



General Assembly

Distr.: Limited
16 February 2007

Original: English

**Committee on the Peaceful
Uses of Outer Space
Scientific and Technical Subcommittee
Forty-fourth session
Vienna, 12-23 February 2007**

Draft report

I. Introduction

1. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space held its forty-fourth session at the United Nations Office at Vienna from 12 to 23 February 2007 under the chairmanship of Mazlan Othman (Malaysia).
2. The Subcommittee held [...] meetings.

A. Attendance

3. Representatives of the following 50 member States of the Committee attended the session: Algeria, Argentina, Australia, Austria, Brazil, Burkina Faso, Canada, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Kazakhstan, Libyan Arab Jamahiriya, Malaysia, Morocco, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Slovakia, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Thailand, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Venezuela (Bolivarian Republic of) and Viet Nam.
4. At the 658th meeting, on 12 February, the Chairman informed the Subcommittee that requests had been received from Angola, Bolivia, the Dominican Republic, Paraguay, Switzerland, the former Yugoslav Republic of Macedonia and Tunisia to attend the session as observers. 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. The Subcommittee



took note of the application by Switzerland for membership in the Committee (A/AC.105/C.1/2007/CRP.12). The Subcommittee heard a statement by the observer for Bolivia on that State's application for membership in the Subcommittee.

5. The following United Nations entities were represented at the session by observers of the United Nations Institute for Training and Research (UNITAR), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Telecommunication Union (ITU), the World Meteorological Organization (WMO) and the International Atomic Energy Agency (IAEA).

6. The following were also represented by observers: the Association of Space Explorers (ASE), the Committee on Earth Observation Satellites (CEOS), the Committee on Space Research (COSPAR), the European Space Agency (ESA), EURISY, the European Space Policy Institute (ESPI), the International Academy of Astronautics (IAA), the International Astronautical Federation (IAF), the International Astronomical Union (IAU), the International Society for Photogrammetry and Remote Sensing (ISPRS), the International Space University (ISU), the Planetary Society (TPS), the Space Generation Advisory Council (SGAC) and the Spaceweek International Association (SIA). The European Organisation for Astronomical Research in the Southern Hemisphere (ESO) attended the session and requested permanent observer status with the Committee (A/AC.105/C.1/2007/CRP.8).

7. A list of the representatives of States, United Nations entities and other international organizations attending the session is contained in A/AC.105/C.1/INF/36.

B. Adoption of the agenda

8. At its 658th meeting, on 12 February 2007, 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. Space debris.
8. Use of nuclear power sources in outer space.
9. Near-Earth objects.

10. Space-system-based disaster management support.
11. International Heliophysical Year 2007.
12. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including 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.
13. Draft provisional agenda for the forty-fifth session of the Scientific and Technical Subcommittee.
14. Report to the Committee on the Peaceful Uses of Outer Space.

C. General statements

9. The Subcommittee welcomed the election of Ms. Othman as Chairman of its forty-fourth session. The Subcommittee expressed its appreciation to the outgoing Chairman, B. N. Suresh (India), for his leadership and contributions in furthering the achievements of the Subcommittee during his term of office.

10. Condolences were conveyed to Indonesia, Kenya, the Philippines and other countries for the loss of lives and destruction of property as a result of natural disasters. It was noted that there was greater urgency in the work of the Subcommittee to expand space-based applications for disaster prevention and recovery.

11. Statements were made by representatives of the following member States during the general exchange of views: Algeria, Austria, Brazil, Canada, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, France, Germany, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Malaysia, Morocco, Nigeria, Pakistan, Poland, Republic of Korea, Romania, Russian Federation, South Africa, Syrian Arab Republic, Thailand, United States and Venezuela (Bolivarian Republic of). General statements were made by the observers for Switzerland, UNESCO, COSPAR, EURISY, IAA, IAF and IAU.

