REPORT OF THE COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

GENERAL ASSEMBLY

OFFICIAL RECORDS: FORTY-FOURTH SESSION

SUPPLEMENT No. 20 (A/44/20)

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CONTENTS

CONTENTS (continued)

I. INTRODUCTION

1. The Committee cn the Peaceful Uses of Outer Space held its thirty-second session at United Nations Headquarters from 5 to 15 June 1989. The cfficera of the Committee were the following:

Chairman: Mr. Peter Jankowitsch (Austria)

Vice-Chairman: Mr, Petre Tanasie (Romania)

Rapporteur: Mr. Flavio Miragaia Perri (Brazil)

The verbatim records of the Committee's meetings are contained in documents A/AC.105/PV.322-335.

Meetings of subsidiary bodies

2. The Scientific and Technical Sub-Committee held its twenty-sixth session at United Nations Headquarters from 21 February to 3 March 1989 under the chairmanship of Mr. John H. Carver (Australia). The report of the Sub-Committee was issued as document A/AC.105/429.

3. The Legal Sub-Committee held its twenty-eighth session at United Nations Headquarters from 20 March to 7 April 1989, under the chairmanship of Mr, Stanislav Suja (Czechoslovakia). The report of the Sub-Committee was issued as document A/AC.105/430. The summary records of the Sub-Committee's meetings are contained in documents A/AC.105/C.2/SR.504-526.

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

1. Adoption of the agenda,
2. Statement by the Chairmar,
3. General exchange of views.
4. Ways and means of maintaining outer space for peaceful purposes,
5. Report, of the Scientific and Technical Sub-Committee on tha work of its twenty-sixth session.
6. Report of the Legal Sub-Committee on the work of its twenty-eighth session.
7. Implementation of the recommendation6 of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space.
8. Spin--off benefit.6 of space technology: review of current status.
9. Other matter s.
10. Report of the Committee to the General Assembly.

Membership and attendance

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

6. At its 322nd, 328th and 330th meetings, the Committee decided to invite, at their requeat, the representatives of the Byelorussian Soviet Socialist Republic, Cuba, the Libyan Arab Jamahiriya, Malaysia, Portugal and Peru to attend the thirty-second session of the Committee and address it, as appropriate, on the understanding that this would be without prejudice to further requests of this nature and that it would not involve any decision of the Committee concerning status.

7. At its 322nd meeting, the Committee decided to grant, at its request, permanent observer status to the Programme on International Co-operation in the Study and Utilisation of Outer Space (INTERCOSMOS). The view was expressed that the Committee should develop guidelines for considering future requests for observer status.

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

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

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

Commemorations

11. The Committee commemorated the thirtieth anniversary of its establishment on a permanent basis. It also took note of other anniversaries, namely, the twenty-fifth anniversary of European space co-operation, now under the auspices of ESA, the twenty-fifth anniversary of the establishment of INTELSAT, and tho twentieth anniversary of the first lunar landing by the astronauts of the United States.

Proceedings

12. At the opening of tho session, at the 322nd meeting, the Chairman of the Committee made a statement reviewing the work of the Committee's subsidiary bodies and outlining the work of the Committee. He reviewed the scientific and technological advances achieved in the field of peaceful exploration of outer space in the pest year, and called upon the Committee to consider what further contributions of its own it might make towards the strengthening of international co-operation. The text of the Chairmen's statement: is annoxed to the present report.

13. At its 322nd to 326th meetings, from 5 to 7 June 1989, the Committee held a general exchange of views, in tha course of which statements were made by the representatives of Argentina, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Cuba, Czechoslovakia, Ecuador, France, the German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Japan, Mexico, Mongolia, the Netherlands, Nigeria, Pakistan, the Philippines, Poland, Romania, Sweden, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, the United States of America and Yugoslavia (see A/AC.105/PV.322-326).

14. The representatives of IAF, INTELSAT, ESA, ITU, INMARSAT, COSPAR and FAO, as well as the Chief of the Outer Space Affairs Division of the Secretariat and the United Nations Expert on Space Applications, also made statements (see A/AC, 105/PV. 323-328 and 330).

15. During the session, special presentations were made by:
Mr. K. R. Sreedhara Murt.hy, delegation of India, on "Space and industry - A partnership in progress"; and Mr. Leonard A. Ault, Deputy Director, Technology Utilization Division, Office of Commercial Programs, National Aeronautics and Space Administration (NASA), United States of America, on "Spin-off benefits of space technology".

16, After considering the various items before it, the Committee, at its 335th meeting, on 15 June 1989, adopted its report to the General Assembly containing the recommendations and decisions set out in the paragraphs below.

II, RECOMMENDATIONS AND DECISIONS

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

17. In accordance with paragraph 20 of General Assembly resolution 43/56 of 6 December 1988, the Committee continued its consideration, as a matter of priori ty, of ways and means of maintaining outer space for peaceful purposes.

18. The Committee was of the view that the General Assembly's request, contained in paragraph 20 of its resolution 43/56, to the Committee on the Peaceful Uses of Outer Space to consider, as a matter of priority, ways and means of maintaining outer space for peaceful purposes and to report. thereon, shownd the concern felt by the international community and the need to promote international co-operation in the peaceful uses of outer space, taking into account the needs of the developing countries. The Committee, through its work in the scientific, technical and legal

fields, had an important role to play *in* assuring that outer space was maintained for peaceful purposes. It was the firm belief of the Member States of the Committee that developments that would strengthen the role of the Committee in maintaining outer space *for* peaceful purpose6 should continue, *The* Committee had responsibilities relating to the strengthening of the international basis for the peaceful exploration and uses of outer space, This could cover, among other matters, further development of international space law, including, as appropriate, the preparation of international agreement6 governing vnrioue practical peaceful applications of the achievement6 of space science and technology. Strengthening international co-operation in the peaceful exploration and uses of outer space also implied the need for the Committee itself to improve, whenever *necessary,* the methods and forms of its work.

19. Some delegations expressed the view that the Committee should complement the work being done in bilateral and multilateral forums towards preventing extension of the arms race into outer space and could provide substantive input to the discussions and negotiations in the Conference on Disarmament, They furthermore expressed the view that the Committee should be kept informed a6 to the progress made by the Conference on questions related to preventing extension of the arms race into outer space and that working contacts should be established between the two bodies.

20. Some delegations expressed the view that the search for ways end means of maintaining outer space for peaceful purposes should be focused on establishing effective measures to prevent extension of the arms race into outer space and on intensifying international co-operation in the exploration end peaceful uses of outer space, both of which were inseparably linked.

21. Some delegations referred to a declaration issued by Argentina, Greece, India, Mexico, Sweden and the United Republic of Tanzania on the occasion of the fifth anniversary of the launching of their Six-Nation Initiative (A/44/318-S/20689, annex), in which, inter alia, it was stated that outer space must be prevented from being turned into an arena for the arms race and military confrontation. Some delegations also recalled that, as stated in the report of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, "the prevention of an arms race and hostilities in outer space is an essential condition for the promotion and continuation of international co-operation in the exploration end use of outer space for peaceful purposes" (A/CONF.101/10 and Corr.1 and 2, para. 14).

22. Some delegations expressed the viow that disarmament questions did not fall within the competence of the Committee. They pointed out that the question of the prevention of an arms race in outer space was within the exclusive competence of the First Committee of the General Assembly and the Conference on Disarmament.

23, Some delegations pointed out that the establishment of a world space organiaation had been proposed, as outlined in a working paper submitted to the Committee at an earlier session (A/AC.105/L.171). It was emphasized that. the comprehensive presentation of the concept of such an organieation was intended to facilitate a specific exchange of views among the delegations represented in the Committee on the possibility of creating a world space organieation and to find a mutually acceptable solution. Other delegations expressed the view that the proposed organieation would undermine the functions of the Committee, and that a new international machinery would so be created, which they opposed.

