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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE TWO HUNDRED AND TENTH MEETING

Held at Headquarters, New York,
on Thursday, 26 June 1980, at 10.30 a.m.

Chairman: Mr. JANKOWITSCH (Austria)

later: Mr. MARINESCU (Romania)

Statement by the Chairman

General exchange of views (continued)



80-61435

The meeting was called to order at 10.50 a.m.

STATEMENT BY THE CHAIRMAN

The CHAIRMAN: Before calling on the first speaker, I wish to revert to a matter that was before the Committee yesterday morning, concerning the invitation of States Members of the United Nations desirous of participating in our work and of speaking at appropriate moments.

I have had occasion to conduct wide-ranging consultations on this matter, and it is my understanding, on the basis of those consultations, that it is the wish of the Committee that States Members desirous of participating in our work during this session should so notify the Committee Secretariat, which will make the necessary arrangements for their participation - without, of course, setting a precedent for other meetings or concerning status.

If that is indeed the understanding of the Committee, and if there is no objection, I would suggest that we adopt such a decision.

It was so decided.

GENERAL EXCHANGE OF VIEWS (continued)

Mr. RAJAN (India): Mr. Chairman, we are very pleased to see you again presiding over this Committee and we are confident that your skillful and purposeful guidance will lead this session to a successful conclusion.

We should also like to express our appreciation for the work of the Chairmen of the two Sub-Committees, Professor Carver of Australia and Ambassador Wyzner of Poland. We also are especially grateful for the continuing valuable contribution by the Outer Space Affairs Division. In this context we should like especially to express our deep appreciation and gratitude to Dr. Lubos Perek, who has just retired after a period of very productive and distinguished service as the Chief of the Outer Space Affairs Division. We should also like to thank Mr. Garcia of Brazil for the services he has rendered to the Committee as its Rapporteur and extend our welcome to our new Rapporteur, Mr. Bueno of Brazil.

(Mr. Rajan, India)

Before commenting on some of the important matters before us, let me say a few words on some of our salient national activities.

Bhaskara, India's second satellite devoted to earth observations, launched during June 1979 from a Soviet Cosmodrome using an Intercosmos rocket, provided very valuable satellite microwave radiometer data in the 19 and 23 GHZ bands. This data has been useful in calculating the moisture content of the atmosphere and surface winds over the sea. A national seminar on the experience of using the radiometer data showed that once good satellite data become available various users are able creatively to develop new areas of application.

The second model of the Bhaskara satellite is undergoing modifications to include an additional 31 GHZ radiometer channel and is scheduled to be launched during 1981 from a Soviet Cosmodrome.

We are happy to report that the television camera aboard Bhaskara, which last year had some problems in switching on, has recently been switched on. Television pictures are being received daily at our telemetry stations. The radiometric quality of the television pictures has been specially adjusted for land imagery, and thus these images should provide useful complementary information to that of other images available for our applications. We would be happy to show interested representatives some preliminary pictures taken from Bhaskara.

We should like to share our experience that the most useful result from Bhaskara was nct just the technological aspect of satellite making but the creation of an ensemble of scientists, engineers, managers and administrators in the user agencies who could collectively think of and stimulate many national applications.

The Indian Earth Station situated near Hyderabad to receive LANDSAT data is operational and it also receives data from meteorological satellites like NOAA and TIROS-N.

Sensor development - in active microwave sensing, multi spectral scanners and CCD cameras - continues, with recent successful flights in aircraft. Various joint experiments with the user agencies in optimizing the uses of the future Indian remote sensing satellites have been intensified.

(Mr. Rajan, India)

In the field of satellite communications, the major milestone has been the readiness of the two models of the Indian experimental geosynchronous satellite called APPLE (ARIANE Passenger Payload Experiment). That satellite is to be flown by the European Space Agency in the third developmental flight of ARIANE. We are happy at the success of the first developmental flight of ARIANE.

Work on both the ground and the space segments of the multipurpose Indian National Satellite, INSAT-1, is progressing steadily. Detailed work is under way to design direct broadcast receivers, data collection platforms, disaster warning systems, a national radio hook-up and so on.

Bilateral co-operation with various countries, an important component of our space programme, continues to grow steadily.

We have been conducting one or two international training courses every year in the uses of space. During November last year an international course for earth station managers and systems planners was held in India.

In view of the conclusions and results of the World Administrative Radio Conference on Space Telecommunications (WARC) held in 1979, and various discussions in this Committee, India is planning to act as host to an international training course on frequency and orbit planning during early 1981. That course will deal with the technical aspects of planning and will be aimed primarily at those in charge of systems planning. We invite those interested in the course, especially from the developing countries, to consider participating in it. Most of the local expenses of the participants would be covered through fellowships.

Coming now to the matters before the Committee, we are generally satisfied by the commendable progress made so far. However, it would appear that on some issues, such as remote sensing and direct broadcasting, a fresh approach might be useful.

Considering various developments in the International Telecommunication Union (ITU), WARC, and so on, it appears that we in fact need an international framework to make international broadcasting possible rather than the other way around. Since the gap in our understanding appears to be narrowing, a

(Mr. Rajan, India)

fresh text incorporating the spirit and sentiments of a free but balanced flow of information and a new information order would be worth attempting, to permit further progress.

As regards remote sensing, we feel that the time has now come to address some crucial issues carefully. Remote sensing is a continuum, ranging from meteorological satellites on one side to surveillance satellites on the other. The main concern arises on the one hand because of the economic implications or the possibility of the economic exploitation of resources. On the other hand it is connected with what one might call strategic or military aspects. The studies done by the Committee on Space Research (COSPAR) clearly do not address those issues specifically and an understanding of them, of the various classes of uses and their implications, would be helpful in arriving at international principles in the dissemination of remotely sensed data. Perhaps one might consider how best to effect that.

The work done so far on nuclear power sources is commendable and should continue. We see that the over-all danger from nuclear power sources is small, but that is not enough. We should ensure not only that space activities are as safe as possible but also that all people around the world continue to feel safe.

Regarding the UNISPACE Conference, we are quite hopeful that all substantive items will be concluded successfully, given the spirit of co-operation for which this Committee is particularly noted. Looking beyond the Conference, when the excitement of the initial preparations and the chores of detailed execution are over, it should not have been just another event. We believe that the spirit of the Conference will be fulfilled if a new direction and a new vision of the applications of space can be given, especially to the developing countries. There can be no single universally applicable pattern of space technology: to some degree, each country has to invent and create; and therein lies the challenge.

Last but not least, we share the sentiments expressed by the Chairman and certain other representatives about the increasing militarization of space. Space is important for man in that it not only inspires a sense of adventure and of the unity of mankind but is also an element on which man's future will

(Mr. Rajan, India)

increasingly depend. One should feel secure in using space and be able to depend on it since all of us here seem to believe that it offers to the bulk of mankind a unique opportunity for breaking the vicious circle of poverty and deprivation within a reasonable time.

This concludes the general comments of our delegation. As different subjects are brought up for discussion, we may have further comments to make.

Mr. HOUNGAVOU (Benin) (interpretation from French): Mr. Chairman, my delegation would like to reiterate its support for the objective manner in which you have been guiding the work of the Committee. We are convinced that positive results will be achieved in the Committee's arduous deliberations on all the agenda items.

I should also like to express the appreciation of my delegation to the Chairmen of the two sub-committees: the Legal Sub-Committee and the Scientific and Technical Sub-Committee. They have done commendable work.

The discussions in those sub-committees, which had clearly-defined mandates, gave rise to significant differences among the members. The progress which has been made does not fully meet our expectations. It is clear that considerable efforts remain to be made, but the Member States that have acquired a mastery of space science and technology and of their practical applications in the fields of progress and development must understand that science and technology, which lead to progress, are in our view, the common heritage of mankind, and ought not to be monopolized by any country.