12. At the 658th meeting, the Chairman made a statement outlining the work of the Subcommittee at its current session and reviewing the global space activities of the previous year, including important advances that had been made as a result of international cooperation.

13. At the 661st 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 the remarkable convergence of anniversaries in 2007, which included the fiftieth anniversary of the space age, the fortieth anniversary of the entry into force of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (General Assembly resolution 2222 (XXI), annex), the fiftieth session of the Committee on the Peaceful Uses of Outer Space and the celebration of the International Heliophysical Year 2007, and welcomed the opportunity that posed to

increase awareness of the relevance and importance of space applications to the betterment of the human condition.

15. Some delegations expressed their concern about the risk that the creation of space debris, intentional or otherwise, represented to human spaceflight, space infrastructure and space activities. Those delegations were of the view that all possible steps should be taken to minimize the proliferation of space debris and that it was important that the Subcommittee approve the draft space debris mitigation guidelines.

D. National reports

16. The Subcommittee took note with appreciation of the reports submitted by Member States (A/AC.105/887 and Add.1 and A/AC.105/C.1/2007/CRP.3) for its consideration under agenda item 3, “General exchange of views and introduction of reports submitted on national activities”. The Subcommittee recommended that the Secretariat continue to invite Member States to submit annual reports on their space activities.

E. Symposium

17. Pursuant to General Assembly resolution 61/111, a scientific symposium on the theme “Use of the equatorial orbit for space science and applications: challenges and opportunities” was held on 12 and 13 February 2007. It was moderated by J. L. Fellous of COSPAR and J. V. Zimmerman of IAF.

18. The presentations to the symposium included the following: “Use of the equatorial orbit for telecommunications and navigation satellites”, by M. Wittig of ESA; “Long-term, high-resolution observation of the extra-terrestrial solar output from 150 to 2500 nm”, by M. Weber of the University of Bremen; “The CNES/ISRO joint project on low inclination orbit to observe the low-latitude water cycle”, by J. L. Fellous of ESA; “GEO occupancy analyzer tool (GOAT)”, by J. Restrepo of the Ministry of Communications of Colombia; “Use of the equatorial orbit for space science missions – the X-ray astronomy satellite BeppoSAX and the γ -ray astronomy satellite AGILE”, by P. Giommi of the Italian Space Agency (ASI); “Developing an equatorial Earth observation satellite system”, by T. Kadri of the National Institute of Aeronautics and Space of Indonesia; “RazakSAT – high-resolution imaging satellite for near equatorial orbit”, by A. Arshad of Astronautic Technology Sdn Bhd, Malaysia; and “Use of the equatorial orbit for the Indian Satellite Navigation Programme” by B. N. Suresh of the Indian Space Research Organization (ISRO).

F. Coordination of space activities within the United Nations system and inter-agency cooperation

19. The Subcommittee noted with satisfaction that the Inter-Agency Meeting on Outer Space Activities had held its twenty-seventh session in Vienna from 17 to 19 January 2007. The Subcommittee had before it the report of the Inter-Agency Meeting on its twenty-seventh session (A/AC.105/885) and the report of the

Secretary-General on the coordination of space-related activities within the United Nations system: directions and anticipated results for the period 2007-2008 (A/AC.105/886). The Subcommittee noted that those reports indicated the extent to which space technology and its applications had become essential tools in support of a wide range of United Nations activities aimed at implementing and supporting the goals and decisions of global conferences and summits. The Subcommittee noted that the Inter-Agency Meeting would hold its twenty-eighth session in Geneva from 16 to 18 January 2008.

20. The Subcommittee noted that United Nations entities were continuing to coordinate their activities on existing and planned initiatives that contribute to the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), such as the Global Earth Observation System of Systems (GEOSS) of the Group on Earth Observations (GEO), the Integrated Global Observing Strategy Partnership (IGOS-P), CEOS, the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters and the International Strategy for Disaster Reduction (ISDR).