24. Some delegations reiterated the view that the best way for the Committee to contribute to maintaining outer space for peaceful purposes was to promote international co-operation further by revitalising its work and that of its sub-committees. In that connection they proposed the establishment of a working group under the item for the 1990 session of the Committee that would explore the possibility of the Committee and its two sub-committees holding a joint session in 1992 to coincide with an international space year, Other delegations, while agreeing with the establishment of a working group under the item, expressed the view that its mandate should not be limited in scope but should oncompass the entire spectrum of questions to be dealt with under the item. Other delegations expressed the view that there was no need for a working group whose mandate would correspond exactly to that of the Committee at large under the item. Other delegations pointed out that a working group to discuss organisational matters relating to the holding of a joint session of the Committee and its two sub-committees would run counter to the interests of delegations from deveioping countries, which needed time between meetings to keep their Governments properly informed and to receive appropriate instructions. However, although they could not agree with such a proposal, they confirmed their readiness to discuss any substantive topic within the flexible format of a working group.

25. Some delegations expressed the view that the Committee should reflect only consensus wording in its report and proposed specific language in that connection, Other delegations expressed the ● ,isw that the report should also reflect differing views and the various proposals made during the discussion under the item.

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

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

26, The Committee considered together agenda items 5 and 7, entitled "Report of the Scientific and Technical Sub-Committee on the work of its twenty-sixth session" and "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space", respectively.

27. The Committee took note with appreciation of the report of the Scientific and Technical Sub-Committee on the work of its twenty-sixth session (A/AC.105/429), covering the results of its deliberations of the items assigned to it by the General Assembly in its resolution 43/56. The Committee further noted with satisfaction that, in accordance with that resolution, the Sub-Committee had given priority consideration to the item entitled "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space" and had re-established the Working Group of the Whole to evaluate the implementation of the recommendations of the Second United Nations Conference 1/ under the chairmanship of Mr. Raimundo Gonzales (Chile).

28. The Committee endorsed the recommendations of the Working Group of the Whole, as contained in its report (see A/AC.105/429, annex II),

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

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

31. Some delegations expressed the view that most of the targets set in the recommendations of the Conference remained unfulfilled and that all of those unfulfilled recommendations should be examined and implemented.

32. The Committee took note of a working paper (A/AC.105/L.179) submitted by Australia, Belgium, Canada, the Federal Republic of Germany, Nigeria, the Ketherlands and Sweden, containing a proposal to put the issue of space debris on the agenda of the Scientific and Tecnnical Sub-Committee at its next session with a view to exchanging information and sensitizing Member States to this growing problem.

33. Although there was general agreement that space debris is an issue of concern to all nations and that it could be an appropriate subject for the Committee on the Peaceful Uses of Outer Space to discuss at some future time, some delegations felt. that it was premature to include it as an item on the agenda at the next session of the Scientific and Technical Sub-Committee since much more work needed to be done at the national level. Some other delegations, while recognising the importance of the question of space debris, felt that other items on the agenda of the Sub-Committee deserved a higher priority and should be dealt with accordingly.

34. The Committee considered it essential that more attention be paid by Member States to the problem of collisions with space debris and other aspects of space debris. The Committee called for the continuation of national research on this question.

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

(a) United Nations Programme on Space Applications

35. At the outset of the Committee's deliberations on this item, the Expert on Space Applications made a statement briefing the Committee on the various activities carried out or planned under the Programme on Space Applications during the period 1988-1990. The Committee expressed its appreciation to the Expert for the effective manner in which he had implemented the Programme within the limited funds at his disposal.

36, Some delegations drew the Committee's attention to the scarce economic resources available to the Programme and therefore requested that the financial resources be increased so that the Programme's activities could be implemented. Other delegations urged that a larger share of the existing resources of the Outer Space Affairs Division should be devoted to the Programme.

37. The Committee took **note of** the Programme on **Space** Applications, as set out **in** the **report of** the Sub-Committee. The Committee **was** pleased to ***note*** **that** further progress **was** being made in the implementation **of the Programme** activities **planned for** 1989.

38. **Some delegations** expressed the view **that** emphasis **of** the Programme should be on long-term project-oriented on-the-job **training,** the strengthening **of** regional co-operation mechanisms, the use **of** space communications **for** educational and social welfare purposes, the improvement of information **exchange** services and the provision of expert services **for** the maintenance of space technology-related hordware and software.

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

39. The Committee expressed its appreciation to the Governments of Austria, Brazil, the German **Democratic** Republic and **the** Union of Soviet Socialist Republics, as **well** as to ESA, for offering fellowships through the United **Nations** in 1988-1989 and for renewing their offers of fellowships **for 1989-1990.**

(ii) Technical advisory services

40. Regarding technical advisory services, the Committee noted that, in 1988, the Programme had undertaken a technical advisory service mission in the **region** of the Economic **Commission** for Africa **(ECA)** to revise a project document on the **establishment** of **a remote-sensing** information programme for Africa and to develop a training **curriculum** for post-graduate **training** in remote **sensing** at the **ECA** Regional Centre for Training in Aerial Surveys, and that activities had been **developed** for the consideration of the Government of China, the Economic and Social Commission for Western Asia **(ESCWA)** and for Member **States** in the Indian ***Ocean*** **Region** and those on the **Atlantic** Coast **of** Africa.

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

41. Regarding United Nations workshops/training **courses/meetings** of **experts** for 1989, **the Committee** also expressed its appreciation to **the Government** of Spain as well as to **FAO,** ESA and the United Nations **Development Programme (UNDP)** for co-sponsoring the United **Nations/UNDP/FAO/ESA** Meeting of Experts **on** Remote-Sensing and **Satellite** Meteorology Applications to **Marine** Hesources and Coastal Management for the benefit of Member States on the Atlantic Coast **of** Africa; to the Government of Italy as well **as FAO** for co-sponsoring the **fourteenth** United Nations/FA0 International Training Course **on** Remote-Sensing Applications to Land Use; to the **Government** of Australia as well as the **Economic** and Social Commission for Asia and **the** Pacific **(ESCAP),** FAO, the World Meteorological Organization **(WMO)** and ESA for co-sponsoring the fifth United **Nations/FAO/WMO/ESA** Training **Course** on Use of Remote Sensor **Systems** (visible, infra-red, microwave) in Hydrological and **Agrometeorological** Applications; to the Government of the United Kingdom of Great Britain and Northern **Ireland** for co-sponsoring and the University of Dundee for **hosting** the United Nations **International** Meeting of Experts on the Development of Remote-Sensing Skills and Knowledge; to the Government of Pakistan for co-sponsoring and the Pakistan Space and Upper Atmosphere Research Commission for hosting the United Nations/Indian Ocean Marine Affairs Co-operation Workshop on **Oceanographic/Marine** Space Information **Systems;** to the Government of the Union of Soviet Socialist Republics for co-sponsoring the United Nations International Training Course on the USC of Remote-Sensing Data and Geographical Information

Systems in Agriculture Management) and to the Government of the German Democratic Republic for co-sponsoring and the Academy of Sciences of the German Democratic Republic for hosting the Second United Nations Training Course on Remote-Sensing Applications to Geological Sciences,

42. Regarding United Nations workshops/training courses/seminars/meetings of experts, the Committee endorsed the activities proposed for 1990 as outlined by the Expert in his report (see A/AC.105/421, para. 34) and recommended those activities for approval by the General Assembly. In so doing, the Committee welcomed the invitations from the Governments of Cuba and Italy to host and/or co-sponsor (a) the United Nations Workshop in Space Communications for Development for the benefit of States members of the Economic Commission for Latin America and the Caribbean (ECLAC); and (b) the fifteenth United Nations/FAO International Training Course on Remote-Sensing Applications, respectively, The Committee also noted that negotiations were currently in progress to organise a United Nations/EGA workshop on microwave remote-sensing technology for the benefit of ECLAC member States. The Committee further noted with appreciation the contributions of FAO and ESA in respect of some of those activities. The Committee also noted that Sweden was in the process of preparing with the Programme on Space Applications a United Nations training course on remote-sensing technology for educators for the benefit of ECA and ESCWA member States.

