

**Committee on the Peaceful
Uses of Outer Space***Unedited transcript*

609th Meeting
Thursday, 11 June 2009, 10 a.m.
Vienna

Chairman: Mr. Ciro Arévalo Yepes (Colombia)

The meeting was called to order at 10.21 a.m.

The CHAIRMAN (*interpretation from Spanish*) Good morning distinguished delegates on this next to the last day. I hope everybody is in good shape, it looks that way to me. Today we have a series of items to be dealt with.

The first will be agenda item 14, international cooperation in the use of space-derived geospatial data for sustainable development. We will also continue and hopefully conclude our consideration of agenda item 10, space and society and continue and hopefully conclude 11, space and water and continue item 15, other matters.

There will be three technical presentations this morning. First, by a representative of Japan, on introduction of a tool for space education. The second one, by a representative of Turkey, on science of advanced materials in space with spin-off applications on Earth. The third one, by a representative of the Prince Sultan Bin Abdulaziz International Prize for Water, followed by a video.

I would also like to invite delegates to the round-table, organized by the delegation of Italy and the Italian Space Agency, entitled: Astrophysics and Cosmology: 400 years after Galileo, which will take place in this conference room at 1.30 p.m. A light buffet will be offered by the Italian Permanent Representative, Ambassador Gianni Ghisi, this will be served next to the pigeon holes on this floor which is an excellent idea it seems to me.

Before we continue our discussion I have a question from the Secretariat.

Thank you. It has been requested that we re-open 13. The delegation of Colombia would like to make a statement concerning the United Nations and space policy.

Mr. J. OJEDA BUENO (Colombia) (*interpretation from Spanish*) Good morning Chairman. Thank you for re-opening this agenda item which I think speaks volumes about the cooperation and collaboration between members of this gathering.

Colombia, on item 13 of the agenda, wishes to express its support for the very complete and constructive statement that the distinguished ambassador of Bolivia, Horacio Bazoberry made yesterday, concerning the Chair's initiative entitled: Towards a UN space policy.

As this delegation stated that we have a series of elements here that we think will help promote greater interactions between the different entities of the United Nations system, as well as those outside the system but who are protagonists in this field. We strongly support the vision of the Secretary-General of the United Nations, Ban Ki-moon, following the initiative already taken by Kofi Annan, whereby any risk of duplicity here would be to the detriment of this fundamental objective necessary to reach the MDGs. For these reasons, Colombia believes that we must have closer cooperation between COPUOS and member States of the Committee. This is a fundamental relationship for the implementation of decisions, orientations, proposals and recommendations that stem from the work of our Committee.

For this reason, we specifically request OOSA in the person of its distinguished Director, Dr. Mazlan Othman, to provide her very valuable cooperation to

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Corrections should be submitted to original speeches only. They should be incorporated in a copy of the record and be sent under the signature of a member of the delegation concerned, within one week of the date of publication, to the Chief, Conference Management Service, Room D0771, United Nations Office at Vienna, P.O. Box 500, A-1400, Vienna, Austria. Corrections will be issued in a consolidated corrigendum.



the Chair of COPUOS and the Committee so that the different initiatives that stem from our work will be on the same footing as any other input and will help advance the implementation of these proposals.

To conclude, Chairman, Secretariat, Colombia is requesting this constructive accompaniment by the Director of OOSA in these processes, in particular when they take place within the framework of the conferences that are aimed at regional development. Thank you, Chair.

The CHAIRMAN (*interpretation from Spanish*) Thank you. Brazil and Ecuador. Next Brazil.

Mr. J. FILHO (Brazil) (*interpretation from Spanish*) Thank you Chair. The statement that we have just heard from Colombia seems very reasonable and constructive to us. As we would like to clearly state our support for these ideas, as presented by Colombia, in order to have more flexibility, more constructiveness and more productive efforts coming from this Committee. Thank you.

The CHAIRMAN (*interpretation from Spanish*) Ecuador, then Mexico, then Chile.

