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Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
Fortieth session
Vienna, 17-28 February 2003

Draft report

I. Introduction

1. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space held its fortieth session at the United Nations Office at Vienna from 17 to 28 February 2003 under the chairmanship of Karl Doetsch (Canada).

2. The Subcommittee held [...] meetings.

A. Attendance

3. Representatives of the following member States of the Committee attended the session: Algeria, Argentina, Australia, Austria, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kenya, Lebanon, Malaysia, Mexico, Morocco, Netherlands, Nicaragua, Nigeria, Pakistan, Peru, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Slovakia, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela and Viet Nam.

4. At the 580th meeting, on 17 February, the Chairman informed the Subcommittee that requests had been received from Angola, Azerbaijan, Israel, Switzerland and Thailand to attend the session. Following past practice, those States were invited to send delegations to attend the current session of the Subcommittee and address it as appropriate, without prejudice to further requests of that nature; that action did not involve any decision of the Subcommittee concerning status but was a courtesy that the Subcommittee extended to those delegations.

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5. The following United Nations entities were represented at the session by observers: Office of the United Nations High Commissioner for Refugees (UNHCR), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Meteorological Organization (WMO) and International Atomic Energy Agency (IAEA).

6. The session was also attended by observers for the Committee on Earth Observation Satellites (CEOS), the Committee on Space Research (COSPAR), the European Association for the International Space Year (EURISY), the European Space Agency (ESA), the International Astronautical Federation (IAF), the International Space University (ISU), the International Society for Photogrammetry and Remote Sensing (ISPRS), the Space Generation Advisory Council (SGAC) and Spaceweek International Association (SIA).

7. A list of the representatives of States, United Nations entities and other international organizations attending the session is contained in document A/AC.105/C.1/INF/32.

B. Adoption of the agenda

8. At its 580th meeting, on 17 February 2003, the Subcommittee adopted the following agenda:

1. Adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views and introduction to reports submitted on national activities.
4. United Nations Programme on Space Applications.
5. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).
6. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.
7. Use of nuclear power sources in outer space.
8. Means and mechanisms for strengthening inter-agency cooperation and increasing the use of space applications and services within and among entities of the United Nations system.
9. Implementation of an integrated, space-based global natural disaster management system.
10. Space debris.
11. Examination of the physical nature and technical attributes of the geostationary orbit and of its utilization and applications, including, inter alia, in the field of space communications, as well as other questions

relating to developments in space communications, taking particular account of the needs and interests of developing countries.

12. Mobilization of financial resources to develop capacity in space science and technology applications.

13. The use of space technology for the medical sciences and public health.

14. Draft provisional agenda for the forty-first session of the Scientific and Technical Subcommittee.

15. Report to the Committee on the Peaceful Uses of Outer Space.

C. Documentation

9. A list of the documents that were before the Subcommittee is provided in annex I to the present report.

D. General statements

10. Statements were made by representatives of the following member States during the general exchange of views: Algeria, Argentina, Austria, Brazil, Canada, Chile, China, Colombia, Czech Republic, Ecuador, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Malaysia, Mexico, Morocco, Nigeria, Pakistan, Peru, Republic of Korea, Romania, Russian Federation, South Africa, Sudan, Turkey, United Kingdom and United States. The representative of Cuba made a statement on behalf of the Group of Latin American and Caribbean States. The delegate of Azerbaijan made a general statement. A general statement was also made by the observer for UNESCO. Statements were also made by the observers for COSPAR, EURISY, IAF, ISPRS and ISU.

11. The Subcommittee heard the following technical presentations under the general exchange of views:

(a) “Space weather forecasting using real-time solar wind data”, by the representative of the Russian Federation;

(b) “Southern African Large Telescope”, by the representative of South Africa.

12. At the 580th meeting, on 17 February, the Chairman made a statement outlining the work of the Subcommittee at its current session and reviewing space activities over the past year, including important advances that had been achieved as a result of international cooperation.

13. Also at the 580th meeting, the Director of the Office for Outer Space Affairs of the Secretariat made a statement reviewing the work programme of the Office.

