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Committee on the Peaceful Uses of Outer Space

393rd Meeting
Monday, 6 June 1994, 3.15 p.m.
Vienna

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

The meeting was called to order at 3.15 p.m.

Opening of the session

The Chairman: I declare open the thirty-seventh session of the Committee on the Peaceful Uses of Outer Space. I am pleased and honoured to welcome members to the Vienna International Centre for the first meeting of the full Committee since the relocation of the Office for Outer Space Affairs to Vienna.

Adoption of the agenda (A/AC.105/L.203 and Add.1 and 2)

Mr. Saenz de Tejada (Spain) *(interpretation from Spanish)*: Allow me to congratulate you, Sir, on your continued chairmanship of the Committee, particularly here in the city of your birth.

My delegation, of course, has no objection to the agenda, but I should like to suggest the inclusion of an additional item for discussion, either as an item on its own or, more simply, under the last item, "Other matters". I refer to the functioning and operational procedures of our Committee and its subcommittees, which in my delegation's view are not as satisfactory as they should be. Inasmuch as the last two subcommittee sessions highlighted certain functional failures, it is only appropriate that we should be discussing this matter in the Scientific and Technical and Legal Subcommittees and exploring possible improvements to the functioning of their working methods.

I therefore suggest the inclusion, in a new item or in subparagraph (f) of the item "Other matters", the question of working methods. We could, of course, discuss it during the general exchange of views and in each working group, but that would disperse the discussion. A better idea might be to establish a new working group in which all interested parties could consider this question and, if necessary, make recommendations to the Committee.

The Chairman: As a point of clarification, I should like to say that the Committee's working methods are generally discussed under "Other matters". That item in the provisional agenda precisely covers the working methods of the various sub-bodies, including the Legal Subcommittee.

I therefore invite the Committee not to lose time now on an extended procedural debate on including other agenda items because in my view, supported by others, this is, in accordance with the consistent practice of the Committee, already included under "Other matters".

I assure the Ambassador of Spain, and all other members of the Committee, that I am very sensitive to the preoccupations expressed by the Ambassador of Spain and that I am disposed to come back to the item he would like to discuss - the procedures of the Legal Subcommittee - under the agenda item entitled "Other matters," as is the usual practice of this body.

I am also prepared to discuss the possibility of a working group on the procedures of the Legal Subcommittee. Having said this, I urge delegations to adopt the agenda as it is, at this stage.

94-85811 (E)

Is the Committee prepared to adopt the agenda?

The agenda was adopted.

Election of a Vice-Chairman

The Chairman: The Chair has received a letter informing the Committee that, owing to his other professional commitments, Ambassador Aurel-Dragos Munteanu of Romania will be unable to continue to fulfil his responsibilities as Vice-Chairman of the Committee on the Peaceful Uses of Outer Space. I should like, both personally and on behalf of the Committee, to thank Ambassador Munteanu for his dedicated service to the Committee over the past years.

The Government of Romania, in keeping with a long-standing tradition, has nominated Mr. Petru Forna, Ambassador of Romania to Austria, to succeed Mr. Munteanu as Vice-Chairman. We have also been informed by the Chairman of the List B group of countries that Mr. Forna's nomination is supported by that group.

As there are no other nominations, I consider Mr. Forna to have been elected unanimously as Vice-Chairman of the Committee on the Peaceful Uses of Outer Space. I should like, on behalf of the members of the Committee, to congratulate him and ask him to take his place on the podium.

Attendance by non-members of the Committee

The Chairman: I should like to inform members that I have received notes verbales from Algeria, Cuba, Libyan Arab Jamahiriya, Nicaragua, Peru, Portugal, Republic of Korea, South Africa, Thailand, Turkey and Yemen in which they request permission to attend the current session of the Committee on the Peaceful Uses of Outer Space as observers. I therefore suggest that, in conformity with past practice, we invite those delegations to attend the current session and to address the Committee as appropriate.

This is, of course, without prejudice to further requests of this nature and does not involve any decision by the Committee concerning status. It is a courtesy we customarily extend to delegations.

If there is no objection, we shall proceed accordingly.

It was so decided.

Statement by the Chairman

The Chairman: Distinguished delegates, representatives of governmental and non-governmental international organizations, ladies and gentlemen, it is my great pleasure to welcome all of you to the thirty-seventh session of the Committee on the Peaceful Uses of Outer Space.

After the relocation of the Secretariat from New York to Vienna, this is the Committee's first session at the United Nations Office. I am convinced that, with the efforts of the Secretariat and the conference servicing staff here at the Vienna International Centre, we will have the same successful results in this new environment as we did in New York. The successful sessions of the Scientific and Technical Subcommittee and the Legal Subcommittee, both of which were held in Vienna this year, make me confident that this will be the case.

In the international community we have seen a rapid increase in the number of space projects which are carried out through international cooperative efforts. The end of the cold war has certainly increased opportunities for meaningful cooperation in space between former rivals. New financial realities have also forced many countries to realize that international cooperation is indispensable for many space projects, which by their very nature tend to be complex and costly.

One of our major tasks in this Committee is to promote such international cooperation in space activities so that outer space is explored and exploited for truly peaceful purposes and for the benefit and interests of all humanity. I am looking forward to the meetings we will hold over the next two weeks, during which I hope we can make substantive progress in our work.

Before sharing with you, distinguished delegates and representatives, the events which have taken place during the past year and describing the work of this Committee's Scientific and Technical and Legal Subcommittees, I should like, on behalf of the Committee, to thank the Chairmen of our two Subcommittees, Professor John Carver of Australia and Mr. Václav Mikulka of the Czech Republic, for their excellent work, once again, in skilfully guiding the Subcommittees through their recent sessions.

Let us remind ourselves that progress in space exploration and exploitation enriches human civilization and greatly expands the sphere of all human activities. Some of the achievements in space symbolize the advancement of

science and technology and are remembered as milestones in the history of mankind.

This year will mark the twenty-fifth anniversary of the historic first human landing on the Moon. The astronauts of the United States Apollo 11 mission, Neil Armstrong and Edwin Aldrin, landed at the Sea of Tranquillity on 20 July 1969 aboard their landing module, Eagle, which bore a plaque with the inscription "We came in peace for all mankind". The next day Armstrong stepped off the footpad of the lunar module and said his now famous words: "That's one small step for a man, one giant leap for mankind".

He was soon joined by Aldrin in performing the first scientific experiments on the lunar surface and collecting samples of Moon rocks. After successfully finishing all their tasks, they rejoined astronaut Mike Collins in the command module Columbia in lunar orbit. Three days later all three astronauts splashed down in the Pacific Ocean, achieving the goal set by the late President Kennedy in 1961: to put a man on the Moon by the end of the decade and return him safely back to Earth.

Between 1969 and 1972 a total of 12 astronauts landed on the Moon and performed complex scientific investigations there. Unfortunately, there has been no direct continuation of the highly successful Apollo project. As we all know, priorities in space have gradually evolved to their current emphasis on practical applications of space technology and greater international cooperation. The most fascinating example of the completely changed international atmosphere is the agreement on Shuttle flights to the Mir space station that was signed in Moscow on 16 December 1993. Within the framework of that agreement, Russian cosmonaut Sergei Krikalev was sent into orbit as a crew member on the STS-60 mission on 3 February 1994 and astronaut doctor Norman Thagard will be launched for a three-month flight on Mir starting in March 1995. The United States and Russia also agreed that an additional Russian cosmonaut would fly on the Space Shuttle mission scheduled for launch in January 1995, during which the Shuttle will perform a rendezvous with the Mir station. Cosmonaut Vladimir Titov is currently training to participate in that mission.

Under the terms of the agreement, American astronauts will log a cumulative two years in Earth orbit aboard the Mir station. This will provide direct scientific and managerial experience with long-duration space missions, invaluable for the proposed international space station. According to recent plans, this station will use approximately 75 per cent United States hardware developed for the Space Station Freedom project; a Russian solar-power platform, service module and functional cargo block vehicle; the European Space Agency's (ESA) laboratory module; a Japanese experimental module and exposed facility; and a Canadian remote manipulator system. If this ambitious project is realized, it will be a truly international orbiting station, permanently occupied by three to six astronauts by the end of this century.

In the mean time, the Russian space station Mir continues to serve as a human base for space research and applications. It is permanently operated by at least two cosmonauts, and crew exchange flights are frequently used for short international visits. In July 1993 Jean-Pierre Haignere of France spent 21 days in space working with cosmonauts on the joint French-Russian Altair research project. This was the fourth French flight to the Mir space station. Arrangements for participation in space flight crews are also being made with other countries. On 10 January 1994 the fifteenth main crew arrived at the Mir station. This time the crew consists of three cosmonauts - Victor Afanasiev, Yuri Usachov and a medical doctor, Valery Polyakov - who will conduct 16 months of biomedical investigations in space. On his previous flight Polyakov spent 240 days in space.

