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## Committee on the Peaceful

### Uses of Outer Space

Scientific and Technical Subcommittee

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Item 6 of the provisional agenda\*

### Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

## Draft report of the Committee on the Peaceful Uses of Outer Space on the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

### Addendum

### III. Progress achieved in implementing recommendations

#### C. Activities of entities of the United Nations system that have contributed to the implementation of recommendations of UNISPACE III

##### 1. Achievements of the Inter-Agency Meeting on Outer Space Activities

1. The Inter-Agency Meeting on Outer Space Activities, which has been serving as a focal point of inter-agency coordination and cooperation in space-related activities since its establishment in the early 1970s, has played an important role in strengthening and repositioning space activities in the United Nations system. The Meeting began to consider follow-up to UNISPACE III in 2000.

2. The Inter-Agency Meeting contributed to the work of the Scientific and Technical Subcommittee during its consideration of the agenda item relating to inter-agency coordination and cooperation under a three-year work plan (see A/AC.105/C.1/L.272/Add.1, para. 2). Starting in 2002, the Inter-Agency Meeting

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\* A/AC.105/C.1/L.270.



has also considered the agenda item “Methods to enhance further the inter-agency coordination of space activities”, has welcomed the similar work conducted by the Subcommittee and responded positively to requests from it. The Meeting also submitted a set of proposals to the Subcommittee for consideration at the end of its work plan. By doing so, the Meeting has created synergy between its efforts and those of the Committee on the Peaceful Uses of Outer Space and its Scientific and Technical Subcommittee to increase awareness among entities of the United Nations system that had not used space applications of the importance of contributions that space science and technology and their applications can make towards their economic, social and cultural work programmes.

3. In the survey conducted by the Office for Outer Space Affairs in 2001 entities of the United Nations system indicated their levels of usage of space applications and services as part of their mandated activities and identified barriers to wider use. The results indicated that few entities of the United Nations system, in particular at the senior management level, were fully aware of the potential benefits of space science and technology in carrying out their mandated activities or of the relevance of space-related activities to their mandates, including those closely related to the promotion of sustainable development.

4. As regards the barriers to wider use of space applications and services, the Inter-Agency Meeting noted that there were different constituencies in the governing bodies of each organization of the United Nations system. A delegation to one forum of the system was not necessarily fully aware, in a timely manner, of the directions being pursued by a delegation of the same country in a different forum. The Meeting therefore felt that closer coordination and timely information-sharing among government agencies represented at different forums on issues relating to space activities would be beneficial and that this could be achieved through existing government mechanisms, resulting in coordination efforts similar to those being made by the entities of the United Nations system at the secretariat level.

5. The Inter-Agency Meeting has taken further steps in strengthening its role as the body to coordinate space-related activities within the United Nations system, agreeing, for example, to create a consolidated web site that would contain information on educational and training activities in space-related areas organized within the United Nations system. In the preparatory process leading up to the World Radiocommunication Conference in 2003, members of the Meeting concerned agreed to keep each other informed of its positions on the protection of the radio frequency bands necessary for their activities.

6. Some of the recurrent products of the Inter-Agency Meeting have been improved to serve as strategic tools to further enhance coordination and cooperation of space-related activities. An example is the annual report of the Secretary-General on the coordination of outer space activities within the United Nations system, first prepared in 1975 in response to a request by the Committee on the Peaceful Uses of Outer Space. The annual reports have provided comprehensive and voluminous information on space-related activities carried out within the United Nations system. Following UNISPACE III, the Meeting revised the structure of the annual report a number of times to reflect the structure of the Vienna Declaration, thus allowing readers to identify which entities were carrying out activities that responded to which actions called for in the Vienna Declaration. By agreeing on a set of criteria for information to be contained in future reports, the Meeting also took the initiative

to use the report to focus its discussions on specific activities and initiatives that should be supported by the United Nations system as a whole.

