United Nations COPUOS/T.618

Committee on the Peaceful Uses of Outer Space

Unedited transcript

618th Meeting
Friday, 11 June 2010, 3 p.m.
Vienna

Chairman: Mr. Dumitru Dorin Prunariu (Romania)

The meeting was called to order at 3.11 p.m.

The CHAIRMAN: Good afternoon distinguished delegates. I have an announcement. As long as quite nobody was here at 2.30 p.m. to listen to information about the IAC 2011, one of the main organizers, on behalf of the IAF, my friend, Gérard Brachet, have the floor to inform you shortly about the Congress in Prague in 2010.

OK Sir.

Mr. G. BRACHET (International Astronautical Federation) *(interpretation from French)*: Thank you. We had, in fact, distinguished representatives and observers. We had intended to inform you briefly about the Workshop. The Workshop, immediately prior to the International Astronautical Congress each year, as you know, this year's Congress is organized in Prague and is scheduled for the month of September, late September. So the Workshop, which is jointly organized by the Office for Outer Space Affairs and the IAF, will take place on 24-25 September in Prague.

The Workshop this year will be devoted to satellite navigation systems and their applications. You know that we have had enormous developments in this area recently so we have request in great numbers. My friend, Sergey Chernikov, was saying earlier on that he got 110 out of which, and these, of course, from the whole world, we are going to select those that might received financial support and these are, of course, requests coming in from developing countries. We hope we will be able to provide such financial support from 30-odd participants and, of course, there are many other participants paying for travel and their subsistence in Prague themselves. We have a Local Organizing Committee in the Czech Republic. They are very active indeed and they are helping us organize the Workshop.

This is what I wanted to tell you.

Sergey? Something to add?

Mr. S. CHERNIKOV (Office for Outer Space Affairs): Thank you very much Gérard. I believe you gave a good overview and take into account the very limited time we have got. I think we deliberate too much but I would actually invite all delegates maybe to participate in this event by providing speakers or providing support.

As you mentioned, as Gérard mentioned that the topic of this Workshop is very relevant to most of the countries and I believe that participation in this meeting could be beneficial for everybody. Maybe some words also from the Local Organizing Committee.

Mr. M. VACLAVIK (Czech Republic): Hello everybody. We are also happy to invite everybody to Prague, all the experts in the Genesis(?) applications not only in the application in general of Genesis and we really have to welcome you their. And I would like to also take this opportunity to announce the presentation which will be organized for the whole IAC Congress and which is going to take place on 16 June from 1.00 p.m. to 1.30 p.m. in Room M07 in this building which will be jointly led by Mr. Professor Vladimir Kopal and the Head of the Czech delegation to COPUOS and also my colleague, Mr. Josef Sobra, from the Czech Space Office, who is also a Czech

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delegate to the COPUOS Scientific and Technical Subcommittee.

Thank you.

The CHAIRMAN: Thank you very much.

Now we have to begin the official side and ask for the bang.

Distinguished delegates, as you see, even our event it is very influenced by the world events. I hope this afternoon's will have always the delegates here for the session and not all of you will go for the world championship.

OK, I give the floor to the Russian Federation for one comment.

Mr. S. SHESTAKOV (Russian Federation) *(interpretation from Russian)*: Very brief, if I may. I really think that it was not planned so my statement was not scheduled either. But perhaps we should distribute such trumpets. It would really be a very useful gift.

The CHAIRMAN: Ecuador please.

Mr. F. SUÁREZ (Ecuador) *(interpretation from Spanish)*: Thank you Mr. Chairman. Well, during the last two events, Ecuador unfortunately did not participate so we can give you every assurance that we would have a full delegation here in the room. But those delegations with team participating in South Africa, we wish them every success. This gain celebrates fraternal relations via sports and we hope that these games will be full of fun, full of brotherhood and true sportsmanship.

Thank you Sir.

The CHAIRMAN: Thank you very much. I am sure the impact of the South African Championship will be high in connecting people, unifying ideas and helping for a better world.

I now start the session. I officially declare open the 618th meeting of the Committee on the Peaceful Uses of Outer Space.

This afternoon, we will continue our consideration of agenda item 5, General Exchange of Views, and continue and hopefully conclude agenda item 7, UNISPACE III. We will continue our consideration of agenda item 8, the Report of the Scientific and Technical Subcommittee on its Forty-Seventh Session, agenda item 9, the Report of the Legal Subcommittee on its Forty-Ninth Session, and agenda item 10, Spin-Off Benefits of Space Technology: Review of Current Status.

Time permitting, we will begin our consideration of agenda item 11, Space and Society.

There will be three technical presentations this afternoon. The first one by Japan on "Japanese Contribution for Disaster Management", the second one by the representative of the United States of America, Space Foundation on "An Introduction to the Space Foundation", and the third one by Turkey "TUBITAK: Scientific and Technological Research Council of Turkey on Recent Developments in the Field of Space in Turkey, UN/Turkey/ESA Workshop on Space Technology Applications for Socio-Economic Benefits".

Following the afternoon's session 6.00 p.m., a reception will be hosted by the Asia-Pacific Space Cooperation Organization, APSCO, in the Mozart Room in the VIC Restaurant.

I would like to request delegation's to kindly review and submit in writing to the Secretariat corrections to the provisional list of participants as soon as possible but no later than Tuesday, 15 June, at 1.00 p.m. The list was distributed yesterday in your pigeonholes.

Distinguished delegates, I would like to continue now our consideration of agenda item 5, General Exchange of Views.

The first speaker on my list is the distinguished representative of the Islamic Republic Iran, Mr. Seyed Mohammad Hosseini.

Mr. S. M. HOSSEINI (Islamic Republic of Iran) Thank you. Mr. Chairman, at the outset, I would like to extend my delegation's warmest congratulations to you on your election as Chairman of the Committee for the period of 2010-2011 and to the other members of the presiding Bureau, Madam Majaja and Ambassador Raimundo González Aninat, on their election as Vice-President.

Our gratitude also goes to Ambassador Yepes who ably led the work of the Committee over the past two years as well as other members of the outgoing Bureau, Mr. Suvit Vibulsresth and Mr. Filipe Duarte Santos.

The delegation of the Islamic Republic of Iran appreciates the Director of the United Nations Office for Outer Space Affairs, Madam Mazlan Othman, and all her able colleagues in the Office for their efforts to further promote international cooperation on the peaceful uses of outer space.

Likewise, my delegation appreciates the Secretariat for the excellent preparatory work for this session.

Mr. Chairman, Iran, as one of the first COPUOS members has constantly supported and contributed to the work of the Committee to uphold the fundamental principles governing on peace activities enshrined in the Outer Space Treaty and the related United Nations instruments.

The United Nations _____(?) provide that in the exploration and use of outer space, States shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space with due regard for the corresponding interests of other States.

The Islamic Republic of Iran is perfectly aware of the substantial contribution of satellite products to the well-being of all mankind and to the socio-economic development of all countries.

At the same time, we recall that these activities should be carried out in a manner compatible with the sovereign rights of States, including the principle of non-intervention as enshrined in the relevant United Nations instruments.

The Islamic Republic of Iran would also like to reiterate on the need for further international cooperation in order to maintain outer space for peaceful purposes and preventing a possible arms race there. Iran has already stated its position on this specific issue at various international fora. We do believe that if outer space, as the common heritage of mankind, must be used, explored and utilized for exclusively peaceful purposes and for the benefit and interest for all mankind in a spirit of cooperation and without discrimination.

To that effect, all efforts should be done in order to secure the use of outer space solely for the purposes of the well-being and prosperity of all nations around the world.

Mr. Chairman, I am so delighted to seize this opportunity to inform the Committee of the most significant developments of the Iranian Space Programme which took place over the past year since we met in June 2009.

On 3 February 2010, three new _____-made satellites, namely MESBAH-2, TOLOU and NAVID-E-ELM-O-SANAT unveiled.

These satellites are planned to be launched with our new domestic satellite launch, SLV, in the near-future. The new SLV, which is called SIMORGH, uses a cluster control with a thrust power of 143 tonnes and is able to inject satellites with 100 kilograms made in the orbits up to 500 kilometres.

On 3 February 2010, a domestically-manufactured sounding rocket with the most two turtles and some worms on board was successfully launched. The new sounding rocket called KAVOSHGAR-3, Explorer-3, included the life support system and cameras to monitor the condition and movement of the animals and to send back images from the rocket's exterior.

The three-metre long research rocket travelled beyond the Earth's atmosphere and parachuted back to Earth with the animals still alive and in perfect condition.

Alongside with its progress with scientific and technical programmes, the Islamic Republic of Iran placed the equal importance on capacity-building in space law. In this context, the Islamic Republic of Iran hosted a co-organized Workshop with the United Nations on Space Law, from 8-11 November 2009, in Tehran, on the theme of "Role of International Space Law in the Development and Strengthening of International and Regional Cooperation in the Peaceful Exploration of Outer Space".

We appreciate the Office for Outer Space Affairs for all its efforts for organizing this Workshop. My delegation is also grateful for the support extended by the Asia-Pacific Space Cooperation Organization.

Mr. Chairman, on the United Nations SPIDER Programme, my delegation would like to express its deep satisfaction on the progressive trend of its implementation. Given Iran's location in a disaster-prone zone, we recognize the considerable merit of the UN SPIDER Programme and supported it since the very beginning of its initiation.

In June 2009, a Cooperation Agreement has been signed between the United Nations Office for Outer Space Affairs and the Iranian Space Agency on the establishment of the UN SPIDER Regional Support

Office in the Islamic Republic of Iran. Now Iran is an active partner of the United Nations Office for Outer Space Affairs in the region to implement UN SPIDER and continues its support.

Mr. Chairman, to conclude, I would like to express our sincere hope for the successful and satisfactory conclusion of this session. I assure you, Mr. Chairman, of my delegation's fullest cooperation to this end.

Thank you very much.

The CHAIRMAN: I thank the distinguished representative of the Islamic Republic of Iran for his statement.

The next speaker on my list is the distinguished representative of Nigeria.

Mr. C. F. DUBEM (Nigeria): Thank you Mr. Chairman. Mr. Chairman, the delegation of Nigeria congratulates Mr. Dorin Prunariu on his election as Chairman of COPUOS. We also congratulate Ms. Nomfuneko Majaja and Ambassador González on their appointment to the Bureau. We assure you, Mr. Chairman, of our support into this meeting.

We commend the immediate past Chairman, Ambassador Ciro Yepes, and his entire Bureau for a successful term in office.

My delegation also commends the efforts of Professor Mazlan Othman, the Director of the Office for Outer Space Affairs, and her colleagues for the preparation of this session of COPUOS.

Mr. Chairman, in July 2009, the National Space Research and Remote(?) Agency of Nigeria successfully the 10 years office, a solution _____(?) the Government of Nigeria. To date, the Agency has carried out, in collaboration with relevant agencies and organizations, some projects using the NIGERIASAT-1 data, such as desertification monitoring in the North Sahara(?) region, _____(?) site mapping and monitoring in the south-eastern region, forest monitoring mapping in the south-west region and coastal region monitoring in the south-south region of the countries.

These projects demonstrate the abilities of space activities to the Nigerian citizens(?) with emphasis on how such activities are enhancing and will continue to enhance the productive capacity to our related quality of life of Nigerians.

Mr. Chairman, the major thrust of the Nigerian Space Policy and Programme is on space research and development because research is a foundation of national development. In this regard, I am glad to report that Nigeria is currently working tirelessly with Surrey Satellite Technology Ltd., of the United Kingdom, on the construction, testing and subsequent launch of NIGERIASAT-2 in October 2010.

NIGERIASAT-2, a high-resolution satellite to the revolution of 2.5 metres in the panchromatic channel and five metres in the multispectral channels, in four bands, will provide a mapping tool for Nigeria and the rest of the world.