The United States Space Shuttle programme also has a significant international component. International participants in recent Shuttle flights included Claude Nicollier, a Swiss-born ESA astronaut, who was in charge of the remote manipulator system during the spectacular Hubble Space Telescope servicing mission, STS-61, in December 1993. The five space-walks performed during that mission by Kathryn Thornton, Thomas Akers, Story Musgrave and Jeffrey Hoffman set a new record for the most extravehicular activities on a single Shuttle flight. The fully repaired telescope was redeployed into a slightly higher orbit on 10 December, and, through a series of verification tests, it has been confirmed that the telescope is now fully operational. This again proved the invaluable role of human intervention in certain situations.

The repaired Hubble telescope is already producing valuable results, including providing insight into a supernova in the dwarf galaxy called the Large Magellanic Cloud, and the discovery of a massive black hole in the constellation Virgo that may contain the remnants of two billion to three billion suns. Closer to Earth, the telescope will play an important role in observing a rare astronomical phenomenon, the crash of the Shoemaker-Levy 9 comet into Jupiter, which will occur next month.

During the STS-57 mission in June 1993 astronauts retrieved ESA's European Retrievable Carrier (EURECA) satellite, which had spent almost a year in orbit. After being stowed in the cargo bay, it was brought back to Earth and, together with the experiments aboard, returned to ESA laboratories for evaluation. The new Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer (ORFEUS-SPAS) was tested in September during the STS-51 flight. It was the first in a series of cooperative missions using the German-built scientific satellite, which has instruments from both Germany and the United States.

The April 1994 Space Shuttle Endeavour mission, STS-59, was entirely devoted to the remote sensing of the Earth by the onboard space radar laboratory. The laboratory's imaging radar components have the ability to make measurements over virtually any region at any time, regardless of weather or sunlight conditions. An international team of 49 science investigators from 13 nations participated in the preparation and evaluation of results from this important experiment.

It is not possible to cover in this introductory statement all important fields of space research and applications. Nevertheless, it is important to note some of the missions and programmes with a distinctly international tone. For example, on 31 August 1993 an Italian experimental communications satellite called TEMISAT was launched together with the Russian Meteor-2 meteorological satellite from the Plesetsk cosmodrome. The TEMISAT programme will provide data collection and distribution services for global geophysical and environmental monitoring. A similar environmental data collection satellite has been developed by Brazil. Called the Satelite de Coleta de Dados, it was launched by a United States launcher last year to relay environmental data concerning the Amazon river and the surrounding rain forest.

During its flight on 26 September 1993 an Ariane-4 rocket launched into low-polar orbit the third French commercial remote sensing satellite, SPOT-3, as well as several mini-satellites. These included KITSAT-2, the second experimental satellite prepared by students from the Republic of Korea; POSAT-l, the first Portuguese satellite designed to develop space applications by Portuguese industry; ITAMSAT, for the Italian association of amateur radio operators; and HEALTHSAT, a "humanitarian" satellite designed to provide information to medical schools and health documentation centres in Africa. This latter satellite was developed through a cooperative effort between universities in the United Kingdom and the United States. Launchings of such small, inexpensive satellites might be a very practical way for non-space-faring nations to utilize space technology.

Ariane launchers were also used to launch a variety of other communications satellites, including the HISPASAT l-B, for that Madrid-based organization. This satellite will provide various telecommunications services and television broadcasting, within both Spain and Latin America. The Solidaridad-l satellite was launched for Telecomunicaciones de Mexico and will provide telecommunications services to Central America, as well as parts of the United States and South America. The second spacecraft in India's second generation of INSAT satellites was successfully placed in orbit by an Ariane launcher on 22 July. The multipurpose satellite will be used for telecommunications, weather forecasting, search and rescue and educational programmes. The THAICOM-l satellite was launched on 18 December for Shinawatra Satellite Co, of Bangkok, to provide communications services in Thailand.

The international solar observation spacecraft, Koronas-I, launched from Russia's Plesetsk cosmodrome on 2 March 1994, will monitor solar oscillations and flares, the corona and chromosphere for at least five years. Data can be used to warn against potentially hazardous solar storms of the kind that knocked out several geostationary communication satellites in January.

It is heartening to report significant progress in several national launcher programmes. An astrophysical satellite, SROSS C-2, was launched into orbit on 4 May 1994 by India's indigenous launcher, the Augmented Satellite Launch Vehicle (ASLV). This is a noteworthy achievement, in that India now has the capability to launch its locally produced satellites on its own indigenous launcher. In China the successful test flight of the stretched Long March 3A launcher, capable of carrying a 2,500 kilogram payload to geostationary transfer orbit, took place on 8 February 1994. One of the most significant events was Japan's successful launch on 3 February 1994 of the powerful H-2 rocket with a special re-entry vehicle to verify the thermal protection system of the proposed HOPE unmanned space shuttle.

Another rapidly expanding area of space applications is satellite navigation, which was initially developed for military purposes, but is now widely used for civilian and commercial applications. The United States Global Positioning System (GPS), consisting of 24 Navstar spacecraft, provides instant, global, three-dimensional position information 24 hours a day, and civilian users can

determine their location within 100 metres. In addition to applications for fishermen and other maritime users, satellite navigation systems are improving air traffic control and spacing, particularly over long-range transoceanic routes that are not covered by existing radar systems.

Another application, and one which was not initially planned, is for terrestrial vehicle tracking. Knowing the location of fleet vehicles allows their efficient use, which is particularly important for public transit fleets, delivery and courier operations, and for police, fire and emergency medical services. Already there are 400,000 automobiles in Japan that are equipped with GPS-based units, which at the moment only have the capability of showing drivers where they are. In January 140 New York area drivers began testing the navigation devices, and in April about 30 rental cars based at New York's La Guardia Airport were equipped with the GPS receivers and cellular phones. The so called Project Northstar will offer drivers emergency assistance, navigation information or directions to nearby businesses, such as restaurants, gas stations, banks or pharmacies. Because the GPS information will be transmitted over the cellular phone along with the driver's request for help, the operator who receives the call will know the driver's location and be able to help direct him or her to any destination. Other proposed systems can even display the necessary information on a dashboard screen.

Project Northstar also includes a car alarm that uses sensors to determine when someone is attempting to break into an automobile. If the unit detects a break-in, it will automatically dial the local police station and inform officers of the problem and the car's location. Any vehicles stolen will be easy to track because the operators can follow the GPS signal. While it is difficult to predict how many drivers would use such equipment in future, it is expected that as people became more familiar with this idea the number of users will increase and the price will drop.

With this short excursion into the rapidly expanding practical applications of space technology, I would like to conclude this review of space-related accomplishments since the Committee met last June. This clearly has been another active and exciting year in space, one which was notable for the increased amount of cooperation between countries in space activities. With this in mind, I should like to turn our attention to the agenda items which are before the Committee and which have a direct bearing on such activities.

The General Assembly has asked us once again to consider, as a matter of priority, ways and means of maintaining outer space for peaceful purposes, and to report thereon to it at its forty-ninth session.

It should be noted that in recent years there have been many initiatives in the international community to ensure the peaceful uses of outer space. Several of these initiatives have focused on attempts to utilize military technology for productive peaceful uses, and matters related to the conversion of military technology and production capacity have been discussed at several international conferences. The Secretary-General of the United Nations, in his report entitled "International Cooperation in Space Activities for Enhancing Security in the Post-Cold War Era" (A/48/221), recognized the importance of this issue and has established an interdepartmental task force on the conversion of military technology. Space technology has much relevance to this issue, and international cooperative efforts are indispensable for confronting this complex problem.

I would like now to draw the Committee's attention to the report (A/AC.105/571) of the Scientific and Technical Subcommittee on the work of its thirty-first session, which we have before us. In accordance with the Committee's recommendations, which were subsequently endorsed by the General Assembly, the Subcommittee once again discussed several items on a priority basis.

In accordance with past practice, the Subcommittee considered jointly the agenda items on the United Nations Programme on Space Applications and the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82).

For the eighth time, the Subcommittee reconvened its Working Group of the Whole to evaluate the implementation of these recommendations. The report of the Working Group is contained in annex 2 of the Subcommittee's report.

I should once again like to congratulate the Chairman of the Working Group of the Whole, Mr. Muhammad Nasim Shah of Pakistan, on his assiduous efforts to promote consensus and on the way in which he has maintained the traditional efficiency of this Working Group.

The Working Group noted with satisfaction the valuable efforts of the United Nations, Member States and other international organizations to implement the recommendations of UNISPACE 82. However, the Working Group also recognized that some of these

recommendations had yet to be fully implemented. In its report, the Working Group therefore offered several recommendations and identified four areas in particular that should be given priority in further efforts to promote the applications of space science and technology for development.

With regard to stimulating the growth of indigenous nuclei and an autonomous technological base in space technology in developing countries, the Working Group noted that UNISPACE 82 had recommended the free exchange of scientific and technological information and an arrangement for the transfer of technologies to promote the use and development of space technology in the developing countries. However, despite these recommendations, there still remain many undue restrictions on the sale of components, subsystems or systems required for peaceful space applications. The Working Group concluded that a greater international understanding needs to be evolved to overcome the difficulties faced by the developing countries in this respect.

