissions or in countries which might invite the holding of such meetings (COPUOS/XIII session/CRP.2).

10. At the 88th meeting, the Secretary of the Committee informed its members that following the resolutions of the General Assembly which requested the Secretary-General to minimize the cost of documentation, the Secretariat had adopted a new procedure relating to the reports of the Committee and its subsidiary bodies. The Secretary announced that the reports of the subsidiary bodies were now issued in the same form and number as the report of the Committee itself, instead of the mimeographed form in which they had appeared previously. The procedure would eliminate the necessity of annexing the reports of the subsidiary bodies to the report of the Committee. Thus the new procedure, the Secretary explained, would eliminate duplication and save considerable amount of money and manpower particularly

at the peak period during the sessions of the General Assembly and at the same time meet the concern of the Committee of ensuring that these documents would be available on a permanent basis. The Committee approve the new procedure. In addition, the Committee decided that, beginning in 1971, it would maintain uncorrected verbatim records and that, to the extent necessary, correction could be accomplished by statements at subsequent meetings.

11. The Committee noted that the two Sub-Committees had taken satisfactory steps with regard to the recommendations made by the Committee at its 84th meeting on 23 January 1970, to the effect that the Sub-Committees consider at the outset of the 1970 sessions whether they could reduce the number of meetings for which records were to be published in order to reduce the cost of maintaining and publishing them. The Committee requested the Sub-Committees to keep the matter under review in order to further reduce the cost of maintaining and publishing the records of the Sub-Committees.

12. The Committee adopted its report to the General Assembly at its 95th meeting on 17 September 1970, and the Committee's recommendations and decisions are set out below. A list of the representatives of States members of the Committee attending the session, of the observers of the specialized agencies and of the secretariat of the Committee, is annexed (see annex V).

II. RECOMMENDATIONS AND DECISIONS

A. Report of the Scientific and Technical Sub-Committee

13. The Committee took note with appreciation of the report of the Scientific and Technical Sub-Committee on the work of its seventh session (A/AC.105/82). In considering the various recommendations contained in that report, the Committee expressed its views as set out in the following paragraphs.

Exchange of information

14. The Committee continued to believe that the annual reports submitted by Member States concerning their national and co-operative international space activities constituted an important factor in promoting international exchange of information. It therefore requested that Member States which had in the past supplied the United Nations with such information for inclusion in the "Review of national and co-operative international space activities" continue to do so. The individual national reports should cover the preceding calendar year and place special emphasis on those aspects of the Member States' activities which were relevant to: (a) co-operative international activities, and (b) new developments likely to be of particular interest to developing countries.

15. The Committee expressed its concern that there had been a noticeable decline in the number of Member States supplying information on their national and international co-operative activities in outer space programmes. It therefore appealed to those Member States which had not done so to submit as early as possible the information they wished to be incorporated in the next issue of the review.

16. The Committee took note with appreciation of the "Review of the activities and resources of the United Nations, its specialized agencies and other competent international bodies relating to the peaceful uses of outer space", which had so far been issued by the Secretariat every two years. It endorsed the view of the Sub-Committee in this connexion that the Secretariat should issue an annual supplement to the review, in order to provide Member States with more current information.

17. The Committee, in reviewing the ways and means of expanding the flow of information on the present and potential benefits of the practical applications of space technology, took note of the working paper prepared by the Secretariat on the costs and execution of an initial modest programme of publishing three documents, written in non-technical language, concerning the nature and benefits of broadcasting by satellites, with community receptions; earth resources surveying by satellites; and weather prediction based in part on data derived from satellites (COPUOS/XIII session/CRP.1). The Committee agreed with the Sub-Committee that it would be beneficial if such pamphlets were available to government administrators responsible for economic and technical development in their States. It took note, in particular, of the conclusion reached in the Secretariat's working paper that there existed at present a sufficient amount of publications by the specialized

agencies in the fields of broadcasting by satellites and weather prediction based partly on data supplied by satellites that could be easily adapted for the publication envisaged by the Sub-Committee. The Committee requested ITU in consultation with UNESCO to proceed with the adaptation of a pamphlet on the former subject, and WMO to proceed with one on the latter. The Committee also noted that the Secretariat's working paper concluded that the select bibliography (A/AC.105/L.56) included a number of publications by national agencies, which deal in non-technical terms with the subject of earth resources survey by remote sensing. Such publications could also be adapted for the purpose conceived by the Sub-Committee in paragraph 20 of its report.

18. The Committee also took note of the fact that in devising further means for facilitating the spread of information, the Sub-Committee considered the possibilities of holding one of its future meetings at the headquarters of one of the regional economic commissions or in countries which might invite the Sub-Committee to hold its meetings in their territories. The Sub-Committee requested the Secretary-General in this connexion to prepare a statement on the financial and other implications and advantages of the possibility of holding such meetings, and requested the Committee to consider the question at its current session. The Committee agreed with the Sub-Committee that it was important to ensure that the regional economic commissions were aware of the potential value of space applications but, after taking into account the various factors involved, including those set out in the conference room paper prepared by the Secretariat on this question, did not consider that the holding of the Sub-Committee's meetings at the seats of the regional economic commissions was the most effective way of achieving this objective.

Encouragement of international programmes; promotion of the applications of space technology

Programme of work of the Expert on Applications of Space Technology

19. The Committee took note with appreciation of the report of the Expert on Applications of Space Technology (see annex II) and endorsed its recommendations in regard to technical panels and fellowships. The Committee expressed its confidence that the Secretary-General would take the necessary measures to implement these recommendations.

The convening of a working group on earth resources surveying by satellites

20. The Committee authorized the Scientific and Technical Sub-Committee, after study of the materials specified in paragraph 23 (2) (a)-(g) of its report, to determine at its next meeting whether, at what time, and in what specific frame of reference to convene a working group on earth resources surveying with special reference to satellites. In view of the importance of keeping administrative costs at a minimum level, the Committee specified that any such working group, in the event it should be decided to establish it, consist of representatives of Committee members and that its meeting not entail additional expenses.

Technical panels on space applications

21. The Committee took special interest in the recommendation of the Sub-Committee that, with a view to facilitating the most effective dissemination of information on current tests and practical applications of space technology, the Secretary-General should organize appropriate technical panels in accordance with the provisions set out in paragraphs 24 and 25 of the report of the Sub-Committee. It noted with pleasure that the representatives of Brazil, Mexico and the United States of America had invited such panels to observe space applications work under way in their countries. It also noted with pleasure that the representative of India had announced the intention of his Government to do so. The Committee recommended that other Member States engaged in space applications programmes invite panel visits on a voluntary basis. The Committee furthermore noted with pleasure that an international workshop on earth resources surveying systems would be convened in the United States in the spring of 1971.

22. The Committee shared the pleasure expressed by the Sub-Committee at the announcement by FAO that it was currently organizing, in co-operation with the United Nations Secretariat's Outer Space Affairs Division, a panel for discussion of the applicability of space and other remote sensing techniques to the management of food resources and related fields. FAO's planning envisaged the convening in Rome in early September 1971 of a small meeting of about five days' duration consisting of selected experts to advise on current and potential capabilities of remote sensing which would be useful to the development of world agriculture.

Fellowships

23. The Committee, in its efforts to promote international co-operation in the field of peaceful uses of outer space, has for a number of years been concerned with seeking broader international opportunities for the education and training of personnel from Member States in the practical applications of space technology. It noted in this connexion the interest in such internationally sponsored education and training opportunities expressed by some States at the seventh session of the Scientific and Technical Sub-Committee and drew the attention of Member States to the offer by the United States to support up to ten graduate university fellowships each year, nominated by the United Nations in accordance with certain specified procedures as set out in paragraph 34 of the report of the Sub-Committee. It also noted and drew the attention of Member States to the offer by Italy to support up to ten free training courses each year on communication satellites, earth stations technology maintenance and operations, to individuals from developing States nominated by the United Nations in accordance with certain specified procedures, as set out in paragraph 35 of the report of the Sub-Committee. It noted the announcements made by the representatives of the United States and Italy in the course of its current session that these fellowships would be available for the academic year 1971/1972, and accordingly requested the Expert on Applications of Space Technology to continue with the plan to enable eligible candidates from interested Member States to utilize the fellowship offers in time for participation in the 1971/1972 academic year.

24. The Committee welcomed the indications set out in the report of the Expert on Applications of Space Technology that the National Committee on Space Activities of Brazil had offered fifteen scholarships starting in 1971 on remote sensing

techniques and authorized the aforementioned Expert to pursue the matter, as appropriate, with the Government of Brazil as well as other Governments which might offer similar fellowships or scholarship programmes.

