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Committee on the Peaceful Uses of Outer Space

398th Meeting
Thursday, 9 June 1994, 10 a.m.
Geneva

Chairman: Mr. Hohenfellner . . . . . (Austria)

The meeting was called to order at 10.10 a.m.

Organization of work

The Chairman: When we exhaust the speakers' list on agenda item 4, we will begin our consideration of agenda item 5, "Report of the Scientific and Technical Subcommittee", and agenda item 7, "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space". Following the past practice of the Committee, we will consider these items jointly. The speakers' list for item 4 will remain open, so that delegations wishing to speak on this item may do so at this afternoon's meeting. I urge all delegations wishing to speak on any of these agenda items - 4, 5 or 7 - to inscribe their names on the lists of speakers as soon as possible.

I would also remind representatives that tomorrow afternoon, we will hold - as I announced yesterday - an informal meeting of the Committee to discuss matters related to its working methods and those of its subsidiary bodies, as requested by several delegations.

Ways and means of maintaining outer space for peaceful purposes *(continued)*

Mr. Pesci-Bourel (Argentina) *(interpretation from Spanish):* As we stated in our initial statement, the Government of Argentina is firmly committed to the exclusively peaceful use of outer space, which is the only way to ensure that outer space is used for civilian ends only and for the benefit and progress of all mankind. That is why my country has employed every means possible to ensure that Argentine space activities are geared and committed to that end.

Not only is our national space programme wholly under the aegis of the Commission on Space Activities, a purely civilian body, but our Government has also dismantled all missile-related projects throughout the country. In addition, we are recycling the Falda del Carmen facilities in order to set up a centre for space activities.

The Republic of Argentina also adheres to the guidelines for controlling the export of missile technologies and participates actively in the group of countries that take a similar stand. Accordingly, the National Commission on Sensitive Exports strictly controls all Argentine exports in this field, including space technologies, to ensure that their end use is not military.

We firmly support the work of the Conference on Disarmament in Geneva relating to the prevention of an arms race in space and hope that it will soon yield positive results.

Along the same lines, the Government of Argentina has adhered to the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space adopted by the United Nations General Assembly, and ratified the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

We hope that the new perspectives emerging on the international scene following the end of the cold war will allow for the universal acceptance of these principles and

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reserve outer space for purely civilian and peaceful purposes.

In conclusion, we would reiterate the need to ensure that the best means to conserve outer space for peaceful purposes is through international cooperation, which promotes confidence between States and strengthens a climate of greater transparency in space activities.

Mr. Jahedi (Islamic Republic of Iran): Recent developments and subsequent changes in the international environment have provided new opportunities for utilizing space technology to improve international peace and stability. According to the fundamental principles of the Committee on the Peaceful Uses of Outer Space, outer space is the common heritage of mankind and should be explored and utilized for exclusively peaceful purposes.

My delegation therefore believes that the benefits of the space programme should be shared by a great number of States and nations, particularly developing countries. The rapid advances in space technology over the past decade and the widespread use of this technology for essential economic and social services all suggest that the international community should seize the opportunity to ensure that the space sciences are used to promote security and stability for the benefit of all countries.

As we enter a new era of international cooperation, my delegation attaches great importance to the use of space technology for the well-being of mankind in the spheres of communications, environmental issues and disaster prevention. In this regard, cooperation among countries is key to the peaceful uses of outer space and should be strengthened by international organizations.

Technical cooperation among Member States and assisting developing countries in the use of space technology for development requires the active involvement of the United Nations. In our view, free access to space data, transfer of technology and the strengthening of cooperation are among the issues on which developed and developing countries should work together to overcome their differences.

In order to keep space free of an arms race, my delegation would welcome any agreement governing space activities on the prevention of an arms race in outer space. There is an urgent need to conclude an international agreement on the prevention of an arms race in outer space with a view to enforcing the existing legal regime, while taking up confidence-building measures in the interim. The demilitarization of outer space should ensure the safety and security of the Earth.

In this context, my delegation suggests the establishment of cooperation between this Committee and the Conference on Disarmament within the framework of the Committee's work and its agenda items.

Mr. Hodgkins (United States of America): My delegation would like to comment briefly on the topic of ways and means of maintaining outer space for peaceful purposes. Previous speakers have sounded a note of optimism for the future work of the Committee. We share that optimism and firmly believe that the present conditions are such that we can build a solid foundation for enhancing international cooperation in the exploration of outer space.

Changes in the world political scene continue to raise challenges to and opportunities for broadening and deepening cooperation in outer space. We must position ourselves to take full advantage of these opportunities and avoid those extraneous issues, such as disarmament, which have created points of contention in this Committee.

Indeed, when the Committee was established over three decades ago, there was a clear separation between disarmament, which would be taken up in other United Nations forums, and international cooperation in the peaceful uses of outer space, which would be addressed in COPUOS. The wisdom of that decision is apparent when we look at the accomplishments of this Committee in increasing international understanding of the potential uses of outer space for science and engineering, communications, transportation, meteorology, environmental monitoring and medicine.

Another promising sign for the future is the potential for regional cooperation. My Government participated actively in the first and second Space Conferences of the Americas. These Conferences, hosted by the Government of Costa Rica in 1990 and the Government of Chile in 1993, brought together government policy-makers and space experts to explore the prospects for regional cooperation. We were greatly impressed with the results and pleased that this Committee was able to lend its support and encouragement. The Conferences were certainly an important advance in regional cooperation, a priority that COPUOS has been advocating for over a decade, beginning with UNISPACE-82.

There is no doubt that the utilization of space technology to solve problems on Earth must be considered

in a global perspective, particularly as related to the protection of the environmental quality of the world's land, oceans and atmosphere. But regional cooperation continues to hold great promise. Perhaps we should dedicate our efforts under this agenda item to exploring how the Committee could use its resources and expertise to take full advantage of the potential for regional cooperation to meet specific regional needs. We might also consider under this item ways in which the Committee could promote greater international cooperation in the use of space systems for disaster early warning and mitigation and global search and rescue activities.

Report of the Scientific and Technical Subcommittee on the work of its thirty-first session (A/AC.105/571)

Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space

The Chairman: I call first on the United Nations Expert on Space Applications, Mr. Abiodun.

Mr. Abiodun (United Nations Expert on Space Applications): I am grateful to you, Mr. Chairman, for giving me this opportunity to address the members of this Committee on the activities of the United Nations Programme on Space Applications during the Committee's consideration of agenda items 5 and 7 at its current session. Because this Committee is meeting here for the first time since the relocation of the Office for Outer Space Affairs from New York to Vienna, I will slightly modify the usual format of my statement, taking into consideration the fact that a number of representatives may be participating in the Committee's work for the first time.

We are all well aware that the United Nations Programme on Space Applications was born out of the need to ensure, first, that the practical benefits of space science and technology are made available to the industrialized and developing countries alike, and, secondly, that all Member States are able to participate in regional and international programmes that not only affect us all, but also rely heavily on space-acquired information. It is not possible to summarize or even identify all these benefits in a brief statement such as this. However, I will address a few of them, including some of the global programmes.