21. The Subcommittee noted that the Inter-Agency Meeting had identified many synergies between ongoing space-related activities of United Nations entities with the planned United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER) and the International Committee on Global Navigation Satellite Systems (ICG).

22. The Subcommittee noted that the Inter-Agency Meeting had invited United Nations entities dealing with humanitarian issues to report on lessons learned and best practices in the use of space-based data for disaster relief efforts and that the Office of the United Nations High Commissioner for Refugees (UNHCR) and the Office for the Coordination of Humanitarian Affairs had made presentations on their respective experiences. The Subcommittee also noted that the use of space technologies was making it possible for those responding to humanitarian and natural disaster events to provide critical emergency assistance more effectively and in a shorter period of time.

23. The Subcommittee noted that, following its twenty-seventh session, on 19 January 2007, the Inter-Agency Meeting had held its fourth open informal session for member States and observers of the Committee. The theme "Use of space-derived geospatial data for sustainable development in the United Nations system" was discussed at the fourth session in view of the new agenda item on space-derived geospatial data for sustainable development included on the agenda of the Committee on the Peaceful Uses of Outer Space under a three-year workplan, starting with its fiftieth session.

24. The Subcommittee noted that the Office for Outer Space Affairs had revised and published the brochure entitled "Space solutions for the world's problems: how the United Nations family uses space technology to achieve development goals". It was also noted that the printed brochure was available in Arabic, English, French and Spanish and had also been made available in electronic format on the website of the Office (www.unoosa.org).

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

25. After considering the items before it, the Subcommittee, at its [...]th meeting, on [...]th February 2007, 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

26. In accordance with General Assembly resolution 61/111, the Scientific and Technical Subcommittee continued its consideration of agenda item 4, "United Nations Programme on Space Applications".

27. At the 660th meeting, the Expert on Space Applications made a statement outlining the activities carried out and planned under the United Nations Programme on Space Applications.

28. The representatives of Canada, China, Colombia, India, Nigeria and the United States made statements under agenda item 4.

29. In accordance with General Assembly resolution 61/111, the Subcommittee, at its 660th meeting, reconvened the Working Group of the Whole, under the chairmanship of Muhammad Nasim Shah (Pakistan). The Working Group of the Whole held [...] meetings from 14 to [...] February 2007. At its [...]th meeting, on [...] February, 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

30. The Subcommittee had before it the report of the Expert on Space Applications (A/AC.105/874). The Subcommittee noted that the United Nations Programme on Space Applications for 2006 had been carried out satisfactorily and commended the work accomplished by the Expert in that regard.

31. The Subcommittee noted with appreciation that, since its previous session, additional resources for 2006 had been provided by various Member States and organizations and had been acknowledged in the report of the Expert (A/AC.105/874, paras. 58-59).

32. The Subcommittee expressed 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 a priority activity of the Office for Outer Space Affairs.

33. The Subcommittee noted that the United Nations Programme on Space Applications was assisting developing countries and countries with economies in transition in benefiting from space-related activities as proposed in the

recommendations of UNISPACE III, in particular those contained in the resolution entitled “The Space Millennium: Vienna Declaration on Space and Human Development”,¹ and those contained in the plan of action contained in the report of the Committee on the Peaceful Uses of Outer Space on the review of the implementation of the recommendations of UNISPACE III (A/59/174).

34. The Subcommittee noted that in order to avoid duplication of efforts between the activities of SPIDER and the activities in the thematic area of disaster management of the United Nations Programme on Space Applications, the Programme would aim to integrate disaster management with other thematic areas such as natural resource management and environmental monitoring, tele-education and telemedicine, and basic space science.

35. The Subcommittee noted that, in addition to the United Nations conferences, training courses, workshops, seminars and symposiums planned for 2007 (see para. [...] below), there would be other activities of the Programme in 2007, which would place emphasis on:

(a) Providing support for capacity-building in developing countries through the regional centres for space science and technology education, affiliated to the United Nations;

(b) Strengthening its long-term fellowship programme to include support for the implementation of pilot projects;

(c) Promoting the participation of youth in space activities;

(d) Supporting or initiating pilot projects as follow-up to activities of the Programme in areas of priority interest to member States;

(e) Providing technical advice, upon request, to Member States, bodies and specialized agencies of the United Nations system and relevant national and international organizations;

(f) Enhancing access to space-related data and other information.