Bibliography on earth resources surveying by remote sensing

25. The Committee took note with appreciation of the bibliography on remote sensing (A/AC.105/L.56) prepared by the Secretariat in response to the request made by the Sub-Committee, and requested its members to provide the Secretariat with further references in order to enable it to have more comprehensive entries in the bibliography and to distribute it more widely among States Members of the United Nations. In this regard the Committee also urged Member States to avail themselves of the acquisitions and services of the library maintained by the Outer Space Affairs Division.

Space technology and the environment

26. The Committee welcomed the preparation by the Secretariat of the study on space technology and the environment referred to in paragraph 23 (2) (e) of the report of the Scientific and Technical Sub-Committee. It looked forward to the consideration of the study by the Sub-Committee at its coming session.

Transfer of space-generated technology

27. The Committee noted the Sub-Committee's view that specific experiments and test cases in the transfer of space-generated technology to non-space applications could be valuable in extending the benefits of space activity. It called to the attention of the General Assembly, and, through it, of other appropriate organs including the Economic and Social Council, as well as United Nations specialized agencies and other bodies, the desirability of experiments in the transfer of space-generated technology to non-space applications, in particular, in developing countries.

Points of contact

28. After reviewing the designation of points of contact by over fifty States which are interested in being informed about potential practical benefits from space science and technology, the Committee urged all other Member States which are interested to nominate their points of contact.

Co-ordination of the United Nations space activities

29. The Committee took note with satisfaction of the report of the Secretary-General on co-ordination of Secretariat activities in the field of outer space (A/AC.105/L.55) which is reproduced as annex III, and expressed the hope that the arrangements made by the Secretary-General would lead to an improved system of co-ordination within the Secretariat.

30. With regard to the report of the Secretary-General to the Economic and Social Council on natural resources satellites (E/4779), to which the Scientific and Technical Sub-Committee gave preliminary consideration at its seventh session, the Committee took note of the addendum to the report which the Secretary-General

had submitted in July for consideration of the Economic and Social Council. It took note in this connexion of the decision adopted by the Council at its forty-ninth session in July by which it requested the proposed Committee on Natural Resources to examine the recommendations contained in the report of the Secretary-General (E/4779) and asked it to bear in mind that for the time being one of the ways of dealing with the question would be for the Scientific and Technical Sub-Committee to continue consideration of the report of the Secretary-General and the recommendations contained therein. The Committee believed that for the time being at least the most effective way of studying this subject would indeed be for it to be left in the hands of the Scientific and Technical Sub-Committee, which had already done useful work on it. The Committee looked forward to a further consideration by the Scientific and Technical Sub-Committee of the question of natural resources satellites, and to its report thereon to the Committee.

International rocket launching facilities

31. The Committee endorsed the report of the Sub-Committee, which expressed satisfaction at the work being carried out at the Thumba Equatorial Rocket Launching Station (TERLS) in India and the CELPA Mar del Plata Rocket Launching Station in Argentina. It also took note of document A/AC.105/86, containing information on recent rocket launchings at the TERLS station. In this connexion, the Committee recommended that the United Nations continue to sponsor both ranges.

32. It furthermore welcomed the statements made during the current session by the representatives of Italy and France reaffirming the availability of the Italian equatorial San Marco mobile range and the French Space Centre at Kourou in French Guyana for international co-operative projects. It therefore requested the Sub-Committee to consider at its next session the possibility of adjusting the general principles it had laid down for eligibility for United Nations sponsorship, which the General Assembly incorporated in its resolution 1802 (XVII) of 14 December 1962, so as to be equally applicable to such ranges as the Italian San Marco mobile range.

Registration and identification of objects launched into outer space

33. The Committee noted with appreciation that in response to the request of the Legal Sub-Committee, the Scientific and Technical Sub-Committee had carried out an extensive study on the technical aspects of the registration and identification of objects launched into outer space.

34. The Committee took note of the findings and conclusions of the Scientific and Technical Sub-Committee. The Sub-Committee identified four principle means of identifying space objects. These were: (a) special markings; (b) structure, components and materials; (c) frequencies of transmitters; and (d) information on flight trajectories. The Sub-Committee then concluded, in the light of present knowledge, that:

(1) No significant difficulty is to be expected in identifying space objects orbiting or surviving re-entry;

(2) For reasons of economy and safety, a marking system to survive re-entry is not considered technically practical at the present time;

(3) Both the basic capabilities for trajectory determinations and material analysis required to identify orbiting or re-entered space objects are extremely complex and expensive and should not be duplicated on an international scale;

(4) The basic resources commended to States and the Secretary-General in connexion with the identification of space objects orbiting or surviving re-entry lie in the several complementary national capabilities, particularly those of launching States;

(5) It is advisable to retain a system for its registration of space objects as prescribed in General Assembly resolution 1721 B (XVI), as an orderly record, while recognizing that such a registry cannot in itself be of material assistance in identifying returned objects.

Some delegations expressed the view in the Committee that they were not in complete accord with all the conclusions. The Committee requested the Scientific and Technical Sub-Committee to keep this question under review in the light of changes and developments of space technology.

35. Some delegations affirmed the need for an up-to-date and effective system of registration, based on an international convention and accessible to all interested Governments, organizations and agencies, to facilitate the prompt and accurate identification of space objects and their parts. Other delegations, taking into account the conclusions of the Scientific and Technical Sub-Committee, stated that no need for such an instrument has been demonstrated.

36. In considering the question of the registration and identification of objects launched into outer space at its future meetings, the Legal Sub-Committee should take into consideration the findings and the conclusions of the Scientific and Technical Sub-Committee set out above.

Efficient use of the geostationary orbit

37. The Committee took note of the view of the Sub-Committee in which it recognized that the geostationary orbit was one of the natural space resources which would be largely used in the future for several kinds of satellite systems, and noted that the question of utilization of the geostationary orbit had been under study by ITU. It expressed the desire to be kept informed of the results of the ITU studies in this field.

United Nations registry of launchings of space objects

38. In conformity with the provisions of paragraphs 1 and 2 of General Assembly resolution 1721 B (XVI), the Committee has continued to receive information from launching States concerning objects launched into orbit. Information has been

furnished by France, on behalf of the States members of the European Space Research Organization (ESRO), by Japan, by the Union of Soviet Socialist Republics and by the United States of America. The information received since the Committee's last report has been placed in the public registry maintained by the Secretary-General and has been circulated in documents A/AC.105/INF.210-222.

B. Report of the Legal Sub-Committee

39. The Committee took note of the report of the Legal Sub-Committee on the work of its ninth session, held from 8 June to 3 July 1970 (A/AC.105/85).

40. With regard to the draft Convention on International Liability for Damage Caused by Space Objects, the Committee noted that the General Assembly, in its resolution 2601 B (XXIV) adopted unanimously at its twenty-fourth session, expressed "its deep dissatisfaction that efforts to complete the convention have not been successful" and at the same time urged "the Committee on the Peaceful Uses of Outer Space to complete the draft Convention on liability in time for final consideration by the General Assembly during its twenty-fifth session".

41. In pursuance of this resolution, the Committee recalled that at its 84th meeting on 23 January 1970, it decided to hold consultations and negotiations in April 1970 at Geneva with a view to arriving as soon as possible at an agreement on a draft convention on liability for damage.

42. The Committee noted that such consultations were held at Geneva from 1 to 10 April 1970 under the chairmanship of Mr. Heinrich Haymerle, Chairman of the Committee on the Peaceful Uses of Outer Space, with the assistance of Mr. Eugeniusz Wyzner, Chairman of the Legal Sub-Committee, and that extensive consultations and negotiations were carried out with regard to the main outstanding issues, particularly on the questions of "settlement of claims" and the "applicable law". Although a number of textual suggestions were put forward and discussed, the Committee regretted that no agreement on texts concerning the outstanding points could be reached. A résumé of the results of the consultations held was circulated as an official document of the Sub-Committee (A/AC.105/C.2/8).

43. The Committee expressed its satisfaction that the Legal Sub-Committee had made considerable progress by approving, although subject to conditions or reservations on the part of certain delegations (see A/AC.105/85, para. 27), the texts of the title, the preamble and thirteen articles of the draft Convention (see annex IV). The Committee, nevertheless, noted with regret that once again no final agreement had been reached on the two outstanding issues of "settlement of claims" and the "applicable law".