Other panels(?) will be onboard the NIGERIASAT spacecraft is a _____meter(?) camera which will ensure potential data for medium-resolution data presently being provided by NIGERIASAT-1.

And the NIGERIASAT-2(?) satellite will also provide national, regional and global use such as NIGERIASAT-1 provided data for use in the management of Hurricane Katrina and the December2004 Indonesian Tsunami.

To be launched alongside the NIGERIASAT-2 is the NIGERIASAT-X, a medium-resolution ground _____(?) sensor, flights _____(?) model designed and built by Nigerian scientists and engineers using Surrey Satellite Technology Ltd facilities.

NIGERISAT-X will service the first demonstration of Nigeria's capability to develop, design and build its own satellite in the immediate future.

Mr. Chairman, Nigeria is pleased that the United Nations, through its Office for Outer Space Affairs, has continued to provide an avenue for interactions within the international community, not only to assess the progress so far attained in these areas, but also by providing support for the strategies and technologies for dealing with mechanisms such as disaster management.

Mr. Chairman, Nigeria continues its efforts in promoting international cooperation in the peaceful use of outer space _____(?) in November 2009. Nigeria successfully hosted the Third African Regional Conference of the International Academy of Astronautics, IAA, on the theme "Space for Africa: Joint Participation and Knowledge-Sharing". A total of 250 participants from 15 countries participated.

In addition, Nigeria, another African member State, actively contributed to the deliberations of the Third African Leadership Conference on Space Science and Technology, the ALC 2009, that was held in Algeria in December 2009. We take this opportunity to congratulate the Government and people of Algeria for hosting and organizing the Conference.

From the 30 November to 2 December 2010, Nigeria will host an International Symposium of the International Academy of Astronautics on the theme Nigeria International Symposium on the Equatorial Plane: Attributes and Characteristics". My delegation would like to use this opportunity to invite all COPUOS member States to participate at this very important Conference. The thematic focus on the Symposium are: one, the attributes and characteristics of the equatorial plane; two, observation of the soil(?) of equatorial including the harnessing of solar energy for X-Band and space-based human needs; three, the atmosphere and normally is within the equatorial region and effects of the equatorial ionosphere and troposphere on Satellite-X communications; four, space exploration utilization, understanding of the community space weather(?) _____(?) equatorial plane and along each of its orbits; five, the use of equatorial and _____(?) orbits for space exploration and applications, scientific, technological, cost comparison and advantages; six, learning from the experiences of other countries and space-related entities; seven, development, funding and international(?) mechanism of equatorial launch sites.

Mr. Chairman and distinguished delegates, Nigeria notes with satisfaction the progress made on the effective use of communication and meteorological satellites for disaster management and the _____(?) of the General Assembly that COPUOS should continue to deliberate on the issues of space systems-based disaster management support.

During the fifty-second of COPUOS in 2009, Nigeria reaffirmed its commitment to host the Regional Support Office for the implementation of the UN SPIDER Project in West Africa by entering into an Agreement with the Office for Outer Space Affairs on this subject.

Mr. Chairman, in an effort to institutionalize space technology for sustainable development in the Africa continent, Nigeria, South Africa, Algeria and Kenya signed an Agreement in 2009 in Algiers to realize an African Resource Satellite, African Resource Management Satellite Project.

Mr. Chairman, the Nigerian delegation noted the progress being made by the International Committee on Global Navigation and Satellite Systems, the ICG, as well as the Office for Outer Space Affairs, particularly in the promotion of the use global navigation satellite systems and their integration into a national (international?) infrastructure in developing countries.

We would like to report that Nigeria is actively participating in the African Reference Frame Project, AFREV(?). Subsequently, Nigeria already established 15 continuous operating Reference Stations that will be part of the AFREV Network. This will allow African universities to benefit from GNSS promising applications.

Mr. Chairman, my delegation would like to use this opportunity to thank the United States Space Command for its timely intervention on a version of disaster _____(?) collision with an errant space junk number 28955 on 2 January 2010. This is a significant step in international cooperation.

Mr. Chairman, distinguished delegates, my delegation supports the _____(?) of Tunisia(?) for membership of COPUOS and we hope this issue will be resolved speedily.

Thank you very much.

The CHAIRMAN: I thank the distinguished representative of Nigeria for his statement.

The next speaker is the distinguished representative of Saudi Arabia, Mr. Mohammed Ahmed Tarabzouni.

Mr. M. A. TARABZOUNI (Saudi Arabia) *(interpretation from Arabic)*: In the name of God, the Compassionate, the Merciful, Mr. Chairman, peace and God's blessings and mercy be upon you.

On behalf of the delegation of the Kingdom of Saudi Arabia, I thank you for affording me this opportunity to address you and the distinguished delegations, congratulations on your election to preside over this session as well as the Vice-Chairmen. I am confident that your experience and excellent conduct of our deliberations would lead us to positive results in this fifty-third session. I reassure you that we will fully cooperate with you.

It gives me pleasure to thank Madam Mazlan Othman and all her assistants in the Office for Outer

Space Affairs in their excellent preparation of this session. I wish her all success.

I appreciate the efforts exerted by the outgoing Chairman, Ambassador Arévalo Yepes, and all his Bureau in guiding the previous session to a success.

Mr. Chairman, it gives me pleasure to make this statement which coincides with the fifth anniversary of the ascension to the throne of King Abdul Aziz, as well as the twenty-fifth anniversary of the participation of the first Arab astronaut, His Royal Highness Prince Sultan Bin Salman, as an astronaut on the Discovery Shuttle Mission, S30S-51G in 1985 in order to launch the Arab communications satellite, ARABSAT-1B, as well as certain medical experiments with his French colleague, Patric Baudry.

The Kingdom of Saudi Arabia has signed and ratified the Treaty on Principles Governing the Activities of States in the Exploration, etc., the Convention on International Liability, etc.

Here I wish to announce at this session that the Saudi Council of Ministers, headed there by His Majesty the King, an accession which was held on Monday, 31 May 2010, has approved the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, as well as the Convention on the Registration of Objects Launched into Outer Space, as well as the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies. They are conventions which were adopted by the General Assembly.

My delegation insists on the use of outer space in peaceful purposes. Countries should not place objects in space which carry nuclear weapons or any WMD's in any orbit around the Earth, the Moon or celestial objects. The outer space is open to all and not inherited property. We should also make use of the outer space for peaceful purposes. And after the success of the First Conference on Outer Space and the Management of Water Resources, which was held in April 2008, as well as the announcement of the Prize of Prince Sultan Bin Abdul Aziz for Water, to the tune of US$30,000 every two years. This should meet in different countries of the world.

And the Council of the Prize has insisted on sharing this Prize with the United Nations, the Argentinian Space Agency and the ESA and a second conference will be held in March 2011 in Argentina.

Mr. Chairman, my delegation supports the adhesion of Tunisia to COPUOS as an active member, especially after we have heard the statement by the Tunisian delegation concerning the role of Tunisia in the field of the peaceful use of outer space. We are certain that Tunisian membership will help COPUOS.

Allow me to focus on some of the important points which require serious international cooperation and serious study to achieve progress. This does not mean that we should deflect from other subjects.

My delegation calls on this Committee, after 40 years have past, concerning the delimitation of outer space because this will contribute greatly to enriching the space law and aerospace law, as well as enhance cooperation between COPUOS, ICAO and UNIDROIT. Based on this principle, we need to consider the GSO whose use must be subjected to United Nations Conventions concerning outer space and international law for space as well as the ITU Regulations. Access to the GSO should be provided to all countries on a fair basis as well as the satisfaction of the need of developing countries. We should call on ITU to give us its opinions concerning the measurements which ensure access of all countries on a fair basis to the GSO.

All countries of the world have faced different catastrophes, volcano eruptions, earthquakes, floods, landslides. This led to loss of property and lives and had a negative impact on international, regional and local economies. Climate change in the past few year have inflicted a heavy toll. Saudi Arabia in this part, has met unusual weather conditions. We have had sandstorms which had negative health effects, as well as had an impact on aviation and road accidents. This led to the loss of lives and property. Heavy rainfall, five times the annual rate, have afflicted us in a very short period. We have had flash floods in many of the valleys which has taken a heavy toll of life and has damaged the infrastructure. Such catastrophes have hurt many countries and we extend our condolences to those families and countries which have lost citizens. And, therefore, we call for enhanced international cooperation, not merely theoretical cooperation, we call on the United Nations system as well as advanced countries, regional organizations, to set aside the means and the allocations in order to study the effects of climate change and natural catastrophes and to seek greater cooperation in order to assist the countries that have been afflicted.

Mr. Chairman, now that COPUOS has adopted the Guidelines on the Use of Nuclear Power Sources in Outer Space in its fifty-second session in

2009, countries which want to use nuclear power sources should do so in strict compliance with the Safety Standards and in keeping with the current status of outer space.

As for space debris mitigation, as well as the Working Paper submitted there by Ambassador Yepes on United Nations Space Policy, as well as the long-term sustainability of outer space activities, my country deems these to be important subjects and we urge that they be studied seriously and honestly. We hope to participate in the Committees which will examine these matters. We will present our views thereon when they come up for discussion in the future in the meetings of COPUOS, as well as the other subjects concerning space, such as space and society, space and water and climate change.

Mr. Chairman, my delegation has listened with great attention to the previous speakers. We wish to extend our thanks to them all and all participating delegations.

Thank you for your kind attention and I call on the Almighty to guide our Committee to success and assist it in realizing the aspirations of member countries in the use of advanced space technology to find solutions which provide prosperity, peace and security to all the people of the planet.

Thank you Mr. Chairman.

The CHAIRMAN: I thank the distinguished representative of Saudi Arabia for his statement.

The next speaker on my list is the distinguished representative of Brazil, Mr. Eduardo Da Costa Farias.

Mr. E. DA COSTA FARIAS (Brazil): Thank you Mr. Chairman. The Brazilian delegation would like to join previous delegations in congratulating you for chairing this session of the Committee on the Peaceful Uses of Outer Space and ensure you of the full cooperation of the Brazilian delegation.

We also associate ourselves to the statement delivered on behalf of the GRULAC by Venezuela.

After providing thousands of image from Brazil, China, in countries in South America and in Africa and having surpassed its estimated life time of two years, the satellite of CBERS-2B shut down its operations in April 2010, as officially announced by the National Institute for Space Research in Brazil, and the Chinese Bureau of Space Technology in China.

Since its launch on 19 September 2007, over 270,000 images from this satellite were distributed for free to users in Brazil and another 60,000 users from over 40 countries. Our language is generated by the satellite CBERS-2BR in the Data Centre of the IMP and can be assessed without charge via the Internet.

Mr. Chairman, during the twenty-seventh COS plenary, held in Thailand last November, the COS chairmanship for 2010 was handed over to the Brazilian National Institute for Space Research. COS priority actions have focused on climate-related observation of the atmosphere, ocean and land. These have included improvement of data calibration and validation, reprocessing of vast datasets, and improving availability of data and products to all countries. COS will continue to work with observing system partners to provide these measurements so as to provide all governs of information essential to developing mitigation and adaptation strategies.

Since the last meeting of this Committee in 2009, Brazil has remained firmly committed to extend the benefits of the peaceful use of space applications to as many of its sharers as possible with particular attention to the needs of developing countries. Of this goal, important results have been achieved in the last year in three main points.

In accordance with an agreement reached by the Brazilian and Chinese Governments during the GEO Ministerial Meeting in Cape Town in October 2007, Brazil and China have made important advances in 2009 through INPE and CRESTE(?) towards establishing a network of ground stations to cover the African continent and to provide free distribution of CBERS images to the African countries.

In 2009, INPE and CRESTE signed three agreements with the National Institute for Space Technology, the Council for Scientific Industrial Research, and the National Authority for Remote Sensing in Space Sciences, for the establishment of ground stations that will ensure the reception of the satellite CBERS images in the Canary Islands, South Africa and in Egypt respectively.