14. The Subcommittee noted with appreciation that the Governments of France and the Republic of Korea had provided associate experts to assist the Office for Outer Space Affairs in carrying out its work relating to implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).

15. The Subcommittee expressed its sympathy to the delegations of India, Israel and the United States for the recent loss of the crew of the Space Shuttle Columbia during re-entry on 1 February 2003.

16. The Subcommittee welcomed Algeria as a new member of the Committee and its subcommittees.

17. The Subcommittee expressed its gratitude to Petr Lála and Mazlan Othman for their exceptional service in the Office for Outer Space Affairs. The Subcommittee also expressed its satisfaction with the appointment of Sergio Camacho as Director of the Office.

18. The Subcommittee expressed its sorrow at the recent passing away of Dimitar Mishev of the Bulgarian Academy of Sciences. The Subcommittee recognized his warm personality and his many years of dedicated work to promote space science in Bulgaria, as well as cooperation at the international level.

19. The delegation of Chile provided the Subcommittee with information on the Global Biotechnology Forum, which will take place in Concepción, Chile, in March 2004.

E. National reports

20. The Subcommittee took note with appreciation of the reports submitted by Member States (A/AC.105/788) and considered by the Subcommittee under agenda item 3, entitled "General exchange of views and introduction to reports submitted on national activities". The Subcommittee recommended that the Secretariat continue to invite Member States to submit annual reports on their space activities.

F. Symposium

21. Pursuant to General Assembly resolution 57/116 of 11 December 2002, a symposium on the theme "Applications of satellite navigation and their benefits to developing countries" was organized by COSPAR and IAF. The first part of the symposium, entitled "Applications of satellite navigation and localization in environment monitoring and transport", was held on 17 February and was chaired by Y. Beguin of IAF. The second part of the symposium, entitled "Other applications of satellite navigation for developing countries", was held on 18 February and was chaired by L. Marelli of COSPAR.

22. The presentations to the symposium included the following: "Satellite navigation for civil aviation", by K. Edwards of IAF; "Satellite navigation in air traffic monitoring and its benefits for developing countries", by H. Blomenhofer of IAF; "Space for the benefits of users: localization and navigation for environmental monitoring and survey", by M. Cazenave of IAF; "Satellite navigation systems and remote sensing for agriculture management", by D. El Hadani of COSPAR; "Synergy between precise positioning and imagery", by L. Marelli of COSPAR; "Use of ARGOS satellite tracking and satellite oceanography for sustainable management of marine resources in the Atlantic Ocean", by J.-Y. Georges of IAF; "Seismology and geology monitoring using satellite navigation systems", by F. Webb of COSPAR; "Satellite positioning technologies for asset and environment

management, river and geophysical mapping", by L. Szentpeteri of TTTC Ltd., Hungary; and "GLONASS: status, development, application", by S. Revnivykh of the Russian Aviation and Space Agency.

G. Adoption of the report of the Scientific and Technical Subcommittee

23. After considering the various items before it, the Subcommittee, at its […] meeting, on 28 February 2003, adopted its report to the Committee on the Peaceful Uses of Outer Space, containing its views and recommendations as set out in the paragraphs below.

II. United Nations Programme on Space Applications

24. In accordance with General Assembly resolution 57/116, the Scientific and Technical Subcommittee continued its consideration of the item on the United Nations Programme on Space Applications.

25. At the 582nd meeting, on 18 February, the Officer-in-Charge of the Space Applications Section made a statement outlining the activities carried out and planned under the United Nations Programme on Space Applications.

26. The representatives of Bulgaria, Chile, China, Ecuador, India, Japan, Mexico, Nigeria and the United States made statements under this agenda item.

27. In accordance with resolution 57/116, the Subcommittee, at its 584th meeting, on 19 February, reconvened the Working Group of the Whole, under the chairmanship of Muhammad Nasim Shah (Pakistan). The Working Group of the Whole held […] meetings from 19 to […] February.