The usefulness and impact of space exploration on human activities here on Earth were first demonstrated through satellite communications. The technological breakthroughs and new developments in rocketry, and thus in launch vehicle capabilities and in corresponding spacecraft technologies, have resulted in the operational satellite telecommunications systems of today. The evolution of telecommunications has been assisted and accelerated by rapid developments in various technologies, including electronic antennas and microprocessors, particularly as a major tool in the collection, storage, retrieval and distribution of data. These new technologies and many more have enabled humankind to conquer the tyranny of distance and have made telecommunications a universal system and an indispensable motor of human activities.

A decade ago it was anticipated that over 245 satellites for civil communication, with increased circuit and television channel capabilities for voice and video communication and data transmission would by now be placed in the geostationary orbit. That number has been surpassed, and the number of annual global telephone calls is now close to 3 trillion. Today deregulation and competition in the telecommunications market have resulted in the introduction of new technologies and the attendant development and introduction of new products and services into the consumer market. While video telephone is knocking at the door of the consumer, video-conferencing, tele-conferencing, tele-informatics - including the exchange of information and data between banks, oil companies and multinational enterprises - remote printing of newspapers and magazines, the delivery of education programmes and health services via satellite, and global communication by electronic mail systems are now established aspects of our time. In addition, the global community has come to appreciate the important roles of telecommunications in other sectors, particularly in agriculture, transportation, electrical power, mining and oil industries, health and education, trade and commerce, and disaster and emergency services - to name just a few.

Currently, the race is on to build a future world that is wireless. To achieve this goal, private entities will, before the year 2000, place several hundred communication satellites in low Earth orbit. These developments will enable customers to receive calls anywhere in the world, except the North and South poles.

Similarly, observation of the Earth and its immediate environment from the vantage point of outer space has become routine. Today, Earth-observation satellites provide copious data that are processed, analysed and subsequently used by many countries to decide on how to address a variety of issues that affect their natural resources, their immediate environment and the regional and global

environment. While the spatial resolution of earlier satellites such as Landsats 1 and 2 were in the 80-metre range, today 10-metre, 5-metre and even better resolution images are commercially available. Indeed, future optical-electronic sensor systems will have finer resolution. Furthermore, other sensors, such as microwave systems, are being perfected. And because of their cloud- and rain-penetrating and night-and-day monitoring capabilities, such sensors will be of great value to resource assessment, particularly in the tropical regions of the world.

The repetitive nature of the missions of Earth-observation satellites, the synoptic coverage they provide and the multi-spectral character and multi-dimensional applications of the data they acquire make the surveying of the Earth from space very attractive. Remote sensing technology is a multi-disciplinary tool whose applications include, but are not limited to, the survey of the resources of the Earth, such as surface and underground water, snow cover, soils, forests, crops, coastal and marine environment and resources, geological and mineral exploration, environmental monitoring and related problems. Data of the Earth acquired from space can also be used in cartography and in the preparation of maps which can subsequently be used in the planning and layout of agricultural fields, roads, and pipelines, impact assessment of planned projects, disaster assessment, demographic survey and the monitoring of drug-related plants. In comparison with the acquisition of data by conventional techniques for these purposes, observation of the Earth from space is cheaper, faster, more accurate, more reliable, and can easily be verified through repetitive - multitemporal - coverage.

As members know, meteorological satellites and their associated sensors offer mankind the tools to regularly monitor the state of the Earth's atmosphere, including its pressure, temperature, humidity, wind velocity and chemical constituents. And as we all know too, as an integral part of the planetary life-support system, the atmosphere has an overwhelming impact on most human activities, including energy development, food production, human habitat including the development of cities and the design of buildings, water-resources development, human health, public safety, transportation, construction activities and recreation. In the area of public safety, for example, hurricanes and severe storms can now be located, their directions and intensities determined and individuals warned in advance of impending catastrophes.

Observations from space have also demonstrated the versatility of the atmosphere as a transport and distribution medium, and have improved mankind's understanding of global chemical cycles as well as the impact of local and regional activities, including those attributable to natural and anthropogenic emissions. The intervention of mankind in the natural self-regulating processes within the atmosphere is creating a major disequilibrium in this fragile medium and is producing climatic changes that may threaten the continuing habitability of planet Earth. Thus, for our own safety on planet Earth, it is imperative that we have a full and complete understanding of the state of the atmosphere at all times and in all localities.

But in spite of today's technological advances accidents, unfortunately, are integral parts of human existence. Searching for and rescuing the victims of accidents or those in distress is now the preoccupation of the Space System for Search for Distressed Vessels-Search and Rescue Satellite-Aided Tracking (COSPAS/SARSAT), the organization that runs the COSPAS/SARSAT system of six search and rescue satellites in low Earth orbit. To date, the system has installed 635,000 distress beacons globally, a number that is expected to exceed 720,000 by the year 2000. From September 1982 to the end of 1993, the COSPAS/SARSAT system rescued 3,470 persons in 1,217 search and rescue missions globally. However, many countries have still to take advantage of this system.

Similarly, geopositioning - the technology of knowing where you are at any time on Earth or in space - is now a reality, made possible by NAVSTAR of the United States and GLONASS of Russia through a constellation of global positioning satellites. These satellites are being used in a variety of human activities, but specifically for stationary or mobile position fixing in military and civilian operations. Beneficiaries in the latter case include merchant ships on the high seas, fishing ships, the trucking industry, all passenger vehicles, airport control towers guiding aircraft landings, cartographic and geodetic surveys and even pedestrians.

As members know and as we have heard in the past few days, future space systems will vary in shape, size and mission. More nations and entities will own, launch and operate their own satellites for a variety of purposes, and there will be a wide array of launch vehicles to choose from. Today, the list of space-capable countries continues to grow, with many more achieving launch capabilities. International cooperation in space is being manifested through several collaborative arrangements. The most prominent of these is the joint effort by Canada, the European Space Agency (ESA), Japan, Russia and the United States, together or in groups, to build the

International Space Station - the platform that will make space industrialization within the microgravity environment of outer space a reality in the first decade of the twenty-first century. It is now believed that high-value materials such as precision latex microspheres, electronic materials, various kinds of pharmaceutical products, optical fibres and highly specialized alloys can be produced in their purest form in the microgravity environment of outer space.

Space industrialization also holds promise for the production of new antibiotics, antibodies and other treatments for cancer, malaria and other diseases, including the growth of collagen fibres to be used in the repair and replacement of human connective tissue. Of major interest are the performance of various lubricants and the growth of crystals in outer space for semiconductor devices. These possibilities would certainly improve the efficiency of the production process as well as the quality of goods produced on Earth. As we all know, the attendant economic impact could be very significant and far-reaching.

