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Committee on the Peaceful Uses of Outer Space

Unedited transcript

556th Meeting
Monday, 12 June 2006, 10 a.m.
Vienna

Chairman: Mr. G. Brachet (France)

The meeting was called to order at 10.12 a.m.

The CHAIRMAN *(interpretation from French)*: Good morning distinguished delegates, I hope you had a nice and relaxing weekend without too much tension or nerves associated with the soccer World Cup. I know that the Office for Outer Space Affairs was very involved with the Mexican and the Swedish teams playing over the weekend. A lot of tension here.

I will declare open the 556th meeting of the Committee on the Peaceful Uses of Outer Space.

This morning, we will continue our consideration of agenda item 7, Implementation of the Recommendations of UNISPACE III, item 8, Report of the Scientific and Technical Subcommittee on its Forty-Third Session, item 9, Report of the Legal Subcommittee on its Forty-Fifth Session, and item 10, Spin-Off Benefits of Space Technology: Review of Current Status, according to the agenda.

At the end of this morning's session, there will be three technical presentations. Mr. Stone and Mr. Sarker of the Spaceweek International Association will first make a presentation under agenda item 7 on "World Space Week in Bangladesh".

Then, a presentation on "Space-Based Systems for Forest Resources Management" will be made by Mr. Radhakrishnan of India. This presentation will deal with India's experience in the management of forest resources using space-based technologies.

Also in association with the Seminar on "Space and Forests", another presentation will be made by Mr. Mahdi Kartasasmita of Indonesia. It will deal with space-related activities for forest management in Indonesia.

I would like to inform the speakers that the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Subcommittee is at that moment in session in Room C-0713. All delegations interested in participating in this Working Group meeting are invited to join it.

Also a Special Group of Experts on the international entity for coordination space services for the management of natural disasters will be meeting in Conference Room VII.

Implementation of the recommendations of UNISPACE III (agenda item 7)

Thus, we are taking on agenda item 7, Implementation of the Recommendations of UNISPACE III.

Before I turn to the list of speakers under this agenda item, I would like to give the floor to the Director of the Office for Outer Space Affairs who will update the Committee on the establishment of links between the work of the Committee and that of the Commission on Sustainable Development.

With the kind permission of the Committee, I am now giving the floor to Dr. Sergio Camacho-Lara.

V.06-55960 (E)

Mr. S. CAMACHO-LARA (Director, Office for Outer Space Affairs): Thank you very much Mr. Chairman and good morning everyone.

The Committee would recall that in its resolution 59/2, which was a result of the review by the General Assembly of the progress that had been made by 2004 on the implementation of the recommendations of UNISPACE III, the General Assembly agreed with the recommendation of the Committee that there should be a closer link between the work of the Committee, in particular the part that relates to implementing the recommendations of UNISPACE III, and the work of the Commission on Sustainable Development.

The General Assembly then also took this item in its consideration last year and in resolution 60/90 then agreed that the Director of the Office should brief the Commission on Sustainable Development on the work the Committee was doing, and, at the same time, that the Director of the Division on Sustainable Development of the Department of Economic and Social Affairs of the Secretariat, DESA, with its offices in New York, should be invited to brief the Committee on the work of the Commission on Sustainable Development and invited as well to provide the Committee with indications as to what type of inputs would be most useful for the Commission when it considered the thematic clusters.

The Commission on Sustainable Development, if you would recall, considers a number of themes for two years. The cluster that is being considered right now, included energy, pollution, climate change. These were items to which the Scientific and Technical Subcommittee, at the request of the Committee, prepared a succinct document for possible consideration by the Commission on Sustainable Development. That document was prepared on the basis of inputs that were received from member States and that document was then forwarded for the consideration of the Commission on Sustainable Development.

So the Secretariat, the Office for Outer Space Affairs, then established contact with the Secretariat of the Division on Sustainable Development to make this possible. That document has been circulated and distributed to all members of the Commission on Sustainable Development during the week when the high-level segment, it is a two-week meeting. One of those weeks is at the level of ministers. During that week, the document of the Committee was then distributed to the Commission.

The Secretariat will be preparing a Conference Room Paper that will be distributed to you by this afternoon for consideration and for possible comments as we consider this agenda item.

I will anticipate to you that the next cluster for which the Committee could provide input would be the cluster 2008-2009. The consideration of the clusters is arranged is the first year of the cluster, it is the policy year, and the second year of the cluster looks at the implementation. So they are actually both quite important but if we wanted to provide inputs into the recommendations in the sessions the Commission will be taken, we should aim to try to get a document so that they consider it before their policy considerations.

The document is normally prepared quite late in the year so this means in November. The Commission will meet in April. So there is not too much time for delegations to consider any documents that are put in front of them. They have very little time. The timing for the Committee works very well because the Committee would be reviewing its input in June. So there is plenty of time for the Committee's document to go forward. But something we are going to try to, information that we will try to, guidance that we will try to get from the Division on Sustainable Development is what type of information should the Committee put forward in order that it is easier for the Commission to consider since they are not space specialists. There may be some guidelines that the Division on Sustainable Development might be able to provide. Once the session of the Committee is completed, then we will be in discussions with the Division on Sustainable Development to receive those guidelines so that we might be able to then transmit that information to the members of the Committee, once _____(?) passed, it would be in a note, as we normally send requesting information that the Committee has agreed that should be requested from member States.

I would just mention the themes. You will have this in writing in the Conference Room Paper this afternoon. The themes for the next cluster, the 2008-2009, will be agriculture, rural development, land, droughts, desertification and Africa. We are not at this point completely aware of what items will be considered under Africa but if you would remember, the Plan of Action, Plan of Implementation of the World Summit on Sustainable Development has one item that is specifically Africa and this is where it comes into this next cluster.

My only comment on looking at these themes is that the Committee has something space, has something to contribute to practically all the items.

Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: Thank you Mr. Camacho for this information and we will find more information on this in a document distributed this morning.

I now turn to the list of speakers under this agenda item.

We have but one speaker who has requested the floor on this agenda item 7, Mr. Dennis Stone, the representative of the Spaceweek International Association.

Mr. D. STONE (Spaceweek International Association): Thank you Mr. Chairman. I am Dennis Stone, Volunteer President of Spaceweek International Association. We proudly support COPUOS and the United Nations Office for Outer Space Affairs in the global coordination of World Space Week. It is a great honour for me to address the full Committee today.

Since its declaration in 1999 by the United Nations General Assembly, World Space Week has become the largest annual public space event on Earth. Today, there are nearly 50 States which proudly celebrate World Space Week, 4 to 10 October of each year, and the number is growing.

I am pleased today to call your attention to this document, ST/SPACE/29, entitled "Report on World Space Week 2005". This report, beautifully printed by the United Nations Office for Outer Space Affairs, summarizes the rich and diverse celebration of World Space Week last year.

I direct your attention to Page 3 of the report which summarizes participation by State. I think it is worthy to note that there are 17 States which have participated in World Space Week every year since its inception in 2000. They are Australia, Austria, Brazil, Canada, Colombia, Cuba, Hungary, India, Iran, Japan, Libya, Poland, Romania, the Russian Federation, Spain, the United Kingdom and the United States.

I recognize these States for their consistent and dedicated support to World Space Week.

We deeply appreciate every participating State because the greater the participation in World Space Week, the greater the attention given to space by the media, the public, youth and government leaders. Indeed, by singing together at one time, our voices are louder and more efficiently influence society. This is the power of synchronization, a principle well known to the wise representatives at UNISPACE III who unanimously joined their voices in calling for the permanent establishment of World Space Week.

I am also pleased today to present to you the World Space Week 2006 poster, I am holding one up, and there are more copies available on the back table. This poster depicts the theme "Space for Saving Lives". Thanks to the generous support of the United Nations Office for Outer Space Affairs, 100 copies of the poster are available to each State with a World Space Week National Coordinator.

Page 5 of the report lists the current coordinators. They play a crucial role by expanding and publicizing the celebration of World Space Week in their State. We thank them for their leadership and dedication to this great cause. I thank the many distinguished delegations to COPUOS for their kind assistance in identifying a World Space Week coordinator for their State. If a State does not have an active coordinator, I ask for your help in finding a qualified individual or organization to serve in this role. And if your State does have a coordinator, I ask for support for this coordinator.

The greatest support that each of us can provide is simply to celebrate World Space Week. I, thus, respectfully request every organization that is represented here to hold programmes during this week, 4 to 10 October, each year. If you do, and I hope that you will, please inform us and your State's coordinator about your World Space Week programme so that we can help publicize them and credit your organization in future annual reports.

Our Association strives to serve and support World Space Week coordinators and participants. To this end, several important subjects are currently under consideration.

Number one, the possibility of establishing World Space Week regional coordinators to better serve the national coordinators and participating organizations.

Number two, World Space Week 2007 will be the fiftieth anniversary of the launch of Sputnik I and the start of the Space Age. This will be a great opportunity to expand celebration of World Space Week. We encourage discussion of ideas and plans for

this significant opportunity for the global space community.

And thirdly, we are considering nominations for the chairmanship of the Association's Board of Directors for 2007.

I warmly welcome the views and guidance of yourself, Mr. Chairman, and of every delegation on these topics. I will be available to speak to delegates today. Delegates are welcome to exchange their views at a luncheon meeting today in Room E-0951. Feedback, of course, via e-mail is also welcome.