The second area to be identified was the promotion of greater exchange of actual experiences in space applications. The Working Group reiterated the recommendation of UNISPACE 82 that appropriate assistance be given, particularly from international financial agencies, to support demonstration projects to provide opportunities for hands-on experience in space technology and applications for the developing countries through direct involvement in such applications projects or pilot projects.

With respect to United Nations funding, the Working Group again expressed its regret that the budgetary allocations for the United Nations Programme on Space Applications continued to be inadequate to meet the goals of the Programme and to implement the recommendations of UNISPACE 82. Although the General Assembly at its forty-eighth session, acting on the recommendations of the Working Group and of this Committee, had increased the budget allocation for the Programme, the Working Group again reaffirmed the view that the Programme on Space Applications should be given the full support of the United Nations in order to fully implement the recommendations of UNISPACE 82.

Finally, the Working Group expressed its appreciation to those Member States and international organizations that had supported the Programme on Space Applications with voluntary contributions in the form of cash and in-kind contributions, and it urged all Member States and international organizations to continue and expand such support for future activities organized by the Programme on Space Applications.

As far as the possibility of holding a third UNISPACE conference is concerned, the Working Group noted that the General Assembly, in its resolution 48/39, had requested the Subcommittee to continue, at its thirty-first session, the discussion held at the last session of this Committee with a view to promoting an early conclusion on the matter. It also noted that the General Assembly, in the same resolution, had 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 Working Group also noted that, in the same resolution, the Assembly had noted that the goals set for such a conference might also be achieved through other means, including intensification of work within the Committee.

Also on the subject of holding a third UNISPACE conference, the Working Group noted the working papers submitted by India and Pakistan and considered the working paper submitted by the Group of 77. Those working papers are contained in documents A/AC.105/C.1/L.195, A/AC.105/C.1/L.191 and A/AC.105/L.199. The Working Group agreed that they constituted a basis for further discussions on the matter in the Subcommittee.

These are some of the recommendations offered by the Working Group. I will leave further discussion on this matter for our debate.

Regarding the last subject, the possible holding of a third UNISPACE conference, I would like to draw attention to some of the recommendations of the Scientific and Technical Subcommittee, which discussed this item, in accordance with General Assembly resolution 48/39, under "Other matters". The Subcommittee agreed that this Committee should further consider the ideas and proposals contained in the working papers that I have just mentioned, as well as other ideas and proposals that may be submitted with a view to developing a set of sharply focused objectives and goals that address the needs and interests of all countries. To further the discussions, the Subcommittee requested the Secretariat to prepare a comprehensive report on the likely organization, funding and logistical implications of holding such a conference. That report is before the Committee in document A/AC.105/575.

Because of changes in the international political situation which have had a bearing on space programmes, the many advances and changes in space technology and

applications that have taken place since UNISPACE 82, and the many benefits that have accrued as a result of that Conference, the Subcommittee agreed that it was important to continue discussions on the possibility of holding a third UNISPACE conference with the widest possible participation and enjoyment of the potential benefits thereof. The Subcommittee also agreed that this Committee should at the present session continue its discussions on all matters related to the holding of a third UNISPACE conference.

I look forward to continuing our discussions on this important matter at this session.

I would note that some Member States have already expressed several interesting ideas regarding a third UNISPACE conference, and I invite all delegations to offer additional ideas for constructive discussion during our consideration of this item, which I suggest we conduct during our consideration of item 5 on our agenda, "Report of the Scientific and Technical Subcommittee." The report prepared by the Secretariat on this matter, which, as I noted earlier, is contained in document A/AC.105/575, should provide us with a good starting point from which to begin our discussions.

The Subcommittee commended the work carried out in the past year by the Programme on Space Applications, reviewed the progress on the 1994 activities and approved the proposed programme for 1995. I would, in particular, like to draw attention to the Subcommittee's appeal for support for the Programme through voluntary contributions. I strongly believe that this appeal deserves the serious consideration of the United Nations family, and especially the strong support of the members of this Committee.

As all members are aware, a number of Member States have offered to host the proposed regional centres for space science and technology education. Those centres would serve as focal points for the promotion of regional cooperation in space activities and also encourage more effective technology transfer from the developed to the developing countries. With the completion last month of an evaluation mission to the region of the Economic and Social Commission for Asia and the Pacific (ESCAP), missions to four regions have now been conducted to select sites for the centres. I should like to re-emphasize the Subcommittee's hope that those Member States and agencies that are in a position to assist will make every effort to do so in order to bring this initiative to fruition. I would also like to express the appreciation of the Committee to those Member States and international organizations that have assisted in conducting the missions I have just mentioned.

As another priority item, the Subcommittee once again considered matters relating to remote sensing of the Earth by satellites. After reviewing the remote-sensing activities of Member States, the Subcommittee reiterated its views that these activities should take into account the need to provide appropriate and non-discriminatory assistance to meet the needs of the developing countries. The Subcommittee also noted that it was important to make remote-sensing data and analysed information openly available to all countries at a reasonable cost and in a timely manner, and that international cooperation in the use of remote-sensing satellites should be encouraged, both through coordination of ground-station operations and through regular meetings between satellite operators and users. The request has been made that this item be retained as a priority item on the agenda.

In accordance with General Assembly 48/39, the item relating to the use of nuclear power sources in outer space was also considered as a priority item. The Subcommittee noted that the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, which were adopted by the General Assembly in its resolution 47/68, provided that they should be reopened for revision by the Committee no later than two years after their adoption. In accordance with General Assembly resolution 48/39, the Subcommittee reconvened its Working Group on the Use of Nuclear Power Sources in Outer Space under the able leadership of Professor John Carver of Australia. The report of the Working Group is contained in annex III of the Subcommittee's report (A/AC.105/571).

The Working Group considered several working papers related to the use of nuclear power sources in outer space and agreed that the working papers and other information provided by Member States were useful for continuing discussions on that matter.

A number of questions relating to possible ways of revising the Principles were raised in the Working Group, including a further definition of terms, expanding the scope of the Principles to other uses of nuclear power in space, establishing criteria for acceptable risk, the applicability of probabilistic risk assessment, the applicability of fundamental nuclear safety principles, the adoption of a safety culture by those conducting nuclear-powered space activities, the effect of space debris on the safety of nuclear power sources and the application of the relevant recommendations of the International Atomic Energy Agency (IAEA) and the International Commission on Radiological Protection (ICRP).

The Subcommittee again agreed that Member States be invited to report to the Secretary-General on a regular basis with regard to national and international research concerning the safety of orbiting space objects with nuclear power sources. The Subcommittee also agreed that further studies should be conducted on the issue of the collision of space objects with nuclear power sources on board with space debris, and that it should be kept informed of the results of such studies. During its discussion, the Subcommittee took note of the offer made by the representative of the IAEA and considered that if the IAEA were to provide materials bearing on the Principles the Subcommittee and the Working Group on nuclear power sources would welcome such a contribution.

In its conclusion, the Subcommittee expressed the view that the Principles should remain in their current form until such time as they are amended and that, before amendment, proper consideration should be given to the aims and objectives of any proposed revision. It was considered that the Subcommittee and the Working Group on nuclear power sources should continue to receive the widest inputs on matters affecting the use of nuclear power sources in outer space and any contribution related to improving the scope and applications, as well as better aligning the Principles with the relevant recommendations of the IAEA and the ICRP. The Subcommittee recommended that the item be retained on its agenda for the next session.

The Subcommittee considered several other items, including the subject of space debris, which was included on its agenda for the first time. The Subcommittee expressed its satisfaction at having this subject as a separate agenda item after many years of discussion in various international forums, and agreed that international cooperation was needed to evolve appropriate and affordable strategies to minimize the potential impact of space debris on future space missions. A number of scientific and technical presentations on this subject were given to provide the Subcommittee with more information for its discussions. Working papers on this item were submitted by the Russian Federation and the International Astronautical Federation (IAF). The Subcommittee agreed that it should focus its attention on the subject of acquisition and understanding of data on the characteristics of the space debris environment, with a view to establishing a common understanding that could serve as the basis for future discussions, and that it should develop a deliberate and specific multi-year plan for its work on that agenda item.

Although the potential impact on future space activities of a rapidly increasing level of space debris is generally recognized, we are unable to identify the best possible solutions to control or to prevent the creation of space debris. I believe that this Committee has the responsibility to the international community to continue its serious consideration of this agenda item so that it may take effective action in a timely manner.

In discussing the items dealing with space transportation systems, examination of the physical nature and technical attributes of the geostationary orbit and space communications, the Subcommittee reviewed national and international cooperative programmes and once again stressed the value of international cooperation in these fields as a mechanism for providing all countries with access to the benefits of space science and technology. The Subcommittee will continue its consideration of these items at future sessions.