The delegation of the People's Republic of Benin has noted the development of a positive, fruitful co-operation among the socialist States. It is pleased, too, at the co-operation which is emerging among socialist States and other States of the northern hemisphere.

The problem at issue here is of extreme importance. The conquest of outer space and the exploitation of the results of that conquest for progress and development towards peace and security should be a common, daily concern of all States and all people.

(Mr. Houngavou, Benin)

The creation of this Committee by the General Assembly meets that objective and provides a framework within which satisfactory solutions may be sought. This kind of co-operation requires much more effort and political will than people believe. That is why it is everyone's bounden duty to make these efforts.

The practical applications of space technology in all fields, especially remote sensing, direct television broadcasting, satellite communications and so on, open up new horizons for the developing countries and for international co-operation for their mutual benefit with strict respect for the independence, sovereignty and territorial integrity of all the States involved in this co-operation.

The divergences of view we have seen in the two Sub-Committees as they sought solutions to the questions within their mandates are something which must be eliminated in a spirit of compromise and without any ulterior political motives. Those differences, which make it difficult for us to meet the objectives set for the Committee by the General Assembly, are also obstacles to the co-operation I mentioned before.

The efforts of the Legal Sub-Committee to define principles or legal frameworks for various aspects of problems are commendable, and all States should work towards that end.

Benin is attaching growing interest to the questions before this Committee, and I should like to say that, over the past year, the Benin authorities have made substantial efforts to increase their interest in space technology, especially in its application to development in the fields of agriculture, prospecting for minerals and climatic phenomena. At the regional and the African continent levels, Benin is an active member of the African Council on Remote Sensing (CAT) and also contributes within the framework of the Management Committee of the Ouagadougou Regional Centre on Remote Sensing (CRTO). As is well known, the programmes of those two African bodies are focused on remote sensing for agricultural purposes. Notwithstanding the goodwill of their member States, their financial resources are very limited. That is a question that should be of concern to the Committee and other United Nations bodies whose activities centre on these matters.

During 1979 the People's Republic of Benin established a number of national structures and services dealing with these questions in the Ministry of Scientific Research. We should like here to express our appreciation to the

(Mr. Houngavou, Benin)

friendly States and international bodies which helped us to establish these structures, in particular the Food and Agriculture Organization of the United Nations (FAO).

During that same period we also sent some dozen technicians from Benin for practical training in remote sensing in several friendly countries and also in the programme of international seminars organized each year by this Committee.

My delegation intends to make a more detailed report of our activities at the next session.

As can be seen, our main problem is the training of technical personnel to oversee the structures and services we are establishing. Benin's problem is not peculiar to it alone; it is one found in all African States and especially in the developing countries. In this specific field of training, we need international co-operation, we need scholarships, we need an adequate training programme geared to our objectives, and we need to train skilled scientific personnel within a short period. This subject of training technicians should certainly be a primary concern of the Committee, and international assistance towards this end should be better organized. In this connexion the delegation of the People's Republic of Benin wishes to join the other delegations which last year raised here the question of the participation of the United Nations Development Programme (UNDP) in a regional training programme for Africa and the other under-developed regions of the world. That question has been avoided by the Administrator of UNDP. We ask that it be taken up again and seriously discussed by the Committee with a view to formulating a precise policy through recommendations which we can make to the General Assembly to this effect. My delegation is ready to participate in any discussion leading to satisfactory solutions. Similarly, the few participants or the few places offered in connexion with the seminars sponsored by the Committee is also a handicap. As a result, the number of participants from developing countries is very limited.

With regard to other problems before the Committee, my delegation wishes to reaffirm its dedication to the principles of peace and security so clearly defined in the United Nations Charter. The problems relating to outer space matters must not be dealt with outside the framework of peace and security required by every nation. As mentioned by many delegations, outer space must

(Mr. Houngavou, Benin)

not be a framework for the use of force and even less one for the unbridled arms race being pursued on earth.

My delegation is also interested in other questions concerning the organization of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, for example, the venue of the Conference as well as the fixing of the rules governing its organization. My delegation believes that the proper time for it to express its views on this question will come in the Preparatory Committee.

I have attempted very briefly to raise a number of problems of concern today to third world countries with limited resources, such as Benin. I believe that all those questions are receiving your attention, Mr. Chairman, and that of the Committee.

Mr. TROYANOVSKY (Union of Soviet Socialist Republics) (interpretation from Russian): Mr. Chairman, I should like first of all to express my delegation's satisfaction at seeing you once again presiding over the work of our Committee. We are convinced that, under your guidance, the Committee will be able at this session to take important and generally acceptable decisions. We should also like to congratulate Mr. Carlos Bueno on his election as Rapporteur of the Committee.

The Soviet delegation feels it necessary to begin its statement by reporting to the Committee on the research work that has been done with regard to the application of space technology in the interests of science and the economy which has been carried out in the Soviet Union since the twenty-second session of the Committee.

For 33 months now the scientific orbital station, SALYUT-6, has been working in earth orbit and for almost a year and a half cosmonauts lived and worked on board.

The operation of setting up in orbit a scientific research complex consisting of the SALYUT-6 station and two spacecraft was successfully carried out, with transport craft of the SOYUZ type delivering crews to the station, and an automatic cargo craft of the PROGRESS type ensuring the delivery of all necessary supplies.

(Mr. Troyanovsky, USSR)

Aboard SALYUT-6 three main long-term expeditions worked for 96,140 and 175 days respectively and there were also seven short expeditions, including five international ones.

A major achievement of Soviet science and technology in the study and conquest of space was one of the longest manned flights in the history of cosmonautics lasting 175 days made by cosmonauts V. A. Lyakhov and V. V. Ryumin aboard the orbital scientific complex SALYUT-6 and SOYUZ between 25 February and 19 August 1979. During that period the cosmonauts carried out a broad range of medical, biological, geological, geophysical, astrophysical and technological experiments and research work in the field of international co-operation.

That expedition also represented a major achievement in space biology and medicine. Thanks to improvements in the system of pre-flight training for the cosmonauts, improvements in the health and hygienic conditions of their life on board the SALYUT-6 station, and special prophylactic measures to prevent the harmful effects of weightlessness, it was possible to maintain a very high level of activity and capacity to work during this exceedingly long flight.

(Mr. Troyanovsky, USSR)

On 10 April this year the spaceship SOYUZ-35 delivered to the SALYUT-6 orbital station its fourth main team, comprising Leonid Popov and Valery Ryumin. The cosmonauts continued the scientific and technical research and experiments begun by previous teams.

From 5 to 9 June 1980 tests were carried out in a piloted version of a modernized transport spaceship SOYUZ-T-2, which had on board a team comprising Yuri Malyshev and Vladimir Aksenov. Tests of new, improved shipboard apparatus and of the new space suit were successfully carried out at all stages of the flight.

In the past year experiments were continued in the study of the planets and interplanetary space, of the sun and the interaction between the sun and the earth, as well as astrophysical research necessary to reveal the fundamental laws of the construction and evolution of the Universe. The present COSMOS series of satellites were launched, inter alia, with scientific apparatus designed for the study of the upper layers of the atmosphere and of outer space.

The VENERA-11 and VENERA-12 automatic interplanetary stations continued to operate, and after carrying out a programme of research into the atmosphere of Venus they were brought into a heliocentric orbit. In the course of a further flight both stations carried out systematic measurements of the characteristics of solar wind and studied cosmic rays of solar and galactic origin.