Lastly, Mr. Chairman, it is a special year for me and for Spaceweek International Association. The Association is celebrating its twenty-fifth anniversary this year. For a quarter of a century, we have served the global space community on events such as World Space Week. Today we are more proud than ever in supporting COPUOS and the United Nations Office for Outer Space Affairs as your partner in public outreach and education.

I wish to specially thank Dr. Sergio Camacho, the Director of the Office for Outer Space Affairs, for his support and encouragement over the years.

To the Committee, every delegation, and every delegate I say, World Space Week is your event and I encourage you to use it to promote space, to promote your State and your views.

I thank you, Mr. Chairman, for the opportunity to address the Committee today.

The CHAIRMAN *(interpretation from French)*: Thank you Mr. Stone for your presentation on the Spaceweek International Association. I believe a great many members of COPUOS are grateful to the Association for animating and coordinating its activities as part of the International Space Week at the beginning of October every year.

Are there any questions, any comments from the delegations regarding the presentation made by Mr. Stone or perhaps on the earlier statement by Mr. Camacho?

I cannot see any.

We will, therefore, continue our consideration of agenda item 7, Implementation of the Recommendations of UNISPACE III, this afternoon.

Report of the Scientific and Technical Subcommittee on its forty-third session (agenda item 8)

Let us swiftly move on to agenda item 8, Report of the Scientific and Technical Subcommittee on its Forty-Third Session.

The first speaker on my list is the distinguished representative of the United Kingdom, Mr. Ian Downey.

Mr. I. DOWNEY (United Kingdom of Great Britain and Northern Ireland): Thank you Mr. Chairman. Mr. Chairman, may I take this opportunity on behalf of my delegation to congratulate and thank Dr. Suresh of India for his outstanding work in chairing the Scientific and Technical Subcommittee, the STSC, and for his guidance of the forty-third session of the Subcommittee and its consideration and consequent progress of many different topics.

My delegation offers its full endorsement and support the Report of the 2006 Scientific and Technical Subcommittee. The United Kingdom notes and greatly appreciates the positive work in the Scientific and Technical Subcommittee in developing a flexible approach to address the UNISPACE III recommendations, through their many multi-year work plans, specific action teams and Ad Hoc Group reports on a variety of topics, all of which enable the Committee to consider many important and related issues.

We also note the significant progress on space debris, the successful outcomes of the Working Group on Space Debris and the conclusion of the work on a Space Debris Mitigation Document to be considered for adoption at the Scientific and Technical Subcommittee's forty-fourth session in 2007. Similarly, we note successful progress in the Working Group on Nuclear Power Sources, which may be the subject of additional statements by my delegation under the appropriate agenda item later in this Committee session.

With regard to the Scientific and Technical Subcommittee consideration of the possibility of creating an international entity, nominally known as DMISCO, the United Kingdom has considered the outcome of the study to consider the establishment of such an entity. The proposed entity is intended to promote coordination in realizing and optimizing the effectiveness of space-based information for use in all phases of the disaster management cycle and was presented previously in document

A/AC.105/C.1/L.285. My delegation fully supports the intended role of such an entity in addressing disaster management globally, as currently, there appears to be no alternative unified, international mechanism to facilitate the improved awareness of, and assistance to users in access to, space-based information for disaster management activities in any and all affected countries.

My delegation commends the Ad Hoc Group of Experts on Disaster Management on the valuable work they have done in this area. We look forward to the findings and recommendations contained in the final progress report and summary presentation of the Ad Hoc Group of Experts, produced in response to specific recommendations from the Scientific and Technical Subcommittee at its forty-third session. These were regarding further consultation with other relevant activities, correspondence with member States regarding possible commitments and the harmonization of these into a proposed implementation plan.

Mr. Chairman, my delegation maintains the view that any proposals for consideration must be the result of the broadest consultation involving all the parties active in this field. My delegation is already aware of much of the content of the progress report of the Ad Hoc Group of Experts and appreciates the revisions and improvements to the basis for the proposed entity that have been made. We consider the suggested functions as being appropriate. However, while the progress report acknowledges the many parties that are involved in disaster response and management, and reports on positive consultation with them, my delegation believes it will be necessary for their involvement to be further defined, strengthened and formalized if specific implementation proposals are to be successfully realized. We believe, though, that this process is well underway and should be continued.

Further wide-ranging consultation would increase mutual awareness, stimulate levels of collaboration and potentially promote firmer involvement and formalized commitments to enable more of the elements of the proposed coordinating entity to flourish. If I might draw the Committee's attention to the additional information contained in document A/AC.105/C.1/2006/CRP.13, that is "Activities of Specialized Agencies in the United Nations System on the Subject of Space-System-Based Disaster Management Support", which was provided at the forty-third session of the Scientific and Technical Subcommittee as also being relevant in this respect, and also the ratification in 2005 of the Tampere Convention, when considering linkages and capabilities and to promote better coordinated disaster management.

However, whilst we consider the suggested functions of DMISCO as being appropriate, we also note references in earlier statements by other distinguished representatives on this topic. It is clear that many delegations, including the United Kingdom, are keen to promote more coordinated and pragmatic use of space technology for disaster management but that there are reservations about the resourcing and timeframe for such an entity.

With regard to the levels of resourcing proposed in the progress report, my delegation believes that, whilst a flexible approach is required in light of the emerging commitments, a budget neutral impact on the general budget is highly desirable. Aiming to achieve this should be considered a high priority when reviewing the actual and potential voluntary contributions offered by member States, complementary national offers from observer States and other contributions, monetary or in-kind, from existing national and international activities and facilities, to provide or support some of the functions of the proposed coordination entity. Consequently, additional, renewed efforts are required to correspond with member States to seek and secure sufficient commitments to enable the entity to start functioning at the earliest practical opportunity and address the needs of the intended beneficiaries. My delegation would support increasing such efforts to seek additional commitments.

Consequently, whilst my delegation appreciates the progress in gathering support and resources for the proposed entity, there is perhaps more to gain by careful reconsideration of the proposed implementation timeframe, given current uncertainties regarding interface arrangements with other agencies.

We would also suggest further consideration of the proposed entity name. Our suggestion would be "The UN-OOSA Gateway for Space-Based Information for Disaster Management" or "UN-OOSSAGSID", which is more explicit regarding the entity functions.

Mr. Chairman, my delegation will continue to encourage support for targeted activities and international collaboration that will contribute to more effective disaster reduction and risk management practice on the ground, to reduce the potential for, and impact of, disasters. Continuing to coordinate and improve harmonization and cooperation in this way will undoubtedly bring real benefits all the sooner.

Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: I would like to thank the distinguished representative of the United Kingdom, Mr. Downey, for his statement which, I believe, will be taken into account by the delegates during the course of our debate on the Report of the Working Group.

And I now give the floor to the representative of the Republic of Korea, Mr. Kwang-Yong Chung.

Mr. K.-Y. CHUNG (Republic of Korea): Thank you Mr. Chairman. First of all, my delegation would like to join other delegations in supporting the report adopted by the forty-third session of the Scientific and Technical Subcommittee. My delegation wishes to express its congratulations to Dr. Suresh, Chairman of the Scientific and Technical Subcommittee session, on his successful work during the meeting and also appreciates his informative briefing made during this session of COPUOS last week.

My delegation believes that the forty-third session of the Scientific and Technical Subcommittee had meaningful discussions and made progress on the new topics as well as its existing multi-year agenda items.

On the agenda item on space debris and the item on nuclear power sources, which are inter-related with each other, my delegation appreciates the successful work done by the Working Groups on Space Debris and on the Nuclear Power Sources in Outer Space. In particularly, my delegation is of the view that the United Nations-IAEA Joint Workshop on the nuclear power sources issue provided not only opportunity to develop the consideration of the establishment of a space nuclear power sources safety framework but also a good example of a cooperative effort to enhance coherence within the United Nations system. My delegation hopes that the United Nations and the IAEA will continue to cooperate in this field.

Mr. Chairman, the forty-third session of the Scientific and Technical Subcommittee clearly showed how the space-related technologies in various fields such as remote sensing, tele-medicine, tele-education and disaster management could contribute to making the world a better place to live and achieving the Millennium Development Goals.

In particular, in the area of space-based disaster management support, my delegation welcomes the international and regional efforts to develop the application of space technology on the disaster management. As many distinguished delegates clearly put forward in their technical presentations and statements, the value and necessity of space-based disaster management support cannot be over-emphasized.

In this connection, the Korean Government has been providing financial and administrative support for a project of the United Nations Programme on Space Applications, on the natural disasters in South-East Asia. My delegation notes with satisfaction that the funded project is well on its way due to the excellent preparation of the United Nations Office for Outer Space Affairs as well as the active participation of many countries which have made various practical and creative proposals.

In concluding, my delegation would like to reiterate its belief that there will be much room for Korea's contribution to the international efforts in this field of space-based disaster management, in particular with the development of its space technology, including the projected launches of a series of Korean satellites in the near future.

Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: Thank you distinguished representative of the Republic of Korea, Mr. Kwang-Yong Chung. Thank you for the information you have provided us on the assistance which the Government of the Republic of Korea has contributed to projects in the field of disaster management and, of course, we wish you every success in the launch of your new satellite.

It is now my pleasure to give the floor to the distinguished representative of Burkina Faso, Mr. Jean Bengaly.