1. Year 2006

Meetings, seminars, symposiums, training courses and workshops

36. With regard to the activities of the United Nations Programme on Space Applications carried out in 2006, the Subcommittee expressed its appreciation to the following for co-sponsoring the various workshops, symposiums and training courses that had been held within the framework of the Programme referred to in the report of the Expert on Space Applications (A/AC.105/874, para. 59 and annex I):

(a) The Governments of Austria, China, India, Nepal, the Republic of Korea, South Africa, Spain, the Syrian Arab Republic, Ukraine, the United States and Zambia;

(b) The Amritha Institute of Medical Science, Asia-Pacific Multilateral Cooperation in Space Technology and Applications, the China-Europe Global

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.

Navigation Satellite System Technology Training and Cooperation Centre, the China National Space Administration (CNSA), ESA, the General Organization of Remote Sensing (GORS), the International Academy of Astronautics (IAA), the International Astronautical Federation (IAF), the International Centre for Integrated Mountain Development (ICIMOD), the International Centre for Space Law (ICSL), the Indian Institute of Astrophysics, the Indian Space Research Organisation (ISRO), the Korea Aerospace Research Institute (KARI), the National Space Agency of Ukraine, the National Aeronautics and Space Administration (NASA) of the United States, the Space Research Institute of the Austrian Academy of Sciences and the University of Valencia.

Long-term fellowships for in-depth training

37. The Subcommittee expressed appreciation to the Government of Italy, which, through the Politecnico di Torino and the Istituto Superiore Mario Boella and with the collaboration of the Istituto Elettrotecnico Nazionale Galileo Ferraris, had continued to provide five 12-month fellowships for postgraduate studies in global navigation satellite systems (GNSS) and related applications.

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

Technical advisory services

39. The Subcommittee noted with appreciation the technical advisory services provided under the United Nations Programme on Space Applications in support of activities and projects promoting regional cooperation in space applications, as referred to in the report of the Expert on Space Applications (A/AC.105/874, paras. 36-43).

2. Year 2007

Meetings, seminars, symposiums, training courses and workshops

40. The Subcommittee recommended the approval of the following programme of meetings, seminars, symposiums, training courses and workshops, to be organized jointly by the Office for Outer Space Affairs, host Governments and others in 2007:

(a) United Nations/Morocco/European Space Agency International Workshop on the Use of Space Technology for Sustainable Development, to be held in Rabat from 25 to 27 April;

(b) United Nations/Mexico/Pan American Health Organization Training Course on Satellite Technology for Tele-health, to be held in Mexico City from 25 to 29 June;

(c) United Nations/Russian Federation/European Space Agency Workshop on the Use of Microsatellite Technologies for Monitoring the Environment and Its Impact on Human Health, to be held in Tarusa, Russian Federation, from 3 to 7 September;

(d) United Nations/Austria/European Space Agency Symposium on Space Tools for Monitoring Air Pollution and Managing Energy Resources, to be held in Graz, Austria, from 11 to 14 September;

(e) United Nations/International Astronautical Federation Workshop on the Use of Space Technology for Sustainable Development towards Food Security, to be held in Hyderabad, India, from 21 to 22 September;

(f) United Nations/Viet Nam/European Space Agency Workshop on Forest Management and Environmental Protection, to be held in Hanoi from 5 to 9 November;

(g) United Nations/Argentina/European Space Agency Workshop on Sustainable Development in Mountain Areas of Andean Countries, to be held in Mendoza, Argentina, from 26 to 30 November;

(h) United Nations/European Space Agency/National Aeronautics and Space Administration Workshop on Basic Space Science and the International Heliophysical Year 2007, to be held in Tokyo;

(i) United Nations Workshop on the United Nations Platform for Space-based Information for Disaster Management and Emergency Response;

(j) United Nations Workshop on Space Law, to be held in the second half of 2007;

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

B. International Space Information Service

41. The Subcommittee noted with satisfaction the publication of *Highlights in Space 2006*,² which had been compiled from a report prepared by COSPAR and IAF, in cooperation with the International Institute of Space Law. The Subcommittee expressed its appreciation to the contributors for their work.