7. In order to increase awareness of the benefits of space science and technology in promoting sustainable development, the Inter-Agency Meeting prepared a brochure entitled "Space solutions for the world's problems: how the United Nations family is using space technology for sustainable development", which it will update on a regular basis for circulation at global United Nations conferences addressing social, economic and cultural development.

8. The Inter-Agency Meeting has supported the initiatives of the Committee to increase awareness of the benefits of space science and technology. In 2001, the Chairman of the Committee sent a letter to the Secretary-General drawing his attention to the need to consider the contributions of space science and technology to a greater extent in major United Nations conferences. In its resolution 56/51 of 10 December 2001, the General Assembly took note of that initiative and invited all entities of the United Nations system, in particular those which participate in the Inter-Agency Meeting, to identify recommendations of major United Nations conferences that could be implemented with the use of space science and technology. In response to that invitation, the Inter-Agency Meeting prepared a list of actions recommended in the Plan of Implementation of the World Summit on Sustainable Development, held in Johannesburg, South Africa, from 26 August to 4 September 2002, to which space science and technology and their applications had direct or potential relevance and agreed to invite United Nations entities to complete the list with their space-related activities and programmes that correspond to the recommended actions. The Meeting considered that the World Summit had considered most of the issues addressed by recent major United Nations conferences. The Committee endorsed the proposal by the Inter-Agency Meeting that member States of the Committee should also conduct a similar exercise. Once completed, the list could serve as a comprehensive survey of the space community's response to the outcomes of the World Summit.

9. Following UNISPACE III, some entities of the United Nations system that had not been involved in the Inter-Agency Meeting began to contribute to its work, including the Office of the United Nations High Commissioner for Refugees (UNHCR), the United Nations Office for Project Services (UNOPS) and the secretariat for the Convention on Biological Diversity. Those entities which had been involved in the Inter-Agency Meeting, such as the secretariat for ISDR, ECA, ESCAP, UNEP, FAO, UNESCO, ICAO, WHO, ITU, WMO and IAEA continued to contribute to its work.

10. In order to further increase interactions with member States of the Committee on the Peaceful Uses of Outer Space, starting from 2004, the Meeting will convene an informal open session to which representatives of member States of the Committee will be invited.

## **2. Achievements by the Office for Outer Space Affairs**

11. Following UNISPACE III, the Office for Outer Space Affairs developed a plan of action pursuant to General Assembly resolution 54/68 of 6 December 1999 and submitted it to the Committee in 2001 in which it proposed a set of actions, including new activities, to achieve the following objectives:

- (a) Strengthening the role of the Committee and its subcommittees in the formulation of policy and the promotion of international cooperation in space activities;
- (b) Initiating a capacity-building programme in areas relating to space law;
- (c) Strengthening the activities of the United Nations Programme on Space Applications;
- (d) Promoting the use of space technologies within the United Nations system;
- (e) Encouraging non-governmental entities to play a larger role in United Nations efforts to promote the peaceful uses of outer space;
- (f) Increasing the awareness of the general public and young people of the benefits of space activities.

The Committee endorsed the plan of action and recommended its implementation. Some of the new activities proposed included a capacity-building programme in space law, organization of outreach activities, in particular for young people, and a series of training modules consisting of regional workshops and follow-up activities. In its resolution 55/122 of 8 December 2000, the General Assembly requested the Secretary-General to ensure the full implementation of the plan with the necessary resources in 2002. All the activities contained in the plan were included in the programme of work of the Office for Outer Space Affairs for the biennium 2002-2003 and the Office was provided with additional staff resources to carry out additional recurrent activities resulting from UNISPACE III.

12. In the area of strengthening the role of the Committee and its subcommittees in promoting international cooperation in the peaceful uses of outer space, the Office provided technical and administrative support to the work of all the action teams established by the Committee to implement recommendations of UNISPACE III. The Office also provided substantive advice upon request to some action teams.