Mr. J. BENGALY (Burkina Faso) *(interpretation from French)*: Thank you Chairman. Chairman, my delegation welcomes the important recommendations of the Scientific and Technical Subcommittee and congratulates its President for his leadership.

We also wish to praise Madam Alice Lee, whose outstanding work leading the Section on the Programme of Space Applications, is recognized by all.

Burkina Faso is especially interested in the activities of the Programme, especially when they are

aimed at assisting developing States to draw maximum and concrete benefit from the various applications of space technologies. In this respect, applications in the field of health, for tele-medicine, tele-education, have been at the very centre of Burkina Faso's authorities for a few years now.

A few days ago, this mobilization was reflected in the convening of a panel on ITCs and health, to which specifically on ITC's contributions to improving the quality of medical interventions to benefit the population. The prospects in this field are all the more promising, as the University of Ouagadougou has recently created a Tele-Education Unit. The Government, since January 2006, has a Minister for Postal and IC Technologies.

This clearly reflects the interest of Burkina Faso in these new fields. Burkina Faso is a country of limited resources but with bold ambitions for its mostly rural population.

To better understand all related prospects, we have called for consultations with the Programme on Space Applications to, in 2008, organize an international conference on tele-health. We call on all States, international organizations and NGOs to support this initiative. This, Sir, would be a new demonstration of this international cooperation which we have always so strongly championed.

Thank you.

The CHAIRMAN *(interpretation from French)*: I would like to thank the distinguished representative of Burkina Faso for his statement and the Committee notes the proposal which you have just shared with us to organize an international conference, in Burkina Faso, in 2008, on tele-health.

We will now move on to a statement by the delegation of Brazil and I give the floor to Brazil.

Mr. C. E. DA CUNHA OLIVEIRA (Brazil) *(interpretation from Spanish)*: Thank you very much Mr. Chairman. My delegation wanted to express its gratitude to Dr. Suresh for his great work at the head of the Scientific and Technical Subcommittee. Among the subjects that this Committee (Subcommittee?) has addressed in its forty-third session, we would like to particularly highlight, in a very brief concise fashion, information as to the activities accomplished in 2005 and 2006 on the Brazilian campus of the Regional Centre for Education in Space Science and Technology for Latin America and the Caribbean, CRECTEALC.

First of all, we would like to point out that, within the framework of the National Institute of Space Research, the Third International Course on Earth Observation and Geographic Information Systems was held. The Course happened from 3 March to 8 December 2005,was attended by 12 students from Bolivia, Brazil, Colombia, Paraguay, Peru and Venezuela.

In 2006, the fourth edition of the Course started on 7 March and will continue until 5 December. Furthermore, 12 new experts will be trained, all from Latin America and the Caribbean, and they have all benefited from scholarships provided by the Brazilian Government.

During the year 2006, CRECTEALC will continue preparation for the Professional Master Course on Earth Observation. It will last for one year and will be open to participation by all interested parties starting in 2007.

Apart from these courses of long duration, my delegation would like to also highlight the fact that the number of short-term workshops and seminars have been held from February 2005 until June 2006. About 160 experts from countries of the region have benefited from these workshops and seminars. They treated such subjects as Earth observation, global systems for satellite navigation, micro-satellites, telecommunication satellites, the use of space-based Earth observation and cartography, study of Amazonian and Caribbean coastal eco-systems and other satellite applications, particularly in the area of human health. And this was held in association with the Centre for the Integrated Management of Natural Resources of Ecuador as part of the activities held prior to the Fifth Space Conference of the Americas.

I would also like to recall that on 15 November of last year, an Agreement on Cooperation was signed between the Organization of American States and CRECTEALC. As a result, knowledge, scientific research and technology will be distributed throughout the region.

This brief summary, Mr. Chairman, refers to activities carried out on the Brazilian campus of CRECTEALC. I would like to take this opportunity to express thanks for support to the Office for Outer Space Affairs, the Swedish Agency for International Cooperation, the International Society for Photogrammetry(?) and Space Observation, the European Space Agency and all the universities and research centres of Brazil and other countries in the region that supported these initiatives.

Other areas of cooperation on the Brazilian campus of the Centre involved the National Commission of Space Activities of Argentina and the Latin American Institute for Research into Global Changes.

Finally, I would like to point out that Brazil is interested in hosting other Latin American and Caribbean countries who would like to join the Founding Agreement of CRECTEALC which was set up by Brazil and Mexico in March 1997. These countries would be welcome to participate in all activities of the Centre. Brazil is committed to promoting and disseminating information on the peaceful uses of outer space and broadening the participation in the work of CRECTEALC within the regional context. It is an important part of this effort.

Thank you very much.

The CHAIRMAN *(interpretation from French)*: Thank you to the distinguished delegate from Brazil, Mr. da Cunha. Thank you for the information you have provided us on the activities of CRECTEALC. We note with great pleasure that the Centre is continuing its mission and doing this with success.

I will now give the floor to the representative of Japan, Mr. Shiro Yamakawa.

Mr. S. YAMAKAWA (Japan): Thank you Mr. Chairman. Mr. Chairman, distinguished delegates, on behalf of the Japanese delegation, I ham honoured to have the opportunity to address the forty-ninth session of COPUOS.

Japan has actively contributed to discussions on the work of the Scientific and Technical Subcommittee of COPUOS and is pleased to support the report adopted by the forty-third session of the Scientific and Technical Subcommittee. I would like to express our utmost appreciation and respect for the excellent work of Dr. B. N. Suresh, the Chairman of the Scientific and Technical Subcommittee, and Dr. Sergio Camacho-Lara, Director of the Office for Outer Space Affairs, and his excellent staff.

Mr. Chairman, Japan continues to make significant contributions, most notably in the field of capacity-building with regard to the implementation of UNISPACE III recommendations. Within this framework, the Fifteenth United Nations/IAF Workshop was held in Kitakyushu, Japan, under the theme "Space Education and Capacity-Building for Sustainable Development". Japan will certainly contribute to the implementation of the Vienna Declaration recommendations and the Action Team's proposals in cooperation with other member countries and COPUOS observers.

During the last Subcommittee meeting, a draft titled "United Nations COPUOS Scientific and Technical Subcommittee Space Debris Mitigation Guidelines" was submitted by the Space Debris Working Group which was established under the COPUOS Scientific and Technical Subcommittee. Japan contributed by dispatching expert to the meeting and played an important role in the drafting of the document. Japan support this document and would like to express our deepest respect for the concerted efforts of all those who contributed to accomplishing this important task. We also thank the Chairman of the Space Debris Working Group, Mr. Claudio Portelli, for his excellent chairmanship.

This year, on 24 April, the Twenty-Fourth Inter-Agency Space Debris Coordination Committee, IADC, was held in Japan with the attendance of 97 participants from 11 space agencies. Of major discussion was the way in which space debris could be mitigated. By promoting space debris mitigation measures, Japan intends to continue its active contribution towards that goal.

Mr. Chairman, concerning space-system-based disaster management support, Japan gives priority to contributions for global prosperity by participating in international cooperative activities based on a broad and long-term vision and the 10-Year Implementation Plan of the Global Earth Observation System of Systems, GEOSS. In this context, Japan launched a new disaster management initiative known as "Sentinel-Asia" as we have already mentioned. Japan would also like to express its respect for the efforts of the United Nations system in these fields. Japan intends to promote, with the help of members and observers of the United Nations COPUOS, international cooperation so that the benefits derived from space activities can also be enjoyed by the whole of mankind.

Japan would like to express its appreciation to the members of the Ad Hoc Expert Group and the United Nations Office for Outer Space Affairs for their efforts in drafting reports for the establishment of the Disaster Management International Space Coordination Organization, DMISCO. However, Japan believes that further clarification of the relationship between DMISCO and other initiatives implemented under the United Nations system is needed in order to gain a

whole picture of this matter. Furthermore, Japan would like to express concern for the draft report's mobilization resource plan that requires new financial implications of the United Nations regular budget. Japan's standing position is a zero-nominal growth of the total United Nations regular budget. In this context, we believe that the establishment of DMISCO should not generate additional financial burden for member countries.

Japan is ready to continue discussions with other member States and hopes that our concerns are addressed.

Mr. Chairman, lastly, I would like to express my deepest respect and gratitude for the work of the Chair of the forty-third Scientific and Technical Subcommittee, Dr. B. N. Suresh, again, and a heartfelt welcome to the Chair of the forty-fourth Scientific and Technical Subcommittee, Dr. Mazlan Othman. It is my hope that the United Nations Office for Outer Space Affairs and the United Nations COPUOS will strive to keep up this momentum for the sake of our future.

Thank you for your kind attention.

The CHAIRMAN *(interpretation from French)*: Thank you distinguished representative of Japan, Mr. Yamakawa. I thank you for your statement, especially the information you provided us on the meeting of the Inter-Agency Committee on Space Debris which was held in Japan in April, as well as information on the work of the Group of Experts on DMISCO.

We will now move on to the statement by Venezuela. It is my pleasure to give the floor to Ms. Nuris Orihuela Guevara.

Ms. N. ORIHUELA GUEVARA (Venezuela) *(interpretation from Spanish)*: Thank you Mr. Chairman. With regard to the proposal that an international space coordination entity be set up for disaster management, abbreviated as DMISCO, my delegation would like to express its support of this initiative, not only for the broad range of possible technological applications with regard to preventing and managing natural and man-made disasters, it would improve mankind's capacity to provide such a response. And especially it would provide highly specialized assistance to this effort which would complement the efforts undertaken by other international organizations in this regard.