28. At its […] meeting, on […] February 2003, the Subcommittee endorsed the report of the Working Group of the Whole, which is contained in annex […] to the present report.

A. Activities of the United Nations Programme on Space Applications

29. The Subcommittee had before it the report of the Expert on Space Applications (A/AC.105/790 and Corr.1). The Subcommittee noted that the United Nations Programme on Space Applications for 2002 had been carried out satisfactorily and commended the work accomplished by the Expert in that regard.

30. The Subcommittee noted with appreciation that, since its previous session, additional resources for 2002 had been offered by various Member States and organizations and had been acknowledged in the report of the Expert (A/AC.105/790 and Corr.1, paras. 41 and 42). The Subcommittee also noted with appreciation that the Government of France had provided an associate expert to support the implementation of the United Nations Programme on Space Applications in 2002.

31. The Subcommittee continued to express its concern over the still limited financial resources available for carrying out the United Nations Programme on

Space Applications and appealed to Member States to support the Programme through voluntary contributions. The Subcommittee was of the view that the limited resources of the United Nations should be focused on the activities with the highest priority; it noted that the United Nations Programme on Space Applications was the priority activity of the Office for Outer Space Affairs.

32. The Subcommittee noted that the United Nations Programme on Space Applications was assisting developing countries and countries with economies in transition in participating in and benefiting from space-related activities as proposed in the recommendations of UNISPACE III, in particular those contained in the Vienna Declaration on Space and Human Development.[1]

33. The Subcommittee noted that the United Nations Programme on Space Applications was aimed at promoting, through regional and international cooperation, the use of space science and technology and space-related data for sustainable economic and social development in developing countries by raising the awareness of decision makers of the cost-effectiveness and additional benefits to be obtained; establishing or strengthening the capacity in developing countries to use space technology; and strengthening outreach activities to disseminate awareness of the benefits obtained. The Subcommittee also noted that, in implementing the Programme, the Expert on Space Applications would take into consideration the guidelines provided by the Working Group of the Whole, contained in annex […] to the present report.

34. The Subcommittee noted that although some progress had been made in bringing the benefits of the use of space applications for sustainable economic and social development and for the protection of the environment to the awareness of high-level decision makers, much more needed to be done. The Office for Outer Space Affairs should consider the possibility of arranging for keynote addresses on this issue on the occasion of some of the meetings of high-level governmental authorities.

35. The Subcommittee noted that, in addition to the United Nations conferences, training courses, workshops and symposiums planned for 2003 (see para. 41 below), there would be other activities of the Programme in 2003, focusing on:

(a) Supporting education and training for building capacity in developing countries, in particular through the regional centres for space science and technology education;

(b) Providing technical assistance to promote the use of space technologies in development programmes, in particular by continuing to support or initiate pilot projects as follow-up to past activities of the Programme;

(c) Enhancing access to space-related data and other information for dissemination to the general public and carrying out outreach activities to promote the participation of youth in space activities.

1. Year 2002

United Nations conferences, training courses and workshops

36. With regard to the activities of the United Nations Programme on Space Applications carried out in 2002, the Subcommittee expressed its appreciation to the following:

(a) The Government of India, for co-sponsoring the United Nations/India Workshop on Satellite-Aided Search and Rescue, hosted by the Indian Space Research Organization and held in Bangalore, India, from 18 to 22 March 2002;

(b) The Governments of Chile and the United States, as well as ESA, for co-sponsoring the Third United Nations/United States of America Regional Workshop on the Use and Applications of Global Navigation Satellite Systems, hosted by the International Air and Space Fair and held in Santiago from 1 to 5 April 2002;

(c) The Government of Sweden, for co-sponsoring the Twelfth United Nations/Sweden International Training Course on Remote Sensing Education for Educators, hosted by Stockholm University and Metria Satellus AB and held in Stockholm and Kiruna, Sweden, from 2 May to 8 June 2002;