Using apparatus set up on the VENERA complex of stations, international Soviet-French experiments on the study of gamma bursts were carried out successfully. Those bursts are weak echoes of enormous cosmic explosions which took place in the depths of our galaxy, in which more energy is given off in a few seconds than the sun radiates in an entire year. Thanks to the highly sensitive equipment aboard the stations VENERA-11 and VENERA-12, it was possible to establish that the source of gamma bursts in the constellation Goldfish is connected with an old X-Ray pulsar, a neutron star with a mass equivalent to that of the sun. This first experimental proof of a connexion between gamma bursts and neutron stars is a major scientific discovery.

(Mr. Troyanovsky, USSR)

Soviet scientists and specialists are devoting ever greater attention to the application of space research in the interests of various branches of the national economy, with a view to meeting the practical demands of the people.

Space systems of communications and television, have also been developed to the fullest extent.

The ORBITA communications system, which has been in operation since 1967, is also being improved and constantly extended. It includes the MOLNIYA satellite, which is in a high-ellipsis orbit; the RADUGA and GORIZONT stations, which are in geostationary orbits; and 85 earth stations with 12-metre diameter antennae. There has been further development of the EKRAN satellite television broadcasting system using satellites in geostationary orbits and of a broad network of simplified earth-based receiving stations used collectively. The new MOSCOW satellite system using HORIZON communications satellites in geostationary orbits and ground stations with 2.5-metre diameter antennae was put into operation.

At the present time there are eight stations operating in the INTERSPUTNIK system, in the People's Republic of Bulgaria, the Hungarian People's Republic, the German Democratic Republic, the Republic of Cuba, the Mongolian People's Republic, the Polish People's Republic, the USSR and the Czechoslovak Socialist Republic. The building of stations in Algeria has been completed and a station is being built in the Lao People's Democratic Republic.

The application of space technology for the economy and for gathering hydrometeorological information is being expanded. The meteorological system METEOR is functioning well and tests are being made to improve the METEOR-2 system. That system offers the great advantage of television images of the surface of the earth and of the cloud cover above the earth captured in a broad network of simplified lines. Information gathered by METEOR-2 satellites is also received by foreign countries members of the World Meteorological Organization. Satellites used in conjunction with ground communications are now providing TV coverage for 90-92 per cent of the population of the Soviet Union. The INTERSPUTNIK international outer space communication system is being steadily developed and improved.

(Mr. Troyanovsky, USSR)

The Soviet Union is successfully carrying out a broad programme in the application of space technology to monitoring the environment and studying the natural resources of the earth. The programme also provides for observation and photography from manned spacecraft of the SOYUZ type and the orbital SALYUT stations, as well as remote sensing using the automatic METEOR spacecraft and the specialized COSMOS spacecraft.

Space information for the study of the earth's natural resources is sent out upon request to interested organizations and used for the solution of scientific and practical tasks in geodesy, cartography, geology, agriculture and forestry, land reclamation, water management and the fishing industry as well as in other sectors of the economy. Last year such information was used by hundreds of organizations in our country.

Space information is widely used in scientific research and in the economy, for the study of the earth's natural resources and in the control of the environment. That use of information is producing notable results.

International co-operation has been successfully implemented by the Soviet Union in the study and conquest of space for peaceful purposes. As in previous years, scientific ties have been developing particularly actively, in accordance with the multilateral INTERCOSMOS programme. Both manned and automatic spacecraft have been used for carrying out joint research in space.

(Mr. Troyanovsky, USSR)

The practical implementation of the manned flight programme has continued, involving States participants in the INTERCOSMOS programme using Soviet spacecraft and orbiting stations. The fifth international crew made a flight from 26 May to 3 June this year under the INTERCOSMOS programme. The crew of the SOYUZ-36 included pilot-cosmonaut of the Soviet Union V. Kubasov and cosmonaut-researcher of the Hungarian People's Republic B. Farkas. Hungary thus became the seventh country to put one of its nationals into space.

During the seven days' duration of the flight the international Soviet-Hungarian crew carried out a broad programme of medical, biological, geophysical and technological experiments and research, prepared by Hungarian scientists and specialists in co-operation with scientists from the Soviet Union and other socialist countries participating in the INTERCOSMOS programme.

At the present time the Y. A. Gagarin Cosmonaut Training Centre is training prospective cosmonauts, nationals of the Socialist Republic of Viet Nam, the Republic of Cuba and the Mongolian People's Republic, who will be participating along with Soviet cosmonauts in flights aboard Soviet spacecraft.

In the co-operation of socialist countries within the framework of the INTERCOSMOS programme, great importance is attached to the use of the results of space research for the national economy. Joint research in the fields of meteorology, the study of the earth's natural resources, biology and medicine is becoming ever more practical in its applications and is assisting in the solution of various practical problems.

Co-operation on a bilateral basis in space research and development is developing between the Soviet Union and India, France, Sweden and Austria.

In the past year a second Indian satellite, called BHASKARA, was launched by means of a Soviet carrier rocket from the territory of the Soviet Union for the study of natural resources. The spacecraft continues to function normally and is transmitting important information. Agreement has also been reached on a joint space flight with cosmonauts of the USSR and India.

Several interesting experiments were carried out in the framework of Soviet-French and Soviet-Swedish co-operation in space. Large-scale joint projects are being prepared for the study of the atmosphere of Venus, the

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creation of a gamma telescope and research on the northern lights. In accordance with an agreement made at the highest level, preparations are being made for a scientific programme of joint flights of the Soviet Union and France, and work to select two French candidates for space flight was recently completed. In the very near future they will be starting their training at the Gagarin Training Centre.

I should like now to make a few comments concerning our future work in the United Nations Committee on the Peaceful Uses of Outer Space.

One of the distinguishing features of the work of the Committee is that this organ of the General Assembly as a rule keeps pace with the times in its activities. On the whole, precisely those technical and legal questions have been and continue to be considered in the framework of the Committee and its Sub-Committees which are required for the practical development of cosmonautics and further developments in scientific and technological progress.

In our view, the time has come for a detailed review in the Committee, and first and foremost in its Scientific and Technical Sub-Committee, of the exceptionally important and practically essential problem of ensuring the health of man under the conditions of protracted space flight.

That problem arises from the whole course of the development of cosmonautics; as man comes to spend longer and longer in space the whole process becomes quite natural and is also economically justified. A long stay in space considerably increases the effects of space research and promotes the reduction of the expenditures involved, increasing the coefficient of useful impact of the work of the cosmonauts along with opportunities for conquering space and studying the human organism. The lengthening of the time spent in space is the main trend in the development of manned space flights, which, before our very eyes, have gone in less than 20 years from the 108 minutes, onthe first flight made by Yuri Gagarin,to the 175 days spent in space by Vladimir Lyakhov and Valery Ryumin.

The increase in the length of time man spends in space gives rise to many complex and serious problems of a technical, economic, medical, biological,

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psychological and legal nature. The most effective and successful solution of those problems may well lie in broad co-operation among all countries. After all, a cosmonaut makes a flight not only for the benefit and progress of his own country but in the interests of all States and peoples. It is no accident that in the Outer Space Treaty there are words to the effect that cosmonauts are the envoys to space of mankind.

In that connexion, we should propose the inclusion on the agenda of the Scientific and Technical Sub-Committee of the Committee on the Peaceful Uses of Outer Space of an item entitled "Ensuring the health and longevity of man under conditions of protracted space flight".

At the nineteenth session of the Legal Sub-Committee consideration continued of questions concerning the preparation of principles governing the use by States of artificial earth satellites for direct television broadcasting; the preparation of principles governing the activities of States in the field of remote sensing of the earth from space; and the definition and/or delimitation of outer space and the status of the geostationary orbit.