Additionally, we believe that the kind offer of the People's Republic of China to host the headquarters of such an organization would improve and diversify mankind's capacity to respond to disasters and would strengthen the multi-polar approach to this effort.

With regard to the report of the Working Group on Space Debris, my delegations sees with concern the increasing proliferation of space debris without any control or regulation. The statement on item 3 of this report which says that the implementation of guidelines for space debris mitigation is voluntary, not legally binding, under space law, should not prevent these guidelines being applied in such a way as to address the problem of space debris at source and making the necessary corrections to States policies. This state of affairs, the proliferation of space debris not only affects future programmes and thus undermines the rights of peoples to benefit from space activities, it is also a growing threat to the health and life itself of human beings in space.

With regard to the report of the Working Group on the Use of Nuclear Power Sources in Outer Space, the delegation of Venezuela would like to reiterate the principle that any activity deployed in outer space should be subject to a strict regulation based on the principles of the preservation of peace and life. We cannot allow the proliferation of nuclear energy in space if it threatens human beings and the environment.

Based on all this, my delegation observes with concern the lack of clarity as to the relative competence of the various international organizations in regard to nuclear power sources in outer space. I am referring to COPUOS and the IAEA. We fear that the decision-making in this area will be delayed because of the lack of clear competence and thus would allow programmes to proliferate that will threaten the life of human beings and the environment.

In sub-section B of Section A of Chapter II of this report, we read, I quote "the use of nuclear power sources in outer space goes back four decades. In recent years, new nuclear reactors have not been put into orbit and there are no specific plans to do so in the near future. However, it is envisaged that nuclear reactors might be needed for scientific exploration missions, specifically to the Moon and Mars."

Assertions such as this should draw our attention to our responsibility to elaborate a very specific technical framework for the use of nuclear power sources in outer space and, most importantly,

the implementation of these guidelines in a very strict fashion.

Thank you very much Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: I thank the distinguished delegate of Venezuela, Ms. Orihuela Guevara for her statement. I think that on the issue of nuclear power sources in space, we will return to this when we will have the relevant information on the state of the work of the Working Group which is working on it at this moment.

We will now move on forward quite swiftly to the statement by Ukraine. It is my pleasure to give the floor to the distinguished delegate of Ukraine, Mr. Eduard Kuznietsov.

Mr. E. KUZNIETSOV (Ukraine) *(interpretation from Russian)*: Thank you Mr. Chairman. Thank you dear colleagues. Of course, the outcome of the work of the Scientific and Technical Subcommittee are ones which we welcome for we note that today space activities have been stepped up throughout the world. The delegation of Ukraine would like to note the importance and the necessity of creating an international entity on coordination of space activities for disaster management. This is a very important and topical problem which we have clearly seen over these last few years. Natural disasters, annually, cause huge damage throughout the world and tens of thousands of individuals lose their livelihoods and lives as a result.

Space technology, such as meteorological satellites, Earth observation satellites, communications satellites and position satellites provide the opportunity to mitigate the threat, increase the accuracy of forecasts, early warning and the monitoring of the consequences of natural disasters. The use of space technology provides us with the opportunity to rapidly and effectively respond, provide the necessary assistance which, in turn, could enable us to significantly reduce human and material losses.

Ukraine supports the view of the Special Group of Experts that the proposed international entity should be multi-lateral. It should provide support to organizations which deal with disaster management on the whole and that it should serve as the basis for combining our efforts. Also, its work should be tailored to the needs of users and promote the reduction of the gap between organizations in the field of disaster management and organizations in the field of space.

I would like to inform you that Ukraine has received a communication from the Office for Outer Space Affairs requesting possible assistance in support of the above entity.

On the issue of providing financial assistance, Ukraine, at this stage, cannot provide an answer, although we do understand that this is a very important issue. We do understand that the more this entity will be financed, the more rapidly we will enjoy positive results and, therefore, be able to deal with the consequences of natural disasters and reduce human losses.

I support the view of the Japanese colleague on the need to ensure that are important and very ambitious plans should be backed by financial resources. It is only then that we will be able to implement them.

At the same time, we wish to inform you that, at this stage, Ukraine is currently working on a seismic monitoring system. Work is ongoing on updating a space monitoring element. We are also developing a space-based land and ocean remote monitoring system. We have launched a(?) space facility in 2007 when tend to do so.

This, of course, is something which Ukraine spends a great deal of financial resources on.

In the case of emergency situations, Ukraine is ready to provide information from these systems to combat the consequences of natural disasters. We will fully support the work of this organization.

Distinguished colleagues, I would like to seize the opportunity to, on behalf of the Ukrainian National Space Agency, invite the representatives of all States to participate in the United Nations Workshop in the Ukraine on Space Law. It will be held in our capital, in Kiev, from 6 to 9 November of this year. It will be our great pleasure to invite the representatives of all States in our wonderful city and I think it will be very useful work.

Thank you.

The CHAIRMAN *(interpretation from French)*: Thank you distinguished representative of Ukraine, Mr. Kuznietsov, for your statement and for the invitation addressed to this Committee to participate in the Seminar on Space Law, to be held in November in Kiev.

I believe there are no further requests for the floor under this agenda item, that is the Report of the Scientific and Technical Subcommittee.

Would any other delegations wish to take the floor at this point?

I see none.

We will then continue our consideration of agenda item 8. Nigeria?

Yes, Nigeria has the floor.

Mr. O. I. MAIYEGUN (Nigeria) *(interpretation from French)*: Thank you Mr. Chairman.

(Continued in English) We have already inscribed for the afternoon on this agenda item and we will probably wait until the afternoon.

Report of the Legal Subcommittee on its forty-ninth session (agenda item 9)

The CHAIRMAN *(interpretation from French)*: Now, we are going to item 9 of the agenda, the Report of the Legal Subcommittee on its Forty-Fifth Session.

We have two delegations, two speakers on the list under this agenda item.

We will start with the contribution of the Czech Republic. I would like to give the floor to our friend, Vladimir Kopal.

Mr. V. KOPAL (Czech Republic) *(interpretation from French)* Thank you very much Mr. Chairman for your very friendly introduction to my statement.

(Continued in English) Mr. Chairman, the delegation of the Czech Republic already had the opportunity to warmly congratulate you on your election as Chairman of this Committee. And we would like now only to add that the up-to-date proceedings fully confirmed your great capacity to effectively guide the deliberations of this important body and bring them to reasonable conclusions.

I also wish to warmly greet the Director of the Office for Outer Space Affairs and the Expert on Space Applications. We listened with full attention to their reports which thoroughly informed us about activities of the Office and the Space Applications Programme which successfully accomplished the established task, in spite of serious financial constraints prevailing now again in the United Nations.

Our delegation has regularly appreciated the work of the staff of the Office which have been helping the Committee, both its Subcommittees and all Working Groups with great dedication in the implementation of their programmes.

Mr. Chairman, let me know make a number of brief comments on some of the issues included in the report of the Legal Subcommittee from its 2006 session.

The delegation of the Czech Republic fully shares the continuing efforts of the Committee and its Legal Subcommittee to extend the number of States adhering to the United Nations space treaties and also the list of international organizations making declarations on assuming the rights and duties under those instruments. In particular, we wish to mention that the number of States Parties to the main space law instrument, the 1967 Outer Space Treaty, is now close to 100 nations and it would be a good contribution to the anniversaries of major achievements in space activities to be celebrated next year if the magical number 100 State Parties could be reached or even crossed during 2007. Of course, it will also be desirable if further international organizations joined the new States Parties by their declarations of acceptance of the Outer Space Treaty and other United Nations space treaties.

The Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, which was reconvened after a certain lull, this year again, under the chairmanship of Dr. Vassilios Cassapoglou of Greece, has proved its usefulness and reached progress in discussions on a number of aspects and suggestions relating to the issue. In our opinion, more attention could be paid in further deliberations of the Working Group to the questionnaire on the possible options for future development of international space law, document A/AC.105/C.2/L.259, submitted by Kazakhstan, the Russian Federation and Ukraine, and co-sponsored by a number of other nations. The problem of further development of international space law, particularly by the Committee on the Peaceful Uses of Outer Space and its Legal Subcommittee, deserves our full attention and the above document might serve as a good basis for a meaningful discussion on the subject. Not all possible alternatives of the further space law development have been exhausted thus far and the consideration of all its aspects might lead to useful results.

The delegation of the Czech Republic welcomes that the Working Group on the Definition and Delimitation of Outer Space, which was reconvened at the forty-fifth session of the Legal Subcommittee, developed a useful discussion on its further programme of work. The Chairman of this Group, Professor José Monserrat Filho of Brazil, succeeded in giving a new impetus to the consideration of this topic and outlined a realistic programme for further discussions of the issues involved.

Our delegation also welcomes the prospect of a cooperation of the Scientific and Technical Subcommittee by clarifying the technical characteristics of aerospace objects in the light of the current level of technological advance and possible developments in the foreseeable future.