(d) The Economic Commission for Africa, CEOS, ESA, the Ministry of Foreign Affairs of France and Space Imaging, for co-sponsoring the United Nations Regional Workshop on the Use of Space Technology for Disaster Management, hosted by the Commission and held in Addis Ababa from 1 to 5 July 2002;

(e) The Governments of the United States and Zambia and ESA, for co-sponsoring the Fourth United Nations/United States of America Regional Workshop on the Use and Applications of Global Navigation Satellite Systems, hosted by the Ministry of Science, Technology and Vocational Training of Zambia and held in Lusaka from 15 to 19 July 2002;

(f) The Government of South Africa, ESA, SunSpace Inc. and Astrium GmbH, for co-sponsoring the United Nations/South Africa/European Space Agency Workshop on the Use of Space Technology in Sustainable Development, hosted by the University of Stellenbosch and held in Stellenbosch, South Africa, from 21 to 23 August 2002;

(g) The Government of Austria, the State of Styria, the City of Graz, the Ministry of Transport, Innovation and Technology of Austria and ESA, for co-sponsoring the Third United Nations/Austria/European Space Agency Symposium on Enhancing the Participation of Youth in Space Activities, hosted by the Space Research Institute of Austria and held in Graz, Austria, from 9 to 12 September 2002;

(h) The Government of Argentina and ESA, for co-sponsoring the Eleventh United Nations/European Space Agency Workshop on Basic Space Science, hosted by the Teófilo Tabanera Space Centre of the National Commission on Space Activities (CONAE) of Argentina, and held in Córdoba, Argentina, from 9 to 13 September 2002;

(i) The National Aeronautics and Space Administration of the United States, ESA, UNESCO, COSPAR and the American Institute for Aeronautics and Astronautics, for co-sponsoring the United Nations/International Astronautical

Federation Workshop on Space Solutions for Global Problems: Building Partnerships with All Stakeholders in Human Security and Development, hosted by the American Institute and held in Houston, Texas, United States, from 10 to 12 October 2002;

(j) The Government of the United States and the Subcommittee on Small Satellites for Developing Nations of the International Academy of Astronautics, for co-sponsoring the Third United Nations/International Academy of Astronautics Workshop on Small Satellites in the Service of Developing Countries: Beyond Technology Transfer, hosted by the Government of the United States in Houston, Texas, United States, on 12 October 2002;

(k) The Government of the United States, and ESA, for co-sponsoring the United Nations/United States of America International Meeting of Experts on the Use and Applications of Global Navigation Satellite Systems, hosted by the United Nations Office at Vienna from 11 to 15 November 2002;

(l) The Government of Thailand, the Economic and Social Commission for Asia and the Pacific, CEOS, ESA and the Ministry of Foreign Affairs of France, for co-sponsoring the Second United Nations Regional Workshop on the Use of Space Technology for Disaster Management, hosted by the Government of Thailand in Bangkok from 11 to 15 November 2002;

(m) The Government of the Netherlands and the International Institute of Air and Space Law of Leiden University, for co-sponsoring the United Nations/International Institute of Air and Space Law Workshop on Capacity-Building in Space Law, hosted by the Ministry of Foreign Affairs of the Netherlands and held in The Hague from 18 to 21 November 2002.

Long-term fellowships for in-depth training

37. The Subcommittee expressed appreciation to ESA for having offered two fellowships for 2002 for research in remote sensing technology at the facilities of the European Space Research Institute of ESA in Frascati, Italy, and three fellowships for research in satellite communications and remote sensing technology at the facilities of the European Space Research and Technology Centre of ESA in the Netherlands. For 2003, two fellowship opportunities in remote sensing technology will be available at the ESA institutions and three fellowships in satellite communications will be announced.

38. The Subcommittee noted that it was important to increase the opportunities for in-depth education in all areas of space science, technology and applications projects through long-term fellowships and urged Member States to make such opportunities available at their relevant institutions.