43. The Committee noted with appreciation the financial and other assistance provided and being offered by the Governments of Australia, the German Democratic Republic, Italy, Pakistan, Spain, the United Kingdom and the Soviet Union, as well as by ESCAP, FAO, UNDP, WMO, ESA and the Academy of Sciences of the German Democratic Republic, the Pakistan Space and Upper Atmosphere Research Commission and the University of Dundee (United Kingdom) in connection with the workshop, training courses and meetings of experts. The Committee also noted with appreciation the financial contributions of $15,000 and $5,000 made by the Governments of Pakistan and Nigeria, respectively, as well as a contribution of $10,000 pledged by the Government of Austria, in support of the Programme, and further expressed its appreciation to the Government of the United Kingdom for having provided £15,000 in 1989 in support of the Programme.

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

44. Regarding the promotion of greater co-operation in space science and technology, the Committee noted with satisfaction that the United Nations Programme on Space Applications had collaborated with COSPAR during its twenty-seventh plenary meeting, held in Finland in July 1988, and with other international organisations in organising and supporting a workshop. The Committee further noted that the Programme had collaborated with the International Society for Photogrammetry and Remote Sensing (ISPRS) during its 1988 Congress, held in Japan, with the Sociedad de Especialistas Latinarnericanos en Percepción Remota (SELPER) during its Third Latin American Symposium on remote sensing, held in Mexico in 1988, with the Space Institute of the University of Tennessee, Tullahoma, United States of America, and the American Institute of Aeronautics and Astronautics (AIAA) by co-sponsoring an International Symposium on Space Commercialization with emphasis on the role of developing countries, held at Nashville, Tennessee.

(b) International space information service

45. With regard to the international space information service, the Committee noted with satisfaction that a revised edition of the publication Education, Training, Research and Fellowship Opportunities in Space Science and Technology and its Applications: A Directory (A/AC.105/432) and an addendum to the publication entitled Information Systems on Space Science and Technology: A Directory (A/AC.105/397/Rev.1/Add.1) had been issued. The Committee noted that both directories would continue to be updated as necessary.

(c) Studies

46. The Committee noted with satisfaction that the preparation of certain studies and reports on subjects of relevance to the recommendations of the Second United Nations Conference had been undertaken pursuant to the recommendations of the Working Group of the Whole made at its second session held in 1988 and as endorsed by the General Assembly in its resolution 43/56, paragraph 10. The Committee also noted that a final report on environmental effects of space activities prepared by COSPAR and IAF, as requested by the Working Group of the Whole at its first session (A/AC.105/383 and Corr.1, annex II, para. 13 (d)), had been submitted to the twenty-seventh session of the Scientific and Technical Sub-Committee in document A/AC.105/420, and that further studies and reports would be undertaken to implement the recommendations that had been made by the Working Group of the Whole at its third session, held in 1989.

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

47. With regard to co-ordination of outer space activities within the United Nations system and inter-agency co-operation, the Committee noted the request of the General Assembly, contained in its resolution 43/56, to all organs, organizations and bodies of the United Nations system to co-operate in the implementation of the recommendations of the Second United Nations Conference.

48. The Committee further noted with appreciation that the Scientific and Technical Sub-Committee had continued to stress the necessity of ensuring continuous and effective consultations and co-ordination in the field of outer space activities among organizations within the United Nations system. The Committee noted with satisfaction that the tenth Inter-Agency Meeting on Outer Space Activities had been held in 1988 (ACC/1988/PG/13 and Corr.1), and that the Inter-Agency Meeting would continue its in-depth review of remote-sensing applications within the United Nations system on the basis of a working paper prepared by an ad hoc group for the 1988 Inter-Agency Meeting. The Committee also noted with appreciation that the eleventh Inter-Agency Meeting on Outer Space Activities would be held in September 1989 at the headquarters of ITU at Geneva and would discuss, inter alia, the implementation of recommendations of the Conference.

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

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

51. Some delegations expressed the view that, in order to reinforce the implementation of the recommendations of the Second United Nations Conference, the Secretary-General should prepare a quantitative report with comprehensive and detailed information on ths financial and human resources available within and, to the extent possible, outside the United Nations system, particularly for the benefit of the developing countries.

(e) Regional and interregional co-operation mechanisms

52. Regarding regional and interregional co-operation mechanisms, the Committee noted with satisfaction that, pursuant to General Assembly resolution 42/68 of 2 December 1987, the Secretariat had continued to seek to strengthen regional co-operation mechanisms by carrying out various activities in the implementation of the recommendations of the Conference, in particular those under the Programme on Space Applications, such as the United Nations Meeting of Experts on Regional Space Information Systems held at Lima, from 24 to 28 October 1988, as well as the United Nations Meeting of Experts on Remote-Sensing and Satellite Meteorology Applications to Marine Resources and Coastal Management, held at Maspalomas, Gran Canaria, Spain, from 8 to 12 May 1989, for the benefit of Member States on the Atlantic Coast of Africa and the United Nations Workshop on Oceanographic/Marine Space Information Systems to be held at Karachi from 2 to 6 July 1989, for the benefit of Member States of the Indian Ocean region.

53. The Committee noted the contributions made by other intc national organizations towards the implementation of the recommendations of the Second United Nation6 Conference. In particular, the Committee noted that FAO, through its Remote-Sensing Centre and in co-operation with other international organizations, was continuing its efforts to assist developing countries by means of training courses, information services, pilot projects and technical assistance in the applications of remote sensing, with emphasis on agricultural production and agricultural security in the least developed countries. It further noted that ITU was continuing its work in the elaboration of regulatory and technical standards, in providing advisory services on satellite communications to developing countries, in co-ordinating studies on a possible African regional satellite system and in publishing information relating to satellite communications. The Committee also noted that INTELSAT, which celebrated its twenty-fifth anniversary in 1989, was continuing to develop its system of international communications for use by all countries. The Committee also noted that INMARSAT, in addition to developing its maritime communication satellite system, was introducing aeronautical communication services and planning the expansion of land-mobile services and was providing training end assistance to developing countries in the use of the INMARSAT system.

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

54. The Committee noted that, in accordance with resolution 43/56, the Scientific and Technical Sub-Committee had given priority consideration to the item concerning matters relating to remote sensing of the Earth by satellites.

55, The Committee also noted that, in the course of the debate in the Sub-Committee, delegation6 had reaffirmed their basic positions relating to remote sensing, which had been reflected in the reports of the previous sessions of the Sub-Comrni ttee.

56, The Committee rscognized the importance of continuing international efforts to ensure the continuity, compatibility and complsmentarity of system6 for remote sensing of the Earth.

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

58. Some delegations expressed serious concern over the commercializatfon of remote-sensing activities and suggested that the prices of remote-sensing data products and access fees for data reception should be reduced significantly so as to make them affordable for the developing countries and enable the latter to benefit fully from the use of remote-sensing technology.

59. The Committee had before it an information paper submitted by the United States entitled "Education and training opportunities in satellite remote sensing and related space sciences and applications" (A/AC.105/L.183 and Corr.1), providing current information on education and training opportunities in satellite remote sensing and related space sciences and applications in the United States.

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

3. Use of nuclear power sources in outer space

61. The Committee noted that, in accordance with resolution 43/56, the Scientific and Technical Sub-Committee had reconvened its Working Group on the Use of Nuclear Power Source6 in Outer Space to conduct additional work on the basis of its previous rcports and of subsequent report6 of the Sub-Committee.

62. The Committee noted that the Sub-Committee had adopted the report of the Working Group as contained in annex III to the report of the Sub-Committee (A/AC.105/429).