(Mr. Troyanovsky, USSR)

The discussion of the question of direct broadcasting showed once again that the overwhelming majority of delegations attaching great importance to the legal regulation of direct broadcasting from space have demonstrated the necessary flexibility and spirit of co-operation and are prepared to complete the preparation of the principles on the basis of provisions to the effect that direct broadcasting be carried out in such a way as to be only on the basis of agreements and/or treaties with the States concerned. Our delegation fully supports this approach. Unfortunately, the position of some States members of the Sub-Committee does not make it possible to complete the preparation of a draft on this most important question.

The debate on the activities of States in the field of remote sensing of the Earth from space at the nineteenth session of the Legal Sub-Committee showed that the position of the Socialist countries with regard to a régime for the distribution of information and data concerning the territory of foreign States has gained ever greater understanding and support. The substance of this position, as is known, is that for the distribution of data and information concerning the territory of foreign States obtained by remote sensing and making possible the receiving of detailed information on their natural resources and economic potential, it is essential to have the consent of the States concerned.

The inclusion of this provision would create a firm basis in international law for co-operation in this field and would be a reliable protection of the sovereign right of all States to control the availability of information on their natural resources. The main obstacle to the completion of the drafting of legal principles on this subject is the position of those delegations which uphold the idea of a free market for remote sensing data.

(Mr. Troyanovsky, USSR)

Consideration at the last session of the Legal Sub-Committee of the problem of the delimitation of outer space shows that a growing number of countries are in favour of limiting air space and cosmic space and are showing an interest in a certain Soviet proposal.

Apparently the time is approaching for specific, concrete work to formulate a future document on the question of the delimitation of cosmic space. The position of the USSR on questions relating to the observance of existing legal norms for the establishment of their appropriateness and to establish the requirements for further provisions concerning the use of nuclear energy sources in space was set forth in the statement of the Soviet delegation at the last session of the Legal Sub-Committee. Analysis of the existing international legal norms shows that on the whole they are appropriate and that they adequately regulate the use of nuclear power sources in space. At the same time, further study of this question could be done, precisely from the standpoint of the use of existing norms of international law, giving special attention to the legal aspects of the granting of technical assistance to countries on whose territories there has been fallout from accidents of space objects. Soviet representatives would be prepared to participate in the work of the group created for the study of this question in the Scientific and Technical Sub-Committee.

Mr. NOLAN (Australia): Mr. Chairman, may I take this opportunity to join with other delegations in expressing on behalf of the Australian delegation my pleasure in seeing you back in the Chair. We look forward to a constructive and fruitful session under your experienced guidance.

At the same time I should like to express my delegation's appreciation to the Chairmen of the two Sub-Committees for their contribution to our work and of the important part played by the Outer Space Affairs Division of the United Nations. We are truly indebted to these offices.

May I pay a special tribute to Mr. Perek, who has now retired as Chief of the Outer Space Affairs Division. His experience and guidance has been invaluable in the work of the Committee.

The Australian delegation has not at this year's sessions of the Scientific and Technical Sub-Committee and the Legal Sub-Committee outlined recent events in Australia's space programme. We have considered that the most appropriate forum in which to do that is this meeting of the Committee. Accordingly, I should now like to inform members briefly of events and bring them up to date on the most recent developments.

The Australian Government is in the process of installing equipment to receive, record and process data from earth resources satellites - in particular, the United States NASA series of LANDSAT satellites. The Australian LANDSAT station will become operative shortly. The area to be covered by LANDSAT takes in a portion of the territories of Australia's near northern neighbours and it is expected that once the station is fully operative there may be an opportunity to receive requests from these countries for coverage and imagery.

Various agencies and installations throughout Australia continue to develop uses of LANDSAT data, the most frequent areas of use being pastoral appraisement, rangelands management, forest resources, water resources, fisheries resources and coastal conditions. The survey of geological features and mapping are also common uses for LANDSAT data within Australia.

The Australian Bureau of Mineral Resources and Macquarie University in New South Wales has been co-operating with NASA in the MAGSAT project. Preparations are also underway to establish temporary ground magnetic recording stations at Charters Towers in Queensland and Port Headland in

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Western Australia to tie in with this project. Macquarie University is also proceeding with plans to receive high-resolution infra-red transmissions from TIROS-N and NOAA satellites. Research has also been initiated at the West Australian Institute of Technology in meteorological and oceanographic applications of satellite data, particularly NIMBUS 6 microwave data (SCAMS).

Further improvement of receiving systems within Australia is under way for a variety of other satellites. For example, the West Australia Institute of Technology has added or modified equipment related to research using NAVSAT, TIROS-N and the Japanese geostationary meteorological satellite (GMS).

Weather pictures for regional forecasting have been received since April 1978 from the Japanese geostationary satellite on a three-hourly basis with an option of hourly coverage during times of cyclone threat. TIROS-N, NOAA-6 and METEOR 2N4 and 2N5 provide back-up services. The United States geostationary satellites (GOES WEST) provides imagery over the Pacific Ocean and relayed and processed imagery for satellites outside the range of Australia's receiving stations.

In October 1979 the Australian Government announced its intention of establishing an Australian national domestic satellite system. Preparations for the development of this system are already well advanced.

Australia has continued its active participation in the INTELSAT Organization, and at the end of 1979 Australia's use of INTELSAT facilities had increased to the extent of 757 satellite circuits permanently provided through Overseas Telecommunications (OTC) Australia's three standard A-Earth Stations. Construction has commenced on a second standard A-antenna at the Ceduna Earth Station in South Australia for service with the Indian Ocean satellite. In order to continue provision of telementary tracking control and monitoring services under contract to INTELSAT, the Carnarvon Station in Western Australia has been upgraded to cope with INTELSAT series V.

In 1979 an agreement was made between OTC (Australia) and the European Space Agency to provide equipment and operators at the Carnarvon Station to support launch and placement of ESA satellites. In addition, Australia operates three major tracking stations in Australia for NASA which are used in support of the United States and other countries' space missions.

(Mr. Nolan, Australia)

I shall now turn to the agenda items before us. We regard the work of the Committee, its two Sub-Committees and related groups as of utmost importance in the rational and peaceful development of the benefits of outer space. The work of the Committee over the past years has, we believe, contributed towards the achievement of these goals. The Australian delegation considers that some important progress has been made during the sessions of the two Sub-Committees this year but is concerned that in some other areas progress has been only limited. We believe that it is necessary for all delegations in 1981 to approach the more difficult areas of our work in a positive fashion and thus enable us to move out of the areas of stagnation which threaten to engulf some of our items.

On remote sensing, my delegation considers that the debate in the Legal Sub-Committee was useful in that a better understanding was reached on the various positions of delegations, indicating that it may be possible, given a spirit of compromise, eventually to produce agreed principles. It will be necessary, however, for delegations to approach the subject in a more positive fashion and perhaps to concentrate on those issues where agreement would appear to be more readily obtainable.

We were to some extent disappointed at the minimal progress which was made in the Legal Sub-Committee on direct broadcasting by satellite. The session of the Sub-Committee did, however, clarify the difficulties which some delegations have with the various draft principles. Some of these difficulties had not perhaps been fully realized at previous sessions. There is much work to be done on this item and it is our hope that in 1981, with delegations approaching the issue in a constructive frame of mind, significant progress can be made.

With regard to the launching and operation of satellites, existing international law requires that adequate precautions be taken to prevent harm to humans and the environment, as well as requiring States to take reasonable care to prevent damage to other States. There is, however, no regulation or guide on minimum standards for the safe use of nuclear power sources in outer space or other high risk space objects. This question has been discussed this year in both Sub-Committees. The Working Group on Nuclear Power Sources, which met prior to this year's session of the Scientific

(Mr. Nolan, Australia)

and Technical Sub-Committee, has now a good basis on which to continue to pursue the areas of study that it has identified. We look forward to this Working Group proceeding constructively next year.