With regard to the matters related to the earth environment, in particular progress in the geosphere-biosphere (global change) programme, the Subcommittee noted the importance of international cooperation in various existing and planned satellite systems for environmental monitoring and recommended that other States consider participating in such cooperative activities. As for the matters relating to life science, including space medicine, as well as planetary exploration and astronomy, the Subcommittee heard interesting and informative special presentations.

As members are aware, as far as the field of astronomy is concerned, this year will be one of the most exciting in recent memory due to the observations now being performed by the repaired Hubble Space Telescope. Due to financial difficulties, however, many countries are having to reduce their budgets for projects in the fields of astronomy and planetary exploration, and I hope international cooperative efforts will help offset these cutbacks and promote continued progress in these important fields.

In accordance with the wishes of the Assembly, the Subcommittee paid special attention to the theme of the session, "Space applications for disaster prevention, warning, mitigation and relief". As we all know, space technologies can be vital tools in the provision of disaster warning services and can also help to mitigate the harmful effects of disasters. I must stress the importance of continued research and technology development in this area.

The theme fixed for special attention at the 1995 session of the Subcommittee is "Application of space

technology for education with particular emphasis on its use in developing countries". The Subcommittee has once again recommended to this Committee that the Committee on Space Research (COSPAR) of the International Council of Scientific Unions and the International Astronautical Federation (IAF), in liaison with Member States, be invited to arrange a symposium with as wide a participation as possible to complement discussions on the special theme.

At this point I should like, personally and on behalf of the Committee, to thank both COSPAR and the IAF for sponsoring and assisting in the organization of a most interesting symposium on the 1994 theme and for their continuing support of the work of the Committee and its two subsidiary bodies.

I would now like to turn to the work of the thirty-third session of the Legal Subcommittee, the report of which is contained in document A/AC.105/573.

The Subcommittee once again expressed its satisfaction that after many years of hard work the Principles Relevant to the Use of Nuclear Power Sources in Outer Space had been adopted by the General Assembly. In accordance with the terms of the Principles, the Subcommittee re-established its Working Group on the issue, under the chairmanship of my compatriot, Mr. Franz Cede, in order to review and discuss possible revisions to the Principles.

Bearing in mind that the Scientific and Technical Subcommittee was in the process of considering the implications of the use of nuclear power sources, the Working Group recommended that the consideration of that item by the Group be suspended for one year, pending the results of the work in the Scientific and Technical Subcommittee.

However, the Working Group also concluded that the item concerning nuclear power sources should be retained on the agenda of the Legal Subcommittee to allow delegations to continue consideration of that item in the plenary. That recommendation was made without prejudice to the possibility of reconvening the Working Group on this item. I would like to support this cautious approach to the Legal Subcommittee's consideration of this agenda item.

Regarding the definition and delimitation of outer space and the character and utilization of the geostationary orbit, the Working Group on this agenda item was reconvened under the able and astute chairmanship of Mr. Estanislao Zawels of Argentina. As it had done previously, the Working Group divided its consideration of this item into two parts. Concerning the definition and delimitation of outer space, the Working Group continued its consideration of the informal paper entitled "Draft questionnaire concerning aerospace objects" contained in document A/AC.105/C.2/1993/CRP.l.

During the course of discussions, an introduction to the draft was added by the Chairman of the Working Group to explain briefly the origin and objectives of the questionnaire. Although consensus was not reached regarding the circulation of the questionnaire, the Chairman expressed the view that there was commitment within the Working Group to continue discussion on the draft questionnaire at its next session.

As for the geostationary orbit, the Working Group conducted a paragraph-by-paragraph review of the working paper entitled "Geostationary satellite orbit", contained in document A/AC.105/C.2/L.192, which was introduced at its 1993 session. Although there are still significant differences between the positions of Member States on this issue, I should note that the exchange of views which took place on the basis of the working paper was productive and provides a good basis for the future work of the Working Group, which will continue to consider that paper at its next session. Details of these discussions are contained in annex II of the Subcommittee's report.

Perhaps the most substantive progress was achieved in discussions on the question of outer space benefits. Under the experienced chairmanship of Mr. Raimundo González of Chile, the Working Group on this item conducted in-depth discussions based on the working paper entitled "Principles regarding international cooperation in the exploration and utilization of outer space for peaceful purposes", contained in document A/AC.105/C.2/L.182/Rev.1, which was jointly submitted at its previous session by delegations of 10 Member States. Two additional Member States joined them as co-sponsors.

This year's session continued to focus on the draft set of Principles, with constructive input from some delegations of developed countries. This gives me cause to be optimistic that further progress will be made toward finding a common understanding on this issue. The Chairman's report, contained in annex III to the Subcommittee's report, summarizes the views expressed in the Working Group on this item.

As our experience with the Principles on nuclear power sources showed, progress often comes slowly in the Legal Subcommittee. Our task of developing international

space law through the Legal Subcommittee requires careful and deliberate consideration so that we may reach conclusions based on consensus. As space technologies continue to advance in the coming years, we should be ready to face more complicated and challenging tasks if we are to continue in our role of elaborating an international legal regime in space in order to ensure that the access to and benefits, understanding and utilization of outer space and its technologies are made available for all humanity.

I have briefly reviewed the reports of the two Subcommittees in the hope that our Committee will spend the next two weeks in productive discussions so that we will be prepared to offer these bodies meaningful guidance on their future work.

With regard to the Committee's other agenda items, I would like briefly to discuss the item "Spin-off benefits of space technology: review of current status". This has always proved to be a matter of great interest to Member States and has produced some lively discussions in the Committee. Last year this Committee agreed that there was a need to examine ways to strengthen and enhance international cooperation in this field through improved means of providing access to spin-offs for all countries, giving particular attention to those spin-offs that could address the social and economic needs of developing countries. Following the recommendation of this Committee at its last session, planning is under way for the holding of an international workshop on spin-off benefits of space technology, to be sponsored by the United Nations Programme on Space Applications. Once again, I look forward to discussion of this item, and suggest that the Committee continue its examination of this very important question.

Concerning the role that the Committee could play in view of the decisions and recommendations of the United Nations Conference on Environment and Development (UNCED), I also note that, in accordance with the Committee's request at its last session and the subsequent request of the General Assembly, the Secretariat provided the Subcommittee with updated information on the implementation of Agenda 21 by the United Nations system, with information on the activities of the Programme on Space Applications related to the environment and development, and with suggestions as to how the activities of the Programme on Space Applications in that area might be expanded. This information is contained in document A/AC.105/547/Add.1. I look forward to having constructive discussions on this important matter, and I urge delegations to develop additional ideas so that this Committee will be able to take substantial steps towards the implementation of some of the programmes outlined in Agenda 21.

With regard to the review and revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, I would remind representatives that the Principles themselves require that they be reopened for review and revision no later than two years after their adoption. Hence, the Committee at this session will have to make a recommendation to the General Assembly on how that body should proceed at its upcoming forty-ninth session. I suggest that we consider this matter under agenda item 6, "Report of the Legal Subcommittee".

As members are aware, the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, which entered into force on 11 July 1984, provides that 10 years after its entry into force the question of its review should be included in the agenda of the Assembly in order that the Assembly might consider, in the light of the past application of the Agreement, whether it requires revision. I would welcome any input on this matter at this session to provide some guidance for the discussions at the next session of the General Assembly. Due to its relevance to the work of the Legal Subcommittee, I would suggest that this item also be discussed during our consideration of the report of the Legal Subcommittee.

Finally, members will recall that at last year's session we discussed the question of enlarging the Committee's membership, and that a number of informal consultations were held on this important matter. These consultations continued during the forty-eighth session of the General Assembly, but we were still unable to reach consensus on this matter. In the report (A/48/645) of the Special Political and Decolonization Committee I was given a mandate to continue these consultations with a view to arriving at a consensus recommendation on the new membership of the Committee. I hope that, with the cooperation of members, we will be able to reach a solution on this question and bring this matter to a close at this session.

This brings me to the conclusion of my review of the activities of the past year and the work before the Committee. During my three years as Chairman of this Committee, we have seen much progress in international cooperation in space activities and constant advances in space science and technology. Space science and technology are now seen as vital tools for improving economic and social conditions in all countries and for solving global problems, such as the protection of our shared global environment.

The end of the cold war and the dramatic changes in the international political situation that we have witnessed over the past several years have contributed to the substantive degree of progress that we have achieved in this Committee and to the accelerating pace of international cooperation in space activities. We must ensure that these trends continue, and, through our work at this and future sessions, we must continue our efforts to expand international cooperation in space activities so that all countries may reap the many practical benefits of space technology and its applications.

I thank members for their attention and I offer them my best wishes for a productive session.