Recently, another important step was taken towards consolidating the CBERS Programme as an important instrument of cooperation for international developmental policy.

In April 2010, China and Brazil signed a Memorandum of Understanding that establishes that the Data Policy for CBERS satellites aiming at turning global to free distribution of its images. The goal is to provide the developing countries with the benefits from using satellite data which serve to better monitor the environment, assess deforestation, agriculture and urban development, among other applications.

In 2009, following its policy of free data distribution, the INPE(?) continued to supply images over Latin America and some parts of Africa for uses all over the world via the Internet.

In 2009, INPE has distributed 2,004 images totalling more that 700,000, 50,000 images since 2004. On 29 September last year, INPE has reached the mark of a million satellite images distributed free of costs.

Mr. Chairman, talks on the capacity-building, an Advanced Centre in Balay de Parai(?) in the Amazon region created at the end of 2008 became operational at the beginning of 2009. A project between INPE, the Brasilia Institute for Environmental and Natural Renewable Sources, IBAMA, the Brazil Agency for Cooperation and the Japan International Cooperation Agency has been approved in December 2009. It is a three-year project that foresees courses on tropical forest monitoring in three languages, English, Spanish and French, using the Amazon Rain Forest and Monitoring System of the Brazilian Pradas(?) Project.

Also in support of CBERS activity, a Memorandum of Understanding was signed in December 2009 between the FAO and INPE which envisages, among other objectives, cooperation to promote capacity-building activities for developing countries on issues related to land monitoring. The objectives of these activities will be to build technical expertise in developing countries and to help these countries in becoming autonomous in their land monitoring and reporting activities.

Additionally, it receives cooperation to ensure free satellite data distribution to enable consistent monitoring over time.

In this context, Brazil has advocated the agenda item related to international cooperation in promoting the use of space-derived geo-spatial data for sustainable development. I am advocating this proposal. Brazil's main purpose was to foster international cooperation in capacity-building so that developing countries will be able to better receive processed, analyzed and model product generation by space-derived geo-spatial data for sustainable development.

We hope that our parts will be especially by developing countries so that the goals set by UNISPACE III, another relevant initiative, will be fully attained.

Mr. Chairman, before concluding, we would like to announce our support to the candidacy of Tunisia as a member of the COPUOS.

And we would like to finish saying that recognition of outer space as the province of humankind stands as a necessary condition on the basis for cooperative and diverse in the peaceful use and exploration for the benefit of all nations.

Thank you.

The CHAIRMAN: I thank the distinguished representative of Brazil for his statement.

The next speaker on my list is the distinguished representative of Mexico, Mr. Sergio Camacho.

Mr. S. CAMACHO LARA (Mexico) *(interpretation from Spanish)*: Thank you Mr. Chairman. The Mexican delegation would like to join in with others having congratulated you on the occasion of your election to chair this Committee. We are very pleased to see you conduct the deliberations of the fifty-third session. We are certain that under your wise guidance, the Commission with full success will achieve its objectives and targets and we certainly wish to make a contribution so that you may achieve this.

We would like to pay tribute to the excellent work done by Ambassador Ciro Arévalo during his term in office as Chairperson of the Committee and the valuable contributions to our work.

In the same manner, we would like to thank Mr. Suvit Vibulsresth and Mr. Filipe Duarte Santos, members of the outgoing Bureau, for their contribution to the full success of previous sessions.

My delegation likewise congratulates the new incoming members of the Bureau for 2010-2011, Mr. Nomfuneko Majaja and Ambassador Raimundo González.

And in the same way, we declare our readiness to give them every assistance when they discharge their duties.

We would like to express our thanks to the Director of the Office for Outer Space Affairs, Dr. Mazlan Othman, and her team, for the excellent arrangements made for this session of the Committee and the very effective work done throughout the year.

My delegation would like to point out that it supports the statement made by the Ambassador of Costa Rica on behalf of GRULAC.

Mr. Chairman, 2010 is of special significance for Mexico due to the fact that there will be very significant multilateral meetings in the context of the bicentennial of our independence and the centenary of the Mexican Revolution, in addition to the Conference of Plenipotentiaries of the International Telecommunication Union to be held in Guadalajara, Jalisco, and the Sixteenth Convention of the United Nations on Climate Change, also known as COP-16, in Cancun, from 29 November to 10 December.

Mexico will be pleased to organize the Sixth Space Conference of the Americas to be held form 15-19 November in the city of Pachuca. And this include an international affair. There will be contributions from space aeronautics technology and information and communication technology.

It is well-known that one of the means of setting aside space for peaceful purposes is to promote international cooperation. The Space Conference of the Americas is a mechanism through which international cooperation for peaceful purposes is promoted.

In respect of the organization of the Sixth Space Conference of the Americas, this delegation is pleased to inform the Committee that the National Organizing Committee for the Conference and the official announcement of this meeting took place on 4 February and 11 May respectively of 2010, at Headquarters, in the Chancellory.

The organization of the Sixth Space Conference has generated very positive expectations in terms of aerospace applications and telecommunications in Mexico, particularly the possibility that Mexico will be taking over the Pro Tempore Secretariat of the Sixth Space Conference of the Americas. Indicative of that expectation is the fact that the National Organizing Committee brings together 30 public, private, academic institutions, as well as those from civil society.

In preparation of the Sixth Space Conference, Mexico has participated in two meetings of the so-called Troika, that is the past, present and future Pro Tempore Secretariats, in this case, Colombia, Ecuador and Mexico. These were held on 16 and 17 December 2009 and 27 and 28 May 2010 in the context of the third and fourth meetings of the International Group of Experts of this Conference with the Pro Tempore Secretariat of the Fifth Space Conference in Quito and Cuenca, Ecuador, as we were told by the representative of Ecuador when he spoke this morning. In both cases, major progress was achieved in terms of organizing the Conference.

This delegation would like to highlight the recognition of the Government of Mexico, to Minister Fernando Suárez Moreno, the Pro Tempore Secretary of the Fifth Space Conference of the Americas, and the members of the International Group of Experts of the Conference for their valuable contributions during the Troika Meeting in Ecuador in order to give momentum to the Space Conference of the Americas throughout the region.

Sir, the Mexican delegation would like to have the Office for Outer Space Affairs of the United Nations support the organization and participate in the Sixth Space Conference of the Americas and we are able to announce that an invitation will be forthcoming for the Office.

My delegation is pleased to inform the Committee that the organization of the Sixth Space Conference dovetails with the establishment of the Mexican Space Agency so it gives us great pleasure to announce to this Committee that draft legislation creating the Mexican Space Agency was adopted by our Congress in April this year. Therefore, the Bill has gone to the executive power of the nation, to be signed and subsequently published in the Official Bulletin.

My delegation, Sir, will subsequently ask to speak on other agenda items when the proper time comes to do so.

Thank you Mr. Chairperson and distinguished delegates.

The CHAIRMAN: I thank the distinguished representative of Mexico for his statement.

The next speaker on my list is the representative of the Secure World Foundation, Mr. Ray Williamson.

Mr. R. WILLIAMSON (Secure World Foundation): Mr. Chairman, on behalf of the Secure World Foundation, I would like to offer congratulations on your election as Chairman of this Committee. We look forward to your guidance of the Committee's work for the next two years

I would also like to congratulate Ambassador Ciro Arévalo-Yepes of Colombia on his distinguished chairmanship of this Committee over the past two years. Among other activities, he has played an important role in enhancing the knowledge of COPUOS activities in external organizations.

I also note the continued excellent work of the Office for Outer Space Affairs under the direction of Dr. Mazlan Othman. We are confident that this Committee and the Office for Outer Space Affairs will continue successfully to provide support for the peaceful uses of outer space resources, especially for emerging space States.

Secure World Foundation is pleased, once again, to attend this Committee meeting as a permanent observer. In all of our work, we actively promote the development of sound policies to support the long-term sustainability of outer space activities and the peaceful use of space activities for the benefit of Earth and its peoples. Today, I would like to summarize just a few of this year's activities so far in the four major themes in which we are active.

The first theme is space sustainability, ensuring that all humanity can continue to use outer space for peaceful purposes and socio-economic benefit.

Our first product is "Space Sustainability: A Practical Guide". Space sustainability is our overarching theme and in support of it, this spring we developed a small guide to space sustainability. The Guide describes the many concerns about the continued sustainability of outer space activities and summarizes the efforts being made to achieve and maintain this important goal. We have put copies of this booklet on the table outside this room and we welcome feedback on it. I see that they are gone today and we will provide more of those copies on Monday.

The next item is the Cologne International Interdisciplinary Space Debris Congress. Limiting the growth of orbital debris is one of the single most important elements of ensuring long-term sustainability. This April, representatives from Secure World Foundation helped plan the Cologne Congress. This event was the second in a planned series of workshops dealing with the problem of establishing next steps in limiting creation of space debris. The first Congress, which was held in Montreal in the spring of 2009, brought together a multidisciplinary group of experts to discuss potential mechanisms to implement the United Nations Space Debris Mitigation Guidelines. In the Cologne Congress, 30 experts with backgrounds in engineering, policy, law, and science continued the work of the Montreal event. The Congress produced a Declaration summarizing a set of recommendations, including means to implement the existing United Nations Space Debris Mitigation Guidelines, especially recommending that all States should make the long-term sustainability of space a policy priority.

The next event was Space Security 2010: From Foundations to Negotiation. Secure World Foundation has worked with the United Nations Institute for Disarmament Research, or UNIDIR, on space security matters for the past five years. This year, we were very pleased to partner once again with UNIDIR, the Simons Foundation and the Governments of China and Russia on the 2010 Space Security Conference in Geneva. This event was specifically aimed at expanding knowledge of foundational space security issues among the Geneva diplomats in order to provide the basis for future space security work.

Next is the Space Security Index which you heard about yesterday. Secure World Foundation, along with the Government of Canada, the Simons Foundation, and Project Ploughshares, has contributed directly to the research, writing and production of the 2010 Space Security Index report. As well, we have contributed significant financial resources to the report effort. This report is the premier analytic summary of space security-related activities around the world. Secure World Foundation is proud to have contributed to this important document, the latest version of which can be downloaded for free from http://www.spacesecurity.org. Copies of the report's Executive Summary are available on the table outside this room, or will be on Monday since I noticed they are also gone.

And finally in this section, "The Crowded Sky Planetarium Shows". Finally, there is a need to communicate to the broader public the challenge that increasingly crowded orbits present to safe and secure operations in space. Hence, Secure World Foundation has partnered with One Earth Future Foundation and the Fiske Planetarium of the University of Colorado to develop two short planetarium shows that: one, demonstrate visually the increasing crowding of low Earth and geosynchronous orbital regimes; and, two,

illustrate the life cycle of satellites from development through operations on orbit to end of life. The first show is nearly complete and will be shown this summer in Boulder, Colorado. The second will be completed this November. When complete, these shows will be made available for free to the roughly 850 planetariums around the world. I would be happy to provide further information on these two shows for interested delegates.

The second theme that Secure World Foundation works on is "Space Policy and Space Law Development" through assisting emerging space States develop effective space policies.

And this spring we held a Workshop in Colombia entitled "Towards Space Policy in Colombia". It was held at the University Sergio Arboleda in Bogota, Colombia. This seminal gathering of officials was organized by Secure World Foundation, the Universidad Sergio Arboleda School of Law, the Research Group CREAR, and the University Astronomical Observatory. Our Colombian colleagues view this Workshop as a major step towards establishing a Colombian space policy, as well as an additional impetus towards coordinated policies for the use of space throughout Latin America. Some 40 Colombians and others authorities from across the region attended the meeting, including deputies of various Colombian agencies involved in space activities.