It was significant that at this year's session of the Legal Sub-Committee a large number of delegations emphasized the need to supplement, or at least strengthen, existing international law concerning nuclear power sources in outer space. The Australian delegation believes that the Legal Sub-Committee should commence detailed study on the development of adequate international legal regulations covering nuclear power sources and other high risk space objects. We share with a number of other delegations the conviction that usefully to undertake this task more time will have to be set aside in the Legal Sub-Committee. In this regard, we consider that the establishment of a working group would be the most appropriate means of proceeding

Considerable progress has been made on preparations for the Second Outer Space Conference. We have, however, some important issues still to decide and my delegation looks forward to working constructively with other delegations during this session of our Committee to resolve most of these issues. We are confident that under the experienced chairmanship of Professor Yash Pal this can be achieved in the Working Group. The Australian delegation is grateful for the offer of the Austrian Government to host UNISPACE 82. The venue of Vienna has Australia's full support.

At this year's session of the Legal Sub-Committee, the Canadian delegation suggested that experts in the various technical fields of outer space activities be invited to address our meetings. The Australian delegation supports that suggestion. It would enable members of the Committee to be kept informed of important technical developments and thereby help the Committee to keep abreast of space activities rather than follow developments.

In conclusion, may I express the Australian delegation's optimism that this Committee will continue to work constructively towards achieving more rational and equitable regimes for the peaceful uses of outer space. The Australian delegation looks forward to continuing to be able to contribute constructively towards this goal.

Mr. TOPCYIGLU (Turkey): Mr. Chairman, at the outset I should like to express our satisfaction and pleasure at seeing you once more presiding over the twenty-third session of the Outer Space Committee. My delegation is confident that under your able chairmanship this Committee will conclude its work successfully.

At the same time, we should like to thank Ambassador Wyzner of Poland and Mr. Carver of Australia for having guided the proceedings of the Legal and Scientific and Technical Sub-Committees.

Our appreciation goes also to the other officers of the Committee as well as to Mr. Perek, Chief of the Outer Space Division, and his able colleagues for their valuable contribution to the advancement of our work.

Almost a quarter of a country has passed since the first initiatives were taken in the field of space technology. Space activities have now gone beyond the experimental phase of pioneering days. The development of these activities concern humanity as a whole and international co-operation in this field is needed more than ever.

My delegation wishes to congratulate those countries which achieved major advances in the course of the last year in the exploration of outer space. In this regard, I refer in particular to the United States and the Soviet Union, as well as the European countries.

On previous occasions, my delegation outlined the scope and nature of the activities that have been conducted in Turkey with regard to space technology and related matters. I, therefore, shall not take the valuable time of this Committee by dwelling upon our relatively modest initiatives in this field.

Nevertheless, I should emphasize the great importance my Government attaches to the promotion of international co-operation in the peaceful utilization of outer space.

As we all know, activities in space have direct effects on and consequences for the populations and Governments on earth. And it is for this reason that space Powers have a special responsibility for ensuring the orderly and safe conduct of their activities in this field and for respecting the legitimate interests, sovereign rights and safety of other States.

(Mr. Topcyiglu, Turkey)

In this connexion, I should also like to stress the importance of creating and preserving a peaceful environment in outer space, which would require, as my Swedish colleague pointed out, strict observance by the space Powers of the disarmament provisions in the Outer Space Treaty.

Mr. Chairman, my delegation shares the feelings of regret expressed in your opening statement at the limited progress achieved during the last sessions of both the Legal and the Scientific and Technical Sub-Committees.

However, we still continue to believe that the existence of political will and understanding and a spirit of compromise which have long prevailed in this Committee will eventually help us reach a successful outcome on the remaining issues.

In our view, the Moon Treaty concluded last year constitutes an excellent example of such an understanding and compromise.

Let me now refer briefly to some of the subjects under agenda item 4.

As for the issue of remote sensing of the earth from satellites, almost no progress has been made in either Sub-Committee. In this respect, my delegation maintains its position that we should increase our efforts in search of a compromise which should take into account the legitimate interests of each and every party, that is to say, that progress and economic interests of States and of the international community as a whole should be reconciled with the sovereignty of States over their natural resources.

(Mr. Topcyiglu, Turkey)

In this connexion it is the view of my delegation that it is necessary to obtain the approval of the sensed State in advance and to recognize the right of the sensed State to obtain all the information regarding the sensed area on a priority basis.

Another controversial issue is direct television broadcasting by satellites. No further progress was possible on this item during the discussions and consultations in the Legal Sub-Committee. In our view, the text presented by Sweden and Canada last year constitutes a fair and balanced basis for a compromise.

My delegation would like to reiterate its view that, in the formulation of legal principles, special consideration should be given to the interests and the requirements of the developing countries and that the sovereignty of States should be fully taken into account in this respect.

Turning to the question of nuclear power sources in outer space, we also regret that little progress was made by the Working Group of the Scientific and Technical Sub-Committee.

With regard to the consideration by the Legal Sub-Committee of the need to supplement existing international law concerning the use of nuclear power sources in outer space, my delegation wishes to express its support for the working paper submitted by Canada. We share the views of many delegations to the effect that further international rules are necessary in the four areas.

In this context my Government attaches particular importance to the elaboration of all necessary safety measures and requirements with a view to eliminating or at least greatly reducing the possibility of harmful consequences arising from the use of nuclear power sources in outer space. Protection of the human and natural environment should be the first consideration in formulating internationally accepted guidelines in this regard.

The discussions of the Legal Sub-Committee on the item on "Matters relating to the definition and/or delimitation of outer space" were not conclusive but they were encouraging. My delegation sincerely hopes that substantial progress will be made at future sessions of the Sub-Committee.

While we see no firm basis for unilateral claims of national sovereignty with regard to the question of the geostationary orbit, we share the view that

(Mr. Topcyiglu, Turkey)

an equitable legal régime ought to be established in order to ensure that the geostationary orbit, which is a limited natural resource, should be utilized for the benefit of all countries and, in particular, the developing countries.

Before concluding, I wish to say a few words on the Second United Nations Conference on the Peaceful Uses of Outer Space.

We hope that the Conference will serve the purpose of finding ways and means to make possible for all countries, especially the developing countries, to use space technology for their benefit. My delegation commends the fine work done by the Scientific and Technical Sub-Committee in its capacity as the Advisory Committee to the Preparatory Committee.

Our attitude towards the remaining unresolved questions concerning the duration and schedule of the Conference and other organizational matters is flexible. We pledge our full support and co-operation in reaching a solution on these issues.

We support the recommendation of the representative of the Food and Agriculture Organization of the United Nations (FAO) at the meeting of the Scientific and Technical Sub-Committee that an item concerning remote sensing applications to agriculture be included on the agenda of the Conference.

As for the venue of the Conference, my delegation welcomes the invitation extended by the representative of Austria to hold the Conference in Vienna and hopes that consensus on this proposal will emerge in the Preparatory Committee.

Mr. DASHTSEREN (Mongolia): Mr. Chairman, my delegation associates itself with all the other delegations that have expressed their satisfaction at seeing you again presiding over the deliberations of our Committee in your usual efficient and confident manner.

I also join my colleagues in expressing our appreciation to the Chairmen of both Sub-Committees for their distinguished service and tireless efforts.

Since the twenty-second session of our Committee we have witnessed a number of outstanding achievements in the exploration and use of outer space. In 1979, 101 space vehicles were launched from the USSR alone. Monthly surveys of selected events in the peaceful exploration of outer space issued by the Outer Space Affairs Division of the United Nations Secretariat carry encouraging

(Mr. Dashtseren, Mongolia)

reports on numerous activities of States, the United Nations and other international organizations in the field of outer space.