Organization of work

The Chairman: Before beginning our consideration of agenda item 3, "General exchange of views", I would like to make some general comments about our work schedule and practical arrangements for the session. As in the past, the provisional schedule of work contained in the agenda we have just adopted will be as flexible as possible; it can be adjusted as we proceed with our work. We will shortly begin the general exchange of views, and we will continue it tomorrow and, if necessary, on Wednesday morning. I would like to close the list of speakers in the general exchange of views at the end of tomorrow morning's meeting. I urge delegations to place their names on the speakers' list.

With regard to the time of our meetings, we will follow the same procedure as we did for the two Subcommittees. Our meetings will take place from 10 a.m. to 1 p.m. and from 3 p.m. to 6 p.m. It is important that we adhere as strictly as possible to those starting times, and I urge all members to cooperate with the Chair in order to make the maximum use of the conference facilities and services made available to us. I might add that I am determined to start, and if possible to close, our meetings on time.

General exchange of views

Mr. Fernandez (Chile) *(interpretation from Spanish):* The Government of the Republic of Chile attaches special significance to this, the thirty-seventh, session of the Committee on the Peaceful Uses of Outer Space. We wish on this occasion to reaffirm our tradition of active participation in the United Nations system and of respect for its principles; further, we note that we have been a member of this Committee since its establishment in 1959.

The presence at this session of an ad hoc delegation from my country is based on three special considerations. The first relates to the foreign-policy objectives of my Government, as defined by President Eduardo Frei on 21 May in the Chilean Parliament. These include

> "selective participation in bodies aimed at the achievement of peace, the spread of democracy and respect for human rights, and development and social justice in the international system".

On the same occasion, President Frei announced that the Government would examine the establishment of a national institution for space affairs.

The second reason relates to the responsibility Chile undertook, as secretariat *pro tempore* of the Second Space Conference of the Americas, held in Santiago, Chile, in April 1993, to follow up the results of the conference with a view to promoting cooperation on space matters between the participating countries.

Thirdly, I would refer to the attractive and full agenda of this thirty-seventh session of COPUOS, which includes a broad and interesting set of scientific, technical and legal issues, together with the debate on the possible holding of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space. We consider this to be a priority initiative for development and international cooperation on space matters.

With regard to the proposed agenda for this session of the Committee, our delegation would like to express some views on the issues which it considers most relevant.

First, it would be advisable for the Committee to pronounce itself on the need to stress that space is a domain and a resource available to all mankind for the conduct of activities which promote international peace, security, development and cooperation. This principle should be reflected in whatever ways and means, scientific and technical or legal, this Committee and the General Assembly, at its next session, may endeavour to develop.

In that connection, we feel that a review of the Committee's institutional structure should be initiated with a view to adapting the functions of the two subcommittees to the new characteristics and trends of the international system and their impact on space matters.

Secondly, urgent attention should be paid to the call for the increased allocation of human and economic

resources to scientific and technical cooperation, both by the developed countries and by international funding agencies. We believe that the efforts already being made by the developing countries in the formulation of cooperative projects and related procedures are sufficient to ensure that the promotion or sponsoring of such initiatives will be viable and promising. It is noteworthy that the space-related projects of the developing countries are directly linked to their social and economic development, particularly in terms of education, the environment, communications and medicine.

In this connection, an increase in both vertical and horizontal cooperation in space matters would not only have an impact on quantitative indicators of development, but would also represent a manifestation of international solidarity.

Thirdly, our country wishes to highlight its specific experience with regard to direct benefits from the peaceful use of space, as well as the effects that this will have on key sectors of our development. With regard to "distance education" or open education through the programme known as "Teleduc", Chile has achieved considerable results in terms of coverage and of the quality of instruction provided to vast sectors of the population. As far as natural resources and the environment are concerned, space development is of decisive importance to matters relating to our productive activity, such as the forestry, mining and livestock sectors. Also, our territory is directly affected by the depletion of the ozone layer and our cities are affected by atmospheric pollution linked to climatic change.

In that regard, our country is initiating a micro-satellite project for the study of the ozone layer, with a view to providing meteorological information and data on flight security and air traffic control. For these reasons, our delegation is particularly interested in the further consideration of these issues and in the elaboration of regulations and procedures aimed at ensuring the implementation of space science and technology in this area.

Fourthly, with regard to the possible holding of a third UNISPACE conference, we consider this a priority item for this session. We commend the report submitted by the secretariat of the Committee on this subject, as well as the working papers submitted by India, Pakistan and the Group of 77 and the efforts made by the Scientific and Technical and Legal Subcommittees.

An area of particularly detailed treatment is that of the bases and justifications for that third conference, especially those relating to the decisive changes that have occurred in the international system since 1982 and their impact on trends affecting cooperation in terms of relations among countries that have made the greatest advances in space technology and between those countries and developing countries. The release of resources from the military into the civilian field, the globalization and opening up of international trade, as well as the de-ideologization of the exchange of scientific and technical information and the efforts being made to introduce legal regulations on a consensus basis are some of the factors which form a sufficiently propitious background for convening a new United Nations space conference. Such a conference would be of a truly global character, and would assist in harmonizing the interests and requirements of all States in the international community.

We believe that the Committee should, at this thirty-seventh session, recommend to the General Assembly that it adopt an agreement to organize a world conference within a reasonable time period, perhaps by 1997, and, as far as possible set specific guidelines for the conference's organization, timetable, agenda, venue and pattern of meetings.

Our country has justified hopes that space exploration will play a role in the development of our nations and of mankind as a whole. We are therefore convinced that this thirty-seventh annual session of the Committee will be a fruitful one and will provide a good opportunity to exchange views and adopt agreements for the benefit of us all.

Mr. Heller (Mexico) *(interpretation from Spanish):* Mr. Chairman, the Mexican delegation is pleased to see you once again guiding the work of this Committee at this thirty-seventh session - the first session to be held in Vienna as the headquarters of the Office for Outer Space Affairs. This provides a new opportunity to consolidate and revitalize the efforts of the United Nations to achieve international cooperation in the use of outer space for exclusively peaceful purposes.

This session's agenda is essentially the same as previous agendas - which, in practical terms, means considering the reports of the two subcommittees and the priority item of ways and means of maintaining outer space for peaceful purposes. My delegation has taken note of the consultations on the expansion of the Committee. We endorse that proposal, on condition that respect is shown for

the criterion of equitable regional balance in the Committee's composition.

While reserving my delegation's right to speak in due course on the corresponding items of the agenda, I wish to make the following comments on some points which we consider deserving of particular attention by the Committee.

The consideration of ways and means of maintaining outer space for peaceful purposes constitutes for Mexico the essential condition for the promotion of international cooperation in the exploration and use of outer space for peaceful purposes. Since the end of the cold war, the opportunities generated in the new international context have unfortunately not resulted in substantive progress in fulfilment of the major mandates entrusted by the General Assembly to the Committee and its two subcommittees.

In that connection, the Committee should display political will with a view to concluding agreements which would enable it to play its mandated role in preventing the militarization of outer space. On the basis of the provisions of the relevant resolutions, we stress the desirability of establishing a communications and coordination link with the Conference on Disarmament which, without duplication of effort, would be conducive to a more comprehensive treatment of the issue and would enhance the development of work in both forums.

My delegation believes that the document submitted by the Secretary-General on international cooperation in space activities to strengthen security in the post-cold-war world, as well as the analysis of the multilateral legal instruments on space affairs that is being carried out by the Geneva Conference's Ad Hoc Committee on the Prevention of an Arms Race in Outer Space, constitute particularly useful tools. These should make it possible to identify specific areas that could benefit from a closer relationship - subject to existing mandates - between the Conference on Disarmament and the Committee and its two Subcommittees.

International cooperation in the exploration and use of outer space for peaceful purposes has certainly made progress, as can be seen from the report of the Scientific and Technical Subcommittee. Clearly, however, much remains to be done. For this reason, the Mexican delegation reiterates its firm commitment to the strengthening of international cooperation, particularly among States with the greatest potential for space exploration, or those which have made the most progress in that area, with a view to ensuring the full implementation of the recommendations of the second United Nations Conference on the Exploration and Peaceful Uses of Outer Space. My delegation also attaches high priority to the activities which the United Nations plans to carry out as a means of encouraging space research in countries whose space programmes and available resources are more modest.

The report of the Scientific and Technical Subcommittee emphasizes the progress made with respect to the establishment of regional centres for space science and technology education and, in particular, the current status of the establishment of a regional cooperation mechanism for Latin American and the Caribbean. The decision to designate Brazil and Mexico as the most viable headquarters for a regional centre has led to negotiations between our two countries, which will soon be concluded.

My delegation wishes to emphasize the importance of the early convening of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, in accordance with the guidelines contained in operative paragraphs 22 and 23 of General Assembly resolution 48/39. UNISPACE-3 would certainly promote and accelerate international cooperation in outer space exploitation, which in turn would ensure fulfilment of the recommendations made by the second Conference.