Meeting participants discussed several major principles for a sound space policy, with several measures on the table for consideration by emerging space countries, such as: one, ratifying the 1967 Treaty on Outer Space and later international agreements; two, incorporating treaty provisions in State law and regulations; three, taking active part in the United Nation's Committee on the Peaceful Uses of Outer Space and its Subcommittees; four, contributing constructively to other international space-related organizations; five, taking an active role in assuring the long-term sustainability of outer space; six, adhering to orbital debris guidelines; and, seven, becoming an active participant in technical committees focused on sustainability.

The recently held Colombian Space Policy Workshop built upon a November 2009 gathering of experts convened by Secure World Foundation and the Regional Centre for Space Science and Technology Education in Latin America and the Caribbean, CRECTEALC. The Mexico Workshop called attention to progress in Latin America towards developing national space policies, and set the stage for holding the Colombian Workshop, noting the increasing use of space applications, such as Earth remote sensing to help ameliorate the devastating impacts from natural disasters.

We also this spring a Conference on Space Law and Policy entitled "Space Law and Policy 2010. It was focused on crafting appropriate law to support policy as an important part of establishing sound practices towards activities in outer space. In May 2010, we held this Conference in May 2010, along with the International Institute of Space Law, the International Academy of Astronautics, the European Space Policy Institute and Arianespace. It was a high-level event focused on space law in the United States context primarily.

Among other topics, the Conference discussed the challenges to the regulation of future space activities and how the national and international regimes on space regulations interact with each other. I am happy to say that we were able to have Ambassador Ciro Arévalo Yepes give a keynote address on approaches towards a United Nations Space Policy, which was very well received by the Group. This event brought together United States Government, international and commercial players to highlight the mix of interests that will be essential to balance as the community moves forward in securing the long-term sustainability of space activities.

Item 3, Support of human and environmental security through maximizing the international cooperative use of space systems for the benefit of humanity. This July, we will be partnering with UN SPIDER on a Regional Workshop in Addis Ababa, Ethiopia. The disaster management agencies in Africa have to adapt to an increasing number of natural disasters caused mainly by floods and drought. The effects of global climate change will most probably aggravate this situation and substantially increase their economic impacts, threatening the livelihoods of increasing numbers of people. The UN SPIDER Regional Workshop, which will be sponsored by Austria and Secure World Foundation, will bring together 60 to 80 decision-makers and senior experts from African countries. It will focus on the following objectives which have been outlined in the Framework and Implementation Plan for activities in Africa 2010:

One, to discuss climate change in Africa with special emphasis on the contribution of space-based technologies to mitigate the impact and enhance adaptation to global climate change and land degradation.

Two, to capture and harmonize the various existing initiatives that are contributing to helping African countries access and use space-based technologies for disaster management and risk reduction as well as to explore possibilities of capacity development and institutional strengthening.

And, three, to develop a strategy to engage the support of Regional Support Offices and National Focal Points in contributing to capacity-building and institutional strengthening through the use of space-based information technology.

And in this arena, we also support or in partnership with Imaging Notes Magazine. We have continued that partnership this year because we think it furthers the effective use of space systems in support of human security. Copies of the Spring issue of this magazine can be found on the table outside this room. It is also available online at www.imagingnotes.com. I encourage delegates to consult the Imaging Notes website for information on the applied use of remote sensing systems throughout the world. We would welcome articles that highlight your country's efforts in making use of Earth observing systems to serve humanity. And you can contact me to make that possible.

And then fourth, our efforts in planetary defence or promoting a unified international policy approach to protection of our planet from the threat of near-Earth objects.

During the June 2009 UN COPUOS plenary session, Action Team 14 recommended a Workshop to discuss the make-up and responsibilities of an International Analysis and Warning Network entity. Secure World Foundation offered to work with the Association of Space Explorers and with CRECTEALC in organizing a Workshop for January 2010, which was hosted by the Mexican Ministry of Foreign Affairs. The Workshop brought together 22 experts from several countries. The Group spent two and a half days working through a series of scenarios designed to highlight the challenges and problems that an eventual International Analysis and Warning Network could face and thus begin the process of defining what the IAWN should be, what should compose that Network. The Workshop produced a number of recommendations, including the range of capabilities and expertise that would be necessary to include in such a Network, the need to leverage existing disaster management and emergency response communication channels and interfaces, and an effective public information campaign on the risk and public expectations and warnings. The report also discussed possible institutional models and implementation strategies. An executive summary with these recommendations and areas for further research and discussion was presented to the meeting of Action Team 14 and the Working Group on Near-Earth Objects during the February 2010 Scientific and Technical Subcommittee.

Finally, this year we have recognized the need to improve the functionality and information content of our website in order to provide better access to our fact sheets, our policy briefs, reports and staff publications. As a result, we are now in the process of completely revising our website. We hope to have this new website available for viewing by this coming September and I invite you to visit it.

In conclusion, Secure World Foundation is dedicated to maintaining the secure and sustainable use of space for the benefit of Earth and all its peoples. It acts as a research body, a convener and facilitator to advocate for key space sustainability and other space-related topics and to examine their influence on governance and international development. The Foundation believes that the challenge of sustaining the space environment into the future must be dealt with in a truly international manner.

Secure World Foundation strongly supports the work of COPUOS. As the benefits of space activities expand and improve, keeping outer space available for peaceful activities will become ever more important. As we move into the last half of the first hundred years of the space age, the world community has a unique opportunity to safeguard the secure and sustainable use of the space environment. We look forward to continuing to support the Committee's efforts to achieve such a future.

Many thanks to you, Mr. Chairman and to all the delegates.

The CHAIRMAN: Thank you Mr. Williamson for your statement on behalf of the Secure World Foundation.

Is there any other delegation wishing to speak under this agenda item at this afternoon's meeting?

I see none.

We will continue and conclude our consideration of agenda item 5, General Exchange of Views, on Monday morning.

Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, UNISPACE III (agenda item 7)

Distinguished delegates, I would now like to continue and hopefully conclude our consideration of agenda item 7, Implementation of the Recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, UNISPACE III.

The first speaker on my list is the distinguished representative of Nigeria.

Mr. J. O. AKINYEDE (Nigeria): Thank you Mr. Chairman. My delegation wishes to express its satisfaction to the Committee's handling of the implementation of UNISPAC III recommendations and also commends the Committee for some of the outstanding achievements recorded to date. Among these achievements are the establishment and accomplishments of the Action Teams, such as near-Earth objects, the United Nations Platform for Space-Based Information for Disaster Management and Emergency Response, the International Committee on Global Navigation Satellite Systems, the Space Debris Mitigation Guidelines, as well as the relationship between COPUOS and the Commission on Sustainable Development and the contributions of this Committee to the work of the Commission.

At the regional level, the 1986 initiative to establish the African Leadership Conference on Space Science and Technology for Sustainable Development, ALC, was further enhanced through UNISPACE III recommendation on regional cooperation. The ALC was established at Abuja, Nigeria, in 2005 and with its conferences were on a theme "Building Partnerships in Space in Africa". The ALC has continued to be used as a forum to promote space-based activities that will impact on sustainable development in Africa, particularly through the joint efforts of Algeria, Nigeria, Kenya and South Africa.

Accordingly, the first, second and third ALC were hosted by Nigeria, South Africa and Algeria in 2005, 2007 and 2009 respectively Kenya is planning to host the bi-annual event in October 2011.

The ALC is also being used as a platform to promote the quick implementation of the African Resource Management Satellite Constellation through joint participation and knowledge-sharing.

Nigeria remains committed to the implementation of the UN SPIDER in the West Africa sub-region through the programmes of the Regional Support Office in Abuja, Nigeria. The RSO was involved in the following activities in the year 2009.

First, an Administrative Office was created and automated for the UN SPIDER Regional Support Office to enhance the efficient delivery of space-based disaster management services.

Second, a dedicated website was developed for the Regional Support Office for dissemination and other outreach activities.

Third, awareness of the activities of the UN SPIDER Programme was disseminated within the _____(?) sub-region.

Four, staff of the Regional Support Office participated in capacity development Workshops, such as the International Charter Space and Major Disasters, authorized _____(?), an Expert Workshop to consider and validate the draft Plan of Action for the implementation of ECOWAS Policy on Disaster Risk Reduction.

And finally the Regional Support Office participated in the UN SPIDER-led Technical Advisory Mission to Togo following an invitation from the Government of Togo.

The RSO has also facilitated the establishment of a collaborative network, West African Regional Information Coordination and Monitoring Organization, ROWECMO(?), for the purpose of space-based data-sharing and environmental monitoring in the West Africa sub-region.

Similarly, Mr. Chairman, I wish to brief this Committee of a wide-range of space application research projects being brought upon Nigeria through the National Space Research and Development Agency, as part of its efforts to maximize the benefits of the implementation of the recommendations of UNISPACE III.

Among these research projects, which have been undertaken in collaboration with some universities within and outside Nigeria, are: one, the development of models for food security early warning in Nigeria; two, environmental change and air pollution due to gas flaring and oil exploration in the Niger Delta; three, the determination of the natural/ecologic/hydrologic and natural _____(?) factors responsible for water resource depletion in the

Lake Chad district; four, research on African human tri_____(?) to determine its vector and spread in Nigeria; and five, a revision of the National Land Use Land Cover Map of Nigeria at a scale to one to 100,000 using NIGERISAT-1 in collaboration with the Office of the Secretary-General of the _____(?).

These projects were (not?) completed. We have far-reaching practical implications in the areas of improved agricultural production, health care delivery, wealth creation, pro_____(?), sustainable resources and environmental management and improvement of daily life in Nigeria.

I thank you Mr. Chairman.

The CHAIRMAN: I thank the distinguished representative of Nigeria for his statement.

Is there any other delegation wishing to speak under this agenda item at this afternoon's meeting?

I see none.

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

Report of the Scientific and Technical Subcommittee (agenda item 8)

Distinguished delegates, I would like to continue our consideration of agenda item 8, Report of the Scientific and Technical Subcommittee on its Forty-Seventh Session.

I would like to open the floor for statements and the first speaker on my list is the distinguished representative of Japan, Mr. Yasushi Horikawa.

Mr. Y. HORIKAWA (Japan): Mr. Chairman, distinguished delegations, on behalf of the Japanese delegation, I am pleased to have the opportunity to address the fifty-third session of COPUOS. Japan is pleased to announce its support for the report adopted by the forty-seventh session of the Scientific and Technical Subcommittee.

I would like to express our deep appreciation and respect to the Chairman of the Subcommittee, Mr. Ulrich Huth, and for the excellent work of Dr. Mazlan Othman, and her staff at the Office for Outer Space Affairs.

Mr. Chairman, first I would like to express my heartfelt condolences for the recent lives lost due to the earthquakes in Haiti, Chile and Qing Hai, China.

I would also like to extend my deepest sympathy to the families of the victims.

In the aftermath of these tragic events, JAXA was first on the scene and offered prompt damage information by providing data from the Advanced Land Observing Satellite, LOS-DAICHI, through the International Charter.

JAXA also provided this data to the GEO Secretariat and thereby received a special letter of appreciation by Dr. José Achache, the Director of the GEO Secretariat.

When Iceland's volcano erupted, DAICHI observed the volcano urgently and we then provided that data through the International Charter as well.

On 15 April, the Greenhouse Gases Observing Satellite, IBUKI, also took images of the fumes blowing over Iceland and other European countries and of a major eruption on the 17th through its Cloud and Aerosol Imager, so-called, TANSO-CAI. We were asked by the British Government to provide this observation data for verifying a prediction model and offered the processing of these images accordingly.

Through these activities, we have renewed our awareness of the importance of space technology for disaster management.

Japan believes that taking satellite images without delay, as well as constructing the management system of space data acquisition and deliver it to those affected by natural or man-made disasters, should be one of its top priorities.