13. The Office for Outer Space Affairs has expanded its activities in the area of space law. To date, it has held two workshops on space law, the first in the Hague in November 2002, to address capacity-building in space law. The Legal Subcommittee welcomed the recommendations of that workshop and agreed that it had made a positive contribution to achieving full understanding and acceptance of the five United Nations treaties related to outer space. A second workshop, held in Daejeon, Republic of Korea, in November 2003, discussed the implementation of the treaties at the national level. Its recommendations were presented to the Legal Subcommittee at its 43rd session, in 2004. The organization of workshops marked the launch of the programme of the Office to build capacity in space law.

14. By preparing space law-related documents and publications, including an annual report on the current status of signatures and ratification of and accessions to the various multilateral international agreements relating to outer space as well as studies and reports requested by the Legal Subcommittee, the Office continues to provide substantive support to the work of that Subcommittee. The Office also continues to develop, maintain and improve a database on national space laws. In addition to serving as a source of information and substantive advice on

international space law, the Office began to strengthen its capacity to assist developing countries, upon request, in the development of national space legislation and ratification of the outer space treaties.

15. In planning and managing the United Nations Programme on Space Applications, the Expert on Space Applications adopted a new strategy in response to a call by the General Assembly in paragraph 11 (d) of its resolution 54/68 to strengthen activities of the Programme, based on the recommendations of UNISPACE III. The Programme now concentrates on a few themes of major importance for developing countries and establishes objectives that can be achieved in the short and medium term while maintaining a few long-term capacity-building activities. The objectives are being reached through activities of the Programme that build upon the results of the other activities. For example, the recommendations of the workshops are being carried out through follow-up pilot or demonstration projects for the benefit of developing countries. Some of the successful participants in past training courses are also being provided with long-term fellowships, to be followed with technical advisory support for carrying out their pilot projects once they have returned to their countries.

16. Priority themes of the Programme are: (a) disaster management; (b) satellite communications for tele-education and telemedicine applications; (c) monitoring and protection of the environment, including the prevention of infectious diseases; (d) management of natural resources; and (e) education and research in the basic space sciences. Other areas of work include developing capability in enabling technologies, such as the use of global navigation and positioning satellite systems, spin-offs of space technology, applications of small satellites and micro-satellites and promoting the participation of private industry in activities of the Programme. Within each priority theme, the Programme pursues the following main objectives: (a) capacity-building; and (b) building awareness among decision makers in order to strengthen local support for the operational use of space technologies. Wherever possible the activities of the Programme have also supported the action teams established by the Committee to implement recommendations of UNISPACE III.

17. The Programme has launched training modules consisting of series of regional workshops and follow-up activities. Regional workshops in the use of space technology for disaster management started in 2000 and by the end of 2003, the Programme had convened five such workshops and had begun to define and develop follow-up pilot projects for Southern Africa and South America. It plans to expand technical advisory services for pilot projects for other regions in the coming years. Four regional workshops and two international meetings on the use and applications of GNSS were also organized in 2001-2003. The second international meeting, held in December 2003, identified priority follow-up projects and initiatives that should be supported by the Programme in 2004-2005.

18. On average, one third of the cost involved in organizing activities of the Programme has been covered with resources from the Trust Fund for the United Nations Programme on Space Applications, established pursuant to General Assembly resolution 37/90 of 10 December 1982. Another third has been covered by the regular budget of the Office, and the remainder by the countries hosting activities, many of them developing countries.