63. The Committee took note of the discussion on this item as reflected in the report. of the Scientific and Technical Sub-Committee (A/AC.105/429, paras. 58-61) and in the report of the Working Group (A/AC.105/429, annex III) and urged the Sub-Committee to make every effort to ensure progress on the matter,

64. Some delegations expressed the view that nuclear power sources should not be used on board satell ites in near-Earth orbit, but. rather that. nuclear power sources should be used only for interplanetary missions when it became inevitable to do so. For such missions, activation of nuclear power sources should be carried out. only after the spacecraft had left Earth orbit. Other delegations expressed the view that given the possible r-e-entry of a nuclear power source over the territory of developing countries, which in general do not possess a capability for conducting a search and salvage operation for the debris resulting from the

unplanned re-entry of a nuclear power source, it would be desirable to establish a minimum international machinery for prevention and assistance in case of an accident of this sort, in which IAEA and the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) could be involved. Other delegations also expressed the need for the Outer Space Affairs Division, in collaboration with IAEA, to organize a training programme for radiological decontamination for developing countries.

65. The view was expressed that oafety assessments should. be made publicly available and that such assessments should be made prior to each launch,

66, The Committee noted that the Sub-Committee was of the opinion that the consideration of this item should be as concentrated and efficient as possible, taking into account the presence of experts on the use of nuclear power sources in outer space. The Committee also noted that the Sub-Committee had requested the Committee to consider the question of allocating such time to the Working Group as would enable it to study carefully the technical aspects of that item (A/AC. 105/429, para. 61). In that connection, the Committee noted that the Sub-Committee would meet for 10 full working days in 1990 and therefore sufficient time could be made available for the discussion of that item in the Sub-Committee.

67. Some delegations expressed the view that the Working Group should meet for one full week parallel to the session of the Sub-Committee,

68. The Committee endorsed the recommendation of the Sub-Committee that the item should be retained on its agenda as a priority item for the next session, that the Working Group on the Use of Nuclear Power Sources in Outer Space should continue its work at that session and that sufficient time should be allocated in a flexible manner according to the needs of the Working Group.

4. Space transportation systems

69. The Committee noted that, in accordance with resolution 43/5[illegible], the Sub-Committee had continued consideration of the item relating to space transportation systems and their implications for future activities in space.

70. The Committee took note of the progress being achieved in the various programmes in operation or planned by China, India, Japan, the Soviet Union, the United Kingdom, the United States and ESA.

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

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

72. The Committee noted that, in accordance with resolution 43/56, the Sub-Committee had continued the consideration of the item relating to the geostationary orbit.

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

74, The Committee took note of the results of the World Administrative Radio Conference of ITU on the Uses of the Geostationary Orbit and the Planning of Space Services Utilizing It.

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

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

76. The Committee noted that, in accordance with resolution 43/56, the Sub-Committee had continued to consider the items concerning matters relating to life-sciences, including space medicine) progress in the geosphers-biosphere (global change) programme1 matters relating to planetary exploration; and matters relating to astronomy.

77, The Committee noted with satisfaction that a series of special presentations by various experts was held under those items.

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

7. Themes fixed for special attention at the 1989 and 1990 sessions of the Scientific and Technical Sub-Committee

79. The Committee noted that., in accordance with resolution 43/56, the Sub-Committee had considered the item relating to the theme f. ed for special attention of the 1989 session of the Scientific and Technical Sub-Committee: "Space technology as an instrument for combating environmental problems, particularly those of developing countries".

80. The Committee noted with satisfaction that, in accordance with resolution 43/56, COSPAR and IAF had conducted a symposium on the theme and expressed its appreciation to COSPAR and IAF for their generous support of the work of the Sub-Committee.

81. In that connection, some delegations felt that the Committee should deal, on a priority basis, with questions relating to the threats posed by apace activities to the Earth as well as the space environment,

82, The Committee endorsed the recommendation of the Sub-Committee that the new theme fixed for special attention of the 1990 session of the Sub-Committee should be "The use of space technology in terrestrial search and rescue and in disaster relief activities". It also endorsed the recommendation of the Sub-Committee that COSPAR and IAF should be invited to arrange a symposium on that theme, with as wide a participation as possible, to be held during the first week of the Sub-Committee's session after the adjournment of its meetings.

8. Other matters

83. Some delegations welcomed the increase *in* the scientific content of the work of the Sub-Committee. Other delegations expressed the view that the Sub-Committee was intergovernmental in nature and should work under that definition rather than becoming a technical workshop. Those delegations further expressed the view that tha mandate of the Sub-Committee was primarily to enhance international co-operation and offer scientific and technical bases for deliberations in the Legal Sub-Committee.

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

84, The Committee took note with appreciation of the report of the Legal Sub-Committee on the work of its twenty-eighth session (A/AC.105/430), which contained the results of its deliberations on the items assigned to it by the General Assembly in its resolution 43/56.

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

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

86. The Committee noted the work carried uut by the Working Group, as reflected in the report of the Legal Sub-Committee (A/AC. 105/430, paras. 23-31 and annex I), and welcomed the consensus reached on the text of two draft principles relating to consultations and the settlement of disputes,

87. The Committee urged the Legal Sub-Committee to make further progress in its work on the elaboration of the outstanding draft principles in order to arrive at a final text of draft principles relevant to the use of nuclear power sources in outer space as early as possible.

88. Some delegations expressed the view that it was necessary to bring the draft principles relevant to the use of nuclear power sources in outer space into accord with the provisions of the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency as drawn up under the auspices of IAEA in 1986.

89. Some delegations felt that it was time for the Sub-Committee to consider the legal and binding character that the principles may finally have,

90. Some delegations expressed the view that more time should be allotted to the discussion of the use of nuclear power sources in outer space at the next session of the Sub-Committee.

91. The view was expressed that working paper A/AC.105/C.2/L.154/Rev.5 submitted by Canada was a welcome addition to the work of the session.

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

2. Matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union

93. The Committee noted that the Legal Sub-Committee, in accordance with resolution 43/56, had continued to consider this item through its Working Group under the chairmanship of Mr. R. Lagorio (Argentina).

94. The Committee noted that a variety of views had been expressed on the question, as reflected in paragraphs 32 to 38 and annex II of the report of the Legal Sub-Committee (A/AC.105/430). Those views were elaborated on and reiterated during the current session of the Committee. Some delegations indicated in that connection that it was necessary to have a conventionally defined boundary between air and outer space. Some other delegations supported the proposal that any object launched into outer space be considered as being in outer space at all stages of its flight after launch at which its altitude above sea level was 110 kilometres or more. Other delegations expressed the view that the need for such a definition or delimitation had not yet been established, that attempts to establish prematurely such a definition or delimitation might complicate and impede progress in the peaceful exploration and use of outer space, thet consideration of the matter was not productive, and that the question of the definition and delimitation of outer space should be removod from the agenda. Other delegations expressed the view that in dealing with the question of delimitation, account should be taken of the characteristics of the geostationary orbit.

95. The Commit tee noted that. further progress had been made towards a convergence of views on the question of activities of States in the utilization of the geostationary orbi t., and expressed the hope that a consensus on the question could be reached in the near f uture.

96, The Committee took note of the deliberations on the question of the geostationary orbit as contained in the report of the Legal Sub-Committee, Some delegations welcomed the presentation of a "working non-paper" by a number of countries members of the Group of 77 containing fresh ideas and new elements for constructive deliberations on the item. It further noted that in paragraph6 20 and 28 of the report of the Chairman of the Working Group *on* agenda item 4 of the Sub-Committee relating to this matter (A/AC.105/430, annex II) were set out the views of the Group of 77 and those of the Chairman of the Working Group concerning the above initiative.

97. Some delegation6 expressed the view that the legal régime of the geostationary orbit should be built *on* the principle6 of equity, economy and effectiveness, in order that all countries, particularly all developing countries, might benefit from the geostationary orbit.

96. Some delegation6 considered that the status given to the geostationary orbit by the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and by the appropriate rule6 of ITU, which had the value of a treaty, wa6 satisfactory. Other delegations took the view that since this issue was a substantive part of the agenda of the Legal Sub-Committee, it should naturally give rise to the establishment of a special legal régime.