Japan currently promotes the Sentinel-Asia Project that utilizes satellite data such as DAICHI imageries to support disaster management in the Asia-Pacific region which was initiated through the APRSAF.

Thus far, about 70 emergency observations have been carried out within the framework of the Sentinel-Asia.

Since January 2008, the second stage of Sentinel-Asia, called Step II, has been carried out and its activities for disaster management support have been going smoothly.

Originally, in the Sentinel-Asia Step I phase, only JAXA was providing satellite imaging but later the Indian Space Research Organization, ISRO, joined force. In Step II, the Korea Aerospace Research Institute, KARI, and the Geo-Informatics and Space Technology Development Agency, GISTDA, of Thailand, have started to provide satellite images to Sentinel-Asia.

Additionally, in Step II, Japan is also working on a high-data-led satellite communication system by using the launched Japanese satellite wide-band Internet working and engineering test and demonstration satellite we called KISNA in Japanese.

We expect more expansion of the use of Sentinel-Asia. We expect that Sentinel-Asia will contribute to the GEOS 10-Year Implementation Plan which calls for the promotion of data used in disaster alarm systems for the mitigation of disaster damage.

Sentinel-Asia was already recognized as an early achievement of GEOS, as the Earth Observation Summit in November 2007. In addition, Sentinel-Asia is also composed of one of the system of systems which is the principle concept of GEOS, through harmonization with the International Charter.

We will continue our efforts to make Sentinel-Asia more effective and user-friendly by taking full account of discussions held at the Joint Project Team Meetings, JPT Meetings, of the Sentinel-Asia Project in the hopes that more governments and institutions will make use of the project.

Japan hopes that the activities of Sentinel-Asia including the results and lessons learned from it can provide useful ideas and a model for disaster management support activities in other regions where there have not been initiatives similar to Sentinel-Asia.

Meanwhile, Japan will continue to introduce this project through COPUOS.

Japan has been promoting the Sentinel-Asia project, together with the Asian Disaster Reduction Centre, ADRC, which has various experience of disaster management capacity development in Asia.

The ADRC is a focal point of receiving requests for emergency observation of the Sentinel-Asia project in Asia and it became a Regional Support Office of UN SPIDER last June. The ADRC despatches lecturers to seminars for utilization of satellite images within the framework of Sentinel-Asia and also conducts capacity-building projects of disaster management for ASEAN countries by using satellite images for its own activities.

In terms of expanding ranges of satellite image utilization for disaster management support activities, I believe these activities contribute very much to the progress of the UN SPIDER Programme.

Mr. Chairman, two years ago, at APRSAF-15, two brand new initiatives were established. One of the team is the project called “The Space Applications for Environment” or the SAFE Project. The purpose of this project is to contribute to the GEOS in nine societal benefit areas through the observation of climate change and its effects on human activities and the environment. We have already received requests from relevant organizations in the Asia-Pacific region for long-term environmental monitoring, such as for land covering, forestry, water cycle, biodiversity and glacial lakes.

In 2008, we started a SAFE pilot project with Viet Nam in the field of water resources management and land use monitoring. We also started projects with Cambodia, Laos, Sri Lanka and Indonesia in 2009 concerning water cycle, forests, sea levels, ice(?) and drought monitoring.

In working together with other interested countries, we hope to expand the SAFE Project in its scope of activities and in the number of participating countries.

The other initiative is called “The Satellite Technology for the Asia-Pacific Region”, or STAR. It is designed to support building capacity for developing satellites in developing countries in the Asia-Pacific region. The activities of this Programme began in April of last year on the JAXA Sagamihara Campus in Japan. So far, scientists and engineers from India, Korea, Indonesia, Thailand and Viet Nam have participated. The trainees of the Programme are now on-the-job trained.

Last December, the Second Technical Workshop of the STAR Programme was held in Bangkok. In the future, we expect that the satellites developed by countries participating in this Programme will contribute to Sentinel-Asia.

Last September, a JAXA specialist of the STAR Programme participated in the Symposium on Small Satellite Programme for Sustainable Development in Graz, Austria, under the United Nations Programme on Space Applications, and gave a comprehensive presentation on the STAR Programme.

Additionally, Japan has contributed to the United Nations Programme on Space Applications activities related to small satellites.

Regarding the issue of space debris, Japan would like to express its deepest respect for the COPUOS Space Debris Mitigation Guidelines which has been endorsed in the United Nations General Assembly resolution 62/217.

Japan will continue to make efforts to mitigate space debris. We hope other nations will steadily implement the COPUOS Guidelines.

Japan is developing the QUASI-ZENITH Satellite System, QZSS, and is utilizing the Multi-functional Transport Satellite-based Augmentation System, MSAS.

Japan will continue to participate in the International Committee on Global Navigation Satellite System, ICG, as a member country.

What is more, the launch of the first QUASI-ZENITH satellite, QZS-1, named MICHIBIKI, is scheduled for this year. I am convinced that it will contribute to an upgrade in positioning satellite technologies and consequently contribute to a safe and secure society.

Mr. Chairman, we think it is very important to have a long-term vision and to contribute to creating a prosperous society by participating in these international activities. From this viewpoint, we would like to express our respect for the efforts of the United Nations systems in these fields.

We would especially like to express our admiration and hope for long-term sustainability in space activities which has become an agenda since the last session of the Scientific and Technical Subcommittee. Japan will do its best to contribute to this agenda with our technical background. Japan intends to promote international cooperation with members and observers of the United Nations COPUOS so that the benefits derived from space activities can also be enjoyed by the full of humankind.

Thank you for your kind attention.

The CHAIRMAN: Thank you Dr. Horikawa for your statement on behalf of Japan.

Now I have the pleasure to give the floor to the United Nations Expert on Space Applications, Mr. Takao Doi, to update on activities under the Programme on Space Applications of the Office for Outer Space Affairs. Please Takao.

Mr. T. DOI (Expert on Space Applications, Office for Outer Space Affairs): Mr. Chairman, thank you very much for this opportunity to address the distinguished delegates of the Committee on the activities of the United Nations Programme on Space Applications.

Congratulations to you and the other members of the Bureau on your election to Chair this Committee. Together with my colleagues in the Space Applications Section, we accord to assisting you in implementing the mandated activities of the United Nations Programme on Space Applications.

Mr. Chairman, and distinguished delegates, the United Nations Space Applications Programme is successfully conducting a diverse range of activities set forth for 2010 and is laying the foundations for activities planned for 2011. Our efforts focus on the priority thematic areas with specific topics addressing sustainable development for developing countries.

The priority themes of the Programme on Space Applications are: training for capacity-building in developing countries; natural resources management, and the environmental monitoring; enabling space technologies and space science and space law.

The Programme continues to support the Regional Centres for Space Science and Technology Education affiliated to the United Nations. The Programme tasked(?) the Regional Centres in strengthening their Governing Boards with the aim of increasing financial and technical support to the Centres from the regions.

Pursuant to the recommendations of UNISPACE III, the International Committee of Global Navigation Satellite Systems, ICG, was established with the continuous support of the Programme. Over the past five years, ICG has already made progress towards achieving compatibility and interoperability among global and regional space-based positioning, navigation and timing systems.

ICG is also promoting the use of global navigation satellite systems and their integration into national infrastructure, particularly in developing countries. The Office for Outer Space Affairs continues to service the Executive Secretariat of the ICG and its Providers Forum. In addition, it organizes

informal and formal meetings for the ICG, the Providers Forum and the ICG Working Groups.

Following the recommendations of the Committee and ICG, the Programme organized annual workshops on global applications of GNSS. These workshops also help in the development of education curriculum, GNSS for the United Nations-affiliated Regional Centres and make contributions to the practical applications of GNSS for exploring space weather phenomena in the ionosphere which are critical to the operation of communications and navigation satellite systems.

Since UNISPACE III, many developing countries have gained knowledge and experience in utilizing in various forms of space technology and are ready to play a proactive role in advancing space science and technology to benefit the world.

To take advantage of this new space era, the Programme has launched one initiative and is ready to launch two new initiatives. The first one is called "The United Nations Basic Space Science Initiative, UNBSSI. The two new initiatives are "The Basic Space Technology Initiative", BSTI, and "The Human Space Technology Initiative", HSTI. Starting in 1990, the United Nations Basic Space Science Initiative, UNBSSI, has contributed to the international and regional development of astronomy and space science through annual workshops on basic space science, the International Heliophysical Year, IHY 2007, and the International Space Weather Initiative, ISWI. This also led to the establishment of planetariums, astronomical telescopes and IHY/ISWI instrument arrays, particularly in developing countries.

The Based Space Technology Initiative, BSTI, will support capacity-building in basic space technology with a specific focus on small satellites and their applications. The Programme is going to develop a curriculum for basic space technology and will work with educational institutions around the world to identify long-term fellowship opportunities. It will build on the recommendations of the series of the United Nations/International Academy of Astronautics, IAA, Workshops on Small Satellites in the service of developing countries, and on the outcome of the United Nations/Austria/ESA Symposium on Small Satellite Programmes for Sustainable Development.

The International Space Station, ISS, is almost complete and a six-member crew started working there last year. Congratulations are in order for one of the biggest endeavours humans have ever attempted in space. The ISS is an excellent facility for research on science and technology and a unique symbol of international collaboration. For these reasons, UNISPACE III recommended worldwide participation in the ISS Programme. It is time to start implementation the UNISPACE III recommendations on the utilization of the ISS for the entire world. Therefore, the Programme is now ready to launch, the Human Space Technology Initiative, HSTI, in which the users of the ISS can be expanded around the world.

We hope that these new United Nations initiatives will play more important roles in the coming year to benefit the world with the utilization of space science and technology.

Mr. Chairman, and distinguished delegates, the status of the year 2009 activities under the Programme on Space Applications and those planned for 2010 can be found in my report to the forty-seventh session of the Scientific and Technical Subcommittee, A/AC.105/969.

My statement today deals with the more recent work of the Programme on Space Applications and make proposals for 2011.

In 2010, the Programme has successfully completed one activity so far, the United Nations/Moldova/United States of America Workshop on the Applications of Global Navigation Satellite Systems, was held in Chisinau, the Republic of Moldova, from 17-21 May.

There are seven other workshops, symposium, expert meetings to be held during the remainder of 2010. These include the following: the United Nations/Turkey/ESA Workshop on Space Technology Applications for Socio-Economic Benefits, will be held in Istanbul, the Republic of Turkey, from 14-17 September; the United Nations/Austria/ESA Symposium on the Use of Small Satellites for Sustainable Development: Payloads for Small Satellites Programme, will be held in Graz, the Republic of Austria, from 21-24 September; the United Nations/International Astronautical Federation (IAF) Workshop on GNSS Applications for Human Benefits and Development, will be held in Prague, the Czech Republic, from 24-25 September; the United Nations/International Academy of Astronautics Workshop on Small Satellites in the Service of Developing Countries will be held in Prague, the Czech Republic on 28 September; the United Nations/Bolivia/Switzerland/ESA Workshop on Integrated Space Technologies in the Mountain Regions of the Andean Countries, will be held in Cochabamba, the Plurinational State of Bolivia, from

25-29 October; the United Nations/NASA/JAXA Workshop on the International Space Weather Initiative will be held in Luxor, the Arab Republic of Egypt, from 6-10 November; the United Nations/Malaysia Expert Meeting on the Human Space Technology Initiative, will be held in Putrajaya, Malaysia, from 22-26 November.

For 2011, member States have indicated their interest in hosting conferences, workshops and symposia as follows: International Conference on Water Management in the Argentine Republic; Workshop on Tele-Health in the Islamic Republic of Iran; Workshop on Natural Resources Management in the Syrian Arab Republic; UNA/IAF Workshop in the Republic of South Africa; United Nations/IAA Workshop in the Republic of South Africa; Symposium on the Basic Space Technology Initiative in the Republic of Austria; Workshop on the International Space Weather Initiative in the Federal Republic of Nigeria.