19. Following UNISPACE III, in direct response to a recommendation contained in the Vienna Declaration to establish a special voluntary United Nations fund for the purpose of implementing the recommendations of UNISPACE III, the terms of reference of the existing Trust Fund were revised to include new activities of the Programme to implement those recommendations. As requested by the General Assembly in paragraph 9 of its resolution 54/68, the Secretary-General in 2000 invited Member States to contribute to the Fund and included in his invitation a list of priority project proposals prepared on the basis of recommendations of the Committee at its 44th session that included the following projects and activities:

(a) Support of operational activities of the regional centres for space science and technology education, affiliated to the United Nations, and the Network of Space Science and Technology Education and Research Institutions for Central Eastern and South-Eastern Europe;

(b) Development of disaster-specific modules and implementation of pilot projects in developing countries to introduce the use of space technologies in disaster management;

(c) Provision of satellite data and hardware and software to user institutions in developing countries to initiate or strengthen pilot projects that use Earth observation data for protecting the environment and management of natural resources;

(d) Development and implementation of a training module on the use of satellite communications for distance education, telemedicine and tele-health applications;

(e) Organization of outreach activities for young people and the general public.

20. The number of training opportunities offered through the United Nations Programme on Space Applications, including those at the regional centres for space science and technology education sponsored by the Programme, has increased significantly in the past few years. More training courses and workshops are being organized by the regional centres for space science and technology education for the regions of Asia and the Pacific, Africa and Latin America and the Caribbean, which were inaugurated in 1995, 1998 and 2003, respectively.

21. The number of requests received by the Office from member States and intergovernmental and non-governmental organizations for technical advisory services also increased. In addition to technical and administrative support for the organization of international conferences, the Office expanded the scope of its technical advisory services to respond to operational needs. An example of the latter is the service provided by the Office through an agreement with the International Charter "Space and Major Disasters",<sup>1</sup> which enabled the Office to start providing services on a round-the-clock basis to entities of the United Nations system that need spatial data and information in response to disaster-related emergencies. The Charter was thus triggered for the first time when the Office forwarded a request from UNOPS for satellite imagery of the Nepal floods and landslide in August 2003. Currently, nine United Nations entities (Office for the Coordination of Humanitarian Affairs, UNOPS, UNEP, UNHCR, UNICEF, WFP, FAO, UNESCO and WHO) have

provided the contact information of their focal points and are involved in the arrangement.

22. Another example relates to the establishment of a network to distribute satellite data in African countries. With contributions from the Government of the United States of America, the Programme began to distribute sets of Landsat data covering specific areas of interest to African institutions upon request. The African Regional Centre for Space Science and Technology—in French Language will thus be provided with complete sets of Landsat data covering its member countries.

23. The Programme has strengthened its efforts to support participants of past training courses in their efforts to develop a critical mass of trained personnel in the use of space technologies in developing countries. An example is the follow-up evaluation exercise planned in 2004-2005 to assess the local impact of the series of annual United Nations/Sweden international training courses on remote sensing education for educators, which began in 1990. In the light of the results of the survey conducted in 2001 among the participants of the courses held in 1990-2000,<sup>2</sup> the Office, Stockholm University and the Swedish International Development Cooperation Agency decided to carry out evaluation missions and organize workshops in 2004-2005 in Asia and the Pacific and Latin America and the Caribbean in order to assess the local impact of the courses, identify key elements of success or a set of impediments and determine the nature and scope of support that should be provided to past participants.

24. The Programme has significantly expanded its outreach activities, in particular for young people. Through a series of symposiums organized with the sponsorship of the Government of Austria and ESA from 2000 to 2002, on enhancing the participation of youth in space activities, the Programme provided opportunities for young professionals and students interested in space activities to exchange information and experience on their efforts to promote space activities in particular among young people in their home countries and to exchange views with experts from space agencies on the participation of youth in space activities. Those symposiums have contributed to the implementation of the recommendation of UNISPACE III encouraging all States to provide their children and youth with opportunities to participate fully in activities related to space science and technology.

25. The symposiums also assisted in the establishment of a Space Generation Advisory Council, consisting of young professionals and students interested in space activities from countries around the world. The Council convened its annual assemblies during the symposiums mentioned above to review their activities and prepare plans for future actions, including the submission of a request to the Committee on the Peaceful Uses of Outer Space to participate in its work as a permanent observer. In its resolution 56/51 of 10 December 2001, the General Assembly endorsed the decision of the Committee to grant permanent observer status to the Council, which contributed to the implementation of the recommendation of UNISPACE III that a consultative mechanism be created within the framework of the Committee to facilitate the continued participation of young people from all over the world, especially young people from developing countries and young women, in cooperative space-related activities.