Technical advisory services

39. The Subcommittee took note of the following technical advisory services provided under the United Nations Programme on Space Applications in support of activities and projects promoting regional and global cooperation in space applications:[2]

(a) Providing assistance to the Asia-Pacific Satellite Communications Council in its effort to promote development and cooperation in satellite communications in Asia and the Pacific;

(b) Collaboration with ESA and Japan on follow-up activities relating to the series of workshops on basic space science;

(c) Providing technical assistance to the Fourth Space Conference of the Americas, held in Colombia from 14 to 17 May 2002, which resulted in the Declaration of Cartagena de Indias and the Plan of Action of the Conference;

(d) Collaboration with the 21st plenary meeting of the Latin American Society on Remote Sensing and Spatial Information Systems (SELPER) and the 10th Latin American Symposium on Remote Sensing, held in Cochabamba, Bolivia, from 11 to 15 November 2002;

(e) Collaboration with the Panel on Space Research in Developing Countries, held at the 34th COSPAR Scientific Assembly during the World Space Congress 2002, held in Houston, Texas, United States, from 10 to 19 October 2002;

(f) Collaboration with ESA and the Department of Economic and Social Affairs of the Secretariat in providing technical and training assistance required for implementing projects on the use of Earth observation data aimed at strengthening the capacity of participating institutions in the use of Earth observation data for resource management;

(g) Collaboration with CEOS through the participation of the Office in the 16th plenary meeting, held in Frascati, Italy, on 20 and 21 November 2002, in which CEOS was briefed on the results of the workshops on the use of space technology for disaster management organized in 2002 and co-sponsored by CEOS. At the 16th plenary meeting, the Office also chaired the CEOS Ad Hoc Working Group on Education.

Promotion of greater cooperation in space science and technology

40. The Subcommittee noted that the United Nations Programme on Space Applications had co-sponsored the participation of scientists from developing countries in the United Nations/International Astronautical Federation Workshop on Space Solutions for Global Problems: Building Partnerships with All Stakeholders in Human Security and Development, held in Houston, Texas, United States, in October 2002, and the participation of those scientists in the World Space Congress 2002.

2. Year 2003

United Nations conferences, training courses, workshops and symposiums

41. The Subcommittee recommended the approval of the following programme of training courses, workshops and symposiums, to be organized jointly by the Office for Outer Space Affairs, host Governments and other entities in 2003:

(a) United Nations/European Space Agency Workshop on Remote Sensing Applications and Education, to be held in Damascus from 23 to 27 March 2003;

(b) United Nations/Romania/European Space Agency Regional Workshop on the Use of Space Technology for Disaster Management, to be held in Romania from 19 to 23 May 2003;

(c) Thirteenth United Nations/Sweden International Training Course on Remote Sensing Education for Educators, to be held in Stockholm and Kiruna, Sweden, from 5 May to 13 June 2003;

(d) United Nations/Thailand Workshop on the Contribution of Space Communication Technology to Bridging the Digital Divide, to be held in Thailand from 12 to 16 May 2003;

(e) Twelfth United Nations/European Space Agency Workshop on Basic Space Science, to be held in Beijing from 8 to 12 September 2003;

(f) United Nations/Austria/European Space Agency Symposium on the Use of Space Technology in Sustainable Development, to be held in Graz, Austria, in September 2003;

(g) United Nations/International Astronautical Federation Workshop on the Use of Space Technology for the Benefit of Developing Countries, to be held in Bremen, Germany, from 25 to 27 September 2003;

(h) Fourth United Nations/International Academy of Astronautics Workshop on Small Satellites in the Service of Developing Countries: a Contribution to Sustainable Development, to be held in Bremen, Germany, on 30 September 2003;

(i) United Nations/National Oceanic and Atmospheric Administration Workshop on Satellite-Aided Search and Rescue, to be held in Miami, Florida, United States, in October 2003;

(j) United Nations Workshop on Space Law, to be held in Daejeon, Republic of Korea, in the fourth quarter of 2003;

(k) United Nations/Saudi Arabia Regional Workshop on the Use of Space Technology for Disaster Management, to be held in Saudi Arabia in October 2003;

(l) United Nations/United States of America International Workshop on the Use and Applications of Global Navigation Satellite Systems, to be held in Vienna from 8 to 12 December 2003;

(m) Workshops and training courses to be organized at the regional centres for space science and technology education affiliated to the United Nations.