Today, human venture into outer space has introduced new dimensions into many Earth-based processes and procedures. The spin-off benefits of space exploration are too many to enumerate. We are all familiar with several of them, such as the telemetry system in the heart pacemaker, cordless mechanical drilling and cutting tools, and photovoltaic cells. In addition, the limited space on board a space vehicle requires that all instruments and tools be as light and compact as possible without any loss of efficiency. These requirements have resulted in the accelerated development of integrated circuits, with each new component, such as microchips, performing several functions; such components have found subsequent applications, particularly in computer technology. The offshoots of these developments are a host of miniaturized, inexpensive and versatile consumer products. We all know them: they include televisions sets, radios, cameras, video games, microcassettes and portable receive-only television antennas.

Furthermore, the close working relationships on space programmes between Governments, universities and private and public institutions in many countries have enhanced the scientific and technical capacities of institutions of higher learning in these countries, and have expanded their contributory roles in the social and economic development of their societies. The ongoing technology developments and exploitation processes suggest that future economic systems here on Earth will be based on a redistribution of both earthbound and space-based resources and other benefits associated with space exploration and utilization.

This is the point at which we have to ask ourselves where the United Nations Programme on Space Applications fits in.

As members of the Committee are all fully aware, the United Nations has already recognized the need to assist Member States, particularly developing countries, to develop their own capacities and capabilities in space science and technology. Accomplishing the latter will enable Member States to share in the direct and indirect benefits of space exploration, some of which I have just enumerated, and equip them to effectively contribute to and participate in national, regional and international programmes, particularly in communication systems, climate research, ocean studies, and land and forest inventory. Prominent among these programmes are the internationally coordinated spacebased Mission to Planet Earth, which will chart pollution, deforestation, the greenhouse effect, ozone depletion and threats to the Earth's environment; Agenda 21, which constitutes a variety of programmes - adopted in Rio at the 1992 UNCED Conference - that could lay the foundation for a global partnership in order to ensure, through sustainable development, the future of our planet; the World Weather Watch and the World Climate Programme; and, lastly, the International Geosphere-Biosphere Programme, which strives to describe and understand the interactive physical, chemical and biological processes that regulate the Earth system.

In recognition of the above needs of its Member States, the General Assembly accepted the recommendations of UNISPACE/82. The latter directed that the mandate of the United Nations Programme on Space Applications should be expanded and should focus on the following major areas: provision of long-term fellowships; organization of training courses, workshops and conferences; provision of technical advisory services; development of indigenous capability at the local level; and provision of space information and promotion of greater cooperation in space science and technology. Annex I to this statement provides a summary of the range of activities that were undertaken under the auspices of the Programme in the 1983-92 period. The rest of my statement will focus on the operations and direction of the Programme during the period 1993 through 1995 and on how each of these mandated elements has been addressed, including a progress report on the establishment of the Centres for Space Science and Technology Education at the regional level. Details of the 1993-95 activities are contained in my current report, document A/AC.105/555, which is now before the Committee.

Within the 1993-94 period, the Programme administered 19 long-term fellowships. These included offers from the Governments of Brazil and China and the European Space Agency (ESA). These fellowship awards are for studies in remote sensing technology, with emphasis on research, applications and information systems, geodesy, photogrammetry, satellite meteorology, communications systems and space antennas propagation. Details of these fellowships, as well as the identification of the beneficiaries, are shown in paragraphs 16-19 and in annex II of my current report.

In 1993 the Programme conducted three training courses, three workshops and two regional conferences. These activities focused on, first, the applications of ERS-1 data for natural resources, renewable energy and the environment; second, remote sensing education for educators; third, space communications for development; fourth, space science and technology for sustainable development; fifth, applications of space techniques to prevent and combat natural disasters; sixth, remote sensing applications to geological sciences; seventh, basic space science; and eighth, space activities in developing countries, with particular emphasis on resources and mechanisms.

These activities were sponsored and/or hosted by the Governments of Austria, France, Germany, Greece, Indonesia, Italy, Mexico, Nepal, Nigeria and Sweden, as well as by ESA, the United Nations Department for Development Support and Management Services, Telespazio, the United States National Aeronautics and Space Administration (NASA), the Commission of European Communities, the International Centre for Theoretical Physics, in Trieste, the International Astronautical Federation, the Planetary Society, Earth Observing Satellite Company, in the United States, MacDonald Dettwiler, in Canada, and the United States Geological Survey.

The Conference, held in Bandung, Indonesia, last year noted, among other things, that space activities are very expensive and that economic realities demand regional cooperation. It also noted that there was a need for countries within the region to share their expertise and resources. The Conference identified a number of programmes that should be of primary interest to the region, including the joint establishment and operation of a telescope with a diameter greater than four meters for the benefit of the region; the initiation of a major atmospheric science programme in each country; and the development of a network which could facilitate the exchange of information among the professionals and practitioners in the field of space science and technology.

In a similar vein, at the Conference held in Dakar, Senegal, in October last year, participants called on African Governments to make adequate and long-term commitments to, and investment in, the development of skills and knowledge, as well as the needed infrastructure in Earth observation and related disciplines. The conference called upon the African Governments to develop communications access at the local level. The Conference noted that there is an urgent need for the establishment of a national multidisciplinary natural resources coordinating centre in each country, and called on all African universities and technical institutes to integrate into their education curricula, as may be appropriate, different aspects of space science and technology. Details of these activities are contained in documents A/AC.105/552, 553 and 556 through 562.

The schedule of 1994 training courses, workshops and symposiums is shown in a tabular form in annex III of my current report. These activities are being funded or co-sponsored by the Governments of Austria, China, Egypt, Israel, Italy, Peru, South Korea and Sweden, as well as by ESA, the Commission of European Communities, the United Nations Department for Development Support and Management Services, COSPAR, IAF and the Asia-Pacific Satellite Communications Conference. The Training Course in Frascati, Italy has been completed. The six-week course on Remote Sensing Education for Educators is now in progress, and will be concluded tomorrow in Stockholm, Sweden. And the plans for the Workshops on Basic Space Science, which will be held in Cairo, and on Microwave Remote Sensing, to be held in Beijing, China, are progressing satisfactorily. Details of these and other 1994 activities of the Programme are contained in annex III of my current report.

The 1995 proposals that have been recommended by the Scientific and Technical Subcommittee at its 31st session to this Committee include the courses, workshops, symposiums and conferences that are presented in paragraphs 62 (a) through (i) of my current report. In addition, the International Workshops on the Development and Design of Small Experimental Payloads and the Workshop on Spin-off Benefits of Space Technology: Challenges and Opportunities, which had been planned for 1994, have now been rescheduled for 1995, and will be hosted and co-sponsored by the Governments of Spain and the United States.

The Programme continues to provide technical advisory services to a number of African Member States through a cooperation arrangement with ESA. Within this United Nations/ESA arrangement, ESA makes available historical and current data, in the form of hard copy prints, films and computer tapes, acquired by different satellites for applications in a variety of projects in Guinea, Morocco, Nigeria and Tunisia.