26. Following the declaration by the General Assembly of World Space Week from 4 to 10 October, on the recommendation of UNISPACE III, the Office organized special United Nations events open to the public in New York and Vienna to celebrate the first World Space Week, in October 2000. Subsequently the Office has worked closely with the Spaceweek International Association to promote the organization of special events to celebrate the Week around the world. Organizations in 39 countries reported to the Association on their special events to celebrate World Space Week in 2002, indicating an increase from 31 in 2000.<sup>3</sup>

27. As part of its efforts to expand outreach activities, in 2001 the Office refurbished the permanent space exhibit in the United Nations Office at Vienna. A number of space agencies and space-related organizations contributed models of spacecraft and rockets as well as images for panels. The exhibit now includes an interactive computer program, a Moon rock and a replica of a biosphere experiment flown on board the International Space Station. The Office also organized special exhibits on specific themes. The space exhibit continues to attract the attention of many visitors to the Vienna International Centre, especially schoolchildren, and contributes to increasing public awareness of the benefits of space activities.

28. The Office has refocused its staff resources to enhance its International Space Information Service (ISIS) and made available a searchable index of the United Nations Register of Objects Launched into Outer Space. A searchable index that provides information on the status of signatures and ratification of the five United Nations treaties related to outer space was also made available on the web site of the Office ([http://registry.unvienna.org/oosa/treaty\\_status/index.stm](http://registry.unvienna.org/oosa/treaty_status/index.stm)). ISIS also integrated the International Aerospace Information Network (IAIN) in order to facilitate access to aerospace and other relevant information materials made available by cooperating nations. By hosting web sites for the Inter-Agency Meeting on Outer Space Activities as well as action teams, ISIS supported the work of those bodies.

### **3. Achievements by entities of the United Nations system**

29. In its resolution 54/68, the General Assembly urged entities of the United Nations system to take the necessary action for the effective implementation of the Vienna Declaration. In response to that call, some entities of the United Nations system actively contributed to the work of the action teams. For example, WMO provided substantial assistance to the Action Team on Weather and Climate Forecasting in developing recommendations and preparing the final report as co-chair; ITU provided an important tool for exchange of voluminous documents among members of the Action Team on Global Navigation Satellite System by hosting a web board and kept the Action Team informed of developments concerning the World Radiocommunication Conference relating to the use of frequency spectrums by GNSS; a number of United Nations entities, including the Office for the Coordination of Humanitarian Affairs, the secretariat of ISDR, UNOPS, UNEP, UNHCR, UNESCO and WMO, provided substantive contributions to the work of the Action Team on Disaster Management; UNESCO was instrumental in drawing up the recommendations of the Action Team on Capacity-Building; and many entities cooperated with the action teams by responding to their numerous requests for information on their activities.



30. As part of their mandates, a number of entities of the United Nations system carry out activities using space-related technologies that contribute to implementing recommendations of UNISPACE III relating to environmental monitoring strategy, management of natural resources, disaster management and promotion of sustainable development, some of which also contribute to capacity-building in space applications, in particular in developing countries, and to increasing awareness among policy makers of the usefulness of space applications. Such activities include providing training for developing countries, holding workshops and seminars for experts and decision makers, disseminating information materials, implementing pilot projects as well as developing standards and developing and promoting policy guidelines whose implementation would be facilitated by the use of space-related technologies. Activities of those entities could further benefit from the results of the work of the action teams.

31. As regards protection of the environment and monitoring strategies, UNEP and the secretariat of the Convention on Biological Diversity conduct extensive activities of assessment and monitoring, UNEP through the Global Environment Outlook (GEO) process, a comprehensive international framework for environmental assessment conducted through a network of about 40 institutions in all regions of the world.