44. During the general debate of the Committee many speakers gave their views on the unresolved issues or expressed their agreement with proposals already made in the Legal Sub-Committee and included in the Sub-Committee's report (A/AC.105/85).

45. After extensive consultations and negotiations, formal and informal, the Committee regretfully concluded that its efforts to reconcile the differences existing within its membership on the two outstanding issues of the "settlement of claims" and "applicable law", had so far not succeeded and that a solution was not at present in prospect. It nevertheless felt that the conclusion of an effective and generally acceptable liability convention should remain the firm priority task of the Committee.

46. With regard to the questions relative to the definition of outer space and to the utilization of outer space and celestial bodies, including the various implications of space communications, the Committee noted that the Sub-Committee was unable to give consideration to these subjects as the Sub-Committee devoted its whole session to the draft convention on liability.

47. The Committee noted in that regard that the Sub-Committee had before it a background paper on the question of the definition and/or delimitation of outer space prepared by the Secretariat at the request of the Sub-Committee (A/AC.105/C.2/7), a draft convention concerning the registration of objects launched into space for the exploration or use of outer space, submitted to it by the French delegation at its previous session (A/AC.105/C.2/L.45), as well as the report of the Working Group on Direct Broadcast Satellites on its third session (A/AC.105/83), two proposals submitted by Argentina relating to a draft agreement on the principles governing activities in the use of natural resources of the Moon and other celestial bodies (A/AC.105/C.2/L.71 and Corr.1) and a draft international agreement on activities carried out through remote-sensing satellite surveys on earth resources (A/AC.105/C.2/L.73). In connexion with the question of the registration and identification of objects launched into space, there were also papers prepared by the Canadian delegation (A/AC.105/C.1/L.31) and by the United States delegation (A/AC.105/C.1/L.30), as well as one by the Secretariat (A/AC.105/L.52).

C. Report of the Working Group on Direct Broadcast Satellites

48. The Committee noted with appreciation the report of the third session of the Working Group on Direct Broadcast Satellites (A/AC.105/83), which was established by the General Assembly in resolution 2453 B (XXIII). The Committee also noted that at its first session, the Working Group had carried out a study of the technical feasibility of communication by direct broadcast from satellites and the current and favourable developments in this field, including comparative user costs and other economic considerations for certain enumerated cases; and that at its second and third sessions, the Working Group considered the implications of such developments in the social, cultural, legal and other areas.

49. The Committee also took note of the documents submitted to the Working Group concerning direct broadcast satellites prepared by the delegations of Canada and Sweden (A/AC.105/WG.3/L.1), the USSR (A/AC.105/WG.3/CRP.1) and France (A/AC.105/WG.3/CRP.2), as well as the report of the comments received on the subject from Governments, specialized agencies and other competent international bodies (A/AC.105/79).

50. The Committee recognized that the Working Group's report had reaffirmed the views as expressed in the first two sessions of the Working Group on the potential benefits of direct broadcasting from satellites, and also noted that the report dealt in detail with the various political, legal, social and cultural implications of this new technology and laid emphasis on the need for co-operation and for measures of co-ordination.

51. The Committee noted that many delegations at the Working Group paid considerable attention to the international legal aspects arising from direct broadcasting and that they strongly emphasized that there was a need to draw up international legal principles governing the activities in question, while other delegations - bearing in mind that the Working Group had noted the existence of generally accepted principles endorsed, inter alia, in the United Nations Charter, 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 ITU Convention and Radio Regulations, the Universal Declaration of Human Rights and General Assembly resolutions which would apply to direct broadcast satellites - stressed that an effort at this time to draft new or additional principles relating to the broadcasting satellite service was premature and could inhibit rather than promote international co-operation.

52. The Committee took note of the view of the Working Group that while there were no known programmes of broadcasting satellite services for individual reception, such broadcasts for community services would be technically feasible within the foreseeable future. The use of satellite-borne television for educational purposes, particularly in the developing countries, might in certain circumstances contribute towards national programmes of integration and community development and economic, social and cultural development in such areas as formal and adult education, agriculture, health and family planning. In view of the international co-operation required in this area, the United Nations, through the Committee on the Peaceful Uses of Outer Space, should play a co-ordinating role in connexion with the work of other interested international organizations. Moreover, Member States, the United Nations Development Programme and other international agencies should assist developing countries in benefiting from satellite broadcasting and in developing the skills and techniques for its application. Developing countries should also be assisted in determining whether direct satellite broadcasting systems were the best means of satisfying their broadcasting requirements. In this connexion, the Committee noted that India and the United States of America had agreed to conduct jointly an instructional television experiment involving community reception and using the ATS-F experimental satellite. The experiment, which envisages the provision of 2,000 community receivers in remote villages, would mark the first time that television signals are received directly from a satellite by community receivers in villages away from urban centres, thus making it possible to enrich life in the isolated communities.

53. The Committee also noted the views of the Working Group to the effect that the geostationary orbit was a limited natural resource, and that early consideration of its use was necessary. In view of the close relationship between the spacing of satellites, special design and frequency allocations, ITU was seen to have an important role in co-ordination of the use of the geostationary orbit in conjunction with frequency allocations and utilization.

The Committee considered that when more complete information on this was available from ITU, the Committee on the Peaceful Uses of Outer Space, either through the Working Group or directly if the Working Group should not reconvene, should take into consideration the practical interests of all States, especially the developing ones, in connexion with the efficient utilization of the geostationary orbit, and the frequency spectrum. This view would not, however, detract from the Committee's recognition of the fact of ITU's technical and regulatory competence in matters relating to the parameters defining satellite systems.

54. The Committee further noted that at the Working Group some delegations were of the opinion that international co-operation should take the form of a global organization, whereas the Working Group agreed that at least in the foreseeable future the emphasis in international co-operation in this field should be on a regional level expressed through participation in the establishment and operation of regional satellite broadcasting systems and/or on programme planning and production for such systems and that Member States or regional and international organizations should therefore promote regional co-operation both on the governmental and non-governmental level, especially among broadcasters and their associations.

55. The Committee also endorsed the recommendation of the Working Group that the Secretary-General should be requested to issue an index of existing international instruments (conventions, treaties and agreements) relating to or bearing upon broadcasting satellite services.

56. The Committee took particular note of the feeling of the Working Group that it had completed the work which might usefully be effected at this stage and that ITU, UNESCO and the United International Bureaux for the Protection of Intellectual Property (BIRPI) each had programmes of work, the outcome of which might have a bearing on the matters considered by the Working Group.

57. Bearing in mind the wishes of the Working Group, and taking into account the fact that work in this field had been undertaken by the United Nations, the specialized agencies and other international organizations and that the ITU World Administrative Radio Conference for Space Telecommunications would be held in 1971, the Committee agreed to keep under review the question of reconvening the Working Group at such time as further material of substance may have become available on which further useful studies might be based.

58. The Committee also recommended that the Legal Sub-Committee should study the work carried out by the Working Group on Direct Broadcast Satellites, under the agenda item on the implications of space communications.

59. The Committee recognized that extensive and useful pioneering work had been carried out by the three sessions of the Working Group and expressed its appreciation to the Working Group.

ANNEX I

Opening statement by the Chairman at the 85th meeting of the
Committee on 1 September 1970

In 1969 the spectacular achievements of science and technology, combined with human ingenuity, made it possible for man to land on the moon. The progress made in the past year in the exploration and peaceful uses of outer space does not seem to have been less impressive.

In reviewing last year's activities, our primary attention is focussed on two events: the eighteen-day endurance flight of "Soyuz 9" and the safe return of the crew of "Apollo 13".

A few months ago the Soviet Union launched the "Soyuz 9" space ship with the two cosmonauts Nikolajew and Sewastjanow on board. This eighteen-day flight programme was primarily dedicated to medical-biological research within the goal of establishing permanent orbit stations. A wide range of medical and biological experiments was carried out in the study of the human body's adaptive reactions to space flight conditions and primarily to weightlessness. Our full admiration goes to the two cosmonauts who made it possible for many significant scientific results to be obtained through their experiment.

The safe return of the crew of Apollo 13, a space craft which was launched by the United States in April of this year, will undoubtedly be known in the history of the exploration of outer space as one of the greatest events, although the programme of this flight did not achieve its original goal. That the astronauts Lovell, Haise and Swigert are again with us is indeed the result of the brilliant team-work between Houston and the crew of the space craft; it is a remarkable success of the ingenuity of the scientists, engineers and officials in charge of the programme and a triumph of the physical and moral capability of endurance of the astronauts. I would like to pay a special tribute to all those who were responsible for this operation.