As far as the item, Examination and Review of the Development Concerning the Draft Protocol on Matters Specific to Space Assets to the Convention on International Interests in Mobile Equipment, is concerned, the delegation of the Czech Republic welcomes that the Legal Subcommittee agreed that it should remain on the agenda for its next session. The wording of this item is wide enough to allow a meaningful discussion on all aspects relating to the draft Space Protocol. We believe that the next session of the UNIDROIT Committee of Governmental Experts, to be held before the end of this year, to which all member States of the COPUOS are also invited, will prepare the ground for the next discussion on the subjects in the Legal Subcommittee.

My delegation attaches a great significance to the fact that the Cape Town Convention and the first Protocol to it, that on matters specific to aircraft _____(?) have already entered into force this year. And the International Registry for Aircraft Objects also started its operation. Moreover, the Council of the International Civil Aviation Organization assumed the role of Supervisory Authority of the International Registry and published the Regulations and Procedures for the International Registry, as we heard from the observer of ICAO during the forty-fifth session of the Legal Subcommittee and also from the representative of UNIDROIT to that session.

This has been a convincing evidence that an appropriate organization of the United Nations system may assume the important role of Supervisory Authority concerning the international registries provided by the Cape Town Convention and its relevant Protocols.

Mr. Chairman, during the general exchange of views and the earlier statement on item 9 of our agenda, we heard high evaluations of the progress reached in the discussions on practice of States and international organizations in registering space objects. My delegation would like to join these assessments and also wants to emphasize that this progress has been enabled by a substantive input of the Chairman of the Working Group, Dr. Kai-Uwe Schrogl of Germany. He outlined a set of elements which could constitute a basis for a consensus on specific recommendations and conclusions to be included in the report on the subject in 2007.

Due to this visible progress, which was also facilitated by a series of documents well prepared by the Secretariat, my delegation wants to support the request of the Working Group to be reconvened in 2007. The Group should finalize its report, to be submitted to the Legal Subcommittee, to the Committee on the Peaceful Uses of Outer Space and for its endorsement and recommendation to the General Assembly.

Mr. Chairman, may I recall in this connection that, in our statement to the Committee during its session in 2005, the delegation of the Czech Republic brought to the attention of the Committee that practice of States and international organizations in registering space objects remained the only item dealt with by the Legal Subcommittee under a Work Plan for the time being. And we are now entering the last stage of this work, according to the Plan. Though the tasks and work of the Legal Subcommittee have their specifics, it is not possible to neglect that the sister body, the Scientific and Technical Subcommittee, now considers as many as six important issues under Work Plans and ponders still increasing this number. Unlike the Scientific and Technical Subcommittee, the Legal Subcommittee has been much less successful in reaching consensus on the inclusion of this category of items in its agenda. Yet, a number of suggestions have been raised during the discussions on new items to be considered by the Legal Subcommittee in recent years and the United Nations General Assembly, in its resolution 60/99 of 8 December 2005 expressed its expectation that the Legal Subcommittee would submit its proposals to the Committee for new items to be considered by the Subcommittee at its forty-sixth session in 2007. For just items to be discussed under an agreed Work Plan promised to bring specific results in a firm timeframe and are essential for the progressive development of space law, which is the main task of the Committee on the Peaceful Uses of Outer Space in the legal field.

Mr. Chairman, let me still mention one subject to which my delegation attaches substantial significance. Under the scope of the Space Applications Programme, the United Nations Office for Outer Space Affairs has organized in recent years, in cooperation with local governments and their competent institutions, a series of workshops on international space law. The latest one was successfully held in Abuja, Nigeria, in 2005. And this year, the fifth workshop of this kind will be held in Kiev, Ukraine. Thus, the first series of such workshops held in the hosting countries from five geographical regions will be completed.

Due to the role of these meetings for the awareness of international space law and the promotion of its affectivity(?) in present international relations, the delegation of the Czech Republic welcomes the intention of the Office for Outer Space Affairs to continue in the now well-established practice of convening the Space Law Workshops by including such a meeting again in the Plan of the Space Applications Programme for 2007.

Thank you Mr. Chairman for your kind attention.

The CHAIRMAN *(interpretation from French)*: Thank you Mr. Kopal and I thank the delegation of the Czech Republic for its very comprehensive statement on the work of the Legal Subcommittee. In particular, I would like to highlight your concern with regard to the relative lack of new items on the agenda of the Legal Subcommittee for the years to come. Maybe it is a point that we should tackle in the framework of a general discussion on agenda item 14 when we talk about the future activities of the Committee on the Peaceful Uses of Outer Space. Thank you again for your contribution.

And I will now call upon the distinguished representative of the Republic of Korea, Mr. Joon Lee.

Mr. J. LEE (Republic of Korea): Thank you Mr. Chairman. Mr. Chairman, my delegation is pleased t note that the forty-fifth session of the Legal Subcommittee has successfully completed its work. The Korean delegation would like to express its appreciation to Ambassador González, Chairman of the Subcommittee, for his outstanding performance throughout the session of the Legal Subcommittee.

My appreciation also goes to the Chairmen of all Working Groups of the Legal Subcommittee.

My delegation wishes to express its full support for the report adopted by the Legal Subcommittee. Throughout the session, we noticed many positive aspects in the field of space law. Several more countries became members to the United Nations space treaties, thereby contributing to enhancing the universality of the space treaty system. Extensive discussions on all agenda items were made. My delegation, in particular, takes note of the in-depth exchanges of views on the newly adopted practical agenda items, in particular the practice of States and international organizations in registering space objects, under the able stewardship of Dr. Schrogl, Chair of the Working Group on the agenda item. My delegation hopes that the effort will help strengthen the United Nations space treaties system.

Mr. Chairman, the Republic of Korea, as a member of the Outer Space Treaty, the Rescue Agreement, the Liability Convention and the Registration Convention, enacted the national space law and its regulations in November 2005. My delegation notes that the Legal Subcommittee had long discussed the matter of national legislation and recommended to the member States the necessity of the national law and the possible elements to be included in the national law.

The main purpose of the Korean national law titled “The Space Development Promotion Act” is to promote the peaceful use and scientific exploration of outer space and to raise the standard of living, through the systematic promotion of space development the effective use and management of space objects. My delegation believes that Korea, with this enactment, will more effectively implement the United Nations space treaties.

The Act also provides the basis for coordinating and promoting space development of Korea. According to the Act, the Government will make a Basic Plan on Space Activities on a five-year basis. The National Space Committee, as a supreme government body, is to be established in order to deliberate and confirm the Basic Plan. The Committee will be placed under the control of the President and chaired by the Minister of Science and Technology. And the space development institutes will be designated to systematically and effectively implement space development projects. My delegation is confident that these newly introduced systems will contribute to the consistent and stable space activities in Korea.

My delegation is also pleased to announce that the preparation of the English version of the Act will

be complete soon after the text is reviewed and approved by the authorities concerned. After the process, the Korean Government will provide the final text to the Office for Outer Space Affairs, in due course, to be made available to member States.

Thank you very much.

The CHAIRMAN *(interpretation from French)*: I thank the distinguished representative of the Republic of Korea, Mr. Joon Lee. I especially wish to thank you for the information you have provided us, more specifically on the information on the introduction of the law on space activities in your country in November 2005. And the delegations of the Committee will familiarize themselves through the Office for Outer Space Affairs with this text when it receives the English version.

I think we have one more speaker, that of Thailand. I will, therefore, give the floor to the delegate of Thailand. Thank you.

Mr. K. LOUVIROJANAKUL (Thailand): Thank you very much Mr. Chairman. We wish to join others in considering the past works of our forty-fifth Legal Subcommittee in the last April 2006, which, through their deliberation, has substantially contributed to the programme in development of international space law.

As Thailand is co-sponsor of the "Questionnaire on Possible Options for Future Development of International Space Law", Conference Document No. A/AC.105/C.2/L.259, we wish to express and reaffirm our view that the current international space law, conventional and customary law, has provided a legal foundation for the regulating space activities, not only of States but also of private entities. We are of the view that five existing space treaties and relevant "soft law", which serve as a guide for drafting a composite United Nations Convention on Space Law, which should include new provisions for the aspects of space that were previously outside the scope of international law or were regulated within the national legislation of individual States. With the view to developing international space law to the space activation in the use and management of this valuable resource and for the benefit of relevant States and private entities, the legal regimes and principles provided for the United Nations Convention on the Law of the Sea that may be usefully applied *mutatis mutandis* in the implementing of outer space, as well as the experiences drawn from the drafting of such convention. These regimes may include equitable sharing basis and also taking into account of the developing country interests on the utilization of outer space.

Mr. Chairman, regarding our previous statement by our head of delegation, Dr. Somkait, it has been clear that we remain convinced that space technology can bring immense benefits to human development. We also believe that through international cooperation, more benefits will be achieved in a shorter period of time. It is a win-win situation for all concerned.

As space technologies and space applications has been proven tremendous benefits to our daily life, at this stage, disaster management has been our most concern especially on early warning systems and disaster monitoring. Thailand has set up a national early warning centre which employs main technology from space technology, especially satellite image. The Thai delegation will also give a presentation on "Forest Area Monitoring in Thailand with the Use of Satellite Imagery in this afternoon's session.

Regarding to status and application of the five United Nations treaties on outer space, the Department of Treaties and Legal Affairs, the Ministry of Foreign Affairs of the Kingdom of Thailand, is in charge as a focal point agency in Thailand that deal with legal issues by discussing and giving advice to the Thai Government with a guidance of GISTDA. The discussed issues include whether Thailand should ratify the rest of the United Nations treaties concerning the peaceful uses of outer space as implementation of national regulation concerning space law.