3. Year 2004

42. The Subcommittee noted that the following activities had been proposed to be jointly organized by the Office for Outer Space Affairs, host Governments and other entities in 2004:

(a) Fourteenth United Nations/Sweden International Training Course on Remote Sensing Education for Educators, to be held in Stockholm and Kiruna, Sweden, in May-June 2004;

(b) United Nations/Austria Symposium on the Operational Use of Space Technology in Sustainable Development, to be held in Graz, Austria, in September 2004;

(c) United Nations/International Astronautical Federation Workshop on the Use of Space Technology for the Benefit of Developing Countries;

(d) United Nations Workshop on Earth Observation, for the benefit of developing countries, to be held in Germany;

(e) United Nations/Space and Upper Atmosphere Research Commission Workshop on Space Technology Applications, to be held in Islamabad in September-October 2004;

(f) Several workshops to be organized at the regional centres for space science and technology education affiliated to the United Nations.

B. International space information service

43. The Subcommittee noted with satisfaction that the fourteenth in the series of documents containing selected papers from the activities of the Programme, entitled *Seminars of the United Nations Programme on Space Applications*,[3] had been issued. The Subcommittee also noted with satisfaction the publication of *Highlights in Space 2002*,[4] which had been compiled from a report prepared by COSPAR on space research and a report prepared by IAF on space technology and applications, and expressed its appreciation to COSPAR, IAF and the International Institute of Space Law for their contributions.

44. The Subcommittee noted with satisfaction that the Secretariat had continued to enhance the International Space Information Service and the web site of the Office for Outer Space Affairs, which contained, among other things, a regularly updated index of objects launched into outer space. The Subcommittee also noted with satisfaction that the Secretariat was maintaining a web site on the coordination of outer space activities within the United Nations system (www.uncosa.unvienna.org).

C. Regional and interregional cooperation

45. The Subcommittee noted with appreciation the continuing efforts undertaken by the United Nations Programme on Space Applications, in accordance with General Assembly resolution 45/72 of 11 December 1990, in leading an international effort to establish regional centres for space science and technology education in existing national or regional educational institutions in developing countries, as contained in the document entitled “Regional centres for space science and technology education (affiliated to the United Nations)” (A/AC.105/782). The Subcommittee also noted that, once established, each centre could expand and become part of a network that could cover specific programme elements in established institutions related to space science and technology in each region.

46. The Subcommittee recalled that the General Assembly, in its resolution 50/27 of 6 December 1995, had endorsed the recommendation of the Committee that the centres be established on the basis of affiliation to the United Nations as early as possible and that such affiliation would provide the centres with the necessary recognition and would strengthen the possibilities of attracting donors and of establishing academic relationships with national and international space-related institutions.

47. The Subcommittee noted with satisfaction that the African Regional Centre for Space Science and Technology—in French Language had in 2002 completed a nine-month course on satellite meteorology and global climate and started a nine-month training programme on satellite communications.

48. The Subcommittee noted with satisfaction that a nine-month training course on satellite communications had started in December 2002 at the African Regional Centre for Space Science and Technology Education—in English Language in Ile-Ife, Nigeria.

49. The Subcommittee noted with satisfaction that, since its establishment in 1995, the Centre for Space Science and Technology Education in Asia and the Pacific had held 15 nine-month postgraduate courses—7 courses on remote sensing and geographic information systems (GIS), 2 courses on satellite communications, 3 courses on satellite meteorology and global climate and 3 courses on space and atmospheric science. In 2002/03, the Centre was offering the following courses: (a) the third nine-month postgraduate course on satellite meteorology and global climate; (b) the third nine-month postgraduate course on space and atmospheric science; and (c) the seventh nine-month postgraduate course on remote sensing and GIS. A total of 405 scholars from 39 countries have benefited from the educational activities of the regional centre. The seventh meeting of the Governing Board of the Centre and the fourth meeting of its Advisory Committee were held in Dehra Dun on 23 and 25 April 2002, respectively.