Mr. Chairman and distinguished delegates, I have presented to you a brief review of the major activities carried out under the Programme on Space Applications. We have achieved significant success but many challenges remain. International cooperation in assembling human resources, technical capabilities and financial resources is essential. Our success in overcoming these challenges depends upon support from many of our partners.

I thank the member States for your contributions of human resources as well as financial and technological resources and I appeal once again to the member States and other organizations to contribute to the Voluntary Trust Fund of the Programme on Space Applications.

In conclusion, the Programme on Space Applications continues to identify ways to promote space science and technology, to build the capacity in developing countries. I would also like to make you aware that the United Nations Programme on Space Applications will observe its fortieth anniversary next year in 2011.

We will be exploring further ways to make the Programme stronger for the benefits of all humanity.

Thank you very much for your attention.

The CHAIRMAN: I thank you very much the Expert on Space Applications for his presentation.

Distinguished delegates, is there any other delegation wishing to speak under the agenda item 8, the Report of the Scientific and Technical Subcommittee on its Forty-Seventh Session?

I see none.

Saudi Arabia you have the floor.

Mr. M. A. TARABZOUNI (Saudi Arabia) *(continued in Arabic)*: Thank you Mr. President. My delegation would like to support the report of the Scientific and Technical Subcommittee and we would like to call upon the United Nations and other international organizations to work for international and regional cooperation in outer space activities to ensure peaceful uses of outer space in order to counter famine and disease.

We know that the Islamic Bank and Saudi Arabia have given the FAO $1.6 million to step up this response to these two scourges and to strengthen space activities and we would like to indeed encourage States to adopt measures to mitigate space debris. We also believe that we should seek to limit the risks of space debris collision and we must remember that these efforts are extremely important.

Thank you very much.

The CHAIRMAN: I thank the distinguished representative of Saudi Arabia for his statement.

Is there any other delegation wishing to speak on this agenda item?

I see none.

We will, therefore, continue and hopefully conclude our consideration of agenda item 8, Report of the Scientific and Technical Subcommittee on its Forty-Seventh Session, on Monday morning.

Report of the Legal Subcommittee (agenda item 9)

Distinguished delegates, I would like to continue our consideration of agenda item 9, Report of the Legal Subcommittee on its Forty-Ninth Session.

I would like to open the floor for statements and the first speaker on my list is the distinguished representative of Canada, Ms. Anne-Marie Lan Phan.

Ms. A.-M.L. PHAN (Canada) *(interpretation from French)*: Chairman, Canada is pleased to note that the Legal Subcommittee had a successful meeting

in its forty-ninth session. The Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space continued its study of national space laws.

Canada was pleased with the discussions taking place, as well as the exchange of information in the Working Group and we look forward to the continuation of its work at next year's session.

Canada firmly supports the core outer space treaties and would encourage those countries which have not yet ratified the key conventions governing the exploration and use of outer space, notably the Outer Space Treaty, the Rescue and Return of Astronauts Agreement, the Liability and the Registration Conventions, to do so as soon as possible. These treaties have well served the community and continue to serve that community well.

(Continued in English) Mr. Chairman, Canada welcomed presentations at the forty-ninth session of the Legal Subcommittee by several member States on their national space law, particularly those that highlighted the implementation of the Space Debris Mitigation Guidelines.

Canada has taken steps to implement these Guidelines into its Regulatory Framework and Practices and we will continue to search for innovative ways to address the issue of space debris mitigation.

The inclusion on the agenda of an exchange of information on national mechanisms relating to space debris mitigation measures is one meaningful way for the Legal Subcommittee to promote the implementation of the Space Debris Mitigation Guidelines by all States.

Canada sincerely hopes this item will again be included on next year's agenda and looks forward to another productive exchange of information at the fiftieth session in 2011.

Canada notes that further progress has been made on the draft Protocol on Matters Specific to Space Assets to the Convention on International Interests in Mobile Equipment. Canada believes that input from all major stakeholders, governments and the commercial space and financial communities should be carefully considered and reflected in the revised draft of this Protocol. Canada looks forward to an update from UNIDROIT on its progress at the next meeting of the Legal Subcommittee.

(Continued in French) Mr. Chairman, with the number of space actors, in particular non-State actors, increasing annually, it is important to have a well-functioning Legal Subcommittee which addresses all the emerging issues even if there is no immediate consensus on the way forward. Canada encourages the Legal Subcommittee to focus its efforts in this regard on practical matters of direct relevance to space law. Discussions on such practical matters in the Committee will indeed contribute to clarify issues and ultimately lead to a greater understanding of what is at stake. Such understanding would contribute to sounder practices in the preservation of the peaceful uses of outer space.

Thank you Chairman.

The CHAIRMAN: I thank the distinguished representative of Canada for her statement.

The next speaker on my list is the distinguished representative of Indonesia, Mr. Cucuk Suryo Suprojo.

Mr. C. S. SUPROJO (Indonesia): Mr. Chairman, please allow me to thank you for giving me the opportunity to make a statement with regard to the agenda item 9.

Mr. Chairman, on behalf of my delegation, allow me to highlight several issues under this agenda item.

The Legal Subcommittee has made considerable achievements in strengthening the legal regime of outer space. My delegation follows with interest the deliberation of various issues under this Subcommittee. We also take note with appreciation for the increasing number of ratifications on the main space treaties by member States. We believe this will contribute to the enhancement of space activities which are conducted in accordance with the principle of peaceful uses of outer space.

Mr. Chairman, the long-standing issue of definition and delimitation under the discussion of the Legal Subcommittee should be given further attention and effort especially in order to achieve a realistic solution. The absence of a clear definition and delimitation would bring about legal uncertainty in the application of outer space law and air space law. The matters concerning State sovereignty of air and space and the scope on the two different legal regimes need to be clarified so as to reduce the possibility of disputes among States. In this regard, I would like to reiterate my delegation's position that the Legal Subcommittee

should focus discussion on this issue to achieve a minimum consensus taking into account the different priorities and perspectives of member States. Therefore, my delegation fully supports the continuation of the agenda item to be considered in the Legal Subcommittee and encourage further works of the Subcommittee as well as the exploration of what other possible mechanism in finding the solution on this issue.

The geostationary orbit is a limited natural resource with *sui generic* characteristics that risks saturation. My delegation is of the view that the discussion of the geostationary orbit should be aimed at how to ensure the utilization of the geostationary orbit for the benefit of all countries.

In addition, my delegation stresses that the utilization of the geostationary orbit should apply the principle of equitable access for all States, taking into particular account the needs and interests of the developing countries as well as the geographical position of certain countries.

In addition, my delegation is also of the view of the necessity for the Committee to cooperate and coordinate with other relevant international organizations in ensuring the equitable access of the geostationary orbit for all States.

Mr. Chairman, discussion in the Legal Subcommittee on the development of national space legislation and regulatory frameworks for space activities have contributed in shaping the legal regime in outer space activities. Currently Indonesia is in the process of establishing an National Space(?) Regulation by composing a draft Act on outer space. The National Space Act will become the legal basis for all national space activities as well as the implementation of international treaties and conventions that had been ratified by Indonesia. This initial(?) Space Act covers, among others, the provision and _____(?) in the main space treaties such as scope of application, the authorization of activities of non-governmental entities in the mechanism for a supervision of activities of non-governmental and it is registration, liability and insurance safety aspects of space activities and the provision of the transfer of ownership. This draft Act is expected to finalized and considered by the Parliament by the end of 2010.

With this National Space Act in force, we believe that Indonesia's national space activities, as well as space cooperation with other countries, will be further advanced.

Mr. Chairman, in conclusion, my delegation assures you of our full support and cooperation to the deliberations of the various issues and of this Committee for maintaining the peaceful uses of outer space for the benefit of mankind.

Thank you Mr. Chairman.

The CHAIRMAN: I thank the distinguished representative of Indonesia for his statement.

Is there any other delegation wishing to speak under this agenda item at this session?

I see none.

We will, therefore, continue and hopefully conclude our consideration of agenda item 9, Report of the Legal Subcommittee on Monday morning.

I would like to continue our consideration of agenda 10, Spin-Off Benefits of Space Technology: Review of Current Status, and take one speaker before the technical presentations. The speaker is Ms. Annettee Froehlich of Germany.

Ms. A. FROEHLICH (Germany): Mr. Chairman, distinguished delegates, on 7 October 2009, the Nobel Prize Committee awarded the Nobel Prize for Chemistry to Ada E. Yonath and her two American colleagues for the pioneering work on the structure and function of ribosomes. Ribosome used DNA in cartogenic _____(?) information to produce wider protein molecules. In a manner of speaking, ribosomes are the factories of life. To understand the function, you need to know the structure. Some of the essential findings in this context develop another unit between 88 and 99 when she was involved in more than 12 space missions in which she used weightlessness to improve the crystallization of ribosomes. The crystals they grew in weightlessness, were larger, rounder and more even shaped, pointing the way to further experience on Earth.

At the end of which she successfully unravelled the ribosome structure and won the Nobel Prize.

Ade Yonath spent 25 years doing its research in Germany. During that time, she cooperated with partners from Hamburg and Berlin who, together with other scientists, subsequently went on to investigate the matter more deeply, running 30 German projects of protein crystallization on the ISS in recent years.

In point of fact, our understanding of the structure of various molecules has improved for some substances such as certain bacterias, surface proteins, crystallization was achieved for the first time.

In the case of the mistletoe electin(?) the main component of the mistletoe extract that are used as trends in the immune system and treat cancer, a Working Group of Hamburg University succeeded in a variety of experiments in breeding crystals whose structure could be analyzed in greater detail.

Thanks to these finding, the protein can now deliver better results in drug production.

Mr. Chairman, moreover, many of the changes experienced by astronauts and weightlessness resemble the aging process of people on Earth. Also there are two significant differences. In space, changes happen much faster, in quick motion, so to speak, and _____(?) luckily reversible. In other words, some time after the return to Earth, astronauts regain the state of health they had before the space flight. This being so, space experiments teach us something about the deterioration of muscles and bones, age-related changes in our cardiovascular, balancing and immune system and about mechanisms of re-adaptation.

So far 14 German research experiments on the ISS have been providing interesting results about these issues.

At the next COPUOS meeting, Germany will report on the results of some of these experiments that are still going on at the moment.

Mr. Chairman, distinguished delegates, we thank you for your kind attention.

The CHAIRMAN: I thank the distinguished representative of Germany for her statement.

Distinguished delegates, we will continue our consideration of agenda item 10, Spin-Off Benefits of Space Technology: Review of Current Status, on Monday morning.

Before starting the technical presentation, I will give the floor to the Head of the Secretariat.

Mr. N. HEDMAN (Secretary, Office for Outer Space Affairs): Thank you Mr. Chairman. An announcement from the Secretariat. All delegations should have in their pigeonholes in all official languages of the United Nations, a document with the following symbol, A/AC.105/L.277, and this is the document on Terms of Reference and Methods of the Working Group on the Long-Term Sustainability of Outer Space Activities of the Scientific and Technical Subcommittee. It is a Working Paper submitted by the Chair of the Working Group and this is the document that will be considered on Monday afternoon in the Working Group on Long-Sustainability of Outer Space Activities.

Thank you Mr. Chairman.

The CHAIRMAN: Thank you.

Distinguished delegates, I would now like to give the floor to Mr. Yasushi Horikawa of Japan who will make a presentation on the Japanese contribution for disaster management.

Mr. Y. HORIKAWA (Japan): Thank you Mr. Chairman, distinguished delegates. I am very pleased to be making a presentation on the Japanese contribution for disaster management support under agenda item 8, the Report of the Scientific and Technical Subcommittee on its forty-seventh session.