These two outstanding events stand for many other achievements of the two big space Powers which we have witnessed during the past year. Besides this impressive record, the time since our last meeting was characterized by an important number of launchings of satellites by other space Powers, partly from United Nations-sponsored launching facilities:

On 1 October 1969, the European Space Research Organization (ESRO) launched the Boreas Satellite, ESRO 1 b, from the Western Test Range in Australia.

On 23 January 1970, Australia launched the Oscar 5 satellite built by members of the Melbourne University from the Western Test Range.

On 11 February of this year, Japan launched the first Japanese satellite, Ohsumi, with a Japanese launcher, Lambda 4 J, from Kagoshima Space Centre.

On 10 March 1970, France launched the German-Dial Satellite, with the Diamant B rocket system, from the Guyana Space Centre in a near-equatorial orbit.

In March and April of 1970, twenty-one rockets were among other experiments launched from the Thumba Equatorial Rocket Launching Station in India, in co-operation with NASA and the United Kingdom, for the study of winds, temperatures, positive ion density in the "D" region and ion composition in the "F" region and upper atmosphere. At the end of 1970, the first Soviet meteorological rocket will be launched from this station.

The CELPA Mar del Plata Range in Argentina, which is also operating under United Nations sponsorship, continued to contribute, to a large extent, to meet the needs of peaceful space research, as well as to provide developing countries with opportunities for valuable practical training and participation in this field.

Although I am unable to give an account of all major points of international activity in space, there is one further event which I would like to mention because of its particular importance. On 7 January, a telecommunication satellite earth station was inaugurated in Souk el Arba des Sehoul, the first of its kind not only in Morocco but in the whole of Africa. Those of us who had the privilege of being present when the station was brought into service by His Majesty King Hassan II will not forget it. The day will remain in our memories not only because of its ceremonial character but because of its significance. For me it was symbolic of the determination of the non-space nations, and especially the developing countries, to seize the innumerable opportunities which the space age opens to all of us.

Let us turn now to the work before us. The past year has proved once more that through this Committee, and through its Sub-Committees and its Working Group, the United Nations has become a valuable centre for gathering and disseminating information on technological progress and development in space activities; for reviewing and harmonizing national and international space programmes; and for dealing with the innumerable political, legal, economic, social and cultural problems which arise from this new field of man's activity.

In accordance with the consensus reached at our last meeting on 23 January, our Scientific and Technical Sub-Committee held its meetings between 14 and 24 April; the Working Group on Direct Broadcast Satellites held its meetings from 11 to 21 May, and the Legal Sub-Committee held its meetings from 8 June to 3 July 1970. Their discussions resulted in three reports: A/AC.105/82, A/AC.105/83 and A/AC.105/85. They will be the basis of our deliberations. In addition to these reports, five conference room papers - one which will be prepared by Professor Ricciardi, and four already prepared by the Secretariat - will require our attention.

The twenty-fourth session of the General Assembly has welcomed the decisions of our Committee to promote more energetically the application of space technology as set out in various paragraphs of last year's report of our Scientific and Technical Sub-Committee. In accordance with this resolution (2601 A (XXIV)), the Sub-Committee again concentrated its activities in 1970 on these problems. It has taken various concrete initiatives in this respect. In this connexion I particularly welcome the decision of the Secretary-General, in pursuance of resolution 2601 (XXIV), to appoint Professor Humberto Ricciardi of Argentina as an

expert on space technology, whose task is the promotion of practical application. Professor Ricciardi will serve as a point of contact for all Member States seeking information and assistance with regard to pertinent United Nations or other space programmes. I am quite convinced that I can speak on behalf of all the members of the Committee when I wish Professor Ricciardi every possible success in the fulfilment of this difficult task.

The Sub-Committee has made a number of recommendations on specific topics. Among other subjects it was concerned with the exchange of information, encouragement of international programmes, promotion of the application of space technology, international rocket-launching facilities, education and training, and registration and identification of objects launched into outer space. It has dealt with the problem of the efficient use of the geostationary orbit. It has finally made recommendations concerning the problem of co-ordinating the United Nations space activities, especially in connexion with the report of the Secretary-General to the Economic and Social Council on earth-surveying satellites (E/4779). In view of the Sub-committee, it should be this Committee's task to make relevant recommendations to the General Assembly. In this connexion I should also like to mention document A/AC.105/L.55, a report of the Secretary-General on co-ordination of Secretariat activities in the field of outer space.

I do not want to close this subject without paying special tribute to the specialized agencies, in particular to the International Telecommunication Union, the World Meteorological Organization, the United Nations Educational, Scientific and Cultural Organization and the Food and Agriculture Organization of the United Nations, for their continuing and valuable contributions towards the promotion of practical application of space research, education and training, as well as for their efforts in connexion with regulation of space activities in the technical field.

The second report before us is the report of the Working Group on Direct Broadcast Satellites (A/AC.105/83). That report reaffirms the views as expressed in the second session of the Working Group on the potential benefits of direct broadcasting via satellites. It deals in detail with the various political, legal, social and cultural implications of this new technology and lays emphasis on the need for co-operation and for measures of co-ordination. The Working Group acknowledges again the primary role of our Committee within the United Nations system for promoting co-ordination and reviewing developments in this field. At the same time it lays down its view on the respective responsibilities of ITU and UNESCO. The Working Group feels that it has completed the work which may usefully be effected at this stage. It recommends that this Committee should consider whether the Working Group should be reconvened at such a time as further material of substance may become available on which to base further useful studies.

The Committee will be aware that in the legal field this Committee will again be faced with an issue which took most of our time last fall. The Committee will recall that the General Assembly at its twenty-fourth session, in paragraph 4 of its unanimously adopted resolution 2601 B (XXIV), expressed: "its deep dissatisfaction that efforts to complete the convention have not been successful and, at the same time" urged "the Committee on the Peaceful Uses of Outer Space to complete the draft convention on liability in time for final consideration by the General Assembly during its twenty-fifth session".

Paragraph 5 of that resolution emphasized that: "the convention is intended to establish international rules and procedures concerning liability for damage caused by the launching of objects into outer space and to ensure, in particular, prompt and equitable compensation for damage".

The Committee decided at its last meeting in December 1969 to hold consultations and negotiations early in 1970 with the view to arriving as soon as possible at an agreement on a draft convention on liability for damage. Those consultations were held at Geneva from 1 to 10 April. At that occasion an intensive exchange of views took place on the twin outstanding issues "settlement of claims" and the question of "applicable law". Although a number of textual suggestions were put forward and discussed, no agreement on texts concerning those two points could be reached.

I think we should note with great satisfaction that the Legal Sub-Committee which met in June made considerable progress in adopting the title, the preamble and thirteen articles of the draft convention. In this context I should like to express my sincere appreciation to the Chairman of the Legal Sub-Committee, Mr. Eugeniusz Wyzner, for his tireless efforts. However - and this I mention with great regret - the outstanding issues, the settlement of claims and the applicable law, remained unsolved. So this burden lies again on the main Committee. I want to appeal to all representatives to make every - I repeat every - effort to solve those two problems in order to be able to fulfil the mandate which has been entrusted to this Committee by decisions of all sessions of the General Assembly in the past years. If we succeed this year - and this is still my hope and my conviction - we would not only agree on a legal instrument without which the rule of law will never be introduced into this new activity of man, but by presenting a liability convention to the General Assembly we would also make our contribution to the twenty-fifth anniversary of the United Nations. I feel that the General Assembly is expecting this from us.

In concluding I wish to take the opportunity to thank the Sub-Committees and the Working Group and their excellent respective chairmen for the work they have achieved during the past year. At the same time I should like to express my appreciation to the Under-Secretary-General, Mr. Kukatov, who is with us today, and to the Secretary of the Committee, Mr. Abdel-Ghani, as well as to the members of the Secretariat for the ability and competence with which they have been serving this Committee.

ANNEX II

Report of the Expert on Applications of Space Technology at the 90th meeting of the Committee on 8 September 1970

Mr. Chairman, I should like to take this opportunity to thank you and the many delegations for the warm words of welcome addressed to me during the course of this session. I would also express my appreciation to the members of this Committee for the excellent co-operation I have received from the representatives in the pursuit of my work at the United Nations.