In order to make the Cotopaxi ground receiving station viable for all countries that are within its coverage area, and at the invitation of the Government of Ecuador, the Programme concluded a mission to the Andean subregion last year. The report of the mission was subsequently submitted to the Governments of the four countries that were visited by the mission - Colombia, Ecuador, Peru and Venezuela - as well as to the Junta del Acuerdo de Cartagena (JUNAC), the Corporación Andina de Fomento (CAF) and the Caribbean Community (CARICOM) for their consideration. On the basis of that submission, the CAF recently approved a technical cooperation fund of $200,000 to finance the feasibility study and other substantive actions necessary for the establishment of the Multi-Andean Enterprise (MAE) within which the Cotopaxi station will operate.

The Programme on Space Applications is providing support to and serving on the Technical Advisory Committee of the *pro tempore* secretariat created at the conclusion of the second Space Conference of the Americas, held at Santiago, Chile, last year. This secretariat is following up and providing continuity to the outcome of the Conference.

The Programme is also assisting the Asia-Pacific Satellite Communication Conference to organize the Asia-Pacific Workshop on Satellite Communications for Development to be held in November this year at Seoul.

The *Directory on Education, Training, Research and Fellowship Opportunities in Space Science and Technology and its Applications* was updated and reissued in 1993 as document A/AC.105/548. The 1993 edition of *Seminars of the United Nations Programme on Space Applications*, the fourth in the series of selected papers from the activities of the Programme, was issued as document A/AC.105/568.

In our efforts to promote greater cooperation in space science and technology in the developing countries, we have undertaken a number of activities, many of which I have mentioned. To recapitulate, they include the establishment of the Asia-Pacific Satellite Communications Conference, the planned feasibility study for the Cotopaxi station and other multi-Andean enterprises, our participation in the secretariat of the Latin American space conference, and the support we are receiving from the Special Unit for Technical Cooperation among Developing Countries of the United Nations Development Programme (UNDP) in New York. All of this is making our work in terms of cooperation very feasible.

The association of the Programme with many national entities, intergovernmental organizations such as the European Space Agency, CEC, INTELSAT, EUMETSAT, COMSAT, INMARSAT, United Nations agencies such as the International Telecommunication Union (ITU), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), and with a number of non-governmental organizations such as the Committee on Space Research, the International Astronautical Federation, the International Society for Photogrammetry and Remote Sensing and The Planetary Society, is advancing greater cooperation between industrialized and developing countries as well as among developing countries. It is our belief that the initiative of the United Nations to establish centres for space science and technology education will reinforce all these efforts.

In the past few years, the Programme has incorporated youth elements into its activities, beginning with the essay contest we organized during the International Space Year. Last year, in Bandung, Indonesia, and Dakar, Senegal, a large number of high-school students responded to our invitation to participate in the youth forums that were organized in both cases. We are currently engaged with entities that operate youth programmes with a view to developing a concrete programme that can captivate the energy and enthusiasm of the youth of the world.

As members are aware, with the support and recommendation of this Committee and its Scientific and Technical Subcommittee, the Fifth Committee at its 1993 session approved an additional budget allocation of $90,000 for the 1994-95 biennium. I wish to take this opportunity to express the gratitude of the United Nations to all members for that initiative, which will strengthen the Programme's ability to carry out its mandated activities for the benefit of Member States.

None the less, we all know there are many budgetary limitations. The Programme cannot carry out its mandated

and other activities without additional resources beyond those allocated through the regular budget of the United Nations. The Programme has received a variety of voluntary contributions in support of its 1993-94 activities. These are summarized in paragraph 68 of my current report, and include cash contributions as well as: the defraying of local costs of long-term fellowships; co-sponsorship of training courses and workshops organized by the Programme; sponsorship of experts to serve as lecturers in the activities of the Programme; and funding of experts to participate in the evaluation missions in respect of the centres for space science and technology education.

Specifically, the Programme received support from the following Member States and international and regional organizations and entities: Austria, Australia, Brazil, Canada, China, France, Germany, Greece, Indonesia, Italy, Mexico, Nepal, Nigeria, Pakistan, Spain, Sweden and the United States of America, as well as FAO, ITU, UNESCO, WMO, ESA, CEC, EUTELSAT, INMARSAT, INTELSAT, COMSAT, TONGASAT, the Interplanetary Society, EOSAT, MacDonald Dettwiler and Telespazio.

I am very pleased to report that the Governments of Austria and Pakistan and the European Space Agency made voluntary cash contributions to the tune, respectively, of $20,000, $15,000 and $85,000 in support of the 1993 activities of the Programme. EOSAT contributed $10,000, MacDonald Dettwiler contributed Can$ 5,000 and Telespazio contributed $10,000 in support of the Dakar Conference.

In support of five specific 1994 activities of the Programme, the European Space Agency has already made a voluntary cash contribution of $95,000, and the Government of Pakistan has already contributed $10,000. I wish to take this opportunity to express the appreciation and gratitude of the United Nations and my personal thanks for the aforementioned cooperation and genuine support of Member States and the European Space Agency, as well as for this confidence in the Programme.

In the area of hardware, we have completed the distribution of 25 personal computers to universities and research institutes in five countries around the world. These computers were donated to these countries through the Space Applications Programme by the European Space Agency, for use in basic space science research; it should be noted that the ESA has been cooperating fully with the United Nations in its ongoing basic space science activities all over the world.

I wish to express the gratitude of the United Nations to all representatives and to their respective countries, as well as to intergovernmental, regional, international and non-governmental organizations, United Nations agencies and regional economic commissions, and the many enthusiastic and dedicated experts and individuals around the world for assisting the Programme on Space Applications and cooperating with it in achieving its objectives.

I am very grateful to those within the United Nations system who continue to assist the Programme on Space Applications and the cause for which it stands, and to my colleagues in the Space Applications Section as well as in the Committee's Services and Research Section. To them all, both professional and general service staff, as well as to Mr. Jasentuliyana, I wish to offer my profound gratitude for their enthusiastic cooperation with and assistance to the Programme.

In the past few days there have been a number of comments regarding our relocation to Vienna. My contribution to the discussion would be as follows: Our physical relocation to Austria from the United States has given us cause to redouble our efforts and to strengthen our cooperation with all the countries of North, Central and South America and the Caribbean.

We are taking advantage of our current location in Central Europe to enhance our cooperation with all the European countries, their space-related national institutions and appropriate intergovernmental and non-governmental organizations. In this connection, I had the opportunity and privilege to visit the European Space Agency and also to have a dialogue with the Centre National d'Etudes Spatiales (CNES) in Paris two weeks ago. Early in May, I also visited the Swedish Space Corporation Satellitbild in Kiruna, as well as Stockholm University and the secretariat of the International Geosphere-Biosphere Programme, both of which are in Stockholm.

As representatives are aware, we are in the same time zone as not only Europe but also a large part of Africa and the Middle East. Through modern communication systems, we are able to interact with these regions, as well as with Asia and part of the Pacific, during working hours each day. We are committed to enhancing national capacities and to promoting regional and international cooperation, and we look forward to working with all participants to achieve these objectives.