99. The Committee recommended that the Legal Sub-Committee should continue consideration of the item at it6 next session.

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

100. The Committee noted that, in accordance with resolution 43/56, the Legal Sub-Committee had considered that new item.

101. The Committee noted that a variety of views had been expressed under the new item, a6 reflected in paragraph6 39 to 60 of the report of the Legal Sub-Committee (A/AC.105/430).

102. With respect to the method of work concerning the item, the Committee endorsod the recommendation6 as set forth under the compromise proposal of the delegation of Austria and contained in paragraph 53 of the report of the Sub-Committee, The Committee also noted the view6 expressed in that connection as contained in paragraph6 54 to 58 of the report of the Sub-Committee.

103. The President of the Group of 77 stated thdt the Group attributed the highest priority to the new item and understood that the work to be undertaken under the item should be legal in nature and aim at substantive legal results. In welcoming the compromise formula under which a working group to discuss the item was created, the President of the Group of 77 said that the Group urged the Committee to establish the working group at the next session of the Legal Sub-Committee in order to initiate a substantive debate, of particular interest to the Group of 77. The

intervention of the President of the Group of 77 was supported by delegationa of State6 member6 of the Group.

104, The view was expressed that the low number of responses by Member State6 to the Secretary-General's note verbale dated 26 September 1988 was disappointing.

105. The view was expressed that in considering international agreements entered into by Member States that are relevant to the principle that tho exploration and use of outer space shall be carried out for the benefit arid in the interest6 of all countries, the Sub-Committee should take into account treaties, conventions, agreements, principles, declaration6 and resolution6 related to international co-operation in outer space and in general. The view was also expressed that the Sub--Committee should address under the item the modalities of the principle contained in article I, the forma of guaranteeing the free exploration and use of outer space and of the freedom of scientific investigations in outer space.

106. Some delegations expressed the view that technological differences among States had brought about inequalities in the benefit6 derived from activities pertaining to the exploration and utilization of outer space. They felt that the working group, which would be established not later than at the 1991 session of the Sub-Committoe, should seek to elaborate a set of legal principles with a view to institutionalizing international co-operation. The view was expressed that the establishment of a working group would not provide a negotiating mandate,

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

D. Spin-off benefits of space technology: review of current status (agenda item 8)

108. In accordance with paragraph 21 of Assembly resolution 43/56, the Committee took up consideration of the above-mentioned new agenda item. The Committee heard special presentations on the question by experts from India and the United States, as mentioned in paragraph 15 of the present report.

109. The Committee agreed that spin-off6 of space technology were yielding subs tant.ial benefits in many fields. In medicine, the Committee noted that. spin-offs of space technology were being used for detection of eye disease, protection against heart attacks, implantable medication systems and magnetic resonance imuging system6 for diagnosing disease. In the field of safety, space activities had resulted in the development of fire-resistant. fabrics, fire-extinguishing materials and breathing systems for firefighters. Industrial spin-offs included precision machine tools, instrument6 for testing and quality cont.rol, optical instruments nnd techniquea, electronic6 and computer programmes Space technology had also given rise to spin-off benefit6 in the areas of energy environmental protection, agriculture, forestry, marine fisheries and geophysical prospecting. The Committee noted that the economic importance of these benefits was growing rapidly and, in some cases, was greater than the cost of the space programmes themselves.

11.0. The Committee also noted the importance of international co-operation in developing spin-off benefits of space technology and in ensuring that nll countries, in particular developing countries, had access to those benefits.

111. The Committee took note of a working paper submitted by the Soviet Union (A/AC.105/L.180), which outlined the Soviet activities regarding *spin-off* benefits of space technology in the service of international co-operation, and a working paper submitted by the United States (A/AC.105/L.182), which suggested ways of enhancing the sharing of information about spin-off benefits such as the preparation of an annual report by the Outer Space Affairs Division distilling the information received from Member States on the activities to foster spin-offs of space technology and on the secondary applications emerging from their space activities, as well as the convening of a future seminar on spin-offs in the context of the Programme on Space Applications. The Committee also noted that a document entitled "Spinoff 1988" had been submitted by the United States (COPUOS/1989/CRP.2), which provided an overview of the activities of *NASA* in relation to the item. The Committee further noted a contribution by FAO on the spin-off benefits in the agriculture, forestry and fisheries sectors and in the field of environmental protection.

112. Some delegations expressed the view that in considering the question *of* the spin-off benefits of space technology the Committee should examine the ways of strengthening and enhancing international co-operation in this field through, inter alia the study of the possibilities *of* providing access to such spin-offs to all nation;, particularly to developing countries. In that context, attention should be given to those spin-offs which can have an impact by addressing the urgent and pressing social and economic needs of developing countries.

E. Other matters (agenda item 9)

(a) International space year

113. In accordance with paragraph 11 of resolution 43/56, the Committee considered the advisability of the General Assembl, declaring 1992 as international space yoar, The Committee noted that the Scientific and Technical Sub-Committee had considered, in accordance with the same resolution, recommendations regarding possible activities that might be undertaken during an international space year (A/AC.105/429, paras. 87-91).

114. The Committee took note of a working paper by the Soviet Union (A/AC.105/C.1/L.161) and a working paper by the United State6 (A/AC.105/C.1/L.160), both of which had been submitted to the 1989 session of the Scientific and Technical Sub-Committee and outlined possible activities that might be undertaken during an international space year.

115. The Committee also took note of the plan6 of COSPAR and IAF for celebrating 1992 as international space year with a joint world space congress to be held at Washington and a major programme on "Mission to Planet Earth", with an emphasis on the participation of all countries, in particular developing countries. Some delegations described the role of the Space Agency Forum on International Space Year in planning and organizing for the international space year. The Committee furthermore noted the proposal in the context of the International Geosphere Biosphere Programme to take up as an international venture a new series of polar orbiting satellites called "PEACE" (Protection of Environment for Assuring Cleaner Earth) with appropriate sensors for continuous global monitoring of the Earth's env'. ronment .

116. The Committee **recommended that** the **General** Assembly endorse, **in its** resolution on international co-operation in the peaceful **uses of outer** space, the **initiative** of international **scientific** organisations and bodies to designate 1992 **as** international space **year.**

117. The Committee recommended that international co-operation be promoted through the international space year, which should be carried out **for** the **benefit and in** the interests **of** all States, taking into particular account the **needs** of developing countries. In that context the training and educational capabilities of the United Nation6 Programme on Space Applications should be utilised to **bring about a** meaningful role **for** the United **Nations,** through voluntary contribution6 by Member States and without any impact on the United Nation6 regular budget ***or*** the existing programme of work **of** the Programme.

(b) Other

118. The Committee noted with appreciation the participation in its work **and** that **of** it6 sub-committees by representatives **of** United Nations bodies **and** specialised agencies, and found the report6 they had submitted helpful in enabling the Committee and its subsidiary bodies to fulfil their role a6 a focal point ***of*** international co-operation in the peaceful **uses** ***of*** outer space. The Committee also noted with appreciation the participation **in** it6 work and that ***of*** its sub-committees by the representatives of INTELSAT, INMARSAT, **ESA, COSPAR** and IAF. The Committee requested that concerned **organizat·ons** continue to keep it informed of their activities relating to the peaceful use6 **of** outer space.

119. **The Committee** had before it **for** it6 review and comment6 draft programme 9, Peaceful uses of outer space of the medium-term plan for the period 1992-1997 **(A/AC.105/1989/CRP.1,** annex), submitted in accordance with the relevant part6 of the regulations and rule6 governing programme planning, the programme aspects of the budget , the monitoring of implementation and **the** methods **of** evaluation **(ST/SGB/PPBME Rules** 1 **(1987)).** During the Committee'6 review, editorial change6 were suggested to paragraphs 9.2 and 9.7 (iii) of the draft programme.

120. In connection with the draft medium-term plan, the suggestion was also made that it should include a reference to monitoring of the Earth'6 environment **from outer** space.