In accordance with the decisions taken by the Committee on the Peaceful Uses of Outer Space and approved by the General Assembly, the main subjects to be considered by the Expert on Applications of Space Technology during his tenure of office are the following: development of contacts with Member States; co-ordination within the Secretariat and within the United Nations family; promotion of the applications of space technology, in particular technical panels and education and training; and preparation of the draft report on the assessment of the requirements and needs of Member States in the application of space technology and ways of meeting them, including the magnitude of the administrative, technical and financial involvement. At this stage I wish to report on actions taken with respect to these subjects since assuming this position in July of this year.

First I shall deal with development of contacts with Member States. The Secretary-General has received answers from fifty-six Member States responding to his original circular letter on this subject, of which fifty-three specific points of contact have been designated. A second letter, also signed by the Secretary-General, was sent out on 3 August to those Member States that had not yet appointed individuals or offices as points of contact, explaining in more detail the potential interest of space applications. I hope we shall receive replies to this letter in the immediate future.

I have written to the fifty-three appointed points of contact. A first letter was sent in July, and since then two more letters have followed, detailing various subjects of interest, for instance, fellowships and United Nations Development Programme technical assistance. A fourth letter is being prepared, outlining proposed procedure of work with the points of contact.

Once this line of communication is established, I expect it will develop into a fruitful channel of ideas and suggestions, but it will be necessary to establish a more direct contact for the exchange of ideas. I consider that it will be necessary to convene a meeting early next year of all the points of contact, to discuss with them the possibilities and procedures for future co-ordination action. An opportunity for such a meeting would occur before or after a panel or at United Nations Headquarters at the time of the Scientific and Technical Sub-Committee meeting or at the headquarters of one of the regional economic commissions if the Sub-Committee convenes there. The meeting would have a duration

of two days, with a series of lectures covering the various applications of space technology, and discussion would follow. In that way we shall have an opportunity to acquaint the points of contact with the state of the art in each area of interest and, from our side, we shall be able to receive their advice and suggestions and to discuss the kind of co-operative action which might be undertaken.

I shall now deal with co-ordination within the Secretariat and the United Nations family. The necessary steps have been taken by the Secretary-General to co-ordinate the activities regarding space applications within the Secretariat. As shown in document A/AC.105/L.55, the Secretary-General has created a Working Panel which comprises all the interested units of the Secretariat. Close co-operation exists with the Office for Science and Technology. I would refer particularly to the studies being prepared by that Office on space activities in the Second United Nations Development Decade and in the World Plan of Action, for submission to the Advisory Committee on the Application of Science and Technology to Development. In the same manner, I am in contact, studying ways of co-ordinating activities, with the Resources and Transport Division.

The Committee should have the opportunity at its next meeting of considering the results of these arrangements and the experience obtained.

Concerning co-ordination with the specialized agencies, at the last meeting of the Administrative Committee on Co-ordination the agencies were requested also to appoint individuals or offices to act as points of contact in the area of space applications. I plan to visit Europe at the end of September or during October to establish personal contact and discuss present and future programmes with FAO, WHO, UNESCO, WMO, IMCO and ITU. Similarly, I intend to visit Canada to consider the activities of interest to ICAO. Communication has been established at the working level of UNDP and we continue to receive its valuable co-operation. We have heard the statements made on the action of WMO and ITU. On the subject of the specialized agencies' activities within this area, I am also able to report on the following preliminary and not exhaustive information on two activities in the practical applications field.

With reference to "the use of space communications to further UNESCO's aims", by the United Nations Educational, Scientific and Cultural Organization, in the draft programme and budget for 1971/1972, which will be discussed by the General Conference during its next session in October/November, the Director-General has proposed to be authorized with the assistance of an advisory panel:

"(a) To undertake studies and research on space communications;

(b) ...

(c) To assist Member States, upon request, in the use of space communication for educational, scientific and cultural purposes."

The Working Group on Direct Broadcast Satellites at its third session took note of the studies to be made under (a) and (c) above.

I should like to emphasize that this last item of the programme will cover the expenses of:

"Expert missions to be sent to Member States, upon request, to advise them on the technical requirements, cost factors, and problems of broadcast content involved for national development. Such missions will be designed to follow up previously conducted national surveys and to initiate such new surveys as may be requested. The results of these missions will be brought to the attention of interested Member States and international organizations, including the International Bank for Reconstruction and Development and the United Nations Development Programme, with a view to securing their assistance."

The regional use of available space communication facilities on a shared basis will be encouraged. A preliminary budget of \$30,000 has been allocated for this purpose.

The possibility of sending survey missions and experts to study problems of specialized communications for data collection is being discussed with ITU. I am thinking of feasibility studies for the coverage of subregional areas to collect data from automatic observing stations in the earth surface. During the scheduled visit to the specialized agencies, I hope to be able to consider the basis of a minimum programme to study specific problems in selected areas to be performed in 1971. This, it is my understanding, will not require a new allocation of funds.

With regard to the technical panels, during the meeting of the Scientific and Technical Sub-Committee of the Committee on the Peaceful Uses of Outer Space, following the recommendation adopted in paragraph 25 of the report, some representatives expressed interest in inviting other countries to observe their activities in practical applications of space activity. As of 3 September I received confirmation of the interest of three countries.

Mexico: To invite a panel to Mexico City in the first half of 1971, to observe the use of meteorological information obtained from satellites. On the advice received from WMO the following subjects will be covered: (a) interpretation and use of meteorological information obtained from satellites, including that from APT systems; (b) developments, past, present and proposed, for meteorological satellites; (c) development of the DRIR (direct readout infrared radiometer) concept.

We have, in consultation with WMO, and with the agreement of the Government of Mexico, selected the month of July 1971 for this panel. The meeting would have the greatest interest for the Central and South American countries, but since simultaneous interpretation would be available in English, and if necessary in French, it will be open to all interested countries. This meeting could have a duration of one week.

Brazil: The Scientific Director of the National Committee on Space Activities (CNAE) has invited panels to Sao José dos Campos on the subject of Remote Sensing of the Environment, with two different types of groups:

First, panels composed of members who occupy high enough positions in the government of their country of origin. These members should be able, if they so decide, to implement similar programmes in their own countries. Several of these panels could meet there for periods of five to ten days;

Second, panels composed of members with some experience in the field of remote sensing of the environment but needing information which could be useful in establishing or expanding a research programme similar to the one carried on in Brazil. These panels would stay there during periods of thirty days.

The CNAE offered to defray local expenses on a per diem basis. Further, fifteen scholarships were also offered for 1971, including tuition fees and subsistence for groups composed of recently graduated individuals who could come for post-graduate studies and training during periods of eighteen months. I have not had the opportunity to discuss the details, because the proposal has just been received, but it has been agreed in a telephone conversation with the CNAE that a period during the last quarter of 1971 will be acceptable for these panels. This would allow us time to prepare carefully to obtain the best results from this generous invitation.

United States: The representative of the United States, in his statement of 1 September, stated:

"We... are inviting a technical panel to come to the United States in 1971 for observation and study in the field of earth resource surveys. The agenda... for such a panel might include attendance at the NASA's International Workshop in May and at the seventh International Symposium on the Remote Sensing of the Environment... in Ann Arbor, Michigan. Such a panel could also study, at an appropriate facility in my country, the application of remote sensing techniques to agriculture, and it could observe work at NASA's Manned Spacecraft Centre in Houston... on the planning and operation of aircraft survey missions." (85th meeting, p.12)

This invitation will allow direct observation of the activities performed in one of the advanced countries by panelists from other developing countries.

With regard to the Food and Agriculture Organization of the United Nations, in accordance with the suggestions of the sixth session of the Scientific and Technical Sub-Committee, FAO is presently organizing, in co-operation with the Outer Space Affairs Division, a panel for discussion of the applicability of space and other remote sensing techniques to the management of food resources and related fields to be held in Rome in early September 1971. The scope of that panel is a little different from the others to which I have referred above.

Present planning envisages a small meeting of about five days' duration consisting of selected experts who would advise on current and potential capabilities of remote sensing which would be useful for the development of world agriculture. The results of that meeting should also be helpful to FAO in planning its future programmes to include practical applications of remote sensing.

In view of the active co-operation of FAO in organizing that panel, the Committee may wish to consider further suggestions to FAO that, depending on the outcome of the expert panel, it organize a future general meeting to enable member Governments to benefit from the technical information of the panel and any subsequent experience accumulated by FAO. Such action by the Committee would not be premature, since FAO will determine its budget for 1972-1973 before the next session of this Committee or its Scientific and Technical Sub-Committee.