Last year the world witnessed the longest manned flight in the history of cosmonautics. The 175-day flight of the Soviet cosmonauts Lyakhov and Ryumin was indeed an outstanding new achievement of space science and technology. Under the INTERCOSMOS programme citizens of more and more socialist countries are joining the international crew of cosmonauts. I take this opportunity to express our congratulations to the delegation of Hungary on the successful flight of their cosmonaut with his Soviet colleagues.

All those facts testifying to the rapid growth of human activities in outer space speak of the need for speedy solutions of the outstanding issues which have come up so far in the exploration and use of outer space.

I now wish to deal briefly with the space activities which we have carried out since last year within our limited possibilities.

The Mongolian People's Republic, besides implementing its national programme for the exploration and use of space technology, has continued to participate increasingly in the INTERCOSMOS programmes. Preparations for the Soviet-Mongolian joint space flight, in particular the training of the cosmonauts and preparations of scientific apparatus, are now vigorously under way. The Mongolian scientists are continuing their research under the geodesic programmes. They have carried out the processing of materials from the joint balloon triangulation experiments. The procedure for the mathematical processing of the data from the balloon triangulation was evolved for the first time in my country.

Together with scientists from the German Democratic Republic, Mongolian scientists are constructing a ground telemetric station which will receive scientific information directly from satellites of a series of INTERCOSMOS. For the first time in Mongolia, our scientists have carried out the processing of scientific data received from satellites of INTERCOSMOS-16 through a unified procedure and with the help of electronic computers.

(Mr. Dashtseren, Mongolia)

In respect of the remote sensing of the earth, an airborne remote sensing experiment was carried out jointly with the Soviet Union for the first time in Mongolia. The multizonal and other information obtained in that experiment is now being analysed and processed. Further research is being conducted in the fields of space meteorology, biology, medicine and communications. We are now able to receive meteorological data from the satellites METEOR of the Soviet Union and TIROS-N of the United States. The data obtained from those satellite help us in making weather forecasts for our vast country.

The space communications system was further developed. The first station for space communications, ORBITA, built with the assistance of the Soviet Union, was commissioned in Mongolia in 1967. Since then several ground receiving stations have been built throughout the country, thus enabling almost 40 per cent of the population to enjoy television programmes transmitted by satellite.

I should now like to touch on some aspects of the problems under consideration.

The Mongolian People's Republic attaches great importance to the development and extension of international co-operation in the field of the remote sensing of the earth by satellite, especially in view of Mongolia's vast territory, rich in natural resources. We appreciate the United Nations programmes on space applications, in particular the regional seminars on the applications of remote sensing. The 1981 programme includes, inter alia, a United Nations regional seminar on remote sensing and the use of meteorological data, to be held in co-operation with the Economic and Social Commission for Asia and the Pacific, of which Mongolia is a member.

We regret, however, that questions related to remote sensing data still remain outstanding, thus impeding broader international co-operation in that field. As to the dissemination of data obtained by remote sensing, we hold the view that there should be no further dissemination of data without the prior consent of the sensed States.

(Mr. Dashtseren, Mongolia)

The position of my delegation with regard to the dissemination of data obtained by remote sensing stems from the principle of respect for the permanent sovereignty of a State over its natural resources. That principle, widely recognized and reflected in many international documents, along with the principle of the freedom of scientific research in outer space, should also be strictly observed in the remote sensing activities of States.

With regard to the question of the use of nuclear power sources in outer space, my delegation is of the opinion that it could be regulated by the existing relevant agreements and it is inclined to support the conclusion of the working group to the effect that "nuclear power sources can be used safely in space, provided that all necessary safety requirements are met".

As to the convening of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, we think that it is high time to decide the venue of the Conference, because there is very little time remaining for preparations by a possible host country. I fail to understand why the idea of holding the conference in the territory of a major space Power is unacceptable to some delegations. As far as my delegation is concerned, we still believe that from all points of view Moscow is the most suitable place for this kind of conference.

The representative of the Soviet Union a short time ago put forward a proposal in his statement that we consider an agenda item entitled "Ensuring the health and longevity of man under conditions of protracted space flight". We consider that proposal timely and fully support its consideration in the near future.

Those are the few remarks which we wished to make at this moment.

Mr. ELARABY (Egypt): Mr. Chairman, I should like at the outset to express the appreciation and pleasure of my delegation at seeing you once more presiding over the Committee on the Peaceful Uses of Outer Space. Your leadership, dedication and wide diplomatic experience are the best assurance for the achievement of progress in our work.

(Mr. Elaraby, Egypt)

Since its inception the Committee has also been privileged to have successively a series of able and dedicated Brazilian diplomats as its Rapporteurs. Over a span of 15 years I personally have had the benefit of their advice and co-operation. Mr. Carlos Garcia has been replaced by my good friend, Minister Carlos Bueno, whose high diplomatic qualifications and comprehensive knowledge of United Nations affairs is well known to all of us. The delegation of Egypt is pleased to welcome our newly elected Rapporteur.

I should also like to pay a tribute to Professor Perek, who is retiring from United Nations service. His devotion and dedication in the discharge of his responsibilities during the last few years as Chief of the Outer Space Affairs Division is highly recognized by the Egyptian delegation. We wish him every success in his future endeavours and hope that he can continue his association with the work of the Outer Space Committee and the United Nations.

It is also a source of pleasure for my delegation to welcome the observers who have been admitted to our meetings: China, Kampuchea, and Viet Nam.

For the last year the political atmosphere has not been very auspicious. This fact should not, however, be an insurmountable obstacle that will continue to impede progress in this Committee and its subsidiary organs. A glance at the balance sheet on key issues would clearly reveal that many of the most important matters have not yet been settled. That is not encouraging and the situation remains virtually the same as in previous years.

I should like now, with the permission of the Chairman, to turn to the items under consideration.

On the question of remote sensing, my delegation believes that activities in outer space should be carried out with the full international co-operation of both space and non-space Powers. United Nations space application programmes, the Food and Agriculture Organization of the United Nations and other interested agencies should play a more comprehensive role in providing assistance and fostering increased co-operation among all nations. The transfer of remote sensing technology, especially to developing countries, needs further attention from our Committee and should be a priority topic.

(Mr. Elaraby, Egypt)

My delegation supports the suggestion that the Secretariat focus its attention on developing a comprehensive catalogue of the applications of remote sensing techniques, which could include certain examples of resource management and possible methods of solution. Such a catalogue could be useful in the preparation of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space.

It should be emphasized here that it is high time to consider developing, on a sustained basis, an international body under the auspices of the United Nations to direct and operate remote sensing activities and to provide data under conditions that would give optimum benefits to Member States, especially the developing countries. We hope that the space Powers will extend assistance in the speedy realization of such a project.

On the question of the classification and dissemination of data obtained by remote sensing, I should like to reiterate the position of my delegation that the dissemination of such data should be subject to the prior consent of the sensed States and that data should not be distributed to third parties without the sensed State's explicit consent, in accordance with the principle of the sovereignty of States over their territories and their national resources.

We hope that the Committee will continue its efforts to define the terms "coarse", "medium" and "fine" data as applied to spatial resolution in remote sensing. Such criteria will facilitate the reaching of consensus on the principles governing the dissemination of data obtained by remote sensing.

My delegation has stressed on previous occasions the importance of the role of the United Nations in enhancing regional co-operation and the establishment of regional remote sensing centres in various parts of the world.

As a Member of the United Nations and a developing country, we believe that a complicated subject like the peaceful uses of outer space needs an intensive effort in the field of training courses. So far we have modest programmes in different centres of the world. My delegation is of the opinion that more resources should be devoted to educational and training programmes, in the context of an integrated programme on space which would be world wide, give special attention to the needs of developing countries in the true sense of international co-operation, and would maximize the benefit and the transfer of know-how from the developed countries of the world, to the developing countries.