This chart shows the contents of my presentation. Firstly, I would like to touch upon the framework of our disaster management support about Sentinel-Asia, the International Disaster Charter and activities of the ADRC. And then I will speak about capacity-building for the understanding of satellite images and their application.

After that I will give several examples of satellite images taken of some of the more severe disasters which we have experienced since last year.

There are four main activities regarding the Japanese contribution for disaster management support by Earth observation.

First, Sentinel-Asia, where JAXA serves as Secretariat, was born as the Asia-Pacific Regional Space Agency Forum, APRSAF. Sentinel-Asia widely contributes to disaster management support and disaster prevention agencies in Asian countries and regions, not only through satellite observation data distribution but also through the development of human resources.

Secondly, JAXA, as a member of the International Disaster Charter and Data Provider known(?) of Sentinel-Asia contributes to the emergency observation through the use of the Advanced Land Observing Satellite, ALOS, when a disaster strikes.

Third, the Asian Disaster Reduction Centre, a focal point of emergency observation for Sentinel-Asia and the United Nations Office for Outer Space Affairs signed a Cooperation Agreement to be a UN SPIDER Regional Support Office, making it a bridge between Sentinel-Asia and UN SPIDER.

In addition to these activities, JAXA and ADRC are providing several capacity-building opportunities for the Asia-Pacific region, such as training on how to use satellite data or how to use Sentinel-Asia, etc.

Sentinel-Asia is a _____(?) and best effort-basis initiative led by the APRSAF to share disaster information in the Asia-Pacific region on the Digital Asia Web GIS Platform and to make the best use of Earth observation satellite data for disaster management.

The Sentinel-Asia projects carried out since 2006 is the first step in the disaster management support system in the Asia-Pacific region. It utilizes Earth observation satellite data with the aim of constructing a life for society through ICT and space technology, improving the quickness and accuracy of disaster preparedness and early warnings and minimizing the number of victims and socio-economic losses due to disasters.

The Joint Project Team was organized to support the Sentinel-Asia Project and consists of 58 organizations from 28 countries and regions and nine international organizations. JAXA is acting as the Secretariat of the JPT. Sentinel-Asia is also promoted through cooperation among international agencies like UNESCAP, the United Nations Office for Outer Space Affairs, ASEAN, the Asian Institute of Technology, etc.

Sentinel-Asia was designed as a stablized approach to the implementation of an information dissemination system. This was proposed by the APRSAF Earth Observation Working Group. Step 1 was an implementation of the backbone, the Sentinel-Asia Data Dissemination System and associated nodes to showcase the value and impact of technology using standard Internet Dissemination Systems. It was operated from February 2006 to December 2007.

Step 1 is an expansion of the dissemination backbone using new satellite communication systems, operational since 2008 until 2012. This chart shows the concept of current Sentinel-Asia Step 2. On the left is the observation system of space agencies. On the right are disaster management organizations.

The point of Step 2 is to draw value added information from satellite imagery to transmit the information to users even in narrow band areas using communication satellites such as KIZUNA, which is a wide-band Internet working demonstration satellite, all in addition to the online information sharing in Step 1 and to expand the number of users in cooperation with the UNESCAP.

Finally, these activities are supported by a human network which is one of the most important and precious factors of Sentinel-Asia.

Currently, five Earth observation satellites are participating in Sentinel-Asia: ALOS from JAXA, Japan, LISOSAT from ISRO, India, THEOS from GISTDA, Thailand, KOMPSAT-1 from Korea, and FORMOSAT from Taiwan. These satellites provide imagery of stricken areas when disasters happen. Sentinel-Asia Step 2 utilizes KIZUNA's high-speed communication capacity and transfer the information from the Sentinel server in Japan to the regional servers set up in each region. The maximum speed of KISNET(?) high-speed communication is 155 ____bps making data transmission very fast.

Sentinel-Asia installed KISNET terminals in Bangkok and Manila in 2009 and started data distribution to each server.

In 2010, Sentinel-Asia is installing KISNET terminals in seven more countries, Indonesia, Viet Nam, Sri Lanka, Mongolia, Nepal, Bangladesh and Fiji and will distribute data to the servers there.

JAXA took part in the International Disaster Charter in February 2005. Since 2005, JAXA has observed 190 world disasters by ALOS and provided the observation data of more than 100 disasters in the world to the International Disaster Charter and around 170 disasters in the Asia-Pacific region to Sentinel-Asia.

The ADRC was established in 1998 in Kobe, Japan, and consists of 29 member countries in Asia and five advisor countries. As you can see, member countries are spread throughout Asia and the Pacific region. Also the ADRC has been implementing various kinds of projects in cooperation with United Nations agencies and international organizations such as UNIDR, UNOCHA, UNESCO, WMO, UNESCAP and others.

The United Nations Office for Outer Space Affairs and the ADRC agreed to establish an Asian Regional Support Office of UN SPIDER at the ADRC and signed an Agreement to this end on 4 June 2009. The ADCR handles requests for emergency observation by Sentinel-Asia and promotes the utilization of satellite images when disaster strikes.

Based on this, and given its role as a UN SPIDER Regional Support Office, the ADRC is developing a personal training programme that provides education regarding the utilization of satellites in disaster risk reduction and practical training in image processing and technology.

In order to enable utilization of satellite data, JAXA and the ADRC are providing several capacity-building opportunities. The objectives of capacity-building are to provide necessary technical know-how to remote sensing and geographical information system users in the Asia-Pacific region, to develop the in-house capacities of prospective users in the region, and to identify future space technology needs in the region.

Sentinel-Asia provides the Sentinel-Asia system operation training on the utilization of web systems, smooth operation during an actual disaster and satellite data analysis.

This operational training has been held five times since 2007 and a total of 88 people from 18 countries have participated in the training. This picture shows the four Sentinel-Asia system operation training held in Laos, in February 2009. The next training session will be held in Bangkok, Thailand, in July 2010.

Over the last 15 years, beginning in April 1995, JAXA has entrusted the Dual Informatic Centre of the ASEAN Institute of Technology in Bangkok, Thailand, with the responsibility of carrying out various training programmes, focusing mainly on remote sensing and GIS development of the Asia-Pacific nations.

The contents of the training programme have been changed according to the need of time and we are now concentrating on a programme-solving training programme called Mini-Projects. They take a total of about 1,200 trainees from 27 countries have participated in the project over the last 15 years.

The ADRC is continuing the Japan-ASEAN Integrational Funds Project. Currently, the ADRC is preparing the material for the seminar. From now on, the ADRC will implement the seminar and technical training back-to-back.

This chart shows the record of activation of Sentinel-Asia in the past year. The data provided by Sentinel-Asia was considered very useful for disaster management. I will show those examples highlighted in blue colour crayon(?).

Owing to much _____(?) and the eruption of the Mayon Volcano, local residents were told to evacuate their homes based on Lahar volcanic mud flow hazard map put together by the Philippine Institute of Volcanology and Seismology, PHI ____(?). The lake area in the picture shows the possibility of volcanic mud flow.

On 25 December 2009, as a result of the emergency observation by ALOS, it was found that the pink area in the picture showed new possibilities of volcanic mud flow and the area for evacuation was changed. The eruption caused more than 12,000 residents to flee.

The last picture shows a flood in March 2010 in Karawang District, West Java, Indonesia. The _____(?) blocked the road for four days inundating more than 5,000 houses in 21 villages. The depths of inundation in Patajaya(?) sub-district reached 2.5 metres. The area coloured in brick red is the flooded area. This is based on aero-spatial imagery data from _____(?) 9 March 2010 and after 26 March the disaster. It was produced by Lapong(?).

The picture on the right shows a flood in Sri Lanka on 14 May 2010. As of 21 May 2010, 600,000 people, 135,000 families, have been affected by the heavy rains. This includes the displacement of 15,000 people and 20 deaths. The area coloured in red is the flooded area. This is based on data of the Department of Sarbay and Mapping Sri Lanka and was produced by the GIS Unit of the Disaster Management Centre Ministry of Disaster Management Sri Lanka using aerial emergency observation data.

This chart shows the record of major emergency observations by ALOS activated under the International Disaster Charter in the past year. Among nine major disasters, I will show those example highlighted in the blue colour.

The picture on the left shows the JAXA-observed disaster area of the Haiti aspect using AVNIR-2, the optical sensor of ALOS, one day after the disastrous earthquake occurred. JAXA delivered the observation data immediately in response to the

International Disaster Charter. The image on the right shows the JAXA-observed areas surrounding the epicentre of the earthquake using PALSAR, the sister _____(?) of ALOS, which subsequently contributed to earthquake deformation research. JAXA provided the PALSAR date to the GEO Group on Earth Observation in order to aid in predicting the possibility of additional aspects. Scientists performed an interferometry analysis and developed the map.

This picture displays the analysis result by a team of scientists at Miami University.

The ASPIC magnitude 8.3 and _____(?) tsunami struck near Conception and the coastline of Chile on 27 February 2010. JAXA provided the ALOS data to the International Disaster Charter and GEO the same way as for the earthquake in Haiti.

ALOS captures the status of Santiago de Chile around nine hours after the earthquake and JAXA provided the data again in response to the International Disaster Charter immediately after the earthquake happened.

Please look at the pictures on the left hand side. This is a post-disaster image which JAXA developed. JAXA performs an interferometry analysis using PALSAR data and develops the map. Looking at the right hand side image, JAXA continues observing the coast area devastated by the tsunami by ALOS' three sensors. JAXA also analyzed the coastline change resulting from the tsunami and uploaded the result to the JAXA Home Page.

Shown here is the current status of the Hunza River Flood in Pakistan which was caused by water dumped by a landslide on 4 January 2010. The water level has increased gradually. JAXA provided pre- and post-disaster AVNIR-2 data to the International Disaster Charter at the request of the UNOCHA.

UNOSAT developed the situation map using SPOT-2 and ALOS data. JAXA observed this area with ALOS on 30 May 2010 as a follow-up because it is reported that the water will overflow the dam soon.

Upper right is a comparison of the area pre- and post-flood. These images are full-scale(?) pictures. The red areas represent the base station. They show that much land is already covered by the flood. The bottom is the bird's eye view of the flooded area where we can survey the flooding from the river. This picture was developed using the ALOS optical sensors, AVNIR-2 and _____(?) and JAXA provided the data to the various agencies.

Japan will continuously contribute to disaster management support using space technology through the activities of Sentinel-Asia, a contribution being conducted in our capacity as a member of the International Charter, via capacity-building with a central focus on the Asia-Pacific region and by providing the knowledge and know-how gained from these activities to the UN SPIDER.

Thank you very much for your attention. I will conclude my technical presentation.

The CHAIRMAN: Thank you very much Dr. Horikawa for your presentation.

I would like now to give the floor to Mr. Brendan Curry of the United States, Space Foundation, who will make a presentation on an introduction to the Space Foundation.

Mr. B. CURRY (United States of America): I would like to express my deep thanks to the Chairman of the Committee and congratulations again on your elevation.

I also want to commend the staff of the Office for Outer Space Affairs. They have been nothing but first rate professionals and it has been a delight to work with them.

Like you said, my name is Brendon Curry. I am Vice-President for the Washington Operations at the Space Foundation and I just wanted to tell you a little bit about ourselves.

Our mission is to advance space-related endeavours to inspire, enable and propel humanity. We were founded in 1983. We are headquartered in Colorado Springs, Colorado, and we are kind of a unique Organization in that we do some work that you would associate with the Trade Association. We have an Academic and Educational Department. We have a Research and Analysis Department and it does various assessments of what is going on in space policy. And we also work in the policy world, both nationally and internationally. When it comes to space policy, we try to cover the waterfront, whether it be civil, commercial or national security space issues.

In addition to the Washington D.C., we have field offices in Cape Canaveral in Houston.

Before I go to the next slide, I actually wanted to mention to you. We have a very esteemed Board of Directors. We have had a number of former NASA

Administrators on our Board. We have retired United State Senators, retired United States Congressmen. We have very senior and active space company executives. We have space entrepreneurs on our Board of Directors, former astronauts as well.