Other countries that have expressed an interest, but as yet have not extended official invitations for panel meetings, are India and Argentina. In particular, India, as has been stated by the representative of that country, intends to invite a panel on the use of communications satellites for education.

The following programme for 1971 is proposed:

May 1971	Panel on remote sensing of the environment - in the United States.
July 1971	Panel on the interpretation on use of meteorological information obtained from satellites - in Mexico.
September 1971	Panel for discussion of the applicability of space and other remote sensing techniques to the management of food resources - in Rome.
November-December 1971	Panels on the establishment and implementation of research programmes on remote sensing - in Brazil.

The first report in full on the activities in this area will be presented to the Committee at its next session, and in 1972 the Scientific and Technical Sub-Committee will be able to review the panel's proposal after a year of experience.

During 1972, panels to be tentatively considered would cover: education via satellites, the application of systems design and planning, tentative panel on agricultural survey by remote sensing, and other subjects to be determined.

Regarding education and training, we refer to the offer to Member States of fellowships by the United States and Italy; preliminary action has been initiated in order to be able to select prospective candidates for the academic year 1971-1972. It has been established that in the case of the offer made by Italy, there is the possibility that UNDP will consider providing some assistance with respect to expenses to be met by institutions in the applicant's State, if and when such assistance is needed. On two occasions in the past, UNDP's assistance was provided at the specific request of the Governments concerned. It was suggested that the institutions should apply to the UNDP Resident Representative in their own States through the appropriate government channels.

The anticipated offer of the National Committee on Space Activities of Brazil is a very generous answer to the request expressed by the Scientific and Technical Sub-Committee in document A/AC.105/82, and if it is accepted by the Committee, we will work out the procedural details bringing it to the attention of the Governments and points of contact when finalized.

I turn now to the preparation of the draft report. With regard to the report that has been requested by the Committee from the Secretary-General with the help of the Expert on Space Applications on the "... assessment of the requirements of the developing countries concerning specific requests for practical space applications and ways of meeting them", I have started to collect information through various sources.

It is premature at this stage to inform the Committee in detail of the different aspects to be covered by the report and I should not like to formulate tentative conclusions which would only be fragments of a complex subject still under study. It is expected, however, that the report will have to cover three phases: Phase A - Requirements; Phase B - Planning of the programme or what can be called the feasibility stage; and Phase C - Planning of the implementation or project definition.

In this context, the general contents of the report will be as follows: Introduction; objectives; summary of the list of needs of the developing countries; study of the usefulness of space applications to development; determination of the ways in which developing countries can take an active part in the implementation of programmes to meet their needs; activities of the United Nations family - past experience and future programmes; survey of the ways and manner for co-operation; the role of the United Nations; and the United Nations plan of action in the practical applications of space technology.

The main practical applications to be covered by the report will be: meteorology, ecological and environmental surveys by remote sensing, communications, direct broadcast via satellites, use of space generated technology to non-space applications and navigation.

It will not be possible to consider formally all the implications of that report with all interested countries, but a visit to Canada and Mexico is planned for this year, and according to the possibilities of time and budget, I am proposing to visit some countries of Asia and Africa early next year. The proposed meeting with the points of contact will also be of importance for this subject.

The various activities I have outlined are a beginning in the nature of experimental probes on how best to achieve our primary objectives, the sharing of benefits of space applications with all countries, and in particular with the developing countries.

I should now like to refer to two questions that I consider to be, at this moment, of special interest. The Scientific and Technical Sub-Committee of the Committee on the Peaceful Uses of Outer Space stated in its report:

"The travel and subsistence of panelists should be funded by their national States. The United Nations may extend timely assistance to exceptional cases within the existing programmes of the United Nations where this appears necessary both to defray costs and to stimulate interest in special areas." (A/AC.105/82, para. 25, (7)).

I am aware also that it is the expressed desire of the Committee that during this initial year the programmes planned to implement the objective of the sharing of benefits from space applications should be organized and financed utilizing the existing resources of the United Nations family of organizations. But we must recognize that, as worthwhile as all the activities described may be, our primary objective will not truly have been met if the representatives of countries not yet advanced in any aspect of space activities are not able to participate in this programme. I am convinced that many of these countries that have not yet embarked upon studies or implemented programmes relative to the practical applications of space technology do not recognize the potential benefits to be derived from space applications for their development, and they will not be able to plan for their use if we cannot assure the representatives from these countries that they will be able to participate in panels and meetings.

I can assure the Committee that in so far as I am concerned, I shall do my best to take advantage of every source of assistance in the United Nations and the United Nations Development Programme for technical and financial help in the

implementation of the preliminary activities I have described to you, but I cannot be certain that it will be possible to solve all the problems that may come up.

Furthermore, if during this initial year we ascertain that existing sources are not sufficient to meet the needs, it will be necessary for the Committee, as well as the other appropriate bodies, to determine how this can be rectified to secure the financial assistance and to ensure the effective participation of these countries mentioned above.

This should be a special subject for consideration in the report by the Secretary-General in accordance with the principal objectives laid down in my terms of reference.

With regard to the second question, General Assembly resolution 2453 A(XXIII) of 20 December 1968 welcomed the decision of the Committee on the Peaceful Uses of Outer Space to consider, inter alia, action to be taken to arrange surveys and technical assistance to the developing countries. The Scientific and Technical Sub-Committee has also recognized, among others, the usefulness of survey missions and the provision of experts as modalities which may assist the developing countries in taking advantage of various applications of space technology which may have potential value for their needs.

Survey missions can only be undertaken upon request from countries or groups of countries to explore the potential of certain specific techniques within the context of local situations. Recognizing these and other forms of technical assistance, the Sub-Committee declared in paragraph 27 of its report on the work of its sixth session (A/AC.105/55 and Corr.1) as follows:

"Without wishing to inject itself into the normal process by which UNDP screens various requests for survey missions, panel meetings or fellowships, the Sub-Committee wishes to encourage UNDP to assist through these and other modalities which might be useful for the promotion of the applications of space technology with particular reference to nations not advanced in space research, including developing countries, and expresses its willingness to assist in this process."

With respect to the role of UNDP, I wish to refer generally to the statement made by the Assistant to the Administrator of UNDP to the Committee on the Peaceful Uses of Outer Space on 20 March 1969, entitled "United Nations Development Programme and the peaceful uses of outer space". In particular, however, the following extract from the statement may be noted:

"The Administrator of the United Nations Development Programme, Mr. Paul G. Hoffman, has personally followed with deep interest developments in the utilization of outer space. In keeping with his belief that the United Nations Development Programme should be fully forward-looking, he has instructed that all requests for assistance in this area received from Government Members of the United Nations and its related agencies and falling within the mandate of the UNDP, should be sympathetically considered..."

Welcoming the interest expressed by this document, if the Committee will pardon my presumption in making the suggestion, I think it may be helpful if this Committee would deem it appropriate to include in its report a recommendation urging upon Member States to consider the role of UNDP in seeking financial and technical assistance and to avail themselves to the fullest extent possible of the opportunities available through survey missions and expert studies.

Finally I must make special reference to the co-operation and assistance given to me by Mr. Abdel Ghani and the staff of the Outer Space Affairs Division. I do not exaggerate when I say that it would not have been possible for me to accomplish what I have thus far, without the help of the Outer Space Affairs Division. I am extremely grateful for the manner and speed with which these fine people have worked to facilitate the progress in my area of activity, and I look forward to our continued relationship.

ANNEX III

Report of the Secretary-General on co-ordination of Secretariat activities in the field of outer space*

1. The General Assembly, in its resolution 2601 A (XXIV), paragraph 7, welcomed "the decision of the Secretary-General to provide the Committee on the Peaceful Uses of Outer Space at an early date with a report on the Secretariat arrangements in the field of outer space, bearing in mind the need to achieve optimum co-ordination in the work of the Secretariat to promote co-operation in the peaceful uses of outer space".
2. In this regard, the Secretary-General wishes to point out that from the inception of United Nations activity in the field of outer space, he has established the necessary machinery to co-ordinate the activities of the Secretariat in this field. An Inter-Departmental Working Group composed of the heads of interested departments under the Chairmanship of the Chef de Cabinet of the Secretary-General was established to co-ordinate the activities of the United Nations Secretariat. In addition, the Administrative Committee on Co-ordination established a Working Group on Outer Space to co-ordinate the activities of the United Nations and the specialized agencies concerned. This machinery has operated satisfactorily to ensure the co-ordination of activities in the field of outer space. However, a review of these arrangements was prompted by the difficult organizational problems which are being posed both at the intergovernmental and the Secretariat levels by recent scientific and technological developments in the peaceful uses of outer space.
3. The Secretary-General, taking into account the discussions in the Committee on the Peaceful Uses of Outer Space and its Scientific and Technical Sub-Committee of the question of co-ordination of Secretariat activities in the field of outer space, has studied the matter with the assistance of the Inter-Departmental Working Group. He now wishes to report to the Committee that he has decided on the following procedure, which he believes will adequately meet the problems of co-ordination within the Secretariat of activities in the field of outer space:
 - (1) The Inter-Departmental Working Group on Outer Space should establish a Working Panel on Space Applications to be composed of Senior Officers representing each United Nations unit that has an interest or programme in space applications. Initially the panel would be composed of representatives of the following offices:
 - (a) Outer Space Affairs Division
Department of Political and Security Council Affairs
 - (b) Resources and Transport Division
Department of Economic and Social Affairs

* Previously issued under the symbol A/AC.105/L.55.