F. Future work

221. The Committee noted the views expressed by the Scientific and Technical Sub-Committee, a6 contained in paragraph6 95 to **97** of it6 report **(A/AC.105/429),** and endorsed the recommendations contained in those paragraphs concerning the agenda of the twenty-seventh session of the Sub-Committee.

122. Regarding the agenda of the Legal Sub-Committee, the Committee **recommended** that the Sub-Commi ttee, at its **twenty-ninth** session, should:

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

(b) **Continue, through its** Working Group, its consideration **of matters relating to the definition end delimitation of outer space and to the character and utilization of the geostatfonary orbit, including consideration of ways end means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of ITU;**

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

123. The President **of the Group of 77, speaking on behalf** of the members **of** the Group in **the Committee**, expressed the view that the Working Group to be established under **agenda item 5 of the Legal Sub-Committee should be established for the** twenty-ninth **session in** 1990.

124. The suggestion was made that the Committee **should** consider guidelines **for** granting observer status **with** the Committee to **international organisations,**

125. Some delegations expressed tho view that the traditional three-week duration and schedule **of work of the Legal Sub-Committee did** not **provide a** suitable basis **for the Sub-Committee's next session. In their view,** adoption of the approach **contained in working paper A/AC.105/C.2/L.174** would facilitate progress in the Sub-Committee and would **achieve** savings in **conference** service resources. Other delegations felt that the sessions of the Legal Sub-Committee should be maintained at three weeks to allow **sufficient** time *for* negotiations **on** the complex legal issues before the Sub-Committee.

126. The view **was expressed** that it was necessary to cease the practice of holding alternate sessions of the Legal Sub-Committee at Geneva since there were no discernable benefits **to justify** either the additional costs incurred by the Organisation or **continued exception to the General** Assembly principle that United Nations bodies should **meet at their headquarters.** On the other **hand, some** delegations **expressed the view that** the Assembly had drawn up a list of these exceptions **and decided that the Legal** Sub-Committee should meet every other year at Geneva. Accordingly, only a new decision taken **by the General** Assembly could amend the present rule, **It was noted that it was important to hold the session at Geneva** in order to allow European **jurists and** international **organisations based** in **Europe** to participate. The view **was** also expressed that it would be appropriate to consider reverting to the former **practice of having** one **of the United Nations** bodies dealing with outer space hold its meetings at Geneva on an annual basis.

127. **Some** delegations expressed the view that the Committee should concentrate its work on important issues falling within its mandate and holding out the promise of eventual agreement.

128. The view was expressed that the interaction **between** the Legal Sub-Committee and the Scientific and Technical Sub-Committee could be reinforced.

129. **Some** delegation6 expressed the view, **as** outlined in working paper **A/AC.105/L.181, submitted by Czechoslovakia** and the German Democratic Republic, that in order to improve the activities and enhance the role of the Committee, there should be a substantive and result-oriented consideration of all agenda items, parallel consideration **of** agenda items, a brief paper prepared by the

Secretariat for the Legal Sub-Committee drawing attention *to* problem6 that require legal expertise, more frequent use of informal negotiations and no overlapping of sessions of United Nations bodies dealing with legal issues.

130. The view was expressed that the Principles Governing the Use by States of Artificial Earth Satellite6 for International Direct Television Broadcasting and the Principle6 Relating to Remote Sensing of the Earth from Outer Space, which had been adopted by the General Assembly in resolutions 37/92 *of* 10 December 1982 and 41/65 of 3 December 1986, respectively, should be further elaborated on into conventions by the Committee, particularly with the view of protecting the interests of developing countries.

Notes

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

ANNEX

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

1. May I welcome you all most cordially to the thirty-second session of the Committee on the Peaceful Uses of Outer Space. This welcome is extended first and foremost to the delegates of the 53 member nations of this Committee, many of whom have continued to offer invaluable service to this body for many years and who have thus become part of a highly motivated part of the United Nation6 family.

2, I also wish to welcome once again the representatives of many governmental and non-yovernmental international organisations, which over the years have provided much constructive support to this Committee.

3. I trust that we are assembled here once again in a spirit *of* co-operation, keen to develop solutions to issues as yet unresolved. Indeed much in the international political climate and atmosphere, which ha6 taken such a momentous turn toward6 co-operation and less confrontation for some time now, seems to favour the work of a Committee that depends much on common political will and a sense of compromise.

4. However, there is yet another, perhaps even more compelling reason, another motivation linked more immediately to the history of this Committee, that gives me hope, that inspires cptimism that this indeed will be a good and productive meeting: it will be 30 years this autumn that by resolution 1472 (XIV) of 12 December 1959 the General Assembly established this distinguished body, recognizing the common interest of mankind in furthering the peaceful uses of outer space and believing that the United Nations should promote international co-operation in this field,

5. It might seem to be an appropriate way therefore to commemorate this anniversary by building consensus and achieving progress in areas where success has so far eluded the Committee,

6. This should be easy if we remain mindful of the many tangible advantages that progress *in* space uses and exploration offer to humanity.

7. Two recent example6 clearly illustrate my point: from 20 to 23 November 1988, a devastating flood hit the southern part of Thailand. To assess the damage, the Thailand Remote Sensing Centre compared Landsat images of the area taken before and after the flood and found that the areas affected most by the flood were valley area6 of plains among mountains. It was also found that during the four years before the flood there had been much change in land use on the slopes and on the mountain ranges. Forests had been converted to agricultural lands. Whon heavy rains, amounting to 680 millimetres, fell. for three consecutive clay:;, rubber trees on steep slope6 with short roots fell and formed small dams, and when those dams could not retain any more water, the water rushed down with high speed through the low plains.

8. Secondly, the first commercial public satellite telephone calls from an aircraft were connected via the INMARSAT satellite system on 14 February 1989.

This certainly marks the beginning of a new era in communications for airline passengers and airline operations the world over.

9. Let ma now direct your Attention, distinguished delegates, to some of the co-operative efforts and technological advances made by Member States and international organisations in the field of outer space since the time we were Assembled here in 1988,

10. The network of international space co-operation among States and international organizations has become wider again and many important co-operative efforts deserve to be mentioned, A new civilian space organisation has been set up by the Government of Canada. The new Canadian Space Agency, which is to be located at Montreal, is to provide better co-ordination for the nation's space efforts. The Federal Republic of Germany also decided to establish at Bonn a civilian space agency, the Deutsche Agentur für Raumfahrtangelegsnhsiten, which will plan, co-ordinate and carry out the space activities of the Federal Republic. Also this year Canada joined Europe'6 Hermes spaceplane programme, which is an ambitious project. aiming at Achieving an initial unmanned flight in mid-1997,

11. In 1988, the Soviet Union orbited 108 space objects in close to 100 launches. Flight tests of the Energiya launch vehicle with the reusable spacecraft Buran have successfully started, resulting in an unmanned launch and landing of the spacecraft. We should AI so recall the record-breaking flight of two Soviet cosmonauts on board the orbital space station Mir, who, after 366 days in apace, returned to Earth on 22 December 1988. Together with this main crew, three international expeditions, including cosmonauts from Afghanistan, Bulgaria And France, worked on board the space station Mir, which At the moment is temporarily vacant, After cosmonauts Valery Polyakov, Alexander Volkov and Sergey Krikalyov returned to Earth in late April 1989.

12. Nevertheless, despite all technological progress, the success of space exploration is still A matter of uncertainty, This WAS evident Again in the case of the Soviet Phobos spacecraft, which had been scheduled to rendezvous with Mars and its moon Phobos in early April, but unfortunately radio contact with the spacecraft was lost. I do hope that this set-back will stimulate new efforts to Pursue the exploration of the planet Mars.

13. At the same timo, these examples and the history of other recent space projects And space events clearly indicate the need to place future space programmes in the framework of more international co-operation. It is not only constraints of a financial nature but indeed the dramatic change in international political atmosphere that should stimulate new thinking in outer space, that should motivate nations to renounce, in the words of A recent editorial of The New York Times, "costly competitive extravaganzas" and 90 into space together.