32. In the areas relating to the management of natural resources, the Illicit Crop Monitoring Programme of the United Nations Office on Drugs and Crime combines ground- and remote sensing-based techniques to assist countries in monitoring the extent and evolution of illicit narcotic crops. The Land Core Map and Geodatabase for Africa (AFRICOVER) project of FAO developed an interactive land cover classification system (LCCS), which has become a de facto international standard for landcover mapping. The FAO Advanced Real-Time Environmental Monitoring Information System (ARTEMIS) provides long-term low-resolution satellite-based assessment of vegetation dynamics and rainfall patterns in support of Global Information and Early Warning System on Food and Agriculture (GIEWS). The entities involved in the Integrated Global Observing Strategy (IGOS) Partnership (IGOS-P) made further progress in the development and the implementation of IGOS, one of the recommendations contained in the Vienna Declaration. UNEP, FAO, UNESCO and WMO continue to play an essential role in the activities of IGOS-P and in the development, planning and implementation of the Global Climate Observing System (GCOS), the Global Terrestrial Observing System (GTOS) and the Global Ocean Observing System (GOOS), in particular.

33. WMO launched a major initiative to enhance weather and climate forecasting: the WMO Space Programme, launched in May 2003, aims to coordinate environmental satellite activities throughout all WMO programmes and to provide guidance to these and other multi-sponsored programmes on the potential of remote-sensing techniques in meteorology, hydrology and related disciplines and their applications. The long-term objectives include development of the Global Observing System (GOS) as a composite system consisting of surface and space-based components, with a primary focus on matters related to both operational as well as research and development environmental satellites and promoting high-quality satellite-related education and implementation of the World Area Forecast System (WAFS), which uses satellite-based communication systems to distribute

aeronautical meteorological operational information and forecasts in support of commercial aviation.

34. A number of United Nations entities are involved in disaster management using space-related technologies. Many of them are members of the Inter-Agency Task Force on Disaster Reduction, through which efforts are being made to introduce the use of space technologies, such as Earth observation and communication satellites. The secretariat for ISDR, which provides secretariat services to the Inter-Agency Task Force, supported those efforts. UNEP has made an important contribution to the work of the Inter-Agency Task Force by, among many other things, developing and implementing the Strategic Framework on Emergency Prevention, Preparedness, Assessment, Mitigation and Response, and developing the Inventory of Early Warning Systems, an Internet-based database on existing early warning systems. In addition to many activities of its Division of Early Warning and Assessment relating to dissemination of data and information, vulnerability and risk assessment and early warning, UNEP supports disaster management by, for example, formulation of an integrated support strategy for institutional capacity-building for disaster management and establishment of an African regional network to improve access to information on disaster events.

35. In 2002 FAO established an Emergency Operations and Rehabilitation Division to respond to needs for emergency assistance in the agricultural, livestock and fisheries sectors in developing countries affected by disasters. The proposed WMO Programme for Natural Disaster Prevention and Mitigation will ensure effective coordination of WMO activities with those of international, regional and national organizations and will promote the delivery of increasingly accurate and reliable warnings of severe weather and climate events.

36. The Information, Communication and Space Technology Division of ESCAP, established in July 2002, contributes to the implementation of the recommendation of UNISPACE III relating to knowledge-sharing. The objective of the Division is to promote access to and application of information, communication and space technology in the region. ESCAP has been active in promoting sustainable development applications of satellite communications in such areas as tele-health and tele-education and in preparing for the World Summit on the Information Society.

37. Through its Space Education Project, launched in 2002, UNESCO makes important contributions to capacity-building and increasing awareness and aims, among other things, to enhance education in space subjects in schools, in particular in developing countries; to promote the integration of space subjects in the national curricula; to promote professional development programmes for teachers and educators and young professionals; to assist teachers and educators to develop educational materials adapted to their needs; and to contribute to the preparation of the next generation of the space workforce.