- (c) Office for Science and Technology
Department of Economic and Social Affairs
- (d) General Legal Division
Office of Legal Affairs
- (e) Office for Inter-Agency Affairs
- (f) Radio and Visual Services Division
Office of Public Information
- (g) United Nations Development Programme
- (h) Office of General Services

(2) The Working Panel will meet on a regular basis, at least once a month, to exchange information, co-ordinate programmes where possible, and to inform the Inter-Departmental Working Group of potential problem areas.

(3) All papers and studies relating to space applications to be prepared by the Secretariat on behalf of the Secretary-General will be referred to the Working Panel for consultation, co-ordination or information of the members.

(4) The Expert on Applications of Space Technology appointed by the Secretary-General will represent the Chairman of the Inter-Departmental Working Group on Outer Space at the Working Panel on Space Applications.

ANNEX IV

Title, preamble and thirteen articles of the draft Convention on International Liability for Damage Caused by Space Objects, as referred to in paragraph 43 of the report of the Committee

Draft Convention on International Liability for Damage Caused by Space Objects

The States Parties to this Convention,

Recognizing the common interest of all mankind in furthering the exploration and use of outer space for peaceful purposes,

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,

Taking into consideration that, notwithstanding the precautionary measures to be taken by States and international intergovernmental organizations involved in the launching of space objects, damage may on occasion be caused by such objects,

Recognizing the need to elaborate international rules and procedures concerning liability for damage caused by space objects and to ensure, in particular, prompt and equitable compensation for victims of such damage,

Believing that the establishment of such rules and procedures will contribute to the strengthening of international co-operation in the field of the exploration and use of outer space for peaceful purposes,

Have agreed on the following:

Article I

For the purposes of this Convention:

- (a) The term "damage" means loss of life, personal injury or other impairment of health; or loss of or damage to property of States or of persons, natural or juridical, or property of international intergovernmental organizations;
- (b) The term "launching" includes attempted launching;
- (c) The term "launching State" means:
 - (i) A State which launches or procures the launching of a space object;
 - (ii) A State from whose territory or facility a space object is launched;
- (d) The term "space object" includes component parts of a space object as well as its launch vehicle and parts thereof.

Article II

A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight.

Article III

In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of the persons for whom it is responsible.

Article IV

1. In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, and of damage thereby being caused to a third State or to its natural or juridical persons, the first two States shall be jointly and severally liable to the third State, to the extent indicated by the following:

- (a) If the damage has been caused to the third State on the surface of the earth or to aircraft in flight, their liability to the third State shall be absolute;
- (b) If the damage has been caused to a space object of the third State or to persons or property on board that space object elsewhere than on the surface of the earth, their liability to the third State shall be based on the fault of either of the first two States or on the fault of persons for whom either is responsible.

2. In all cases of joint and several liability referred to in paragraph 1, the burden of compensation for the damage shall be apportioned between the first two States in accordance with the extent to which they were at fault; if the extent of the fault of each of these States cannot be established, the burden of compensation shall be apportioned equally between them. Such apportionment shall be without prejudice to the right of the third State to seek the entire compensation due under this Convention from any or all of the launching States that are jointly and severally liable.

Article V

1. Whenever two or more States jointly launch a space object, they shall be jointly and severally liable for any damage caused.

2. A launching State which has paid compensation for damage shall have the right to present a claim for indemnification to other participants in the joint launching. The participants in a joint launching may conclude agreements regarding the apportioning among themselves of the financial obligation in respect of which they are jointly and severally liable. Such agreements shall be without prejudice to the right of a State sustaining damage to seek the entire compensation due under this Convention from any or all of the launching States that are jointly and severally liable.

3. A State from whose territory or facility a space object is launched shall be regarded as a participant in a joint launching.

Article VI

1. Subject to the provisions of paragraph 2, exoneration from absolute liability shall be granted to the extent that a launching State establishes that the damage has resulted either wholly or partially from gross negligence or from an act or omission done with intent to cause damage on the part of a State presenting a claim or of natural or juridical persons it represents.

2. No exoneration whatever shall be granted in cases where the damage has resulted from activities conducted by a launching State which are not in conformity with international law including, in particular, the Charter of the United Nations and 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 VII

The provisions of this Convention shall not apply to damage caused by a space object of a launching State to:

- (a) Nationals of that launching State;
- (b) Foreign nationals during such time as they are participating in the operation of that space object from the time of its launching or at any stage thereafter until its descent, or during such time as they are in the immediate vicinity of a planned launching or recovery area as the result of an invitation by that launching State.

Article VIII

Unless the State presenting the claim and the State from which compensation is due under this Convention agree on another form of compensation, the compensation shall be paid in the currency of the State presenting the claim or, if that State so requests, in the currency of the State from which compensation is due.

Article IX

1. A State which suffers damage, or whose natural or juridical persons suffer damage, may present to a launching State a claim for compensation for such damage.

2. If the State of nationality has not presented a claim, another State may, in respect of damage sustained in its territory by any natural or juridical person, present a claim to a launching State.

3. If neither the State of nationality nor the State in whose territory the damage was sustained has presented a claim or notified its intention of presenting a claim, another State may, in respect of damage sustained by its permanent residents, present a claim to a launching State.

4. No claim may be presented under this Convention to a launching State in respect of nationals of that State.

Article X

A claim for compensation for damage shall be presented to a launching State through diplomatic channels. If a State does not maintain diplomatic relations with the launching State concerned, it may request another State to present its claim to that launching State or otherwise represent its interests under this Convention.

Article XI

1. A claim for compensation for damage may be presented to a launching State not later than one year following the date of the occurrence of the damage or the identification of the launching State that is liable.

2. If, however, a State does not know of the occurrence of the damage or has not been able to identify the launching State that is liable, it may present a claim within one year following the date on which it learned of the aforementioned facts; however, this period shall in no event exceed one year following the date on which the State could reasonably be expected to have learned of the facts through the exercise of due diligence.

3. The time-limits specified in paragraphs 1 and 2 shall apply even if the full extent of the damage may not be known. In this event, however, the State presenting the claim shall be entitled to revise the claim and submit additional documentation after the expiration of such time-limits until one year after the full extent of the damage is known.

Article XII

1. Presentation of a claim to a launching State for compensation for damage under this Convention shall not require the prior exhaustion of any local remedies that may be available to a State presenting a claim or to natural or juridical persons it represents.

2. Nothing in this Convention shall prevent a State, or natural or juridical persons it might represent, from pursuing a claim in the courts or administrative tribunals or agencies of a launching State. A State shall not, however, be entitled to present a claim under this Convention in respect of the same damage for which a claim is being pursued in the courts or administrative tribunals or agencies of a launching State or under another international agreement which is binding on the States concerned.

Article XIII

1. The provisions of this Convention shall not affect other international agreements in force in so far as relations between the States parties to such agreements are concerned.

2. No provision of this Convention shall prevent States from concluding international agreements reaffirming, supplementing or extending its provisions.