Mr. J. BARBERIS (Ecuador) (*interpretation from Spanish*) Thank you Chair. The Ecuadorian delegation would also like to comment on the statements we just heard.

We support this initiative in relation to CRP.12. We think that active participation with the Secretariat of COPUOS and directly from the office of OOSA, directed by Dr. Othman, would be very valuable in order to make progress in this process of formulating this policy and, after collecting comments from different delegations here, we will be able to have a document that will allow us to make great progress in COPUOS's work in the field of space. This is why, Chairman, we would like to reiterate that we fully support the initiative presented by Colombia and that this is a very valuable move forward. Thank you.

The CHAIRMAN (*interpretation from Spanish*) Chile, then Mexico.

Mr. J. IGLESIAS MORI (Chile) (*interpretation from Spanish*) Thank you, I will be very brief. Following Colombia and the other delegations that have taken the floor, this perfectly translates the position of my delegation in the sense that we really need to have a good accompaniment of this document, submitted by the Chairman, to avoid duplication of

efforts, to concentrate our efforts in other words, in order to move forward. Thank you.

The CHAIRMAN (*interpretation from Spanish*) Mexico.

Mr. S. CAMACHO LARA (Mexico) (*interpretation from Spanish*) Thank you Chair. Our delegation will also be brief. We support the Colombian proposal. We think that the initiative that you have begun here can, in relation to what Colombia said, strengthen the United Nations system. Having a policy here among the specialized agencies in this field would be very useful for the work that those very agencies have to do as well as the work of this Committee. Thank you.

The CHAIRMAN (*interpretation from Spanish*) Thank you and now with that we have concluded this part of 13. Let me ask the Secretariat that this be reflected in the report and we hope that Director Mazlan will be ready to comply with this request from the member States.

The United States has the floor.

Mr. K. HODGKINS (United States of America) Thank you Mr. Chairman. A point of clarification on how our work is proceeding. Have we just agreed to something? I am not clear what the member States were being asked to do based on the most recent interventions. And, if we are being asked to agree to something, could we have a bit more clarification on what exactly the proposal is and what it is intended to accomplish? Thank you.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much US. My understanding on this point is this. In the Colombian delegation's statement and as well as the others, we have the expression of a will for cooperation, for contributions, on the part of the Secretariat and the Committee as we have done in previous proposals that have come from this body. It is the understanding of the Chair that this is a recommendation. This is not a specific agenda of specific points but rather the expression of a will to cooperate and collaborate with the Committee here. This is my understanding.

Mr. K. HODGKINS (United States of America) Thank you Mr. Chairman. Mr. Chairman I have no reason to object or agree at this point to what you have said. I think the paper that you have provided is certainly a useful document. We have had papers, such as your paper, submitted by prior leaders of our Committee and the subcommittees and if we are

suggesting to approach your paper in the same way we have in the past with the others then that is certainly fine with my delegation. We will trust to the Secretariat to come up with the language that would reflect all the views that have just been expressed. Thank you.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much and it is traditional here, the spirit of cooperation expressed by the United States also deserves our thanks along with the other delegations that have spoken.

Let us continue with our agenda which is now item 14, international cooperation in the use of space-derived geospatial data for sustainable development. I give the floor, first of all, to OOSA, David Stevens.

Mr. D. STEVENS (OOSA) Thank you Mr. Chairman for providing the United Nations Geographic Information Working Group, UNGIWIW, the opportunity to present the activities carried out by this interagency mechanism since we last reported to this Committee in 2008.

I am here in my capacity as co-chair of this United Nations working group. The co-chairmanship rotates every two years and, at the last plenary meeting which was held here in Vienna last November, the Office for Outer Space Affairs and the Economic Commission for Africa were voted in as co-chairs for 2009 and 2010.

UNGIWIW was formed in 2000 to address common geospatial issues, maps, boundaries, data exchange standards, that affect the work of UN organizations and member States. UNGIWIW also works directly with non-governmental organizations, research institutions and industry, to develop and maintain common geographic databases and geospatial technologies to enhance normative and operational capabilities. Thirty-three United Nations funds, programmes and specialized agencies are currently members of UNGIWIW. UNGIWIW reports periodically to the United Nations Chief Executive Board, CEB, on progress made and priority issues.