In compliance with General Assembly resolution 45/72, the Office for Outer Space Affairs, through the Programme on Space Applications, has taken a number of major steps to implement the United Nations initiative to establish the Centres for Space Science and Technology Education at the regional level. Our efforts in this regard, up to December 1993, are outlined in paragraphs 8 through 15 and in Annex I of my current report. With respect to the current status of the Centres, we have undertaken and almost completed the following steps:

First, informing Member States of the aforementioned decisions of the United Nations and inviting them to indicate their willingness to host such a Centre; secondly, the issuing of two documents on the Centres, the latest entitled "Centres for Space Science and Technology Education" - Updated project document (A/AC.105/534); thirdly, the organization of evaluation missions to potential host countries in each region; and, fourthly, analysing the reports of the evaluation missions and subsequently selecting the most viable host country or countries for the Centre in each region.

The third step has been completed in Latin America, Africa, the Middle East and Asia regions, as well as in Iran. The fourth step has been completed in Latin America, with Brazil and Mexico having been selected out of four countries - which included Argentina and Chile - to host the Centre in that region. Negotiation is continuing with the Government of Iran in respect of the Centre to be established in that country. In Africa, the United Nations is still awaiting the response of Member States to the report of the evaluation missions in Ghana, Kenya, Morocco, Nigeria, Senegal and Zimbabwe. I wish to add that a number of these countries have responded, but that a majority of them have still to do so. The evaluation mission to Asia - China, India, Malaysia, Pakistan, Sri Lanka and Thailand - was completed at the end of last month; Australia, France and the ESCAP Commission participated in it. The report of the mission should be ready in July this year and will be handled in the same manner as those of the other missions.

We are now in contact with specialists and educators worldwide to develop an appropriate and detailed curriculum of international quality for each of the major academic areas of the Centres' programmes, which include Earth observation and environmental monitoring, satellite communications and geo-positioning systems, and atmospheric and space sciences. Undertaking this task is a major effort, and we plan to use some of the best talent available in both the industrialized and developing countries to accomplish it. Thereafter, we will establish a panel that can advise us on the development and acquisition of teaching modules and related educational materials that can be used to carry out aspects of the curriculum.

A speedy conclusion of the steps outlined above and an immediate resolution of the ongoing negotiations with concerned Member States will enable us to commence the activities at some of these Centres in the fourth quarter of this year.

The United Nations is grateful to Australia, Canada, France, Germany, Spain and the United States of America, as well as to the regional economic commissions, for their support for and contributions to the preparatory work leading to the establishment of the Centres. I wish to reiterate the United Nations appeal to all Member States and relevant intergovernmental and non-governmental organizations for their full cooperation and support for these Centres.

As participants will recollect, I began this statement by addressing the need for all Member States not only to derive practical benefits from space exploration but also to develop the necessary capacities and capabilities that will enable them to effectively participate in a variety of regional and international programmes, particularly those that rely heavily on space-acquired information. Through a variety of activities, including its Space Applications Programme, the United Nations is contributing to the attainment of these goals by assisting in the development of necessary capacities at the local level. For example, upon graduation, the participants in the programmes of the Centres for Space Science and Technology Education should be able to effectively incorporate what they have learned into operational programmes, introduce relevant aspects of the technology into existing education curricula initially at the university level in their own countries, and contribute significantly to national, regional and international programmes. Each Centre graduate will constitute the nucleus of a science and technology culture in his or her own country. However, in order for Member States to actually partake in the benefits of space exploration - including those outlined in this statement - as well as participate in a variety of regional and international programmes in which space science and technology can be an invaluable tool, there must be a commitment to nurture science and technology at the local level.

The Chairman: I should like to take this opportunity to commend the Programme on Space Applications, and specifically the Expert, on the extremely valuable work he has done over the course of the year.

Mr. Halff (Netherlands): With regard to the report of the Scientific and Technical Subcommittee, I should like to restrict my remarks to the issue of space debris, an important and highly urgent matter whose solution demands not only our intensive attention but also a concentration of forces and efforts. It is a problem that will go from bad to worse if we simply talk about it without taking concrete measures and steps. The problem of debris can be resolved only through coordinated efforts on the part of the global scientific, technical and legislative community.

As I already pointed in my statement during the general debate, my delegation is consequently of the opinion that the inclusion of the item on space debris on the agenda of the Subcommittee is highly justified. However, in order to avoid space debris's becoming one of the eternal subjects we are discussing, a deadline should be set for the Subcommittee to finish its discussion and draft a report with all its findings, possibly with recommendations that could serve as the basis for our political debate in the Committee itself. I would therefore like to propose asking the Scientific and Technical Subcommittee to present such a report to the fortieth session of the Committee at the latest.

Pending the outcome of the debate in the Scientific and Technical Subcommittee and COPUOS, provisional measures should and can be taken now. For instance, international cooperation could be enhanced in the compilation of and access to data on space debris, as well as in the monitoring of the space-debris environment. The creation of space debris should be minimized by improving the design of spacecraft in order to reduce the risk of disintegration and explosion. Spacecraft at the end of their life should be de-orbited or re-orbited and retrieved through controlled re-entry.

I should also like to make some remarks on agenda item 7, because the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space is a subject of some concern to my Government.

Although a considerable period of time has elapsed since UNISPACE 2 was held, the recommendations drawn up at that Conference have still not all been implemented. Valuable input and opportunities for the development of space technology capacity in developing countries and for furthering indigenous capacities in that field run the risk of disappearing. Not only would this be a loss for the community of space exploring and exploiting countries, but it also casts doubts on the opportuneness of a third UNISPACE conference. Would it not be preferable to postpone such a third conference until all the recommendations of UNISPACE 2 have been fully implemented and full use has been made of the outcome of that Conference?

Another aspect of a third UNISPACE conference is the question of the topics and subjects to be discussed at it. When discussing the possibility of a third UNISPACE conference, we should above all address the question of the agenda and have an in-depth discussion on it. The Netherlands may have some doubts about the timeliness of UNISPACE 3; we certainly have doubts about such a conference without an agenda meaningful for all participants, not just for one group or another. UNISPACE 3 should address matters of concern to all of us. The Netherlands therefore suggests making the application of space technology in the protection of the environment on Earth one of the agenda items.

Mr. Lessard (Canada): I thank you, Mr. Chairman, for this opportunity to address this Committee once again and to comment on the report of the thirty-first session of the Scientific and Technical Subcommittee, which is now before us.

My delegation has read the report with interest and is in general agreement with its description of the matters raised during the debates, as well as of the conclusions reached by the Subcommittee. I would simply like specifically to state the position of Canada on a few of the items mentioned in the report.

I deal first with the issue of the use of nuclear power sources in space. Canada, as the only country so far to be impacted by a satellite carrying a nuclear power source, worked hard, in cooperation with the other members of this Committee, to develop the Principles dealing with this matter, which were finally adopted by the General Assembly in December 1992 after 14 years of debate. We remain extremely satisfied with this result. We have ideas as to the possible improvement of the existing Principles, and this explains our support for the recommendation that this issue be again considered by the Scientific and Technical Subcommittee at its next session and in following years. We agree, however, with several other delegations which have spoken on this matter that it is premature to undertake a comprehensive review of the Principles until a sound scientific and technical basis for their improvement has been worked out. We also believe that until then, the integrity of the existing Principles should be preserved.