At the request of the Scientific and Technical Subcommittee, the Secretariat has submitted a report (A/AC.105/575) on the organization, funding and logistics of a new conference. Although that report does contain some material on the aims and objectives of a third conference, we regret that among the substantive elements identified in paragraph 71 of that document, certain proposals made by the Latin American and Caribbean Group were not taken into account; nor were certain ideas concerning international security included in document A/AC.105/C.1/L.199.

I refer specifically to the suggestion made by the Group of Latin American and Caribbean States to include subjects relating to the progressive development of international space law - in particular to the exploitation and use of space resources, and to their link with international environmental law and regulations governing disarmament: arms-reduction and international-security treaties.

The codification of international law on space matters is an essential task which must not be postponed if we are to have a legal framework guaranteeing that the exploration and peaceful use of outer space will be carried out for the benefit of all humankind. My delegation appeals for

redoubled efforts to strengthen international legal instruments in that domain. In this context, we should consider the desirability of reviewing the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, adopted 15 years ago by the General Assembly in resolution 34/68.

The Committee could also identify the inaccuracies and gaps in the Principles Relevant to the Use of Nuclear Power Sources in Outer Space when it reviews the Principles two years after their adoption by the General Assembly.

I assure you, Sir, of this delegation's constructive support in the work of this Committee, which we are confident will concentrate on considering specific proposals that will make progress in international cooperation on this subject possible.

Mr. Jajtner (Czech Republic): It is a pleasure, Sir, to see you again in the Chair. We look forward to a fruitful session. This is the first session of the Committee on the Peaceful Uses of Outer Space to take place after the move of the Office of Outer Space Affairs from New York to Vienna. The two Subcommittees met here in Vienna earlier this year and this session will conclude the first season in our new surroundings.

Let us first look at the work of the two Subcommittees in a general way. Two substantive items were on the agenda of both Subcommittees: nuclear power sources and the geostationary orbit (GSO). Two years ago a set of Principles Relevant to the Use of Nuclear Power Sources was adopted by our Committee, and by the General Assembly in resolution 47/68. The question before this Committee is the possibility of an early review or revision of the Principles. The question is evolving, and an expansion of the scope of the Principles seems to be possible. A theory of risk assessment has been introduced, based on criteria for acceptable risks. Space debris may also have an effect on the safety of nuclear power sources in space. It is probable that this item will remain with us in the future.

The physical nature and technical attributes of the geostationary orbit were discussed by the Scientific and Technical Subcommittee. This item is also evolving because the objects in the geostationary orbit are affected by space debris. Because of the distance of the GSO from the Earth, only debris larger than one metre can be observed. The population of smaller objects in the GSO is unknown and can be estimated only indirectly. On the other hand, the relative velocities of objects in the geostationary orbit are much lower than in the low Earth orbit (LEO). Consequently, the damage caused by a collision is of a different nature. All this makes the consideration of space debris in the GSO different from that in the low Earth orbit.

Another problem which has not yet been adequately addressed is the use of the same nominal orbital position by two or more satellites. This question can be solved by the cooperation of operators of the satellites, but there is no internationally adopted mechanism for that, particularly in cases when such cooperation is not agreed upon by the parties concerned.

The geostationary orbit was addressed by the Legal Subcommittee under an item which also deals with the definition of outer space. The two questions have nothing in common and it is not logical to consider them under the same item. It does not help either of them, and progress in at least one could be accelerated if the two topics were separated. Perhaps at this session our Committee could recommend the separation of the two questions into two different agenda items. That would reflect the fact that the general interest centres more on access to the geostationary orbit and on risks posed by space debris than on sovereignty claims over segments of the orbit.

The Scientific and Technical Subcommittee started its discussion of a new item, that on space debris. My delegation wishes to express its satisfaction that this highly important item has been put on the agenda. We note that the new agenda item raised great interest, that most delegations expressed their views on the matter and that the Subcommittee heard several special presentations by experts on the present situation in the research on these artificial objects in outer space. We also noted that all experts in their presentations and representatives in their statements agreed on the main features of this phenomenon, and that all expressed their awareness of the risks posed to active spacecraft. We wonder if the theory of risk assessment could be applied to space debris. The Legal Subcommittee does not as yet have the space debris item on its agenda, but we note that some delegations have already expressed their interest in legal aspects of space debris.

The Legal Subcommittee also considered the question of its future work and possible new items for its agenda. There are several topics deserving the attention of the Subcommittee connected with the commercialization of space activities. Any decision should, however, keep in mind the possibility that space debris and other issues of the

safety of space operations may require the attention of the Subcommittee in the future.

The Scientific and Technical Subcommittee also discussed the possibility of holding a third UNISPACE conference. Since the General Assembly stressed the need to identify sharply focused objectives for such a conference, it seems important to propose a subject-oriented agenda which would deal one by one with individual space applications, such as remote sensing of the earth and its environment, as well as telecommunications. Each substantive agenda item would be considered from relevant aspects, such as perspectives for the future, international cooperation and assistance to developing countries. In our opinion, it would be the task of this Committee or the Scientific and Technical Subcommittee to set up a list of the substantive items and a list of aspects relevant to each substantive area.

We realize that members of this Committee are well informed about the applications of space science and technology, but this would not necessarily apply to all delegations attending UNISPACE 3. A background document should therefore be prepared, like the one drawn up for UNISPACE 82, containing factual information on outer space matters. In this context, we note the excellent document entitled "Highlights in Space 1993" (A/AC.105/566), prepared by the International Astronautical Federation (IAF) and the Committee on Space Research (COSPAR), which would be asked to prepare a suitable background document for UNISPACE 3, reflecting and commenting on individual substantive agenda items. A good factual basis would serve all delegations to the conference and its deliberations.

We shall make more detailed statements on those points in due time. We express our appreciation and thanks to the Office for Outer Space Affairs for their excellent organization of the United Nations Programme on Space Applications, for the coordination of space activities within the United Nations system and for the preparation of documents for this session of our Committee and, earlier this year, for its two Subcommittees.

Mr. El Ghernougui (Morocco) (*interpretation from Arabic*): The delegation of Morocco is pleased to see you chairing the work of this Committee, Sir. I would like to thank you, as well as the members of the Bureau, and to congratulate you on your election. I am certain that under your wise guidance the work of this Committee will be successful.

International cooperation on the peaceful uses of outer space has seen many developments in recent years. We have reached new horizons thanks to the recent economic, political and social changes in the world. Nevertheless, most developing countries still lack the basic scientific knowledge to make use of outer space. They therefore needs assistance to make up for lost time and to build their capabilities so that they can use outer space technologies for their economic and social development.

The needs and priorities of the developing countries would be met if they could use satellites, if they were given assistance in the field of telecommunications, and if they were provided with data and information on meteorology, television broadcasting and remote sensing to help them make use of all those technologies. Moreover, the use of satellites would reduce the problems relating to desertification that some countries currently face. Desert "creep" is leading to the deterioration of arable lands in many countries; this is one of the serious problems facing some developing countries, especially African countries. These countries also suffer from floods, droughts and other natural catastrophes.

In order to lessen the severity of these problems and to help these countries achieve development, we urge the countries with technological capabilities in the use of outer space to give a helping hand to the developing countries, which desire to use such technologies for peaceful purposes, including the attainment of their development objectives.

It is no secret that the Kingdom of Morocco established the first telecommunications station in Africa in 1970. We now have three such stations to facilitate communications within the country and internationally. Morocco has also established the Royal Centre for Remote Sensing, which is a vital link between developments within Morocco and in the outside world on the use of outer space. It also provides vital information to the country. This Centre is cooperating with other national and international bodies in carrying out projects on the monitoring of natural resources, both in urban centres and in rural areas.

Moreover, a new committee on remote sensing was established in 1993. Morocco attaches great importance to further developments in the use of satellite images in order to use Earth monitoring in other fields. In 1995 the Centre will host the second African conference on natural-resource assessment by remote sensing. This regional conference will be similar to MAR ISY 92, the African regional conference held in Rabat in the context of International Space Year. It will have the following objectives:

organizing an international meeting of remote-sensing experts; assessing research relating to Africa and keeping abreast of the latest outer space developments; and using satellite images to carry out case studies.

Morocco wishes once again to propose the declaration of an international outer space day, on which symposiums and workshops would be held.

International Space Year will not have been useful unless we pay due attention to regional and national activities.

Protecting the atmosphere is vital, and must be an essential part of any outer space scientific and technological development. We must ensure that outer space is not militarized and that no nuclear disaster or any collision between satellites takes place; such events would harm the atmosphere. Such collisions would generate debris harmful to the Earth. We must discuss their disastrous environmental effects.

The Conference on Disarmament has many items on its agenda. The work of this Committee should be coordinated with that of the Conference on Disarmament to avoid any overlap or duplication of effort.

Studies and research on the legal aspects of the use of outer space show a requirement for new legislation and other legal instruments to regulate the use of outer space, taking into account the ever-increasing needs of developing countries. The geostationary orbit has a limited capacity; we must use it safely and fairly, a subject that is under discussion in many forums. Hence, we think it important to set up a legal body to regulate activities involving use of the geostationary orbit, taking account of the interests of all countries and the principle of efficient utilization.