As Thailand is a new member of the United Nations COPUOS, Thailand has managed to ratify two important treaties, namely the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, or Outer Space Treaty 1967, and the Agreement on the Rescue of Astronauts, the Return of Objects Launched Into Outer Space, or Rescue Agreement 1968.

Membership of the 1968 Rescue Agreement has proven beneficial to Thailand. In early 2005, Thailand had a chance to implement the 1968 Rescue Agreement by returning parts of space debris which fell into one of the provinces in the central part of Thailand. The space debris belongs to the United States which has been cooperated to the Thai concerned agency in bringing back such debris to the United States in due course.

We would like to express here once again that Thailand is in the process of working towards study to ratification of the rest of the United Nations treaties on outer space law, especially the Convention on International Liability for Damage Caused by Space Objects, or Liability Convention 1972, and the Convention on Registration of Objects Launched Into Outer Space, or Registration Convention 1975.

Another point that has been called upon by developing countries over the years is the issue of capacity-building in space law. Space activities are not a distance issue for Thailand anymore nor are they for developing countries. In this regard, seminars, conferences and workshops relating to space law and space activities should be supported by developed countries at national and regional and international levels.

Regarding to this issue, as stated by our delegation before, Dr. Somkiat, that GISTDA will organize the International Conference on Space Technology and Geo-Informatics in 2006, in parallel with the International Conference on Mapping and Geo-Informatics 2006, during 5 to 8 November 2006, in Pattaya, Thailand.

We also would like to inform the meeting as well that Thailand will host the Space Law Conference in 2006, early August, which will be held in Bangkok. It will be a floor for participants from various countries to exchange their views on international space law, especially from developing countries in Asia. The information can be acquired from www.space.mict.go.th.

Finally, we would like to point out once again that the joining of the Asia-Pacific Space Cooperation Organization, or APSCO, of Thailand, is a good sign for space activities cooperation among developing countries in Asia. We believe that this form of cooperation will be a good start for us to enhance our space activities in the fields of legal and technique.

All in all, Thailand is glad to be a valuable member of the United Nations COPUOS in providing cooperation and participation at all levels as applicable.

Thank you.

The CHAIRMAN *(interpretation from French)*: I would like to thank Dr. Louvirojanakul for his statement. I would, of course, wish to thank you for the information you have provided us on considerations underway in your country on the coming ratification of the two Conventions, on Liability and the Convention on Registration of 1972 and 1975. And, of course, we cherish the hope that Thailand will find itself able to ratify these Conventions in the very near future. Thank you as well for the information on the convening of this Space Law Conference at the beginning of August in Bangkok.

Do we have any further requests for the floor.

Yes, we have Iran.

Mr. M. NAZIRI ASL (Islam Republic of Iran): Thank you very much Mr. Chairman. Actually I do not have any formal statement on that but let me congratulate you on your assumption as the Chairman of this Committee and assure you of our full cooperation in your chairmanship.

However, my congratulations extends and thanks to the previous Chairman of this Committee which he provided very excellent chairmanship in the discussions we had.

Mr. Chairman, my point is of a clarification nature so I do not want to go into detail of the report which has been provided by the Legal Subcommittee. However, I have seen that in a number of paragraphs which I have witnessed there have been some opposing views, some complimentary (complementary?) views, which has been _____ *(not clear)*. I do not want to touch on those issues. But what is important for us is that in the Appendix part of the report, you see Annex, this is something different. There has come a report by the Chairman of the Working Group on this, that is the application of the five United Nations treaties on outer space.

We do have also a question about the Appendix part. As we see that in paragraph 5, a number of arguments had been posed on the advantage of acceding to the Liability Convention. So we do not have any problems because Iran(?) is a Party to that Convention, we do not have any problem, but as a matter of principle, I ask that since only from (a) to (j) which is six or seven, seven items have been elaborated there as an advantage to acceding to the Convention. I think it is up to the delegations or the member States to decide what advantage they have. So I think it is much more wise that we do not, in our report at least, to echo this concern that all those advantages limited to these six or seven items. According to the Treaty of Laws, it is very explicit that how any member State assess its own advantages and acceding to these treaties. So it might include several other items. So in paragraph 5, as we see in the first line, we say “they include” at

least, if there had been some opportunity, we could also add "they include *inter alia*" in order to highlight the importance that there might be some other advantages and it should be limited to these six or seven items. I just wanted to highlight this issue. Maybe in preparing our draft to the General Assembly, we should be careful on that.

Thank you..

The CHAIRMAN *(interpretation from French)*: I thank the distinguished delegate of the Islamic Republic of Iran. I turn to the Secretariat. I do think that the best thing, the best way to proceed here is to take note of your statement and this will improve our drafting of coming documents.

I see no further requests for the floor on agenda item 9, Report of the Legal Subcommittee. There does not seem to be any.

We will thus continue consideration of agenda item 9, Report of the Legal Subcommittee on its Forty-Fifth Session, tomorrow morning.

Spin-off benefits of space technology: review of current status (agenda item 10)

We now move on to agenda item 10, Spin-Off Benefits of Space Technology: Review of Current Status.

Under this agenda item, we have but one request for the floor, to wit, that of the distinguished delegate of the United States and I give the floor to Mr. Higgins.

Mr. J. HIGGINS (United States of America): Mr. Chairman, we once again would like to highlight the often understated benefits on Earth derived from our research in space. The United States is proud to share with the Committee some examples of new innovations spawned by its space programmes and successfully spun-off to private companies for use in upgrading the quality of life on Earth.

In the field of energy, homes across the world are being outfitted the same solar panel technology that was used on the NASA Helios and Pathfinder solar-powered aircraft. Solar panels appeal to consumers because they preserve the environment, save money on electricity bills and insulate them from escalating energy costs. The solar panel spin-off technology has no moving parts, creating pollution-free electricity with no noise and virtually no maintenance. The manufacturer of the solar panels is working with the United States Department of Energy's National Renewable Energy Laboratory on further improvements in module design to reduce costs for solar power. On an international level, the manufacturer has partnered with Germany's largest solar photovoltaic module manufacturer to open the first phase of the world's largest solar electric plant.

In environmental conservation, environmental engineers at NASA's Kennedy Space Center recently completed a clean-up of old Apollo-era launch pads, removing harmful chemical compounds that are capable of irreparably contaminating soil and ground water. These compounds were used during the early days of the United States Space Programme as solvents for flushing rocket engines and for metal cleaning and degreasing of equipment, electronics and heavy machinery. With cooperation from several United States Government entities, universities and private industry, NASA developed a technology that successfully cleaned up the polluted areas near the old launch pads. The success in cleaning up this historic launch site was integral to preserving the historic wildlife refuge at Kennedy Space Center, home to thousands of endangered species and diverse habitats, and has led to numerous commercial applications that are restoring the health of our environmental surroundings. Two companies have licensed the technology from NASA and are using it in areas throughout the United States and Canada where high concentrations of these compounds exist.

In the area of resource management, a small company co-located with Stennis Space Center in Mississippi, has tapped into NASA's wealth of remote sensing information to develop innovative geospatial products for a variety of sectors. The company provides tailored solutions for customers' needs, and, as a result, had made three rather different spin-offs: one, a crop prescription service for farmers, that helps them make decisions about where and when, and to what degree, to apply herbicides, insecticides, plant growth regulators and defoliants; two, a disaster management tool for local, State and national governments, that is web-based tool that officials can access when they need to make decisions in emergency and disaster situations; and three, a service for young or inexperienced farmers that provides, free of charge, an educational, geo-spatial-based, precision agriculture application to familiarize the next generation of farmers with geospatial technology and to encourage them to take advantage of the latest science. More than 1,000 copies of the software were distributed via the Internet to you in 30 United States and nine countries.

In these and many other areas, our space researchers continue to spin-off technologies that provide unexpected and profound benefits to people here on Earth. The examples I have highlighted today are a direct result of the United States Government's vibrant civil space programme, dedicated to active and productive collaboration with private industry and academia. The commitment of the United States to improve the quality of life on Earth provides the impetus for this worldwide dissemination of spin-off technologies for the benefit of humankind. To inform delegations of these and many other interesting spin-offs, we have provided each delegation with a copy of NASA's public, "Spinoff 2005".

Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: Thank you for your presentation and thank you for having distributed the NASA "Spinoff" document to all delegations here. I am sure that the delegations will find a great many interesting examples of spin-off benefits of space technology in it.

I do not believe we any other requests for the floor on this agenda item 10.

Are there perhaps any questions following the United States' presentation.

I see none.

We will thus continue and I hope that we will conclude consideration of agenda item 10, Spin-Off Benefits of Space Technology, tomorrow morning.

Technical presentations

We will now turn to the technical presentations. We have three technical presentations planned. As it is 11.50 a.m., I think we should be able to hear all of them this morning but I will, of course, remind the speakers that there presentation should be limited to 20 minutes.

We will begin with the presentation of Mr. Sarker and Dennis Stone from Spaceweek International Association on the "World Space Week in Bangladesh".

Mr. Sarker.