Membership of UNGIWIW's expert group has increased in the last year from 200 to 350 experts and it is expected that this group will grow by a further 100 individuals by the end of 2010. This reflects the increase in the available expertise within the organization due to the growth of the use of geospatial information within the United Nations system to support the carrying out of the comprehensive and varied mandate given by member States to the organization.

In 2005, this working group agreed to work together towards establishment of a United Nations Spatial Data Infrastructure, UNSDI.

UNSDI is now starting its implementing phase after initial valuations, needs assessments and development of a framework document. UNGIWIW is seeking internal and external resources to enable the implementation of this core initiative.

The Group on Earth Observation recognized the importance of UNSDI at the last summit meeting in Cape Town and that the GEOSS process could contribute directly to the development of the United Nations Spatial Database Infrastructure. Within the UN system, the newly established Office of the Chief, Information Technology Officer, has taken a special interest in the UNSDI process and on the need to better integrate geospatial and ICT efforts within the organization.

UNGIWIW actively liaises with various professionals and international standard bodies including, ISO/TC 211 on geomatics, Committee on Earth Observation Satellites, CEOS, Open Geospatial Consortium and Open Source Geospatial Foundation. UNGIWIW is also participating in the recently established Geo Data Sharing Task Force. The secretariat support to UNGIWIW is being carried out by the UN-SPIDER office in Bonn and we would welcome receiving additional resources to carry out these activities. We will also be hosting, in Bonn, the next tenth plenary meeting of UNGIWIW next October and we would like to extend an invitation to all those interested in contributing to UNGIWIW to join us. Thank you Mr. Chairman.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much. Brazil you have the floor.

Mr. J. FILHO (Brazil) (*interpretation from Spanish*) Thank you very much Chairman. Allow me, Chairman, to go back to the consultations that we conducted yesterday and upon your recommendation with regard to the proposal by Brazil on international cooperation in order to set up national infrastructures to use outer space data and put this to the service of sustainable development.

As far as we are concerned, this was a very constructive meeting indeed that took place. There were many more participants than the representatives that had spoken in the room and they spoke in endorsement of the proposal we made to this Committee.

The Brazilian delegation took note of all the comments made, all the suggestions presented, and we are ready to seek to consolidate a series of recommendations that could be approved by all of the States concerned by these issues. In order to do this, we might need some more time. So we would like to ask you whether you could give us the possibility of seeing whether we can further consult in order to fine tune this document. The delegations which took part in this round of negotiations and we, as well, believe that this programme should continue until the next session of this Committee. In this fashion, we would be able to fulfil our functions. Thank you very much.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much Brazil. Thank you for having contributed so constructively. So, if I correctly understood, what you were requesting was for additional time to enable you to include in the text the recommendations which might be emerging subsequently and you wish to meet again.

Mr. J. FILHO (Brazil) (*interpretation from Spanish*) Well, we have to consolidate the results. There has to be an exchange of views amongst the various delegations allowing us to craft a text, a text that would prove to be acceptable to all interested States.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much. Would there be any comments on the result of these negotiations and consultations? I note that Mexico and the US have asked for the floor. Mexico you have the floor.

Mr. S. CAMACHO LARA (Mexico) (*interpretation from Spanish*) Thank you very much, Mr. Chairman. I just wanted to support the proposal made by Brazil just now. The Committee should extend the programme before it, one further year. In the course of the consultations that were held yesterday, the delegations present, as it appeared, are not ready to present a report that would fully reflect the issues and the concerns on the subject and this is why we would like to support what Brazil has proposed, i.e., that we should extend our work programme one further year and should retain the same topic as we had this year.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much. United States.

Mr. K. HODGKINS (United States of America) Thank you Mr. Chairman. I have no objection to extending the item for one more year but we have to be quite clear in the report as to what next

year's work will consist of. There are several questions.