14. More togetherness in space might facilitate new missions to the solar system's most important planet - Earth - with satellites designed to monitor its climate And environment.

15. More togetherness in space might help to orbit telescopes that could view the sky free of Earth's distorting atmosphere or launch automated spacecraft. to explore other planets.

16. More than ever before national space programmes seem to be complementary and well suited to develop joint missions even to put humans into space.

17. The United States apace shuttle programme was successfully resumed on 30 September 1988 with the launch of the space shuttle Discovery, ending a 32-month period of redesign following the tragic Challenger accident of January 1986. The space shuttle Discovery was again launched into orbit on 14 March 1989 carrying five astronauts who conducted a series of scientific experiments during a five-day flight, including one experiment testing a process for growing crystals in space, The United States space shuttle Atlantifi, launched on 4 May 1989, deployed the Magellan Venus radar mapper, which is expected to arrive at Venus in August 1990, following a 15-month journey, Work on the international space etation Freedom, which is being led by the United States, is progressing, On 29 September 1988, the United States, Canada, Japan and the member States of the European Space Agency (ESA) signed a multilateral agreement establishing their co-operation in the programme. We also note with relief that the two satellites Landsats 4 and 5 continue in operation, at least for the time being.

18. Many other member States of the Committee launched new space missions during the last year, On 7 September 1988, China launched an experimental meteorological satellite into polar orbit aboard the CZ-4 vehicle. On 22 February 1989, Japan launched EXOS-D, a polar orbiting experimental satellite,. Pakistan's first satellite, Badr-A, has been completed by the country's Space and Upper Atmosphere Research Commission and is expected to be launched in 1989.

19. While this Committee is celebrating the thirtieth anniversary of its establishment, at the beginning of April 1989, ESA celebrated its thirtieth launch of an Ariane rocket when the Scandinavian telecommunication satellite TELE-X was successfully launched into orbit by an Ariane 2 rocket. Earlier in the year, on 6 March, two satellites, MOP-l, a European meteorological satellite, and JCSat-1, a Japanese telecommunications satellite, were launched on an Ariane 4 rocket.

20. Distinguished delegates, let me now turn to the agenda items before the Committee.

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

22. As you may recall, the Committee, at its thirty-first session, once again recoyniaed the need to maiutain outer space for peaceful purposes and agreed that it could make important contributions to that end. a/ It also agreed again that an effective way to maintaln outer space for peaceful purposes was to strengthen multilateral, regional and bilateral co-operative activities and to promote specific projects to assist all countries, in particular developing countries. This wording, reflecting an earlier agreement at a previous session of the Committee b/ could serve as a basis for discussion.

23. Before going into detail about the work of the two sub-committees, I should like to express, on behalf of the Committee, our deep appreciation to Mr. John H. Carver (Australia), Chairman of the Scientific and Technical Sub-Committee, and to Mr. Stanislav Suja (Czechoslovakia), the new Chairman of the Legal Sub-Committee, succeeding Mr. Ludek Hand1 (Czechoslovakia). The Committee is much indebted to these distinguished Chairmen for the smooth and productive

functioning of its two subsidiary bodies and wishes Mr. Hand1 well in his future undertakings.

24. The report of the Scientific and Technical Sub-Committee on its twenty-sixth session is before us in document A/AC.105/429.

25. The Sub-Committee, as it has done over the last three years, combined consideration of the United Nations Programme on Space Applications and of the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, since the expansion and reorientation of the Programme on Space Applications is an integral part of the implementation of the recommendations of the Conference. In considering these agenda items, the Sub-Committee was well aware of the position of the General Assembly, which, at its forty-third session, once again emphasised the urgency and importance of fully implementing the recommendations of the Conference held seven years ago. In particular, the General Assembly identified four urgent questions for consideration by the Committee.

26. Thus, in accordance with resolution 43/56, the Sub-Committee re-convened the Working Group of the Whole to evaluate the implementation of the recommendations of the Conference. The report of the Wor. g Group is contained in annex II of the Sub-Committee's report (A/AC.105/429). The Working Group was ably chaired by Mr. Gonzales (Chile).

27. The report of the Working Group of the Whole on its third session was adopted by the Sub-Committee and is now before this Committee *for* action. As did its report on its second session, the present report again also contains a number of recommendations calling for action by Member States, by the Secretariat of the United Nations and by other international organisations.

28. The Working Group made two recommendations concerning information that the Committee should request from Member States or international oryanizations: firstly, information from Member States and international organizations with space-related activities in which there could be greater international co-operation and, secondly, annual reports on techniques resulting from medical studies carried out in outer space, both requests have been repeated from the 1988 report of the Working Group.

29. The Working Group of the Whole also recommended that the Outer Space Affairs Division prepare a report containing an evaluation of the methodology for granting fellowships offered by the Programme on Space Applications, a report on the arrangements it has made with other organs, bodies and organizations of the United Nations system in support of the Programme and a report indicating which of the recommendations of the Conference addressed to the United Nations have not yet been implemented, It further recommended that the Division compile periodically a list of space technology experts, update regularly the report on the resources and technological capabilities of States in the field of space activities and update annually the report on existing training centres at the regional level. The Working Group of the Whole finally repeated its recommendation made last year that, the Division convene, if other priorities permit, a meeting of governmental expert6 representing developed and developing countries regarding the strengthening of data banks at. national/regional levels and the establishment of an international space information service.

30. As I said last year, the exchange of information relating to international space activities is essential to a broadening of co-operative space efforts between States. Consequently, we are delighted that the Outer Space Affairs Division has made further progress in its efforts to develop a space information service, which, in its initial development, will include information on space systems and projects, space terminology and acronyms, international and national space organisations and experts.

31. The recommendations made by the Working Group of the Whole offer a sound basis for further progress in the implementation of the recommendations of the Second United Nations Conference. However, I believe that, once information requested by the Working Group of the Whole has been received, a careful evaluation of the information should follow. In other words, it is not the sheer number of reports or studies received that makes progress in the implementation process possible but, more important, a sound analysis is necessary on the basis of which substantive conclusions can be drawn.

32. And to be even more clear let me say this: we might use the opportunity of the present session of the Committee to examine our conscience to determine whether indeed we have lived up to the promise of the Conference and whether all has been done to translate into action the vast progrssnme set out by that unique event.

33. As in past years, the Scientific and Technical Sub-Committee reviewed the wide range of activities of the Programme on Space Application6 and commended the results achived. It also approved or noted the activities proposed for 1989 and 1990 and appealed to Member States tc support the Progrsmme through voluntary contributions.

34, The Sub-Committee continued its consideration of remote sensing from outer space and reiterated its view that remote sensing from outer space should be carried out taking into account the particular needs of the developing countries,

35. Regarding the question of the use of nuclear power sources in outer space, the Sub-Committee re-convened the Working Group on the Use of Nuclear Power Sources in accordance with resolution 43/56. A strong consensus seems to have emerged in the Sub-Committee regarding the usefulness of this Group, The report of the Working Group, which was ably chaired by Mr, Carver, is attached as annex III to the report of the Sub-Committee (A/AC.105/429). In its report, the Working Group called for the preparation of national research on the problem of collision6 with space debris and proposed that delegations submit the results to the Sub-Committee, It also made a series of specific recommendations concerning safety measure6 for the use of nuclear power sources on board a spacecraft.

36. In this connection, let me draw your attention to the recommendation of the Sub-Committee addressed to the Committee to consider the question of allocating to the Working Group at its session in 1990 sufficient time to enable it to study carefully the technical aspects of this item.

37. A final remark concerning this matter: in considering the further relation6 between space exploration, on the one hand, and nuclear power sources, on the other, the Committee is certainly addressing one of the most sensitive issue6 at present on its agenda. While nuclear reactors have certainly powered some of the most dramatic ventures in deep space, serious risks continue to attach to their uses in Earth orbit.