Mr. F. A. SARKER (Spaceweek International Association): Thank you Mr. Chairman. In Bangladesh, the people are very interested in space activities and we have been observing and celebrating the Spaceweek International Association's World Space Week for the last three years and we are getting tremendous responses. Now we have brought to you on video about the celebration of World Space Week 2005 in Bangladesh. Onwards in Dakar, the capital city, and also in remote villages where about 10,000 people participated. So I will show you this presentation and the narration is given there in the English language.

Thank you very much for your cooperation.

Video

"Bangladesh Astronomical Society has been arranging celebration of World Space Week since 2003. The inaugural ceremony of World Space Week 2005 was held on 4 October at the Auditorium of Mispurbangla_____(?) High School, Dakar, where eminent _____(?) and _____(?) delivered their lectures. The biggest show of World Space Week was held on 6 October at Anipur(?), a small village situated about 18 miles northwest of Dakar. It was arranged over an embankment of the River Jamuna(?) where about 10,000 _____(?) converged to celebrate this event with unprecedented _____(?) and jubilant which was followed by a colourful parade to stroll on the streets of the village."

End of video

The CHAIRMAN *(interpretation from French)*: Mr. Stone.

Mr. D. STONE (Spaceweek International Association): Hello, can you hear me?

I wanted to recognize my colleague, Mr. Sarker, Executive Secretary of the Bangladesh Astronomical Society for preparing this excellent video and sharing it today with the COPOUS. I think Bangladesh, a developing nation, has clearly shown through this video what can be done during World Space Week and sets a fine example, I think, for us all.

Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: I would like to thank Mr. Stone and especially Mr. Sarker for his presentation, for the presentation of this video on the World Space Week in Bangladesh. It certainly reminded me of some very

pleasant memories of having visited your beautiful country. Unfortunately this was over more than 20 years ago but it is a pleasure for me to witness the pleasure that your fellow countrymen have in space affairs.

Thank you for this presentation.

We will now move on to the presentation, the distinguished delegate of Indonesia, Mr. Mahdi Kartasasmita, on "Space-Related Activities for Forest Management in Indonesia for Forest Management".

Mr. M. KARTASASMITA (Indonesia): Thank you very much Mr. Chairman, distinguished delegates. We would like to share our humble experiences in applications of space technology, in particular in forest management.

What we are going to show here is already in operational mode so it is not only a scientific activity or just an example, it is already in an operational basis.

What the information, the space-based information delivers to the user are listed here. Firstly, the land cover, based on LANDSAT ETM or similar data; and the next is Forest Concession Map, also from LANDSAT, scale 1:100,000, and then Hotspot and Smoke Monitoring using NOAA/AVHRR data and MODIS; Vegetation Index Monitoring, NOAA/AVHRR and MODIS; Burned Scar Mapping, also from MODIS; Fire Danger Rating System Monitoring, from NOAA and MODIS; Rainfall Estimation Monitoring, GOES, NOAA, Feng Yun; and Rainfall Prediction using OLR, Outgoing Longwave Radiation.

An example of this is like we show here, land cover, it shows the general information on the type, area and location of certain land cover to define specific land use.

This map, this is only one island we are showing but it will cover the whole country, and it will be done every or it will be updated every five years with the hope that we can see the changes of the forest. Hopefully there will be no desertification or even we will have new forests instead.

The other is the Forest Concession Map. It is regulated by the Government that the concession timer company has to submit every year the map shows how they do the cutting of their concession area. So by following a regulated selective cutting programme we would hope that the system(?) of forest will be maintained for many years. This is part of the implementation of the regulation by the Ministry of Forestry, based on data from LANDSAT or with similar accuracy.

Now we would like to show you what happened many times in our forests. It is the forest fires. It just shows that the number of hotspots in two big islands, Sumatra and Kalimantan and it concerns many people. This product shows the vegetation index. It shows the greenest or the quality of the forest and overlaid with that, we showed the occurrence of hotspots, or forest fires or land fires. This information is delivered daily and an accumulation of weekly and monthly. We show this in two big islands, Kalimantan and Sumatra, both in August 2005, but it is performed every year, especially during the dry season.

The effect of the forest fire does not only affect the distinction of the forest but also the dispersion of smoke. And somehow it disturbed not only Indonesia but also our neighbouring countries. Therefore, the distribution of smoke from the forest becomes an important issue in the country as well as in the region. There is close cooperation in Asian countries, especially in trying to prevent pollution, haze pollution, go across boundaries of countries.

We have this kind of information and then also we then create a model for the predicting the dispersion and transport of any particular hotspot in the islands. This is in the process of, at least we can provide information to our neighbouring country, what is the effect and when it will go through their area.

The other is the Burned Scar Mapping of the forests. Just using the different before and after the forest fire and we can show how much damage of the forest fires, what is the area damage, how big it is and what kind of timber which had been destroyed by the fire. This usually uses he MODIS data.

Then we also developed a Fire Danger Rating System. It shows four parameters: the Ignition Potential, it depends on the land cover; and then the Drought and Smoke Potential, some type of land, for example, peat land will produce more smoke than other forest types; and then we have difficulties to control the fire when it starts; and then the Fire Weather Index. So we have four fire danger ratings basically for those two islands, the big islands, Sumatra and Kalimantan, which we provided to the Provincial and District Government so they can prepare if the forest fire occurs.

And then along the way we have Rainfall Estimation Monitoring. Basically at the end of drought

season and usually the fire becomes much more extensive, then the rainfall can help to stop the fire from expanding. So we also provide this kind of information to the users.

This is also a Rainfall Estimation Prediction. This is related to the Outgoing Longwave Radiation. It is a monthly prediction of rainfall produced because of the sea surface temperature and this can also show the occurrence, for example, of El Niño. This will create usually much more forest fires and how bad it will be with the related occurrence of El Niño.

All the information is derived from space platforms. It is sent to ministries, the Ministry of Forestry, Environment, Agriculture, Science and Technology, Meteorology and Geophysics Agencies, Disaster Management body, provinces, districts, NGOs, timber companies and others.

We also put or upload this information regularly into our website. However, our website is still in Indonesia because it is mostly for the user in Indonesia. Probably some time in the future we will translate it to English.

So in conclusion, we applied the space technology, especially for forest management and because of the large extent of the country, we consider that space remote sensing technology is the most cost-effective method for doing the monitoring. And then we are already doing the operation but we are still doing further research to enhance the application of the technology. And in this sense, the international cooperation is highly appreciated. And also Indonesia is willing to share its experience, among others, in the form of training for other developing countries of such applications.

Thank you very much Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: Many thanks to you Mr. Kartasasmita for this very comprehensive and convincing presentation on space-related activities of your country for detecting and prevention forest fires. It is a remarkable presentation, indeed, and I am sure all our fellow delegates were very interested to hear it.

Any questions on this presentation?

If not, I am going to call on Mr. Radhakrishnan of India, who is going to speak on India's experience in the area of space-based systems for forest resources management.

Mr. Radhakrishnan.

Mr. D. RADHAKRISHNAN (India): Thank you Mr. Chairman, ladies and gentlemen. It is an honour for me to have the opportunity to make a presentation in this forty-ninth session of COPUOS.

As a part of the Indian delegation, I represent ISRO. Most of you may be aware, it is an agency, primarily responsible for design _____ *(not clear)* and user-driven application programmes for national development.

As you see on the screen and the topic of my presentation, it is on Space-Based-Systems for Forest Resources Management – Indian Experience.

I would like to present to this forum as to how the space-based-systems are being put to use for effective management of forest resources in our country.

Before I begin with the actual, I would just like to give small statistics.

As indicated in this slide, we have a vast expanse of almost 328 million hectares of land mass with varying topography terrain characteristics with coastal, mountainous and plain land. Of this, if you look at the forest cover, the forest cover is nearly 67.8 Mha which amounts to something like 27 per cent of the total geographic area. These forests are widely distributed all across the country. I am just presenting it in my subsequent slide.

We also a rich floral diversity of almost 47,000 plant species being in existence.

So if you look at some of the needs that are being met through these forest resources, they are mainly towards meeting the timber, the fuel, wood and fodder requirements. At the same time, the forests are threatened of the increased degradation due to shifting cultivation, grazing, forest fires, mining and construction activities and so on.

As you see in this slide, there are two faces of this that are being represented. One is the economics of the resources and the other side being the ecological loss. So what we need to really address is to have a proper balance of both these activities.

So we have first Indian _____ *(not clear)* remote sensing satellite systems. The first of the series IR-1A, launched in summer of 1988. Subsequent to this, we had a large number of remote

sensing satellites in subsequent years. I would specifically like to draw your attention towards this slide. In the year 2003, we launched IRSV-6(?), also called the Resource-Sat, that had different sensors with the varying spatial resolutions on the same platform. So this provided us with an opportunity to carry out the meeting of the place with a multitude of spatial resolutions. If you look at some of the sensors that were there onboard in this IRSV-6 satellite, there and the advanced AWIFS sensors with a spatial resolution of 56 metres. Then we had LISS III with a spatial resolution of 23.5 metres. What you see here is one area being show in a larger scale. Then we had LISS IV with a resolution of 5.6 metres.

So what I would like here is that with the use of the sensors, we are able to study and assess the different forest parameters at varying spatial scales.

More recently, we launched the CARTOSAT-1 with had a spatial resolution of 2.5 metres and this has made possible detailed assessment of species composition as well.

So this is an image that is taken from CARTOSAT-1 imager.