42. The Subcommittee noted with appreciation that the Secretariat had continued to enhance the International Space Information Service and the website of the Office for Outer Space Affairs (www.unoosa.org). The Subcommittee also noted with satisfaction that the Secretariat was maintaining a website on the coordination of outer space activities within the United Nations system (www.uncosa.unvienna.org).

C. Regional and interregional cooperation

43. The Subcommittee noted that the highlights of the activities of the regional centres for space science and technology education, affiliated to the United Nations, supported under the United Nations Programme on Space Applications in 2006 and planned activities for 2007 and 2008 were included in the report of the Expert on Space Applications (A/AC.105/874, annex III).

² United Nations publication, Sales No. E.07.I.9.

44. The Subcommittee noted that the Government of India had continuously provided strong support to the Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP) over the past decade, including by making the appropriate facilities and expertise available to it through ISRO and the Department of Space of India. The Subcommittee also noted that, to date, the Centre had conducted 25 nine-month postgraduate courses: 11 on remote sensing and geographic information system (GIS), 5 on satellite communications, 5 on satellite meteorology and global climate and 4 on space and atmospheric science. The courses had benefited 655 participants from 30 countries in Asia and the Pacific and 26 participants from 16 countries from outside the region. It was noted that the Centre had also conducted 16 short-term courses and workshops in the previous 10 years. Having completed a decade of educational activities, the Centre was well on its way to become an international centre of excellence in training, education and research.

45. The Subcommittee noted that the campuses in Brazil and Mexico of the Regional Centre for Space Science and Technology Education in Latin America and the Caribbean had started organizing nine-month postgraduate courses in 2003. The Centre was supported by the Governments of Brazil and Mexico. The campus in Brazil was benefiting from the facilities made available to it by the National Institute for Space Research (INPE) of Brazil. Similar high-quality facilities had been made available on the campus in Mexico, which was supported by the National Institute of Astrophysics, Optics and Electronics of Mexico. The campus in Brazil had already conducted four nine-month postgraduate courses on remote sensing and GIS. The Centre had further conducted six short-term courses and workshops since its inauguration. It was noted that, in 2006, the meeting of the Governing Board of the Centre had reinforced the terms of the agreement for the establishment of the Centre with respect to the adherence of other States in Latin America and the Caribbean to the agreement.

46. The Subcommittee noted that the African Regional Centre for Space Science and Technology – in French Language, had been organizing nine-month postgraduate courses since its inauguration in 1998. Based in Rabat, the Centre was supported by the Government of Morocco and important national institutions such as the Royal Centre for Remote Sensing, the Mohammadia Engineering School, the Hassan II Institute of Agronomy and Veterinary Medicine, the National Institute of Telecommunications and the National Directorate of Meteorology. The Subcommittee noted that the Centre had already conducted eight nine-month postgraduate courses in remote sensing and GIS, satellite communications and satellite meteorology and global climate. Since its inauguration, the Centre had organized 13 short-term workshops and conferences.

47. The Subcommittee noted that the African Regional Centre for Space Science and Technology Education – in English Language, had, since its inauguration in 1998, organized eight nine-month postgraduate courses, in remote sensing and GIS, in satellite meteorology and global climate, in satellite communications and in space and atmospheric science. It had also conducted seven short-term activities. In 2006, 47 participants had completed the programme offered by the Centre. In 2006, the Centre had also become a national focal point for the Nigerian outreach programme on space education, targeting students in secondary school. Located at Obafemi Awolowo University in Ile-Ife, the Centre was strongly supported by the National

Space Research and Development Agency of Nigeria. The director of the Centre was seeking the political support from Governments of member States in Africa in order to strengthen the operation of the Centre for the benefit of the region.