Outer space can be used peacefully, equitably and in keeping with sound scientific principles only through effective international cooperation. Such cooperation should not be viewed as onerous; it should be seen as an important element of an environment beneficial to all countries. Interests, of course, vary, and we must take this diversity into account as we lay a sound foundation for international cooperation.

It is also important that studies be carried out to find new ways to enhance international cooperation with respect to the benefits of the uses of outer space resulting from scientific and technological developments. Here we must take due account of the economic and social needs of developing countries, so that they can benefit from this cooperation.

Statement by the Director of the Office for Outer Space Affairs

The Chairman: I now call on the Director of the Office for Outer Space Affairs.

Mr. Jasentuliyana (Director of the Office for Outer Space Affairs): In response to requests by delegations at past sessions of the Committee, I should like to provide a brief review of the work of the Office for Outer Space Affairs over the past year and of the documents prepared by the Office for this session of the Committee.

As members are aware, the Office for Outer Space Affairs has undergone many changes over the past year, the most significant, of course, being the relocation in October 1993 to the United Nations Office at Vienna (UNOV). I am pleased to report that, thanks to the support of the Austrian authorities and the Director-General of UNOV, Mr. Giorgio Giacomelli, and his administrative and, particularly, conference-servicing staff, the transition to our new home here in Vienna has been most smooth and that the Office is now operating at full speed.

The relocation of our Office here, to the heart of Europe, comes at a particularly opportune moment, when some of the leading national space agencies, including the Deutsche Agentur für Raumfahrtangelegenheiten (DARA), the Centre national d'études spatiales (CNES) and the Austrian Space Agency, are expressing a desire to enhance their already strong cooperative and mutually supportive relationships with the United Nations. It also brings us closer to our colleagues at the European Space Agency, who over the years have provided invaluable support to the work of our Office.

In accordance with the decisions of the General Assembly and the Secretary-General, as part of the overall restructuring of the Secretariat, the Office is now also responsible for servicing the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, in addition to the Scientific and Technical Subcommittee and the full Committee. As highlighted by the March meeting of the Legal Subcommittee here, in the new Office, the Office has demonstrated its capability to successfully fulfil its responsibilities.

To deal with these new responsibilities, two new posts have been added to the Office. These have been filled by

Mr. Jitendra Thaker, a national of South Africa, and Mr. Bruce Schoenfeld of the United States. To replace staff members who did not join us in Vienna, two new staff members were also recruited through the competitive exam process: Ms. Takemi Chiku, a national of Japan and Mr. Matthew Sanidas, a national of the United States. Mr. Sergio Camacho, a national of Mexico, has moved from the staff of the Programme on Space Applications and now serves as Chief of the Committee Services and Reports section of the Office and as Secretary of the Scientific and Technical Subcommittee.

In addition, the Government of Austria has extended for the rest of this year the employment of an Associate Expert, Mr. Christian Hoffmann, a specialist in remote sensing. I would like to express our great appreciation to the Government of Austria for its generous support, which enables us to better serve the Committee and Member States, and we hope the Government of Austria will be able to provide the same support next year. Indeed, we welcome the possibility of having an officer from any other interested Member State under the United Nations Associate Expert or Junior Professional Programme.

The Office has also been provided with a complement of experienced General Service support staff, all of whom are familiar with the operations at the Vienna International Centre.

As I have noted in the past, in addition to the staff fully dedicated to the Programme on Space Applications, all other staff of our Office also support the Programme as required, and all of the non-staff financial resources available to the Office are devoted to the Programme on Space Applications, primarily for the participation of developing countries in Programme activities. I should note that, in response to the recommendations made by this Committee, the General Assembly at its forty-eighth session approved an additional budget allocation for the Programme on Space Applications for the current 1994-1995 biennium. The increase will allow the more effective implementation of the Programme's activities during this period.

Despite the still limited level of funding available, the Office for Outer Space Affairs has been able to effectively maintain the Programme on Space Applications and indeed, to expand its activities, thanks to the generous voluntary contributions of Member States, the specialized agencies of the United Nations and other international organizations. In particular, I should like to thank the European Space Agency and the host countries that have provided local facilities, transportation and accommodation for Programme activities in 1994. It should be noted that this type of support is urgently needed, as the regular budget generally provides less than one third of the total cost of the training courses, seminars and workshops organized by the Programme.

The reports of the 1993 activities of the Programme on Space Applications and information on the 1994 activities now under way were submitted to and reviewed by the Scientific and Technical Subcommittee, as indicated in its report, document A/AC.105/571. The proposed activities for 1995 were reviewed by the Subcommittee and recommended for approval by this Committee. Subject to the approval of this Committee and the General Assembly, planning for the 1995 activities is now under way. The staff of the Programme on Space Applications and the entire Office have worked hard to ensure the effective and efficient organization of these activities, and I would particularly like to acknowledge the work done by Mr. Abiodun, the Expert on Space Applications, in organizing and coordinating these activities. He will provide the Committee with a more detailed look at the activities of the Programme on Space Applications later this week.

Following the recommendation of the Subcommittee and the Committee, one of the major efforts currently being undertaken by the Office in implementation of the UNISPACE 82 recommendations is the establishment of regional centres for space science and technology education in developing countries. There have been many exciting developments in this area since the last session of the Committee, including a just-completed evaluation mission to the Economic and Social Commission for Asia and the Pacific (ESCAP) region, which is the last of the regions to be covered. Plans for the establishment of a centre in the Economic Commission for Latin America and the Caribbean (ECLAC) region, where the first evaluation mission took place, are well advanced, and Brazil and Mexico are currently working out arrangements for the joint establishment of a centre in that region. We are happy to see that the efforts of the United Nations and Member States are finally beginning to bear fruit. The next step of this project will depend on the Member States which have offered to host these centres as well as on interested donor countries. Mr. Abiodun will provide further information to the Committee.

The Office has been working to provide services to Member States through the International Space Information Service, the establishment of which was recommended by UNISPACE 82 and endorsed by the General Assembly in resolution 37/90 of 1982. Due to a lack of budgetary

resources for this activity, implementation of the services has been slower than anticipated, but progress is being made towards achieving a limited database system that will enhance the Office's ability to respond to queries from Member States. Thanks to the support of the Electronic Services Division here at the Vienna International Centre, however, the Office has gained access to several external databases via electronic-mail links. This has improved the Office's ability to tap into the latest developments in space science, technology and applications, and will also allow us to better serve the Committee and Member States.

With the computer facilities currently at our disposal here in Vienna, we hope to establish during the coming year a database system that will be useful to Member States, especially the developing countries. Over the next several months we will be looking to interested Member States and international organizations for their assistance and support in this endeavour.

As part of the work of the Office and our objective of promoting the exchange of information on space activities, particularly those activities which are relevant and useful to developing countries, we have published and distributed a number of documents in 1993 specifically related to space applications for economic and social development. For the fifth time, we have published a collection of technical papers from the seminars, workshops and training courses of the Programme on Space Applications; this appears in document A/AC.105/568. These papers have been selected on the basis of their interest to and utility for developing countries. These collections are published annually, and we hope they help improve the international exchange of information concerning space applications for developing countries.

As part of the Space Information Service and in response to a request from the Working Group of the Whole of the Scientific and Technical Subcommittee, the Office this year prepared two technical studies for the Subcommittee. The first, on space applications for forest resource management, was prepared by Mr. Christian Hoffmann and is contained in document A/AC.105/563. The second, on the use of low Earth orbit satellites for voice communications, was prepared by Mr. Victor Kotelnikov. This study, contained in document A/AC.105/564, does not include an analysis of small low Earth orbit satellite systems, but another study on this subject is now under way which will be issued as an addendum to that report. Both technical studies were submitted to outside experts for review prior to publication, and we would like to thank those individuals for providing this valuable service at no cost to the United Nations. The Office is currently preparing several technical studies, including one on space applications for sustainable development and one on satellite-based broadcasting services, which will be submitted to the next session of the Scientific and Technical Subcommittee.

I am pleased to report that, after a delay caused by the need for external translation, the most recent edition of our periodic publication "Space Activities of the United Nations and International Organizations" (A/AC.105/521) has now been published in all languages. This publication provides a valuable overview of the organization and activities of all agencies of the United Nations system and other international space organizations. We have also published an updated edition of the Directory on Education, Training, Research and Fellowship Opportunities in Space Science and Technology and its Applications, which is contained in document A/AC.105/548.

The Office this year also published a new document entitled "United Nations Treaties and Principles on Outer Space" (A/AC.105/572), containing the full text of the five Treaties and four sets of Principles Governing the Activities of States in the Exploration and Use of Outer Space, adopted by the General Assembly. That document was submitted to the 1994 session of the Legal Subcommittee, and I expect that copies in all languages will be issued during the course of this session of the Committee.