First, are we going to approach this item in the same way we did this year? Which is, there would still be statements given on this topic. Or, is our work going to be focusing solely on the draft non-paper that had been provided by Brazil? That would make a huge difference in how delegations prepare for this item.

The second question I have is concerning the status of CRP.3. Are we going to start all over again with this report? Or, are we going to agree that the report, as drafted, is acceptable to the Committee except in regard to chapter IV, recommendations and conclusions, which would have to be the subject of consultations between now and the end of next year's session. That is to say CRP.3, in almost its entirety, is acceptable and that we need one more year in order to complete chapter IV which is recommendations and conclusions.

With that said, if we are going to focus on chapter IV of the report as the centre piece of our work next year, what should we expect to receive prior to the session next year so that we are ready to conclude our work? I do not think it is useful for delegations to arrive on the first day of next year's session and be given another non-paper that we then have to look at again because invariably we will have to say, well we need one more year to look at this. We really need something that we can work from and be prepared to engage constructively next year under this item and to conclude work on this item. So these are some questions, Mr. Chairman, I think we really need to resolve before ending our session tomorrow.

The CHAIRMAN (*interpretation from Spanish*) Thank you representative of the United States. The complexity of your response certainly goes beyond my capacity to respond. I understand your concerns. The proposal has been made that we should defer the timeline here, extend the timeline. Mexico could you possibly adjust your proposal? Mexico what would be your reaction to this?

Mr. S. CAMACHO LARA (Mexico) (*interpretation from Spanish*) Thank you very much. I do not believe that my proposal contravenes what the United States has said but I believe that Brazil should respond rather than Mexico because it is Brazil that came out with this proposal. They are spearheading this effort so it is up to them to tackle this.

The CHAIRMAN (*interpretation from Spanish*) Brazil you have the floor. Would you be ready to say more how this could be handled?

Mr. J. FILHO (Brazil) (*interpretation from Spanish*) I believe that the United States delegate has made a very timely statement in this regard. I thought that what I had said was clear but obviously it has to be further clarified and that is perfectly normal. We are convinced that what is at stake is chapter IV in the report, in other words, the conclusions and recommendations. That is what we are working right now, chapter IV in the report and, when we produce a text that is finally acceptable to all the countries on the basis of the debate that was held yesterday, then we will ensure that there will be a dissemination of this to all the members of the Committee so that all be apprised of the document and this in advance of the next session of the Committee. That would be the working hypothesis.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much Brazil. United States would that correspond to your proposal? Could you accept the Brazilian proposal?

Mr. K. HODGKINS (United States of America) Thank you Mr. Chairman. I will make a very specific proposal here on how we proceed and perhaps the Secretariat can reflect that in the report and we can work from there.

I would suggest first that the Committee agree that chapters 1 through 3 of CRP.3 have been adopted or have been acceptable to the Committee so that we do not have to start with this report, with those chapters, when we come back next year, obviously pending adoption of chapter 4. So we would agree that chapters 1 through 3 of CRP.3 can be accepted, on an ad hoc basis right now, pending agreement on chapter 4.

Secondly, between now and our next session of COPUOS, the Secretariat circulate a conference room paper reflecting the conclusions that are presently in the report in chapter 4 as well as a revised paper prepared by Brazil based on the consultations that have been held. So that we have a conference room paper reflecting conclusions and recommendations that would serve as the basis for further consultations next year and then, pending consensus, would be incorporated into chapter 4. Then we would adopt the entire report as reflected in CRP.3.

That would be my suggestion. So we conclude work on chapters 1 through 3 on an ad hoc basis now,

chapter 4 is circulated to member States, prior to the next session of COPUOS, in the form of a conference room paper that has been drafted by Brazil based on their non-paper and comments that they have received up to this point. Thank you.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much. Brazil has the floor.

Mr. J. FILHO (Brazil) (*interpretation from Spanish*) We have nothing to propose to the United States request. We think it is perfectly correct, that proposal, and we think this is really what we are trying to say here. Those who are going to start working now on the basis of the proposals of the consultation and working through the mechanisms of the Secretariat to that effect. Thank you very much, especially to the United States delegation for the important cooperation that they have just shown us.