We also have a corporate membership, that is part of Space Foundation, and we have the big companies that you have all heard of like Boeing, Northrop Grumman, EUTELSAT and Lockheed Martin, but we also have other international companies like EADS Astrium, Arianespace and BAE.

We also have companies that you normally do not think of as being a space company such as Cisco Systems.

Like I said, we do events for the industry, with the industry. Our signature event is called the National Space Symposium and it is held in Colorado Springs every spring time. This most recent one we had was the twenty-sixth Annual National Space Symposium. We had 9,000 people from all over the world come to the Conference. It was a big success and we would like to see you all come to it. It is a great event. Again people from all over the world. We had 20 different countries represented at the National Space Symposium. We had two very high-level Chinese delegations come and we had a very important trade delegation from the nation of Poland come as well.

With respect to what I kind of do in Washington, we try to provide information in education about space policy for folks who work in the Congress, who work at the White House, NASA, the Air Force, NOAA, FAA, the Intelligence Community and others. We do events with news media about space. We provide information for people who work in space policy but may not be familiar or expert in space policy. So we try to be a resource for people.

I mentioned earlier about our Academic Department. We work with teachers who work with children from what we call Kindergarten through twelfth grade and what we do is help them modify their curriculum that focuses on science and maths. We try to infuse space concepts in the work they do. We found that children really get excited about space and we want to help prime the pump for the work force of tomorrow.

I mentioned earlier our Research Analysis Department. Right there you see is a kind of a flagship publication. It is called "The Space Report" and it is a snapshot of the global economy and we have been doing it for about five years now. Each issue that comes out gets a little bit more precise with the data and we have been working with folks from all over the world on making sure that we have the correct and proper data and we share some data from the Space Report. We have estimated that in 2009, the entire global space activity reached just over $261 billion in revenue. We include commercial activities as well as government budgets. Space is growing. Our estimate for this, our assessments on the space economy for the past five years. Space continues to grow in just about all manner. We think that is a good thing.

We track launches by country, whether they are commercial or non-commercial. We do a breakdown of the United States. Space budgets, as you can see there, and we also are increasing our analysis and assessment of the various international space budgets.

Again, in the Washington Office, we work with everybody. We try to be a resource. There are a number of space-faring nations that have space attachés in their Embassies that we work with a lot. And there are other space agencies actually have separate satellite offices in Washington, such as JAXA and DLR, that we work with a lot.

Again, as much as we try to be a resource to folks, in the United States Government and industry, we try to be a resource for folks in the international global space community as well.

I just want to say thank you for your time. I want to say a big thanks to Ken Hodgkins of the United States State Department for allowing the Space Foundation to be part of the delegation. I want everyone to have a great weekend and have some fun in this beautiful city.

Thank you.

The CHAIRMAN: Thank you very much for your interesting presentation Mr. Curry.

Are there any questions or comments?

I see none.

I would now like to give the floor to Mr. Ilter Haliloglu of Turkey, TUBITAK, the Scientific and Technological Research Council of Turkey will make a presentation entitled "Recent Developments in the Field of Space in Turkey, UN/Turkey/ESA Workshop on Space Technology Applications for Socio-Economic Benefits".

Mr. I. HALILOGLU (Turkey): Thank you Mr. Chairman, distinguished delegates. My name is Ilter Haliloglu. I am from the Scientific and Technological Research Council of Turkey. And in the first part of my presentation, I will try to enlighten you about the recent developments in the field of space in Turkey and in the second part I will try to give you some information about the special workshop that we are organizing together with the United Nations and ESA.

Within the National Space Research Programme Coordination duties of our Organization, we are now in the final stages of building up establishments in Turkey. One is the National Space Technologies Platform, and the other one is the National Space Research and Technologies Forum.

The Forum is the link to all the actors who are actually participating in space sectors and the aim is to elevate Turkey's space and R&D infrastructure capacity and developments in the past five years.

And the National Space Technologies Platform will also include the prominent actors in the area of space in Turkey and with the feedback coming back from the Forum, the aim is to determine the vision of the space sector and set a strategical research agenda for Turkey in the coming years.

Another important policy aspect in our country, and one of our main targets, is to enhance human resources in the area of space and with the same we have initiated a scholarship programme in 2008 and for Turkish students who are at graduate level and who want to do research in the field of space.

It is an ongoing programme and there are 14 scholars that are continuing their educational effort and year by year this support numbers are increasing.

Then we look at the project level and the implementation level. There is the RASAT satellite. It is the second remote sensing satellite of Turkey after the first one BILSAT of the TUBITAK Space Institute. The importance of RASAT is its optical imaging system and new modules developed by Turkish engineers and it will be the first Earth observation satellite to be designed and manufactured in Turkey.

And GÖKTÜRK-2 is again an important project that will serve the needs of our country to meet the future satellite requirements locally. TUBITAK Space Institute and TAI Consortium has all the system level responsibility.

The last one is the first CubeSat satellite. It is designed and manufactured in Turkey by the İstanbul Technical University, again with the support of TUBITAK and it has been largely successful from India in September 2009.

We have various support for the industry, for the public sector and the academy and for science and society but there are many support programmes given by other State institutions as well. I just put some samples, one from the University, one from the _____(?), one from the Government sector to give you an idea about that.

Then we come to developments in the international cooperation area. We can talk about two pillars. One is the bilateral relations in the area of space and the other one is the multilateral one.

In the recent years we have initiated dialogue and we are having some fruit cooperation with individual institutions around the world and especially in the last two years we have close cooperation with Germany and Russia in 2009 and 2010. We had some technical visits from Germany to Turkey and Turkey to Germany. And with our Russian colleagues we have made a Memorandum of Understanding between TUBITAK and ROSCOSMOS in 2009. And the first Working Group Committee was held in December in Turkey and the second one will be held next month in Moscow.

And when we come to the multilateral relations, I will just go institution by institution.

We have in the past few year our membership in international organizations are increasing. We have become a member of the IAF in 2009 and we have become a member of GEO in 2008 on behalf of the Republic of Turkey. And we have organized a Turkey/GEO Project Workshop in October 2009 in Istanbul. And the Science and Technology Committee Meeting was held in Ankara, in Turkey again in TUBITAK Headquarters in March 2010, and the next meeting of the Architecture and Data Committee will again be hosted by TUBITAK in Ankara at the end of August.

APSCO is one of the institutions that we give the utmost importance and we have been included from the initial stages of this foundation. Just before coming here, I have learned that our Grand National Assembly have ratified the International Cooperation(?) so it is just a matter of time that that membership process will be finalized.

And coming to the relations with the European Space Agency, we have signed a special Agreement with them in 2004. As it stands, there has been quite a lot of annual working meetings between the two sides and in the upcoming months, we are planning to have a meeting to discuss the future of ESA-Turkey relations and try to determine a strategical agenda.

Now I would like to give you some information about the Joint Workshop which is organized by Turkey, the United Nations and the European Space Agency entitled "Space Technology Applications for Socio-Economic Benefits". The Workshop will be held in Istanbul between 14 and 17 September 2010 and it is hosted by TUBITAK and in cooperation with NASA and ISPRS.

The specific objectives and expected outcomes of the workshop is to address principles for national, regional, and international cooperation in space technology development and explore socio-economic benefits of using satellite remote sensing and GNSS and strengthen regional awareness and data exchange networks, to discuss the means, mediums and tools to create awareness among the public and to promote science and society activities, initiate pilot projects for joint work at the regional and international level and to develop ideas on space technology and infrastructure for various reasons.

The Workshop is being planned to build on four thematic sessions. The first one is the capacity-building in space technologies that aims to share views on contemporary education systems and human resources development and also science and society activities and promoting space awareness in the society..

The second one is the remote sensing applications, again sharing views on Earth observation systems for natural and human-induced hazards and there will be special sessions for case studies and to share the lessons learned from previous experiences.

The third one is GNSS applications and satellite application.

And the last one will be the regional and international cooperation and how to enhance cooperation in the area of space.

The Workshop is being planned for a total of 100 participants including policymakers, decision-makers and senior experts from various institutions. The United Nations, the European Space Agency and Turkey have been pooling their resources for this Workshop so that people can come by covering their own resources but there is also financial support available for those who cannot afford themselves. So I would like to encourage all the delegates to disseminate this knowledge and encourage people from their own countries to participate in this event.

There are two social side events within the Conference that I would like to give you information.

The first one, we are now trying to organize, in cooperation with NASA, Emile De Cou, he is a conductor of the National Symphony Orchestra in the United States. He is coming to Istanbul on these days and with the National Symphony Orchestra of Turkey, they will play the Planets from Gustav Holst, and there is a picture there, the image taken from a show in the United States. A similar one will be held in Turkey. They will play the Planets from Gustav Holst and in the background images from NASA's database will be shown. And Buzz Aldrin, who is a historic figure in space history, who was on Apollo 11 and landed on the Moon and the second person after Neil Armstrong. He is also attending this event and he will be the narrator in the show.

All the applications are accepted through the United Nations website and the deadline is the end of this month so there is still plenty of time to apply to the Workshop and come to the Workshop. The information can be gathered from the Office for Outer Space Affairs' website and they have established a website dedicated to this event, as you can see on the screen.

So I would just suggest to mark your calendars for this event which will be held in Istanbul. The second side event that I mentioned will be a social programme within Istanbul to allow the participants to see the beaches of _____ *(not clear)*.

While I am ending my presentation, I would like to leave you with a small short video, a two-minutes video on Istanbul, who is selected as the European capital of Culture for 2010.

Thank you.

Video

The CHAIRMAN: Thank you Mr. Haliloglu for your interesting presentation and for the invitation to take part in a very interesting Workshop as it looks. I remember several years ago, I was the key speaker of

EURISY in a meeting with TUBITAK in Turkey and with this occasion, I discovered a lot of interesting things about space activities in Turkey. Thank you very much.

Are there any questions or comments on the presentation of Mr. Haliloglu?

If not, I will give the floor to Head of the Secretariat for information.

Mr. N. HEDMAN (Secretary, Office for Outer Space Affairs): Thank you Mr. Chairman. An announcement in addition to my previous announcement on the availability of document L.277 relating to the Working Group on Long-Term Sustainability of Outer Space Activities. This document in all the six United Nations languages is now being uploaded on the website of the Office for Outer Space Affairs on the opening page under "What's New" and the title "Working Group on Long-Term Sustainability of Outer Space. There you will find the six files with the document. I do not know if it is right now already uploaded but surely after the reception.

Thank you Mr. Chairman.

The CHAIRMAN: Thank you.

I will shortly adjourn this meeting of the Committee. Before doing so, I would like to inform delegates of our schedule of work for Monday morning.

We will reconvene promptly at 10.00 a.m. At that time, we will continue and hopefully conclude our consideration of agenda item 5, General Exchange of Views, agenda item 8, Report of the Scientific and Technical Subcommittee on its Forty-Seventh Session, agenda item 9, Report of the Legal Subcommittee on its Forty-Ninth Session, and agenda item 10, Spin-Off Benefits of Space Technology: Review of Current Status.

Time permitting, we will begin our consideration of agenda item 11, Space and Society.

Following the plenary, there will be three technical presentations. The first one by the representative of Italy "Use of Space-Based Information for Seismic Risk Management: An Italian Space Agency Pilot Project. The second one by Japan on "Spin-Off from KIBO Experiments". And the third one by the United States on "NASA Today and Tomorrow".

Are there any questions on this proposed schedule?

I see none.

I now cordially invite all delegates to the reception hosted by the Asia-Pacific Cooperation Organization, APSCO, at the Mozart Room at the VIC Restaurant.

This meeting is now adjourned until 10.00 a.m. Monday morning.

The meeting closed at 5.59 p.m.