50. The Subcommittee noted with satisfaction that the first nine-month courses on remote sensing and GIS would start in 2003 at the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean at its Brazilian and Mexican campuses. The second meeting of the Governing Board of the Regional Centre had been held in Mexico City on 29 April 2002 and its third meeting in Brasilia on 5 and 6 August 2002. The Centre has now signed a host country agreement with the Governments of Brazil and Mexico.

51. The Subcommittee noted with satisfaction that the Programme was providing technical support to the Government of Jordan in its preparations for the establishment of the regional centre for space science and technology education for Western Asia.

IV. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment

52. In accordance with General Assembly resolution 57/116, the Subcommittee continued its consideration of the item relating to remote sensing of the Earth.

53. In the course of the discussion, delegations reviewed national and cooperative programmes in remote sensing. Examples were given of national programmes and bilateral, regional and international cooperation. The representatives of Brazil, Canada, China, Cuba, France, India, the Islamic Republic of Iran, Japan, Malaysia, Nigeria, Peru, the Republic of Korea, the Syrian Arab Republic and the United States made statements under this agenda item.

54. The following technical presentations were made on the issue of remote sensing of the Earth by satellite:

(a) “Earth observation for sustainable development”, by the representative of France;

(b) “Geographic information and refugee operations”, by the representative of UNHCR.

55. The Subcommittee emphasized the importance of providing non-discriminatory access to state-of-the-art remote sensing data and to derived information at reasonable cost and in a timely manner and of building capacity in the adoption and use of remote sensing technology, in particular to meet the needs of developing countries.

56. The Subcommittee emphasized that international cooperation in the use of remote sensing satellites should be encouraged, noting the importance of cooperation between Member States, organizations such as CEOS, ISPRS and IAF and the various United Nations entities, and also the importance of bilateral and multilateral initiatives such as the MEGHA TROPIQUES project, GlobeSAR-2, the Integrated Global Observing Strategy Partnership (IGOS-P) and Global Monitoring for Environment and Security (GMES).

57. The Subcommittee emphasized the importance of remote sensing systems to support activities in a number of key development areas such as water management, including drought monitoring, geological studies, environmental monitoring, archaeological inventories, ocean colour and temperature monitoring, crop area monitoring and yield estimates, precision agriculture, large-scale mapping, fisheries, the management of Earth’s resources, monitoring of global climate, monitoring of greenhouse gases, coal fire monitoring, coastal pollution monitoring and management, ice sheet monitoring, urbanization, soil degradation, vegetation maps and snow cover monitoring.

58. The Subcommittee highlighted the advancement in availability of new space-based sensors on board new satellites such as ADEOS-2, Spot 5, Aqua, FY-1D, HY-1A, GRACE, ENVISAT, INSAT-2E, Kalpana-1, SORCE, ICESAT, CBERS and NOAA-17, which will contribute further to supporting the various areas of sustainable development.

59. The Subcommittee noted the number of initiatives in the area of small satellites such as the planned Brazilian SSR-1, the planned Malaysian small satellite programme and the various satellites of the planned Disaster Monitoring Constellation involving cooperation between Algeria, China, Nigeria, Thailand, Turkey, the United Kingdom and Viet Nam, with AlgeriaSat-1 already launched in 2002 and NigeriaSat-1 to be launched in 2003.

60. The view was expressed that, because of the increase in the capabilities of Earth observation satellites, it had become increasingly important that the space agencies implement joint observation on a global scale with multiple satellites in a coordinated manner through CEOS, which played an important role as an international framework for coordination of and cooperation between Earth observation plans.

Notes

[1] *Report of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, Vienna, 19-30 July 1999* (United Nations publication, Sales No. E.00.I.3), chap. I, resolution 1.

[2] See the report of the Expert on Space Applications (A/AC.105/790).

[3] United Nations publication, Sales No. E.03.I.9.

[4] United Nations publication, Sales No. E.03.I.10.