The CHAIRMAN (*interpretation from Spanish*) Thank you Brazil. China.

Mr. Y. XU (China) Thank you Mr. Chairman. In general China supports the proposal made by Brazil to extend this item for the next year's session but, as to the newly proposed working methodology by the US, I am sorry I am not sure that we are ready to adopt this document. Let me go through this CRP.3, in particular chapter 2.

The title, summary of discussion in this Committee rather than in the annex is entitled, international cooperation in promoting the use of space-derived geospatial data for sustainable development. It seems to me that CRP.3 is a half finished document, it is not a report, so I am not ready. We are now in a position to even provisionally adopt this report. It seems to me that, during this session, we had very meaningful, interesting discussions on this topic, those ____ (?) was not incorporated into CRP.3. So we still need to work on this CRP. 3, not only on chapter IV but also on chapter 1 through to chapter 3. We agree that this document reflected the main idea of this item and we, in general, endorse those ideas in this document but we still have to work on that. I think we can ask the Secretariat to revise this text then next year table a draft report based on this document and should also incorporate discussions held in this session. I think that is maybe a reasonable way forward although we keep the possibility to have intersessional working on chapter IV. Now we only have a draft non-paper from Brazil. Many delegates want to contribute on that part but, at the same time, we have to have a ____ (?) idea of this document rather than to stick to those reflected before this year's session. Thank you Mr. Chair.

The CHAIRMAN (*interpretation from Spanish*) Fine, OK, this is a new situation. The delegate from China is defending the position that discussions that have been held this year have an incidence not just on this chapter but has impact to other chapters as well. So he would prefer that the document, in its complete structure, be reviewed and serve as the basis for work for next year. That is how I understand the Chinese position. I see that there are no objections, perhaps we could take this approach then to CRP.3. I see the United States is consenting, Brazil as well. So it is so decided. Thank you.

Canada has the floor.

Ms. A-M. Lan PHAN (Canada) (*interpretation from French*) Thank you very much Chairman. If you will allow me, I would like to add some points to what China has just said.

This session, yesterday, we have had discussions not just on this agenda item but on the non-paper in particular, the one that was distributed yesterday. It would be important if we want to add something to chapter 2, exactly the context within which delegations have actually presented their views. I hope I am being clear on this. Over the years, delegations have expressed their views under this agenda item but, to get back to what happened yesterday, when we met we had a discussion which was very specifically addressing the non-paper tabled by Brazil. If I might suggest this, I suggest that in chapter 2 that be very clearly put. Thank you very much.

The CHAIRMAN (*interpretation from Spanish*) That is, I would say, a compliment. It completes what we have just adopted except that as a kind of avenue for continuing on this topic on the basis of the Chinese remarks and with the consent of US and Brazil, authors of the proposal. So we will take into consideration that which you just said and be reflected in the report. Thank you.

Can we move on to the next item?

We come to item 10, space and society, and I have a delegation on my list, Mr. Kobata from Japan.

Mr. K. KOBATA (Japan) Thank you Mr. Chairman. Distinguished delegations, on behalf of the Japanese delegation I am pleased to have the opportunity to address the fifty-second session of COPUOS and agenda item, space and society. Our delegation would like to express our satisfaction that the Committee continues to consider space and

education as a special theme for the focus of discussion. We believe it is a very important topic.

Having chaired the action team on capacity-building in implementing the recommendation of UNISPACE III conference, Japan continues to attribute great importance to enhance education, planning and capacity-building in space-related areas and has contributed to various initiatives in this regard following the five-year review of the recommendations of UNISPACE III. The UNISPACE III +5 review. Japan supports the role of this Committee and its subsidiary bodies in providing the global framework for systematic exchange of experience and information and the coordination of the capacity-building efforts as reflected in the plan of action endorsed by the General Assembly in its resolution 59/2. We noted with satisfaction that in the Scientific and Technical Subcommittee under the various agenda items, member States, entities of the United Nations system and other organizations having permanent observer status with the Committee, have continued to share information on and experience in the capacity-building opportunities and the initiatives in various areas of space science and technology and their applications. We also support the recommendation by the Subcommittee that we should continue to report on our efforts to promote education and opportunities for greater participation of use in space-related activities.