(Mr. Elaraby, Egypt)

In that connexion, I should like to refer to the recommendation of the Economic Commission for Africa (ECA) that the remote sensing centre in Cairo should become one of the five regional African training and user-assistance centres which the United Nations and the Economic Commission for Africa proposed to serve the African countries. The remote sensing centre in Cairo, as my delegation has indicated on previous occasions in this Committee, has offered to be part of an integrated technical co-operation programme. The centre employs a core of 65 highly qualified scientists and resource specialists covering the areas of energy resources, hydrology, agriculture, soils, geophysics, photogrammetry, engineering, physics and data processing. The remote sensing centre in Cairo has conducted several major research projects in the field. Those projects have direct application to large national-resource survey programmes and other engineering development projects in Egypt, the Sudan, and Middle Eastern countries in general. The centre will organize and act as host to the international conference on remote sensing, which will be convened in January 1981.

With respect to direct broadcasting by satellite, my delegation wishes once again to reiterate that until now we have only witnessed a form of retrogression in the Legal Sub-Committee. Direct broadcasting by satellite must be firmly established on the solid foundation of legal norms, based on full respect for the concept of the reciprocal rights and duties of States. It is therefore vital, in our view, to respect the sovereignty of recipient States and their right to preserve and develop their own traditions and culture.

Turning to another subject which now merits our urgent attention, namely, the question of the convening of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, my delegation would like to state that it welcomes the gracious offer of the Austrian Government to act as host to the Conference. We believe that the main purpose of that Conference should be, first, to reach agreement on ways and means of making it possible for all countries, especially the developing countries, fully to utilize space technology, and secondly, to stimulate interest in space science and technology.

(Mr. Elaraby, Egypt)

Adequate attention should also be focused on the peaceful space applications most relevant to the needs and requirements of the developing countries and on strengthening the role of the United Nations, especially in its space application programmes.

We note that to date the Advisory Committee has not been in a position to make any recommendations with respect to the question of the officers and the secretariat of the Conference. In that regard, we should like to emphasize three basic principles with respect to the distribution of posts. The first is one contained in the Charter of the United Nations with regard to equitable geographical distribution. The second has reference to the equal representation of the continent of Africa in such Conference posts. The third is one which is applicable throughout the Secretariat and all United Nations organs, namely, securing the highest standards of experience and competence. We are confident that those three principles will be taken into consideration when the subject is taken up in future.

My delegation has noted with satisfaction the progress made in the question of the use of nuclear power sources in outer space, especially in two areas: first, notification prior to the launching or possible re-entry of spacecraft; and secondly, emergency assistance. In those two areas we have noted progress. In that regard, we should like to emphasize the importance of evaluating the existing methods of predicting the lifetimes and re-entry paths of satellites.

My delegation proposed during the last session of the Committee the establishment of an adequate global tracking system for use in emergencies, in order to ensure better information and earlier prediction of the time and location of re-entry and the subsequent impact of debris. We should like to emphasize the necessity of starting a programme to train specialized teams from various countries, particularly from the developing countries, for such emergencies.

Another important point, about which my delegation has expressed its views on previous occasions, is that of the definition of outer space. My delegation has always attached great importance to that question. We sincerely hope that in the very near future the Committee will reach agreement on the definition

(Mr. Elaraby, Egypt)

of outer space, a definition that will take into consideration not only the scientific and technical aspects involved but also the legitimate needs of the developing countries within the framework of interdependence and international co-operation, on the basis of the United Nations Charter and the principles of international law.

The United Nations must move to preserve outer space for peaceful uses and to ensure its continued demilitarization.

We have taken note with great concern of the escalation of the arms race in outer space and of the passing of the activities of certain Powers from control operations to the acquisition of military satellites which are now part of their strategic military arsenals for interception and even attack. My delegation has pointed out more than once - even during the consideration of the Outer Space Treaty, prior to its adoption in 1967 - the need to examine certain gaps in the drafting of article IV of the Outer Space Treaty, with a view to adapting it to the very rapid technological developments and changes, so that it would be possible to reaffirm the principle of the prohibition of the stockpiling of nuclear weapons and weapons of mass destruction or any military device in outer space or on the moon or other celestial bodies.

Before concluding, I should like to state the wish that the spirit of co-operation that has prevailed during the last session of this Committee, enabling us to reach acceptable solutions to the complex legal and technical problems relating to the Moon Agreement, will continue to be reflected in our work this year. We hope that we shall be able to continue in the same spirit in order to achieve progress in our work during this session.*

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* Mr. Marinescu (Romania) took the Chair.

Mr. SUNARYO (Indonesia): Mr. Chairman, speaking for both my delegation and myself, I am very pleased to see you in the chair of our Committee once again. Your skill and expert guidance were an asset that helped our Committee deal with its tasks expeditiously in the past. It is my delegation's and my own conviction, therefore, that you will guide our deliberations at the current session in the same manner.

My delegation would also like to avail itself of this opportunity to convey its compliments to the respective Chairmen of our two Sub-Committees, Prof. Carver of Australia and Ambassador Wyzner of Poland, who with their assiduous and capable leadership have guided the Sub-Committees in their difficult tasks. To Mr. Perek, who has retired from his important post as Head of the Outer Space Affairs Division, I should like to express my delegation's appreciation and gratitude for his very valuable work during the time he occupied his post.

Before addressing myself to the agenda items, I should like to present a brief outline of Indonesia's space activities over the past year.

In the field of space science, the Indonesian National Institute for Aeronautics and Space has continued conducting research concentrating on the upper atmosphere, ionosphere and solar physics in equatorial regions, using imported means as well as indigenously developed technology and scientific equipment.

There has also been good progress in the area of space applications. Research on remote sensing techniques for the evaluation of national resources in Indonesia has been carried out by the National Institute for Aeronautics and Space, while in co-operation with the relevant agencies in the country efforts have been continued to utilize LANDSAT images for various applications. Experiments using aerial photography have been conducted by the Institute with various sensor systems, such as multiband cameras, dual channel scanners, and radiometers for research on river basin conditions, agricultural problems, coastal and marine conditions and critical soil management. At present the Institute is working on a ground station for

(Mr. Sunaryo, Indonesia)

LANDSAT, the first stage of which will enable it to receive direct data from the satellite and record it on HDDT magnetic tape. This will be achieved by the end of this year, while the complete system is expected to be established next year.

For better weather forecasts, the Institute has been conducting a study on cloud and upper wind patterns over Indonesia by using data obtained by ground stations from orbiting weather satellites TIROS-N and NOAA-A, and in the very near future it will also be using data from GMS, or the Japanese geostationary meteorological satellite HIMAWARI.

In assisting the programme of domestic earth space communications systems, the Institute is conducting an investigation on radio propagation over the equatorial area of Indonesia and experiments on space communications by using its tele-diffusion ground station and a number of newly acquired laboratory facilities.

With regard to the domestic communications satellites, since 1976 Indonesia has been successfully operating its PALAPA satellites A-1 and A-2 equipped with 12 transponders serving 50 ground stations. A number of these transponders are being utilized by the Philippines, Malaysia and Thailand for their domestic communications. Starting this year, 75 small earth stations will be constructed so that all remote regions of Indonesia can be covered. That means the inclusion of all of the more than 14,000 islands populated by more than 130 million Indonesians in the communications network. In 1983 and 1984, PALAPA B-1 and B-2 will be launched successively with the capacity of 24 transponders each. To derive the maximum benefits from the use of PALAPA, studies are being carried out on how to make wider and more efficient use of these satellites, for example, for information, education, disaster control and other humanitarian purposes.