48. The Subcommittee noted that the China National Space Administration (CSNA), in cooperation with the secretariat of the Asia-Pacific Multilateral Cooperation in Space Technology and Applications (AP-MCSTA), had begun on 10 July 2006 the first of the postgraduate courses on space technology applications based on four education curricula developed by the United Nations. The course was organized and conducted by Beijing University of Aeronautics and Astronautics (BUAA). The Government of China and the secretariat of AP-MCSTA together provided full or partial scholarships to 18 participants from developing countries in the region of Asia and the Pacific. The course consists of classroom learning at BUAA for nine months and subsequent pilot project research in participants' home countries for 6-12 months.

49. The Subcommittee noted that the United Nations Programme on Space Applications had provided technical and financial support to the Fifth Space Conference of the Americas, held in Quito from 24 to 28 July 2006. The Conference had addressed the subjects of international space law, reduction and mitigation of natural disasters, protection of the environment, tele-health and epidemiology, space education and access to knowledge. In the Declaration of San Francisco de Quito, adopted at the conclusion of the Conference, States in Latin America and the Caribbean were invited to set up national space entities to lay the foundation for a regional entity for cooperation.

50. It was noted that the Government of Ecuador had established the pro tempore secretariat of the Fifth Space Conference of the Americas to carry out the plan of action of the Conference. It was also noted that the pro tempore secretariat would be assisted by the Government of Colombia, which had been the host of the Fourth Space Conference of the Americas, and the Government of Guatemala, which would be the host of the Sixth Space Conference of the Americas.

51. The Subcommittee noted that the pro tempore secretariat of the Fifth Space Conference of the Americas had expressed its appreciation for the advisory support in the planning and conduct of the Conference that had been received from the International Group of Experts of the Space Conferences of the Americas, comprised of R. González, C. Rogriguez-Brianza, M. Fea, C. Arévalo, B. Morejón, V. Canuto and S. Camacho. The Subcommittee urged the Group of Experts to provide support for the implementation of the plan of action of the Conference, as well as for the organization of the Sixth Space Conference of the Americas, to be held in 2009.

52. The Subcommittee noted that the Office had hosted the seventh annual meeting of the Working Group on Education, Training and Capacity-building of CEOS, held in Vienna from 19 to 21 April 2006 (A/AC.105/874, para. 42).

53. The Subcommittee noted with satisfaction that since 2005, the United Nations Programme on Space Applications had oriented its activities to include supporting low-cost or no-cost pilot projects that could contribute to sustainable development at the national, regional and international levels. The increased focus of the Programme on such projects had yielded tangible results (A/AC.105/874, paras. 45-54).

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

54. In accordance with General Assembly resolution 61/111, the Subcommittee continued its consideration of agenda item 6, relating to remote sensing of the Earth.

55. In the course of the discussions, 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, India, Japan, Nigeria and the United States made statements under the agenda item. The observer for CEOS also made a statement.

56. Three technical presentations on remote sensing were made: one by the observer for ISRO entitled "Role of space based systems for watershed management: Indian experience"; one by the representative of Japan entitled "Topographical mapping and generating digital surface model using remote sensing"; and one by the representative of Poland entitled "Polish student activities in space research and education".

57. The Subcommittee emphasized the importance of Earth observation satellite data to support activities in a number of key development areas, for example: hydrology, oceanography, water resource management, fishery, wetland management, monitoring the marine environment, management of coastal zones, agriculture, food security, forestry and deforestation, drought and desertification, land-use management, land administration, natural resource management, prospecting gas and oil reserves, ecosystem studies, monitoring malaria and other vector-borne diseases, environmental monitoring, early warning for disasters, monitoring and controlling forest fires, meteorology, weather monitoring and prediction of special weather conditions, atmospheric circulation, air-quality monitoring and forecasting, monitoring global climate change and greenhouse gases, monitoring ice sheets, high-resolution mapping, urban planning, rural development, transportation management, aviation safety and humanitarian relief.