On social science aspects, our delegation notes with satisfaction that the request made by the Legal Subcommittee to OOSA to prepare a report setting out the recommendations creating the capacity-building in space law made to date and the status of the implementation and proposing ways and means of giving ____ (?) effect. We support the Subcommittee's recommendation that member States and permanent observers of the Committee should continue to inform the Subcommittee on any action, taken or planned, on a national, regional or international level to build capacity-building in space law. This Committee and its subsidiary bodies have not only provided global forums for discussions on capacity-building efforts in a comprehensive manner but have also played an important role in supporting a global framework for actions around the world.

One such example is the annual celebration of the World Space Week declared by the United Nations as a result of UNISPACE III. Numerous educational activities for young people take place each year during this special week. As we celebrate the tenth anniversary of UNISPACE III, it is fitting that space for education was selected as a theme for this year's celebration.

This year we are also celebrating the International Year of Astronomy also declared by the United Nations following the initiative taken by IAU and UNESCO. ____ (?) activities carried out for this special year and to stimulate interest among young people in astronomy and space science under the theme, The Universe: Yours to discover. Japan ____ (?) that numerous activities to support this global initiative while strengthening international cooperation in space education.

Japan continues to provide additional framework for cooperation in space education through the Asia Pacific Regional Space Agency Forum, APRSAF. Through its space education and awareness working group, APRSAF has been taking concrete action to offer opportunities for schoolchildren, teachers and educators, to participate in space education activities, such as the aerial ____ (?) water rocket events and poster contests. Further reports are being made to align these activities to further contribute to the global initiatives that promote space education. The presentation made by Mr. Takemi, JAXA Space Education Center, last Friday, on its activities provided details of those activities of APRSAF. The next step for the education efforts of APRSAF is to contribute to enhancing interregional cooperation. Initial steps have already been taken towards collaboration between APRSAF and Latin American countries, as presented by JAXA Space Education Center.

In Latin America, through collaboration with UNESCO, JAXA Space Education Center has been supporting space education initiatives taken by Ecuador in its role as the Pro Tempore Secretariat of the Fifth Space Conference of the Americas. The regional space camp and the space education workshop to be held in Salinas and Santa Cruz, Ecuador, next week, and the UNESCO space camps to be held in multiple cities in Peru in the following week. But a few of the examples of the space education activities in Latin American countries supported by JAXA.

For Africa, JAXA Space Education Center continues its collaboration with Japan International Cooperation Agency, JICA. The Center has continued to receive groups of science teachers from African countries since 2006 and has provided introductory space education training sessions to share space education teaching materials and methods.

Beside the activities of JAXA Space Education Center, numerous educational initiatives are being undertaken this year in view of the International Year of Astronomy, IYA. The presentations are well

underway for the live transmission of high definition images of the total solar eclipse on 22 July of this year from Oshima island using JAXA's communication satellite, Kizuna. This is a project involving organizations such as the National Astronomical Observatory, the National Institute for Information and Communications Technology, JAXA, Ueno National Space Science Museum and NHK, a public broadcasting organization, to stimulate intellectual curiosity of the general public and to contribute to enhance scientific literacy.

Another IYA project undertaken by the National Astronomical Observatory is, You are Galileo! telescope project. Through this project small telescopes, the same size as the one used by Galileo Galilei for his observations 400 years ago, are widely distributed to children, not only in Japan but also in other Asian countries. This project aims to provide children with the opportunity to share the same excitement of discovery that Galileo once experienced. These are but just a few examples of the many initiatives undertaken by the IYA2009 Japan Committee, consisting of ten organizations and universities.