Indonesia has initiated co-operation in space with several countries. Some progress has been made in the Association of South East Asian Nations (ASEAN) towards regional co-operation of space activities. With NIVR and

(Mr. Sunaryo, Indonesia)

other agencies in the Netherlands a workshop was held in Jakarta in November 1979 on the problem of the feasibility of a joint Indonesian-Netherlands Tropical Earth Resources Satellite Programme. With West Germany, a "special arrangement" in space co-operation was signed to expedite joint projects under the umbrella of a previously concluded bilateral agreement on science and technology.

With respect to remote sensing, neither agreement on principles nor agreement on the dissemination and classification of data has shown much progress, although we are all aware that progress toward the solution of the issues is very important for future joint efforts. Consequently, a spirit of mutual understanding is of utmost importance if we are to arrive at a fair solution, a solution which is based on respect for the sovereignty of all States and provides more benefits than in the past for the economic and social development of developing countries.

On the question of direct television broadcasting by satellite, my delegation wishes to reiterate its opinion that the concept of consultation and agreement between States should embody the principle of respect by the broadcasting State for the sovereignty of the receiving State. My delegation realizes that there are conflicting opinions regarding this issue but we believe that agreement can be achieved if we continue our deliberations with renewed sincere efforts towards a solution.

(Mr. Sunaryo, Indonesia)

My delegation would like to make some initial comments regarding the item on our agenda entitled "Definition and or delimitation of outer space and outer space activities, bearing in mind, inter-alia, questions relating to the geostationary orbit."

While my delegation welcomes the call for the two studies requested by the Scientific and Technical Sub-Committee regarding the physical nature and technical attributes of the geostationary orbit and efficient and economical ways of utilizing the orbit, we hope that any formula of definition and/or delimitation of outer space will be based on objective criteria resulting from a comprehensive and in-depth study of the matter in all its aspects, including technical, scientific, legal and political ones.

More importantly, my delegation would like to reiterate its view, as an equatorial State, that if any definition and/or delimitation of outer space is to be formulated at all, it must include a legal régime sui generis applicable to the geostationary orbit. Any definition and/or delimitation which is not based on objective criteria and does not include a legal regime sui generis for the geostationary orbit will not be acceptable to Indonesia.

Therefore, we think that it would be more appropriate for the Committee to proceed with caution on this matter, and that more studies on the relevant aspects of the question of definition and/or delimitation of outer space and the questions relating to geostationary orbit must be conducted.

The position of my delegation on the questions relating to the geostationary orbit is well known. It is a position dictated by the fact that the geostationary orbit is a limited natural resource which, for this reason alone, has special natural characteristics. Furthermore, the geostationary orbit is a physical fact linked to the reality of the equator of the earth. Based on the facts I have just mentioned, my delegation takes the view that the geostationary orbit is a unique part of outer space, and that the relevant segments thereof are subject to the sovereignty of the subjacent States.

Let there be no doubt, however, that in the view of the Indonesian delegation, the equatorial States will not exercise their sovereignty arbitrarily.

(Mr. Sunaryo, Indonesia)

On the contrary, considering the fact that the geostationary orbit is a limited natural resource and therefore its efficient and effective use is necessary, the sovereignty of the equatorial States must be exercised for the benefit of mankind, taking into account the interests of the developing countries. For those reasons, there must be a legal regime sui generis governing and ensuring the peaceful uses of the geostationary orbit.

On the item of the use of nuclear power sources (NPS) in outer space, Indonesia has long expressed an interest in it and favoured its inclusion in the agenda. My delegation is encouraged that some progress has been forthcoming, namely, the Working Group's agreement to pursue further examination of a number of aspects of this issue, inter alia, the drawing up of an inventory of the safety problems and ICRP recommendations for populations and the environment in the context of space vehicles using NPS. Realizing the danger of NPS, such as re-entry of radioactive materials, we propose, therefore, that the use of NPS should be limited to certain space activities in which conventional power sources cannot be utilized. Furthermore, it is also important to recognize that no international law relevant to the use of NPS has yet been established and, therefore, my delegation is prepared to support the proposal made by Canada with the hope that pertinent regulations regarding the use of NPS can be enacted.

As regards the item on space transportation systems, it is evident that much progress is being made by individual States. My delegation welcomes these developments since they provide the international community with a variety of systems. These systems may have major economic and social impacts and, therefore, it is incumbent that the activities in this area be undertaken with a view towards a wider international benefit.

The agenda item on co-ordination of United Nations space activities deserves our special attention. The realization of this goal can help in providing more efficient services to the Member States. I should like to address myself to the three areas of this item in their respective order.

With regard to the Space Applications Programme, it is important that the present activities in this area be greatly expanded beyond the present few efforts and that it become a major effort of the international system. In

(Mr. Sunaryo, Indonesia)

particular, it is necessary that the States which posses expertise in the field of space science increase their assistance to the developing States.

While it is good to note that in some cases there is already a degree of sharing with the developing States, we must not allow future developments in space to become the exclusive preserve of the space Powers. The space resources which their technology and expertise can bring forth must be made beneficial to both developed and developing States and, more importantly, the technology must be made readily available to the developing States. Furthermore, not only is training for personnel of the developing world necessary but space hardware is also needed if the educational programmes are to be truly productive.

With respect to over-all co-ordination in the field of outer space, it is important that it be enhanced in order better to provide the services and expertise that the United Nations network has to offer. My delegation is aware, however, that the need for co-ordination must be tempered by a degree of flexibility. The Secretariat has come to a conclusion, for example, that a simple co-ordinated effort spanning the entire United Nations system may not prove to be the most effective way of dealing with the issue. However, such a conclusion should not serve to obstruct the co-ordination of areas that lend themselves to it and that may have an important role for the third world. In particular, I have in mind the Secretariat's report which states that the area of remote sensing is one in which the activities require the most consultations and co-ordination. As a result, it is important that we direct our energies towards a greater co-ordination of remote sensing activities, keeping in mind the need for buttressing the developmental goals of the developing world.

The Scientific and Technical Sub-Committee rightly concluded in a previous report that the United Nations system has sufficient expertise and flexibility for assisting the developing countries to realize benefits from outer space activities.

What needs to be done is to make this expertise more readily and widely available. In this regard, my delegation welcomes the report of the Secretariat undertaken at the request made by the Scientific and Technical Sub-Committee at its seventeenth session.

(Mr. Sunaryo, Indonesia)

The report presents a detailed overview of the various benefits that can accrue from space science and the various activities undertaken by the United Nations to meet the demands of the Members. It is necessary, however, that greater co-ordination of these activities be undertaken in order to help focus the energies of the United Nations system on the particular needs of the developing States. We look forward, therefore, to an analysis of the benefits of co-ordination for the developing States, which is much needed.

Co-operation among the developed and the developing States is needed not only for mutual gain but also to help avoid any disasters that can harm the world, such as the risk of radioactive material re-entering the earth's atmosphere. For these reasons, my delegation urges the expansion of the fellowship programme in order to expedite the training of personnel from the developing world so that these States can develop their own programmes in the field of space science and technology for the benefit of their people and can participate with representatives of the developed world in science forums on an equal footing in order to pool all available talents for the harnessing of space science for the benefit of the international community.

(Mr. Sunaryo, Indonesia)

One avenue of co-operation that should be seriously explored is that of regional co-operation. The Secretariat's report states that regional co-operation can help in the economic and social development of a region. Such co-operation would, therefore, bring not only a technical benefit but also a political benefit in that it would strengthen the domestic fabric of States as well as their inter-State relations within the region.

The upcoming conference can serve as a major forum for an exchange of views on all the relevant issues of space and as a means of increasing co-operation in this area. However, it is important that we build a substantial base of progress in our Committee in order to make the conference a success.

My delegation hopes, therefore, that the questions before us can be solved before the opening of the conference so that the success of the conference be ensured and the benefits of space science and technology be made available on a wider basis for the benefit of all States.

The meeting rose at 12:55 p.m.