Now a few words on space debris. We believe that it is possible to draw a parallel between the issue of space debris and other environmental problems on Earth, in that the cumulative effect of almost 40 years of continued space activities, involving over 3,500 launches of spacecraft since 1957, have resulted in the creation of a debris population in the near-Earth environment, raising doubts as to the ability of spacefaring nations to carry on business as usual. Should present trends continue, especially in the light of current plans for constellations of small satellites for communications purposes in low-Earth orbit, it is expected that the risk of impact from orbital debris will at some point in the future become a real hindrance to continued access to space.

Canada, as a country very much active in the peaceful exploration and use of space, is of course concerned about this prospect. This is why, like most other delegations, we were very satisfied at having this topic for the first time as a distinct item on the agenda of the Scientific and Technical Subcommittee. This concern also prompted us to undertake several research and other activities relating to debris over the years, from the shielding of RADARSAT - the Canadian Earth-observation satellite using radar technology, to be launched in 1995, and the first satellite to be specifically shielded against space debris - to the analysis of space platforms brought back to Earth and other experiments on materials for the space environment. We have also undertaken consultations with other countries and organizations involved in research on this topic.

Canada subscribes to the view that this matter of growing concern can best be dealt with through international cooperation. We therefore fully support the recommendation of the Scientific and Technical Subcommittee that a continuing, deliberate, specific multi-year plan for its work on this issue should be developed at its next session. We believe that this work plan should consider the entire range of issues relating to a sound understanding of the space debris phenomenon, including the scientific and technical as well as cost-benefit analysis underlying the implementation of concrete measures to address the problem. We look forward to consulting in the months ahead with other interested nations and organizations on the format and content of this future work plan to facilitate the work of the Scientific and Technical Subcommittee at its next session. Canada fully intends to contribute, as possible and appropriate, to this and other international efforts.

Considerable progress has been achieved over the past 30 years in ensuring the peaceful use and exploration of space with important benefits on Earth. Our continued ability to provide for effective environmental and resource monitoring, timely disaster warning and reliable communications services, and to promote sustainable development through the use of space systems, depends on the relative safety of those assets in space. Therefore, Canada supports the concrete practical measures which have already been taken by several nations and organizations to deal concretely with this problem, and looks forward to an ongoing productive international discussion on this matter.

I would now like to say a few words on the issue of the physical nature, use and applications of the geostationary orbit and other matters relating to space communications development. While Canada does not object to the recommendation that this matter be again considered by the Scientific and Technical Subcommittee at its next session, we believe that the question of equitable access of all countries to the geostationary orbit is appropriately dealt with in the context of the International Telecommunication Union (ITU), with specific reference to the planning activities of ITU concerning orbital locations and the relevant sections of the ITU Constitution and Convention, which refer to the undertaking by all Member States to use radio frequencies and the geostationary orbit rationally, efficiently and economically so that countries or groups of countries may enjoy equitable access.

Lastly, Canada is not opposed to the idea of holding a third world space conference. My delegation feels, however, that a formal decision on this possibility must be preceded by additional details on the venue proposed and the funding implications of that choice, as well as by a consensus on an agenda which is balanced and relevant to the contemporary needs and interests of all States and which is oriented towards the concrete applications of space technology. Any such decision must also provide for sufficient time for the necessary consultations and preparations to be made to ensure the success of such an event. My delegation wishes to express its thanks to the secretariat for the study it has undertaken on the various implications of holding such a conference, and looks forward to continuing the discussions on this matter, with a view to promoting an early resolution.

In conclusion, my delegation wishes to express its agreement with the recommendations contained in the report of the Scientific and Technical Subcommittee with respect to the other items.

Mr. Perek (Czech Republic): In discussing the question of space debris, the Scientific and Technical

Subcommittee agreed in paragraph 69 of its report (A/AC.105/571) that it was important to have a firm scientific and technical basis for future action on the complex attributes of space debris. We agree that it is important to have a firm scientific and technical basis, but we are also of the opinion that a common understanding of the meaning of the term space debris has to be established first. Without stating what we understand as space debris, it is difficult to discuss debris-measurement techniques, mathematical modelling of the debris environment and other related topics of research on space debris.

There are many objects in outer space. It has to be stated which of them are space debris. Will natural objects, such as meteorites, be discussed too, or will only artificial objects be dealt with? It has to be said at what stage an active artificial object becomes space debris, or what distinguishes an active object from debris. It is not up to the Scientific and Technical Subcommittee to elaborate a legal definition of space debris, but those who will report about scientific and technical research have to know which objects to treat and which to leave out. There are some differences of opinion about which objects may be classified as space debris. For instance, the well known publication *Satellite Situation Report,* by NASA, recognizes two classes of objects: payloads and debris. Payloads are listed as such unless they break up, whether they are active or not. Several authoritative studies, such as the United Nations study, "Environmental effects of space activities", document A/AC.105/420 of 15 December 1988, the November 1988 European Space Agency study, entitled *Space Debris,* and the September 1990 background paper entitled *Orbiting Debris: A Space Environmental Problem* prepared by the Office of Technology Assessment of the United States Congress, consider as space debris all uncontrolled objects.

The most detailed description of the term "space debris" is contained in the very recent position paper of the International Academy of Astronautics (IAA), which in March this year was issued as a United Nations document (A/AC.105/570). Among uncontrolled objects, it makes an exception for scientific satellites which are uncontrolled on purpose.

Bearing all this in mind, my delegation proposed at the session of the Scientific and Technical Subcommittee the following explanation of the term "space debris", based on the IAA document: space debris is all man-made objects in Earth orbit or re-entering the dense layers of the atmosphere which are non-functional, with no reasonable expectation of assuming or resuming their intended functions or any other functions for which they are or can be authorized, including their fragments and parts.

My delegation is convinced that this or a similar explanation of the meaning of the term space debris is necessary for future discussions in the Scientific and Technical Subcommittee. Therefore, we propose the adoption of that explanation of the term "space debris".

We support the statement by the representative of the Netherlands, in particular, the proposal to set a deadline for finishing the discussions in the Scientific and Technical Subcommittee and for drafting a report as a basis for debate in this Committee. This, we feel, is justified by the fact that the special presentations on space debris given at the meetings of the Scientific and Technical Subcommittee and statements made by many delegations agreed on the implications of and risks posed by space debris, and that there was no substantive difference of opinion on this matter.

In this context, it would be useful to ask the Office for Outer Space Affairs to prepare a document for the Scientific and Technical Subcommittee dealing with the questions concerning space debris that will be discussed at the next Subcommittee session.