38. The work being carried out by the United Nations Geographic Information Working Group relates to the implementation of many of the recommendations of UNISPACE III. The Working Group was established in March 2000 by the Administrative Committee on Coordination (now known as the United Nations System Chief Executives Board for Coordination), to coordinate activities and formulate policies concerning geographical information within the United Nations

system. FAO is thus developing GeoNetwork, a comprehensive international standard-based spatial information infrastructure jointly with the World Food Programme (WFP) and other partners. GeoNetwork aims to improve dynamic access to and integrated use of spatial information among FAO services, member countries and stakeholders in support of decision-making for sustainable development by using the Internet as an inter-operable information exchange mechanism between United Nations entities, intergovernmental and non-governmental organizations and the scientific community.

**D. Activities of intergovernmental and non-governmental organizations that have permanent observer status with the Committee that have contributed to the implementation of the recommendations of UNISPACE III**

39. In its resolution 54/68, the General Assembly, in its resolution 54/68, urged intergovernmental and non-governmental organizations and industries conducting space-related activities to take the necessary action for the effective implementation of the Vienna Declaration. The Committee stressed the importance of involving non-governmental entities in the implementation of recommendations of UNISPACE III when it established action teams in 2001 and agreed that those teams should consider non-governmental entities that could be invited to participate. As a result, as at [October 2003], 10 out of 16 international organizations that have permanent observer status with the Committee as well as 3 other intergovernmental organizations and 9 other non-governmental entities have participated in the work of one or more action teams as members.

40. Through its open meetings, the Action Team on Disaster Management has opened an avenue for commercial entities involved in satellite manufacturing and operation as well as the insurance industry to contribute to its work. ESA, the European Commission and the International GPS Service (IGS) have made an important contribution to the work of the Action Team on Global Navigation Satellite System, which also benefited from substantive inputs from such intergovernmental and non-governmental entities as the International Association of Institutes of Navigation (IAIN), the International Federation of Surveyors (FIG) and the Bureau international des poids et mesures (BIPM) in formulating its recommendations. The Action Team on Near-Earth Objects has benefited from the contributions of the Committee on Space Research (COSPAR), the International Astronomical Union (IAU) and the Spaceguard Foundation, which participated in the Action Team as members. It also worked with the Organisation for Economic Cooperation and Development (OECD) and built upon the Organisation's work in the framework of its Global Science Forum on matters relating to NEOs. IAU and the Committee on Earth Observation Satellites, through its Ad Hoc Working Group on Education and Training, has assisted the Action Team on Capacity-Building in formulating its recommendations. A number of international non-governmental entities contributed to the survey conducted by the Action Team on Increasing Awareness by providing information on their outreach activities and suggestions for further increasing awareness of the benefits of space activities among policy makers and the general public. The Space Generation Advisory Council established working groups to examine the implementation of nearly all the recommendations contained

in the Vienna Declaration and submitted its proposal and recommendations to the Scientific and Technical Subcommittee at its 40th session, in 2003, for consideration, as necessary and appropriate, in particular by the action teams. Some entities, such as the ESA and IAU, contributed to the implementation of a number of recommendations of UNISPACE III by providing substantive inputs for the work of the Committee on the Peaceful Uses of Outer Space and its subsidiary bodies in the consideration of issues on their agendas.

[41. In addition to participation in the work of action teams and the work of the Committee and its subsidiary bodies, many intergovernmental and non-governmental entities have addressed issues relevant to the implementation of recommendations of UNISPACE III by organizing workshops and conferences for experts and policy makers or for the general public, conducting technical studies and disseminating information materials for the general public. Others launched major international programmes and initiatives to provide space-based services or developed policies or strategies.]