58. The Subcommittee highlighted the increasing current and future availability of space-based sensors on board satellites such as ADEOS II (MIDORI II), the Advanced Land Observing Satellite (ALOS, also known as "Daichi"), the Earth observing satellite Aqua, Aquarius/SAC-D, Beijing-1, the Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO) satellite, the China-Brazil Earth resources satellites CBERS-2, CBERS-2B, CBERS-3 and CBERS-4, the Communication, Ocean and Meteorological Satellite (COMS), COSMO-SkyMed, the Earth Observing System (EOS) satellites, the Environmental Satellite (Envisat), the Global Climate Observing Mission (GCOM) satellite series, the geostationary operational environmental satellites GOES-10, GOES-West and GOES-13, the Greenhouse Gases Observing Satellite (GOSAT), the Indian remote sensing satellites IRS-1D and IRS-P3, OCEANSAT-1, RESOURCESAT 1, the Technology Experiment Satellite (TES), CARTOSAT-1, CARTOSAT-2, Jason-2, KOMPSAT-2, KOMPSAT-3, KOMPSAT-5, the land remote sensing satellites Landsat-5 and Landsat-7, the meteorological operational satellite (Metop), the National Polar Orbiting Operational Environmental Satellite System (NPOESS), the Nigeria Earth

observation satellites NigeriaSat-1 and NigeriaSat-2, Oceansat-2, Odin, the Polarization and Anisotropy of Reflectances for Atmospheric Sciences coupled with Observations from a Lidar (PARASOL) satellite, the Synthetic Aperture Radar Satellite (RADARSAT-2), RazakSAT, Resurs-DK, SAC-D, SAOCOM, SciSat-1, SINASAT, Soil Moisture and Ocean Salinity (SMOS) satellites, the Earth Observation Satellite (SPOT), SSR-1, the Terra satellite carrying the Measurements of Pollution in the Troposphere (MOPITT) instrument, TerraSAR-X, the Thailand Earth Observation Satellite (THEOS) and the Tropical Rainfall Measuring Mission (TRMM) satellite.

59. The Subcommittee noted a number of international projects in the use of satellite technologies aimed at supporting sustainable development, such as the ALTIKA programme, the Sentinel-Asia Project, the ESA Terrestrial Initiative of Global Environmental Research (TIGER), the information gathering and warning system for disaster and crisis management, which included the Sentinel-Asia Project, and the partnership between Brazil and China relating to the CBERS programme.

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

61. The Subcommittee encouraged further international cooperation in the use of remote sensing satellites, in particular by sharing experiences and technologies through bilateral, regional and international collaborative projects. The Subcommittee noted the important role played by organizations such as CEOS, IAF and ISPRS and by international entities such as the Integrated Global Observing Strategy Partnership in promoting international cooperation in the use of remote sensing technology, especially for the benefit of developing countries.

62. The Subcommittee noted that GEO was continuing to implement its 10-year Work Plan for a Global Earth Observation System of Systems (GEOSS), which had been endorsed in a resolution by the third Earth Observation Summit, held in Brussels on 16 February 2005. The Subcommittee also noted that GEO had held its third plenary session in Bonn, Germany, in November 2006 and had launched the GEO 2007-2009 Work Plan. The Subcommittee noted with satisfaction that South Africa would host the GEO-IV plenary and ministerial-level meetings in Cape Town from 28 to 30 November 2007.

63. The Subcommittee noted with satisfaction that the European programme Global Monitoring for Environment and Security (GMES) not only fostered cooperation within Europe, but also strengthened international cooperation.