38, It is for this reason that the Committee bears a heavy responsibility in efforts to create a new and safer régime for the future use of nuclear power sources. Not only Governments but also public opinion in many countries will certainly see success or failure in this respect as a measure of our credibility.

39. Regarding questions relating to space transportation systems, the Sub-Committee reviewed the national and co-operative programmes in space transportation systems.

40. On the question relating to the examination of the physical nature and technical ettributes of the geostationary orbit, as well as other questions relating to space communication developments, however, little progress was achieved. This is not the first time that we have to record a lack of progress on this issue. The Committee may wish to reflect on how substantive achievement6 might be possible in the future.

41. This had been the third year that the Sub-Committee has discussed, as agenda items, a number of scientific matters, matters relating to life sciences, including space medicine, progress in the geosphere-biosphere (global change) programme, matters relating to planetary exploration and to astronomy. The official theme for the 1989 session was: "Space technology as an instrument for combating environmental problems, particularly those of developing countries",

42. As in previous years, a number of most valuable and interesting technical presentations on the theme were given by specialists in the form of a symposium organized by the Committee on Space Research (COSPAR) and the International Astronautical Federation (IAF). To continue these very informative and successful annual discussions on specific aspects of space technology and applications, the Sub-Committee proposed a6 a theme for its next session; "The use of space technology in terrestrial search and rescue and in disaster relief activities". The support of COSPAR and IAF is again requested to organise a symposium *on* this theme as well as a special presentation on progress in the geosphere-biosphere (global change) programme, As in the past, I am sure that these recommendations will be considered favourably by the Committee.

43. In this connection, the Committee wishes to express its gratitude and appreciation to COSPAR and IAF for the invaluable assistance they are rendering to the Committee's scientific work. It also appears appropriate to mention the final COSPAR/IAF report on environmental effect6 of space activities (A/AC.105/420), which was well received by the Sub-Committee.

44. The Legal Sub-Committee re-convened its Working Group on the Use of Nuclear Power Source6 in Outer Space, which was ably chaired by Mr, Winkler (Austria). It continued its elaboration of draft principle6 relevant to the use of nuclear power sources in outar space and made considerable progres by reaching consensus on the text of two important draft principles relating to consultation6 and the settlement Of disputes, and coming close to consensus on three Other principles. Although the Working Group continues to be divided on three interrelated principles, principle 2 (notification of the presence of nuclear power sources on hoard a space object,), principle 3 (guideline6 and criteria for safe use) and principle 4 (safety assessment), it might be possible *now* to resolve these differences and to conclude the Working Group's work on all draft principles without much delay: perhaps we can make further progress at the present session of the Committee.

45. The re-convened Working Group of the Legal Sub-Committee on the definition and delimitation of outer space and the geostationary orbit, under the able chairmanship of Mr. Lagorio (Argentina), was re-established, A number of informal proposals were put forward on which Member States held some discussions, particularly regarding the rational and equitable utilisation of the geostationary orbit. These new ideas presented should serve as a basis to invigorate the work of the Working Group, which could not record any substantive progress at its session in 1909. It is my hope that the Committee might be able to provide further guidance on the matter.

46, As requested by the General Assembly in its resolution 43/56, the Legal Sub-Committee took up the consideration of the new item on legal aspects related to the application of the principle that the exploration and utilisation of outer space should be carried out for the benefit and the interests of all States, taking into particular account the needs of developing countries. As expected, discussions proved difficult under the new item. After extensive consultations it was possible for the Sub-Committee to record consensus on a compromise proposal regarding the method of work under this new item and a timetable for the establishment of a working group under it, This I consider to be a very encouraging beginning for the consideration of this new item, and it also reflects the renewed commitment of all members to make progress in our work, The Sub-Committee recommended furthermore that the General Assembly request the Secretary-General to seek the views of Member States, prior to the 1990 session of the Sub-Committee, on international agreements that Member States have entered into that are relevant to the principle referred to in the agenda item, I am sure that these recommendations will be received favourably by the Committee.

47. Concerning the question of an international space year, I remind you, distinguished delegates, of a decision, taken by this Committee at its session in 1988 and endorsed by the General Assembly in paragraph 11 of resolution 43/56, that the Committee at its present session should consider the advisability of the Assembly declaring 1992 as international space year. a/ The Assembly recommended that the Committee urge Member States to consider supporting additional scientific and technical activities related to an internationl space year within the United Nations system through voluntary contributions, which should be complementary to those being developed by relevant international organisations. As you are aware, a number of governmental and non-governmental organizations are very active in setting up a schedule of activities for an international space year. In this connection, I wish to draw your attention to a proposal of which the United Nations has been informed and which was put forward by India in the spirit of an international space year and in the context of the International Geosphete Biosphere Programme to take up a new series of polar orbiting satellites called "PEACE" (Protection of Environment for Assuring Cleaner Earth) as an international venture with appropriate sensors for continuous global monitoring of the Earth's environment. Proposals brought forth in response to the request by the General Assembly in its resolution 43/56 include, inter alia, the hosting of an international conference by the United States in conjunction with the Programme on Space Applications on the subject of space remote sensing and global change, anti, n the part of the Soviet Union, the organization of a conference with the cipation of foreign scientists and specialists on the subject "Outer space and lobal problems of mankind", It is certainly timely for the Committee to consider what the United Nations role should be regarding the question of an international space year.

48, I continua to believe that the United Nations is called upon to play a significant role in this exciting project, whose significance for the future protection of the Earth's environment against destructive influences can hardly be overstated.

49. Before concluding, let me mention that, as you are aware, the Committee will have a new item on the agenda of its present session entitled "Spin.-off benefits of space technology: review of current status", and that the provisional schedule of work has been adjusted to take this into account,

50. Let me now conclude this opening statement. While the subsidiary bodies of this Committee have made some substantive progress on issues such as the use of nuclear power sources in outer space, tangible results are still lacking in many areas of work of the Committee. Let me, distinguished delegates, therefore encourage you to make this session a memorable one, let me encourage you to go ahead together, in the spirit of the thirtieth anniversary of this body.

51. Let mw remind you that this Committee has a unique and perhaps increasing responsibility in promoting international co-operation in the peaceful uses and exploration of outer space, being to this day the only body in the United Nations system that deals exclusively with matters of outer spare,

52. Thirty years ago this Committee was set up to be an agent of progress and of change, whether in scientific, in technical or legal matters related to the peaceful uses and applications of outer space. It was not created simply to become a gear in a big machine,

53. I continue to believe that one of the moat. vital and most. central tasks of the Committee will be its role in bridging the scientific and technological gap between those nations which have space explorations programmes and those which have none. It is hare in this body that ww can decide on the necessary political steps to be taken in order to address this specific problem with a view to avoiding conflict. and friction between North and South.

54. However , I consider it to bo no less vital a task of the Committee to encourage a nww spirit. of co-operation between East and West in outer space matters, helping the major space Powers to write together a new chapter in outer space relations that will bu charactwrized by the absence of the old rivalries and by the presence of a new sense of common purpose, perhaps also a sense of service to the world community of nations,

55. We might therefore need not. only much new political will but an increased sense of urgency in order to make further progress in our work.

56. Some of the instruments, some of the machinery for this purpose are already i our hands: the United Nations Programme on Space Applications comes to mind as well as some other structures characterized less by their vast bureaucratic nature or over-abundant budgetary resources than by much good will and splendid human resources.

57. I further believe that purposeful pooling of our resources, of our energies and our ideas into the exciting venture that will be the international space year 1992 will furnish another opportunity to approach our aim.

58. Let us therefore resolve to remain, as before, a good and a meaningful part of the United Nations, but let us also remain ambitious and dedicated, motivated by an ideal that over the years has served us so well: the maintenance of outer space for peaceful purposes.

Notes

a/ See Official Records of the General Assembly, Forty-third Session, Supplement No. 20 (A/43/20).

b/ Ibid., Forty-second Session, Supplement No. 20 (A/42/20), para. 17.

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