42. Many initiatives by intergovernmental and non-governmental entities followed UNISPACE III in the area of environmental monitoring and management of natural resources. For example, following the meeting of the European Council in Gothenburg, Sweden, in June 2001, ESA and the European Commission launched Global Monitoring for Environment and Security (GMES), an initiative to provide independent, operational and relevant information in support of a range of policies serving sustainable objectives in areas such as environment, agriculture, fisheries, transport and regional development. As follow-up to the World Summit on Sustainable Development by CEOS, ESA also launched a TIGER project to respond to the needs of African countries in water resource management. In order to respond to the increasing need for more frequent and comprehensive space-derived data for weather forecasting, the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) and ESA began the development of the Meteosat Second Generation system. More frequent and comprehensive data collected by the latter are expected to assist significantly in timely recognition and prediction of extreme weather phenomena.

43. Announced by ESA and CNES during UNISPACE III, the International Charter "Space and Major Disasters" became operational in November 2000 (see para. [...]). Through the Charter, satellites of member agencies can be used to provide Earth observation images to civil protection authorities responding to a major disaster. By the end of 2002, the Charter had been activated 27 times, and 11 times in 2003 in response to various natural disasters, such as earthquakes, volcanic eruptions, landslides or floods, in a number of countries.

44. The International Organization of Space Communications (INTERSPUTNIK) is carrying out a number of projects using communication satellites to help bridge the gap between developed and developing countries, including the establishment of a global fleet of small communication satellites with a view to reducing lease prices and expanding the base of potential users, mainly in developing countries. The activities of INTERSPUTNIK contribute to enhancing knowledge-sharing through the promotion of universal access to space-based satellite communication services.

45. One of the initiatives taken by the International Society for Photogrammetry and Remote Sensing is expected to provide new and innovative sources of funding

to support the implementation of recommendations of UNISPACE III. The Society is developing a foundation to administer an extensive and broad-based international programme that would provide grants, scholarships, training supplies and other forms of scientific assistance to qualified individuals and organizations pursuing and/or applying knowledge for the advancement of the sciences and technologies associated with disciplines in which the Society is active.

46. CEOS has played an important role in coordinating efforts of its members to demonstrate the usefulness of space applications in advancing sustainable development on the occasion of the World Summit on Sustainable Development. The presentations and demonstrations made by CEOS members at the World Summit and their information materials contributed to the implementation of recommendations of UNISPACE III to increase awareness among decision makers and the general public of the importance of space activities; to promote sustainable development by applying results of space research; to increase the use of space-related systems and services by the entities of the United Nations system and by the private sector; and to improve the management of the Earth's natural resources. The follow-up programme established by CEOS contemplates actions to be taken by its members in the following five areas and would contribute to implementing several recommendations of UNISPACE III: (a) education, training and capacity-building; (b) water resource management; (c) disaster management; (d) climate change; and (e) global mapping, land-use monitoring and geographic information systems (GIS).

47. The continuation of recurrent activities of some intergovernmental and non-governmental organizations, as reflected in their mandates or terms of reference, helps implement many of the recommendations of UNISPACE III. ESA, for example, promotes international cooperation, advances scientific knowledge and enhances education and training opportunities. The activities of ILA, through its Space Law Committee, contribute to implementing the recommendation of UNISPACE III to promote the efforts of the Committee on the Peaceful Uses of Outer Space in the development of space law as well as possibly several other recommendations from a legal point of view.

#### *Notes*

<sup>1</sup> The Charter was announced by the European Space Agency and the French Space Agency (CNES) during UNISPACE III and became operational in November 2000, following the signing of the Charter by the Canadian Space Agency (CSA) in October 2000. Through the Charter, satellites of ESA, CNES, CSA, Indian Space Research Organisation (ISRO), National Oceanic and Atmospheric Administration (NOAA) of the United States of America, and National Commission on Space Activities (CONAE) of Argentina can be currently used to provide Earth observation images to civil protection authorities responding to a major disaster, and it is anticipated that the number of space agencies that participate in the Charter would increase.

<sup>2</sup> See ST/SPACE/9.

<sup>3</sup> See ST/SPACE/19, pp. 7 and 8.