I turn next to the question of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space. The secretariat has prepared an excellent report (A/AC.105/575) for us on the holding of a third UNISPACE conference. It reports, among other things, about the background papers prepared in 1981 for UNISPACE 82. Those background papers were prepared by almost 200 scientists and experts from 28 countries. The effort was coordinated by the IAF, COSPAR and other non-governmental organizations and, ultimately, by the secretariat. The papers appeared in a book of close to 700 pages and covered space science and technology and their applications, pointed out the critical issues and dealt with social and economic aspects of space technology and with international cooperation. Their volume, however, required concentrated study and was too large for use at the Conference.

We believe that good information on outer space should be prepared for the benefit of the participants in UNISPACE 3 but that the extent should be manageable. A book of the size and quality of *Highlights in Space 1993,* as prepared by the IAF and COSPAR and issued as document A/AC.105/566, would serve the purpose very well. Therefore, we propose that the IAF and COSPAR, as well

as the International Astronomical Union and the International Society for Photogrammetry and Remote Sensing, be requested to prepare material for a background paper for UNISPACE 3. Those four non-governmental organizations should also be invited to organize, in cooperation /with the host country, a two- or three-day UNISPACE forum preceding the opening of the conference. The programme of the forum would deal with space applications and with future prospects for research on space and the universe. The reason is that adequate conditions for research, in space as well as on the ground, are highly important for the further development of space activities.

As regards the agenda of the conference, we favour an emphasis on substantive agenda items as a basis for general consideration. Therefore, we suggest that general themes, such as those proposed in paragraph 71 of document A/AC.105/575, dealing with a review of developments, a review of policy issues and with international cooperation in general, should be on the agenda of plenary meetings. The committees of the conference should concentrate on substantive items. In the list of specific areas in paragraph 72 of the document, we note that items on outer space research and the management of outer space are missing.

These topics should not be left out of the agenda of a widely attended United Nations Conference on outer space. Therefore we propose some changes in paragraph 72.

The Committee should discuss specific areas, such as:

(a) Satellite communications, and in particular transnational satellite broadcasting for educational and development purposes;

(b) Remote sensing: its contributions to sustainable development;

(c) Meteorology, disaster warning and relief and navigation: a case for international cooperation;

(d) Research and management of outer space: perspectives and participation in international programmes;

(e) Space science, technology and applications: education and training;

(f) Spin-offs from space technologies: their benefits and applications;

(g) Space-related activities of the United Nations: expansion and improvement.

Some of the proposed changes concern the substance and some are rather cosmetic, but even the latter ones would, in our opinion, be useful. This is not a final proposal for the agenda. It is, rather, an illustration of what we have in mind by the term "subject-oriented agenda". I should just like to remind the Committee that in UNISPACE 2 the agenda was oriented to general aspects, not to individual subjects. For instance, in the report contained in document A/CONF.101/10, remote sensing appears in three different sections, which is not really the most efficient way to deal with the subject.

In my opinion, UNISPACE 2 would have been more effective if it had had a subject-oriented agenda.

Mr. CHANDRASEKHAR (India): Our delegation would like to make a few remarks on agenda item 5, "Report of the Scientific and Technical Subcommittee on the work of its thirty-first session", and also on agenda item 7, which deals with the question of the implementation of the recommendations of the UNISPACE-82 Conference.

During its thirty-first session, the Scientific and Technical Subcommittee dealt with a large number of items on its agenda. This session also included a number of interesting presentations on various topics related to its agenda. On the special theme chosen for the attention of this session, COSPAR and IAF organized a seminar involving eminent experts in the field of space applications for disaster prevention, warning, mitigation and relief. We would like to place on record our appreciation for this effort by COSPAR and IAF, which has been very useful in focusing the attention of delegations on various developments, as well as on the possibilities for space applications and for international cooperation.

We would also like to express our satisfaction at the work conducted during this session of the Subcommittee. In particular, our delegation is very pleased to note that the Subcommittee began consideration of a new item concerning space debris, and we were encouraged by the focussed discussions and recommendations of the Subcommittee. The Subcommittee’s decision to focus on understanding debris research in terms of measurement techniques, mathematical modelling and the characterization of debris environment, as well as spacecraft design measures for protection, is very appropriate.

Also, the decision to develop during the next session a continuing, deliberate, specific, multi-year plan for work on this agenda item would help us to achieve rapid progress.

Turning towards the work of the Subcommittee on the use of nuclear power sources (NPS) in outer space, our delegation notes the Subcommittee's view that the principles adopted by the General Assembly should remain in their current form until such time as they are amended. Further, our delegation also supports the view that the purpose and scope of the review should be clearly agreed before any revisions are undertaken. We also support appropriate contributions from the International Atomic Emergency Agency in terms of information and analysis relevant to the principles which could assist in the process of revision and reviews by the Subcommittee.

During the thirty-first session of the Scientific and Technical Subcommittee, progress related to a number of important subjects such as remote sensing, space transportation and the characteristics and use of GSO were discussed. Similarly, the reviews and information exchange on programmes related to space sciences and those related to the Earth environment have been very useful. Considering the wide range of missions in space sciences that are being planned or operated, it would be pertinent to examine the increased opportunities for international cooperation, particularly involving more developing countries.

With regard to the subject of the review of the implementation of the recommendations of UNISPACE-82, first of all we would like to express our appreciation to the Chairman of the Working Group of the Whole, Mr. Muhammad Nasim Shah of Pakistan. We would like to stress that the priority areas identified by the Working Group in its report (A/AC.105/571, Annex 11) for the United Nations space applications programme, as well as other activities, should be given special attention.

We are happy to note that, following the recommendations of the Working Group and the Subcommittee during 1992, the General Assembly approved an additional budget allocation for the programme on space applications. We would like to reiterate the need for the continuation of such support.

We take this opportunity also to convey our appreciation to Mr. Abiodun, the United Nations Space Applications Expert and his staff, for their commendable work in implementing the Space Applications Programme. We also note with appreciation the further progress on the evolution of regional centres for space science and technology education, and we express our desire to see them established soon. In this regard, we are also pleased to report that an evaluation mission visited the Indian Space Applications Centre and Physical Research Laboratory at Ahmedabad and the lndian Institute of Remote Sensing at Dehra Dun, which had been proposed earlier as a regional centre.

We look forward to early decisions on this matter, and reiterate our keen interest in promoting further international cooperation in the field of space science and technology education.

While we are speaking on agenda items 5 and 7, our delegation wishes to make some remarks on the important subject of holding a third UNISPACE conference.

Following the recommendation of the General Assembly in its resolution 47/67 of 14 December 1992, which states in paragraph 20 that

> "... Member States might discuss, during the next sessions of the Committee under its agenda item entitled "Other matters", the possibility of holding a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space in the future",

we have been considering the subject of holding such a conference. Our Committee considered at its last session, at some length, the goals and objectives, as well as matters related to organization, venue, timing and funding of such a conference.

During the same session, the Committee also requested that the Scientific and Technical Subcommittee further discuss these matters at its thirty-first session in 1994 in order to promote an early conclusion on the matter by the Committee.