ANNEX V

LIST OF PARTICIPANTS

Resumed thirteenth session of the Committee on the Peaceful Uses of Outer Space

Chairman: H.E. Ambassador Heinrich Haymerle (Austria)

ARGENTINA

Representative

Dr. Ernesto de La Guardia
Minister Plenipotentiary

Alternate

Mr. Guillermo J. McGough
Secretary of Embassy

Adviser

Dr. Orlando R. Rebagliati
Secretary of Embassy

AUSTRALIA

Representative

H.E. Sir Laurence McIntyre, C.B.E.
Ambassador Extraordinary and Plenipotentiary
Permanent Representative to the United Nations

Alternate

Mr. H.C. Mott
First Secretary
Permanent Mission

AUSTRIA

Representative

Mr. Alexander Christiani
Secretary of Legation

BELGIUM

Representative

Mr. Michel Van Ussel
Deputy Permanent Representative to the United Nations

Alternates

Mr. André J. Vranken
Inspector General
Ministry of Foreign Affairs

Mr. Jan Debergh
Counsellor
Permanent Mission

BRAZIL

Head of Delegation

H.E. Mr. João Augusto de Araujo Castro
Ambassador Extraordinary and Plenipotentiary
Permanent Representative to the United Nations

Representative

Mr. Celso Antônio de Souza e Silva
Minister Plenipotentiary
Deputy Permanent Representative to the United Nations

Alternate

Mr. José Bonifacio Lourenço de Andrada
First Secretary of Embassy

Adviser

Mr. Ronaldo Mota Sardenberg
Second Secretary of Embassy

BULGARIA

Representative

Mr. Dimitar T. Kostov
Second Secretary
Permanent Mission

CANADA

Representative

Mr. P.A. Bissonnette
Assistant Under-Secretary and Legal Adviser
Department of External Affairs

Alternates

Mr. D.C. Reece
Minister
Deputy Permanent Representative to the United Nations

Dr. R.S. Rettie
Science Secretariat
Privy Council Office

Mr. Charles Dalfen
Legal Adviser
Department of Communications

Advisers

Mr. Lyon Weidman
Counsellor
Permanent Mission

Mr. L.S. Clark
Legal Division
Department of External Affairs

CZECHOSLOVAKIA

Representative

Dr. Ilja Hulinsky
First Secretary
Permanent Mission

FRANCE

Representative

H.E. Mr. Jacques Kosciusko-Morizet
Ambassador, Permanent Representative to the United Nations

Alternates

Mr. Jean Félix Charvet
Counsellor, Department of Legal Affairs

Mr. Alain Dejammet
Secretary of Embassy

HUNGARY

Representatives

Mr. József Tardos
Counsellor
Deputy Permanent Representative to the United Nations

Mr. Gyula Budai
Second Secretary
Permanent Mission

INDIA

Representative

Mr. S.M.S. Chadha
First Secretary
Permanent Mission

IRAN

Representative

Mr. Davoud Hermidas Bavand
Third Secretary
Permanent Mission

ITALY

Representative

Ambassador Piero Vinci
Permanent Representative of Italy to the United Nations

Alternate

Mr. Giovanni Migliuolo
Minister Counsellor
Permanent Mission

Advisers

Mr. Enzo Castelle
Engineer, RAI Corporation

Mr. Franco Emilio Fiorio
Scientific Counsellor
Italian Embassy, Washington, D.C.

Mr. Giorgio Salvatori
Engineer, Telespazio Corporation

Prof. Massimo Trella
Ministry of Scientific Research

Mr. Mario Vittorio Zamboni
Second Secretary
Permanent Mission

JAPAN

Representative

Mr. Nagao Yoshida
Minister
Permanent Mission

Alternate

Mr. Hisashi Owada
First Secretary
Permanent Mission

Adviser

Mr. Kawakami
Second Secretary
Permanent Mission

LEBANON

Representative

Mr. Samir Mobarak
Attaché
Permanent Mission

MEXICO

Representative

Mr. Carlos Elizondo Alcaraz
Secretary, National Commission for Outer Space
Ministry of Communications and Transport

Alternate

Mr. José Luis Vallarta
Second Secretary
Permanent Mission

MONGOLIA

Representative

Mr. Narkhuu Tsogtyn
Third Secretary
Permanent Mission

MOROCCO

Representative

Mr. Jaafar Charkaoui
First Secretary
Permanent Mission

POLAND

Representative

H.E. Ambassador Eugeniusz Kulaga
Permanent Representative of Poland to the United Nations

Alternate

Mr. Henryk Mikucki
First Secretary
Permanent Mission

ROMANIA

Representatives

H.E. Prof. Gheorghe Diaconescu
Ambassador Extraordinary and Plenipotentiary
Permanent Representative to the United Nations

M. Nicolae Micu
Second Secretary
Permanent Mission

M. Traian Chebeleu
Second Secretary
Permanent Mission

SIERRA LEONE

Representative

Mr. Shekou Touray
Second Secretary
Permanent Mission

SWEDEN

Representatives

H.E. Mr. Sverker Aström
Ambassador Extraordinary and Plenipotentiary

H.E. Mr. Olof Rydbeck
Ambassador Extraordinary and Plenipotentiary

Alternate

Mr. Björn Skala
Secretary of Embassy

Adviser

Mr. Ulf Hjertonsson
Secretary of Embassy

UNION OF SOVIET SOCIALIST REPUBLICS

Representative

Prof. Alexander Piradov
Academy of Sciences of the USSR

Alternate

Mr. Yuri Rybakov
Counsellor
Permanent Mission

Advisers

Mr. August Rubanov
Academy of Sciences of the USSR

Mr. Vladimir Vertogradov
Foreign Ministry

UNITED ARAB REPUBLIC

Representative

H.E. Dr. Mohammed Hassan El-Zayyat
Ambassador Extraordinary and Plenipotentiary

Alternates

Mr. Mahmoud K. Mohamed Kassem
Counsellor
Permanent Mission

Mr. Hamdy Mohamed Ibrahim Nada
Third Secretary
Permanent Mission

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Representative

H.E. Mr. Frederick A. Warner, C.M.G.
Ambassador Extraordinary and Plenipotentiary
Deputy Permanent Representative to the United Nations

Alternates

Mr. K.D. Jamieson, C.M.G.

Mr. J.R. Freeland
Counsellor, Legal Adviser

Adviser

Mr. Nigel C.R. Williams
First Secretary

UNITED STATES OF AMERICA

Representative

Mr. Ward P. Allen
Deputy Assistant Secretary for International Organization Affairs
Department of State

Alternates

Mr. Arnold W. Frutkin
Assistant Administrator
Office of International Affairs
National Aeronautics and Space Administration

Mr. Herbert K. Reis
Assistant Legal Adviser for United Nations Affairs
Department of State

Mr. Peter S. Thacher
Counselor for Scientific, Technological and Environmental Affairs
United States Mission to the United Nations

Advisers

Mr. Oscar E. Anderson
Director, International Organizations Division
Office of International Affairs
National Aeronautics and Space Administration

Mr. Richard G. Brown
Office of United Nations Political Affairs
Department of State

Mr. Edward M. Risley
United States Arms Control and Disarmament Agency

Mr. Morris Rothenberg
Deputy Director, Office of United Nations Political Affairs
Department of State

Mr. A. Reynolds Smith
Adviser, Political and Security Affairs
United States Mission to the United Nations

SPECIALIZED AGENCIES

International Labour Organisation (ILO)

Mr. W.J. Knight
Public Information Officer

Food and Agriculture Organization of the United Nations (FAO)

Mr. Donald W. Woodward
Director
FAO Liaison Office with the United Nations

Mr. Morris A. Greene
Assistant Director
FAO Liaison Office with the United Nations

Mr. M. Garvey Laurent
Liaison Officer
FAO Liaison Office with the United Nations

Mr. Bertram Hush
Chief, Forest Resource Surveys Section
FAO, Rome

United Nations Educational, Scientific and Cultural Organization (UNESCO)

Mr. Victor Nikolsky
Senior Liaison Officer

World Health Organization (WHO)

Dr. R.L. Coigney
Director
WHO Liaison Office with the United Nations

Dr. R.M. Malan
Medical Liaison Officer

International Telecommunication Union (ITU)

Mr. Richard Butler
Deputy Secretary-General

World Meteorological Organization (WMO)

Mr. A.W. Johnson
Mr. Bernard Zavos
Mr. Louis Harmantas

International Atomic Energy Agency (IAEA)

Mr. Lev Issaev
Director
IAEA Liaison Office in New York

Mr. Robert Najjar

UNITED NATIONS SECRETARIAT

Mr. A.H. Abdel-Ghani
Secretary of the Committee

Professor Humberto Ricciardi
Expert on Applications of Space Technology

Outer Space Affairs Division

Mr. M. Robinson
Mr. A. Padang
Mr. E. Elshin
Mr. N. Jasentuliyana
Mr. O. Ogunbanwo

Office of Legal Affairs

Miss Kwen Chen