I would also note that information on the space activities of Member States is contained in documents A/AC.105/567/Add.1-5, and that reports on international space activities have been submitted, in response to the request by the Scientific and Technical Subcommittee, by China, Cuba, Finland, Germany, Hungary, Italy, Pakistan, Poland, Portugal, South Africa, Turkey and Ukraine. Those reports contain information requested by the Subcommittee's Working Group of the Whole, including information on national and cooperative international space activities, including spinoffs, information on resources and capabilities of States in space activities for promoting cooperation, and information on activities that could be the subject of greater international cooperation.

At the invitation of the Subcommittee, COSPAR and the IAF, in cooperation with our Office, again organized a technical symposium on the special theme chosen by the Subcommittee for its 1994 session, "Space applications for disaster prevention, warning, mitigation and relief". In addition, a number of Member States arranged presentations on the special theme or on other agenda items.

Because these presentations contain much interesting and valuable information on the latest developments in space applications, the Office again this year prepared a summary of the presentations for distribution to the Committee at this session. That summary is contained in document A/AC.105/574. I would like to acknowledge the work of Mr. Petr Lála and Mr. Hoffmann in preparing this report.

I would also like to take this opportunity to thank COSPAR and IAF for their effort in organizing the symposium. They enlisted some of the foremost experts in the rapidly developing field of space applications for disaster warning and mitigation, and the presentations were both timely and highly informative.

A special report on the proceedings of the symposium, as well as a report on a workshop on this subject, organized by the Space Applications Programme and held in Mexico last year, was submitted to the World Conference on Natural Disaster Reduction held last month in Yokohama, Japan.

If any delegations are interested in making special presentations during this session of the Committee, I would ask them to consult the Secretariat concerning scheduling and any audio-visual equipment that may be required. As is our customary practice, these presentations will normally take place following completion of the list of speakers inscribed for each meeting.

I would now like to briefly review our Office's cooperation with other international and regional organizations over the past year. The coordination of space activities within the United Nations system is conducted through the Ad Hoc Inter-Agency Meeting on Outer Space Activities. The annual meeting allows all entities of the United Nations system to exchange information on planned space-related activities and to coordinate those activities in order to prevent duplication of work and to plan joint and complementary activities. The 1993 session of the meeting took place at International Telecommunication Union (ITU) headquarters in Geneva, and the report of the meeting was submitted to the Scientific and Technical Subcommittee in document A/AC.105/554. A valuable report containing a review of the activities planned by the United Nations system for 1994, 1995 and future years was prepared for the approval of the meeting and was also submitted to the Scientific and Technical Subcommittee in document A/AC.105/551. The next Inter-Agency Meeting will be held in October at the Vienna International Centre.

The Office for Outer Space Affairs has continued its close cooperation with COSPAR and the IAF, and I would like to express our appreciation for the support these organizations provided in 1993. We have again issued the publication "Highlights in Space". This document was prepared with the assistance of COSPAR, which submitted its report on progress in space research, and IAF, which submitted a report on space science and applications. This year, the International Institute of Space Law (IISL) provided input for the section on space law. These reports were prepared with the assistance of many international experts and are authoritative and informative reviews of the most significant developments of 1993. They have been edited and compiled into "Highlights in Space: Progress in space science, technology and applications, international cooperation and space law," which was distributed as document A/AC.105/566.

Working with IAF, the Office again organized a workshop specifically geared toward the needs of developing countries prior to the annual IAF Congress, which was held in Graz, Austria, in October 1993. The theme of the workshop, co-sponsored by the United Nations, IAF, the European Space Agency (ESA) and the Commission of the European Community, and organized with the invaluable assistance of the Austrian Government and the City of Graz, was "Organizing Space Activities in Developing Countries: Resources and Mechanisms." This was the third in a continuing series of activities, and the Office is now in the process of organizing the fourth workshop for developing countries, which will be held prior to the 1994 IAF Congress.

During the past year the Office for Outer Space Affairs has again enjoyed generous support from Intelsat, Inmarsat and the European Space Agency, which has continued its strong tradition of providing substantial financial and technical assistance for the activities of the Programme on Space Applications. I would like to express the appreciation of our Office to all these organizations for their support, and also to the Association of Space Explorers, (ASE) and the International Society for Photogrammetry and Remote Sensing (ISPRS), the new observer organizations with this Committee, which are also cooperating with the Office now.

In the area of regional cooperation, the Office assisted the Government of Chile in planning and organizing the highly successful Second Space Conference of the Americas, which was held in Santiago in April 1993. The Office has also been asked to provide technical assistance to the Asia-Pacific Satellite Communications Conference,

the establishment of which was one of the substantive results of the United Nations Workshop on Space Communications for Development, held in Seoul, Republic of Korea, in 1992. The Office's cooperative relationship with the Indian Ocean Marine Affairs Cooperation (IOMAC) forum continued, and the Office also provided organizational assistance to the Regional Conference on Space Technology for Sustainable Development, held in Dakar, Senegal, in October 1993. The Office will also support and participate in the Ministerial Level Meeting on Space Applications for Development in the ESCAP Region to be held in Beijing in September of this year, and in its preparatory meetings. We are also now developing a close relationship with the new observer of this Committee, the International Law Association.

As part of the relocation of the Office for Outer Space Affairs to Vienna, we have organized a permanent exhibit of space-related items here at the Vienna International Centre. The exhibit emphasizes international cooperation in space activities and focuses on the practical uses of space technology, particularly for environmental monitoring and natural resource management. It will be seen by approximately 70,000 visitors to the Vienna International Centre annually. The full exhibit is now in place on the sixth floor of the G building, near the office of the United Nations Information Service and visitors services at the Centre. I invite all representatives to attend the formal opening of the exhibition, which will take place on Wednesday, 8 June immediately after the morning meeting of the Committee.

I would like to thank all Member States which have provided materials for the permanent exhibit. If there are any others that wish to participate by providing additional space-related hardware, please contact our Office and we will try to ensure its inclusion in the next phase of the exhibit.

As representatives are all aware, the Committee and its subsidiary bodies have been discussing the possibility of holding a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space. In order to further these discussions, and in accordance with a request from the Scientific and Technical Subcommittee, the Office has prepared for this session of the Committee a comprehensive report on matters related to the holding of a third UNISPACE conference.

This report, which is before the Committee in document A/AC.105/575, reviews the discussions on the possibility of holding such a conference that have taken place thus far in the Committee and the Subcommittees, analyses the changing context of international space activities and provides an analysis of UNISPACE 82 and a possible third UNISPACE conference. Pursuant to the request of the Subcommittee, the report focuses on the likely organization, funding and logistical implications of holding such a conference. This report should of course be read, as noted in that document, along with the proposals before the Committee, in particular those concerning the agenda set out in the three working papers before the Committee, as the Secretariat paper is meant only to supplement the working papers and not to replace them. The Office hopes that this report makes a substantive contribution to the Committee's deliberations on this matter, and we will continue to support the Committee's discussions on this important topic in any way we can.

In this connection, I wish to remind representatives that it was partly in anticipation of the convening of a third UNISPACE conference that, as noted in the report's introduction, Secretary-General Boutros Boutros-Ghali last year issued his report entitled "International cooperation in space activities for enhancing security in the post-cold-war era", in document A/48/221, which he submitted to the General Assembly last fall. This report addresses many of the issues that may be considered by a third UNISPACE conference and therefore may be useful for the Committee's deliberations on this matter. The report prepared by the secretariat, which is before the Committee, did not try to duplicate that report.

At this point I would also like to acknowledge the work of our Deputy Secretary, Mr. Bruce Schoenfeld, who assisted in the preparation of this report and several other documents before the Committee, and who has ensured that the studies and reports issued by the Office for Outer Space Affairs are properly written and edited.

Concerning the conference services for this session of the Committee, I remind delegates that the work of the interpreters will be greatly facilitated if delegations provide the text of statements to the Conference Officer as far in advance of making the statement as possible. I also remind delegates that, while press releases on the proceedings of the Committee's meetings are issued, they do not constitute official records of the meetings and are the responsibility of the United Nations Information Service. The verbatim records that will be issued in due course are the official records of the Committee's meetings. As noted in the "Information to Participants" distributed prior to the session, delegations are requested to discuss any matters related to the press releases with the Information Service.

This has been a brief review of the work of the Office for Outer Space Affairs over the past year. As always, the staff of our office is ready to assist the work of the Committee and its member delegations in any way, in order to increase the substantive nature of this session and to promote our common goal of ensuring the peaceful uses of outer space.

The Chairman: I thank the head of the Outer Space Office, Mr. Jasentuliyana, for his very useful and informative statement. I also commend the secretariat of the Office for Outer Space Affairs for their diligent work during the year since the last meeting.

Before adjourning, I reiterate that I will start punctually tomorrow at 10 a.m. I am determined to use the conference facilities to their maximum. I say to representatives "It's your money; it's your contribution".

Secondly, I repeat that I intend to close the list of speakers at the end of tomorrow morning's meeting.

The meeting rose at 5.25 p.m.