This was endorsed by the General Assembly last year in its resolution 48/39. The General Assembly also agreed that the most important step was to define a set of sharply focused objectives for such a conference and that details such as organization, venue, timing and funding should also be considered. The General Assembly also noted that the goals set for such a conference might be achieved by other means, including the intensification of work with the Committee.

As a result of this background, and also taking into account the views expressed by various delegations earlier, our delegation submitted a working paper at the thirty-first session of the Scientific and Technical Subcommittee which outlined the preliminary concept for the UNISPACE-3 conference. This paper dealt with the rationale, basic

objectives and suggestions for organization, venue and timing-related questions in detail. It was submitted to facilitate the exchange of views among the members of the Committee and to assist in the process of arriving at a common consensus.

There were also other working papers which were submitted during this session, including those submitted by the delegation of Pakistan and by the States members of the Group of 77. The Group of 77 paper was a result of the deliberations of the members of that Group and it represents their common views, including the ideas covered by the working papers of India and Pakistan and also valuable contributions from other members.

In the context of the exchange of views which have taken place in the past, our delegation would like to stress a few points.

There is a sound rationale for considering holding a third UNISPACE conference, taking into account changes that have occurred since 1982 in the global political situation and particularly several developments in the field of space technology and its applications. There has been substantial demand for the peaceful applications of outer space in developing nations, as well as several problems which need urgent solution and could be greatly facilitated by the application of space technology. Therefore, there was strong emphasis on the substantial expansion of and new initiatives in international cooperation, including consideration of the appropriate development and diversification in policy and legal frameworks. In addition, the Committee has also agreed that an effective way to maintain outer space for peaceful purposes is to promote and substantially expand international cooperation in the exploration and peaceful uses of outer space. In the context of significant technological developments and their applications over the past decade, it is necessary to find new ways to enable various countries, particularly developing countries, to benefit from the new possibilities and to effectively participate in programmes which have relevance to all. A truly global analysis is necessary to address this issue fully.

Moreover, several developments over the past 12 years provide new opportunities for greater international cooperation. These relate to applications in the field of monitoring Earth's environment and achieving sustainable development. In this context, it is pertinent to note that the effective follow-up of the recommendations of the United Nations Conference on Environment and Development, held at Rio, and Agenda 21 as it relates to outer space dictates the imperative of global cooperation and participation.

This implies the need for discussing various cooperative actions, policies and programmes of activities in a wider context, with the full participation of States, including those outside the membership of the Committee. There are several such areas that command the priority needs of most countries and can benefit from cooperation in space. Applications in the fields of education, communications for combatting natural disasters, and research in meteorology are a few examples.

A search for new approaches to international cooperation is also required in the context of budgetary constraints faced by space programmes all over the world. At the same time, there is a need to expand the use of space in several developing countries, where the greatest potential for applications is yet to be realized. A major United Nations conference on space with universal participation would promote increased international cooperative use of space for the benefit of all countries in a unique way.

Hence, we consider that such a conference could serve to diversify and deepen international cooperation. The aim is not to restrict the scope of existing forms of cooperation, but to explore additional ways and an agenda for future cooperation, particularly in those areas which address the common needs of all countries. While the Committee through its work addresses in general the question of promoting international cooperation, this process itself can be intensified, revitalized and rapidly facilitated through a third UNISPACE conference, which could allow the participation of those countries beyond the membership of this Committee. Already, many such countries are using space and are in need of space applications. As UNISPACE-82 itself was in a way responsible for the expansion of awareness, interest and access to space applications by increasing number of countries, the third conference could serve to further expand cooperation in the context of newer developments.

The deliberations in our Committee and the Scientific and Technical Subcommittee have indicated that there could be many focused objectives for such a conference. These could broadly include, for example, a review of developments in outer-space technology and its applications to consider new opportunities for a substantial increase in international cooperation; or the consideration of initiatives for international cooperation in areas of common international interest, such as environmental monitoring, disaster warning, education and so on; and, importantly, a

review of legal and policy issues in the context of global developments over the past 12 years with a view to achieving greater cooperation in harnessing space technology for social, humanitarian and economic development.

As regards the organization, our delegation shares the common desire of many others that participation should be open to all Members of the United Nations, as in the case of UNISPACE-82. Also, the suggested duration of the conference is two weeks, including three days for plenary opening meetings, five days for working meetings and two days for final adoption of the report in the plenary of the conference. As an economy measure to partly offset costs, it was also suggested that our Committee's session could be shortened by one week in the year of the conference. It has also been suggested that preparations for UNISPACE-3 could be accomplished at a minimal cost if the Office for Outer Space Affairs could serve as the secretariat under the overall direction of a Secretary-General and with COPUOS and its Subcommittees serving as preparatory committee.

As was carried out in the case of UNISPACE-82, the various pre-conference activities and other activities related to the conference could be planned. Various regional seminars and workshops devoted to the subjects to be considered by the conference could be appropriately organized under the United Nations Programme on Space Applications. The working papers submitted in the Scientific and Technical Subcommittee on this subject have dealt with an indicative schedule which considered the feasibility of holding such a conference in August 1996. We would also like to recall the discussions held during the session of the Scientific and Technical Subcommittee and the common desire in the Committee to settle various matters related to the conference, such as venue, timing, and so on, by consensus. In this connection, we would like to reiterate the offer of our Government to host the conference in India.

We note with appreciation the commendable effort of the Secretariat, which, in response to the request of the Scientific and Technical Subcommittee, has submitted a document (A/AC.105/575) providing an analysis of the likely organizational, funding and logistical implications of the conference. Considering the universal relevance of outer space and the profound importance of peaceful developments for the benefit of all countries, India, as a developing nation, proposes to host the conference. We hope that this would receive the favourable consideration of delegations and would be acceptable to the Committee. We would also like to draw attention to Annex II of the aforementioned Secretariat document, which indicates that costs to the United Nations in the case of an Indian venue would be lower than in other locations.

Our delegation urges that based on the discussions so far and through further consideration, the decision on the conference might be arrived at at the current session. We will be willing to contribute our best in the Committee to promote consensus and to reach an early conclusion on this matter.

Mr. Sölendil (Turkey): I will restrict my remarks to the holding of a third UNISPACE conference. My delegation welcomes the report prepared by the Secretariat on the subject, which provides a good background paper for discussions on the matter. My delegation also believes that the suggestion made in paragraph 13 - achieving the objectives by alternative means - can be elaborated on further.

We fully expect those means to be put forward in the Committee's discussions. We also agree with the view that a meaningful and workable agenda should be thoroughly discussed as a basis of careful preparation.

Notwithstanding the feasibility of a third UNISPACE conference and reserving further comments and judgement on the matter, we do wish to comment on the timing aspect in case there is Committee consensus to proceed with the meeting. Holding the conference in 1996 would seem a bit too early to allow for adequate preparation for a successful meeting of such vast scope; 1997 or 1998 might therefore be better.

The meeting rose at 11.55 a.m.