This is a glimpse of the advancements that have taken place over the years in the use of remote sensing for forest resource management. If you look at the slide, you will notice that in the primitive years, our thrust was towards the carrying out mapping and monitoring and assessment studies. Subsequently, when we made the technological advancements, in terms of using the advanced sensors, we were in a position to carry out better predictions like biodiversity studies, forest fire detection, _____(?) prediction and so on and so forth.

So what is the real challenge now in the coming years. Its forests(?) would develop an effective information system and ecological model processes for better forest resource management.

This is a glimpse of the institutional mechanism that has been put in place in our country. So basically for national natural resources management, we have a well-established institutional mechanism that has been put in place. The national natural resources management system, under the aegis of the Department of Space, with appropriate linkages from various academia, national institutes, State and Government Departments, play a very significant role in providing better governance for sustainable development in this field. So this is basically the overall framework in which the mechanism is being executed. And what you see here is the operations are in the Policy Guidelines supported by the State Forest Department and the Remote Sensing Centres and university and research and development institutions.

So moving further on and let us have a look at some of the initiatives that have been made to carrying out forest the national forest cover assessments and also the forest type mapping studies. It is presented in the subsequent two slides.

So under forest cover assessment, I would like to draw your attention towards this map. The three different colours. What we identified here is the very dense forest with a ground density of 70 per cent, the moderately dense forest 40 to 70 per cent, and open forest with a ground density of 10 to 40 per cent. An assessment has been done for the entire country and you can see the spread of those different areas across various regions.

Subsequently, another _____(?), what is shown here is the forest cover coverage for every biennium(?) _____(?) basically and the dark green colour shows the total forest cover and this colour is affecting the closed forest cover. So we have data on a biennial basis right from 1972 onwards as on date. If you look at the graph here, what you notice is that during the studies during 1972 to 1983, there has been a substantial loss of forest and this has given us an indication to take some forest prevention measures. Basically, the Government has taken the initiative of the conservation of forests. Subsequently, in the years we were able to maintain or sustain the level of the required(?) ratio for the total forest cover to the closed forest cover maps.

Now we have forest _____(?) maps and 1:50,000 scale for the entire country that has been generated.

Now this is the slide on the National Forest Type Mapping. We are able to carry out a study to _____ this field. How it is very significant is we have a broad spectrum of forest types due to varying topographic climate and heterogeneous soil conditions and many other factors relating to that.

This has taken the formation of a diverse vegetation community. A number of forest types. You see here we have temperate coniferous forests and the _____ forests and then we have the small cloud mountains. So these are very diverse resources that are available.

Remote sensing has been used as one of the very effective tools to delineate forest type for better forest resources management. We have the front(?) forest types. These are different forest types for the unique spectral signature based on unique structure, composition and phenology(?).

So based on these properties, the 16 major forest type groups of the country were mapped using multi-temporal and wide _____ sensor data. The Forest Survey of India is currently preparing the detailed forest type map of the entire country in 1:50,000. So this is the concentration of the different forest types in the northern part of India and the southern most part of India.

One of the major initiatives taken up in our country has been towards the carrying out biodiversity characterization at the landscape level. Towards this effort, nearly 50 million hectares is something like 80 per cent of the total forest _____ have been characterized for intact and critical habitats of biodiversity.

This is the north-eastern region of India. It depicts the biological richness. It has been devised by using the vegetation type, fragmentation, species abundance and so on. This study is an outcome of a first put in by number of universities, as I mentioned in my earlier slide, we had a number of universities, national institutions, which involved 100 or so scientists and scholars and all their efforts have been put into this particular study.

This data is being organized as a web-base for a biodiversity information system facilitating query and analysis.

As I mentioned during the earlier portion of my presentation, we have 226 million rural population of our country that depend on forests for food, fuel and fodder. This makes it all the more important to have the sustainable resources extraction methodologies. Towards this, we have a concept called Joint Forest Management that has been evolved which basically has involvement of the rural population to a very great extent.

So what we really can do here is the rural people are involved in developing plantations in marginal and integrated(?) lands. We make them build water and soil conservation structures fire control and forest production(?) activities. So what is they are going to get is the rural communities in turn share the benefits accrued from these activities.

Towards this effort, the satellite remote sensing data is being used for carrying out the site(?) identification resource assessment, monitoring and evaluation. This is quite effective and is working quite well.

Coming to protected area management, it is one of the major initiatives and it has been taken up to address the ever-increasing pressure on the forest eco-systems. As on data(?) in our country, we have nearly 500 wildlife sanctuaries, 90 national parks that constitutes nearly 15 million hectares of the forests. So using satellite-based remote sensing, we had _____(?) inputs in terms of the vegetation type, habitat maps, water holes, zonation management, etc.

What you see here is a three-dimensional view of the vegetation type prepared using the satellite data for Kudremukh National Park in _____(?) in the southern part of India. The National Mission, now had a National Mission to generate spatial databases on vegetation type in 1:25,000, and large mammal distribution has been launched for all the protected areas.

In the area of forest fire management, another important area that needs greater attention, a study has been carried out and indication, if you look at the bit of the statistics, more than 55 per cent of the Indian forests are prone to recurrent fires annually resulting in a huge loss of revenue. So towards this, we have disaster support services on fire management that is being provided using multi-resolution and multi-temporal satellite data.

We have operational lines(?) to the Indian Forest Fire Response and Assessment System together to these type of services. So this is a mechanism that has been working towards this cause.

Now some of the national initiatives. As I said, there are two dimensions, one is ecological loss and economics so we need to have a proper balance for the entire system for sustainable forest management. So we have some national initiatives which involve policy and regulatory frameworks. In 1988, the first National Forest Policy was made during that period and it addressed issues primarily related to the local people and tribes in those areas. Subsequently, we have evolved more policy guidelines like the Wildlife Protection Act, the National Forest Protection Act and National Forest Working Plan Code in 2003, basically related to sustainable management of forest resources through the use of satellite remote sensing and GIS system technologies.

Some of the thrust areas. The major thrust areas in the area of forestry for improved resource management, assessment of sustained comes in two patterns are towards inventories on biomass; hotspot monitoring and evaluation; large-scale mapping for critical forest administrative units; and national/regional forest resource management system and so on and so forth. These are some of our thrust areas and that we intend to continue in the coming years.

In conclusion, before I conclude, I would like to highlight the forest resources management initiative that has been taken in the country is the outcome of the extensive efforts put towards ultimately utilizing the capabilities of the space systems to provide critical input for sustainable forest resources. So how does the programme, with the programme and _____(?) of appropriate integration of space inputs into the national system and continues implementing the services _____ *(not clear)* and technological advancements.

So what are the future plans in the coming years? When we launch a new satellite using advance sensors and _____(?) improved characterization and monitoring of the forest for sustainable forest management.

On behalf of the Indian delegation, I would like to once again thank you for the opportunity to make the presentation on this very important topic of space and forests.

Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: Thank you very much distinguished colleague, representative of India, Mr. Radhakrishnan.

Thus, we have heard two presentations on the subject of the use of technical technologies for forest management. I would like to draw your attention, distinguished delegates, to the fact that these two presentations, one from Indonesia and one from India, are of grave interest to all of us in a number of respects and specifically and the fact that the use of space technologies for these very practical purposes is now fully mastered by countries that we have grown used to referring to has developing countries. They have demonstrated amazing capabilities in terms of mastering these technologies and applying them for the needs of forest management in their countries. I think the experience accumulated by our colleagues in these countries is fascinating, probably applicable in a great many other countries represented in this Committee.

Are there any questions from delegations on these presentations that we have heard?

I see none.

In that case, we will conclude the technical presentations but of the morning session. We will have more presentations this afternoon within the framework of the Space and Forest Symposium starting at 4.00 p.m.

I will shortly adjourn this meeting of the Committee. I am sorry. I see our distinguished colleague from Austria has a question. You have the floor Sir.

Mr. G. MAGERL (Austria): Thank you Mr. Chairman. I would just like to make a short administrative announcement concerning the invitation by the Austrian Secretary-General of Foreign Affairs to a Heurigen tomorrow evening. Also the invitation refers to heads of delegations, I would like to add that this invitation is meant for all delegation members. And as the reception will take place tomorrow evening, I would like to ask delegates to register on a list that can be found on our desk.

Thank you Mr. Chairman.

The CHAIRMAN *(interpretation from French)*: Thank you for this announcement with regard to the invitation extended by the Austrian delegation to all delegations. I think it is for tomorrow after the conclusion of the session. Thank you.

Thus, I will shortly adjourn this meeting of the Committee. Before doing so, I would like to inform you of our schedule of work for the afternoon.

We will reconvene promptly at 3.00 p.m. At that time, we will continue our consideration of agenda item 7, Implementation of the Recommendation of UNISPACE III, 8, Report of the Scientific and Technical Subcommittee on its Forty-Third Session.

A representative of the Group on Earth Observations Secretariat will make a presentation under agenda item 8.

And we will also suspend the meeting at around 4.00 p.m. so that the Symposium on Space and Forests can commence, at 4.00 p.m. as envisaged in the programme.

Finally, I would like to inform you that the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Subcommittee will continue to hold its intersessional meeting this afternoon in Room C-0713. All interested delegates are welcome to attend.

Are there any questions or comments on this proposed schedule for the afternoon?

I see none.

This meeting is adjourned until 3.00 p.m.

The meeting adjourned at 12.30 p.m.