As for educational materials in astronomy, the National Astronomical Observatory has also developed a software programme named Mitaka. This software, which can be downloaded from the website, enables users to visualize theoretical, computational and observational astronomical data and to navigate seamlessly across the universe from the Earth to the edge of the known universe. We are pleased to introduce this software in our following technical presentation. ____ (?) to university and graduated students, various educational and training efforts continue in Japan to support their participation in space activities. In support of those universities that are active in developing small and nano-satellites, JAXA has been providing launch opportunities. Of the seven small satellites that were successfully launched on 23 January this year, to ____ (?) Greenhouse gases Observing Satellite, now named as IBUKI, four belonged to university's team. The successful launch and operation of the satellites has allowed the students to gain invaluable experience to increase self-confidence and motivation to further pursue their course in space engineering.

As for university and graduate students, JAXA works together with NASA, ESA, the Canadian Space Agency and the French Space Agency, CNES, within the framework of the International Space Education Board, ISEB, to increase opportunities to participate in, and contribute to, international space meetings as well

as hands-on projects and training programmes in space engineering. JAXA currently serves as the Chair of ISEB to advance its objectives to increase science, technology, engineering and mathematics ____ (?) achievement relating to space and to support the future workforce needs for the space programme.

In the area of satellite application, Japan continues to contribute to capacity-building efforts, particularly for the benefit of the countries in Asia and Pacific. Over the past 50 years, the Satellite Applications and Promotion Center with JAXA has trained more than 1,200 individuals, mostly from governmental or academic entities, through various programmes which aim, among other things, to provide necessary technical know-how to remote sensing and GIS users in the region as contributions to the capacity-building activities recognized by the World Summit on Sustainable Development, WSSD, and the World Conference on Disaster Reduction, WCDR, of the United Nations, and the Committee on Earth Observation Satellites, CEOS, and the Global Earth Observation System of Systems, GEOSS, and the Earth Observation Summit.

In the area of basic space science, through the cultural grant aid, a programme of Optional Development Assistance, ODA, of the Government of Japan, to make seven deflecting telescopes and 12 planetarium systems to 127 institutions in 12 developing countries over a quarter of a century. We are pleased that the Astronomy Project, to which Japan donates this equipment, has been ____ (?) with a long-term follow-up project discussed at a series of international workshops, organized by OOSA, on basic space science at the International Heliophysical Year. Following the workshop, hosted by the National Astronomical Observatory in 2007, Japan, through JAXA, continues to support this series of workshops including the one to be held in September this year in the Republic of Korea.

Mr. Chairman, our delegation is pleased that numerous excellent educational initiatives have been presented in this Committee during the discussion on space and education since 2004. While such exchange of information and experience ____ (?) initiatives relating to space education in a broader context, it is still important and should continue. It might be useful to focus our efforts, through this Committee, to identify a few specific priority areas where additional efforts, however small they might be, could have greater impact on enhancing space and education. In this regard, in addition to presenting successful results of our efforts, we could also share challenges that we have encountered in expanding and promoting space

education activities and shift the focus and our efforts in this Committee to suggesting possible solutions to overcome these challenges based on each other's experience. Thank you very much for your attention.

The CHAIRMAN (*interpretation from Spanish*) Let me thank the distinguished delegate from Japan. I now give the floor to the representative of UNESCO, Yolanda Berenguer.

Ms. Y. BERENGUER (UNESCO) Mr. Chairman, I have the pleasure of updating the distinguished delegates of the fifty-second session of COPUOS of the activities of UNESCO in the framework of the Space Education Programme.

The objectives of this Programme, launched in 2002, are to enhance space-related subjects in the classroom, particularly in developing countries, and promote its integration in the curricula, to provide opportunities for teachers and educators to develop and strengthen their knowledge and skills in the different areas of space through participation in teacher training courses, workshops and conferences, and providing them access to educational materials which they could adapt to their own needs. To raise awareness of the general public of the contribution and benefits of space to the wellbeing of society, particularly its economic and social development, and for the sustainable development of the country. The overall objective of the Programme is to prepare the next generation of space professionals and workforce, the next guardians of the planet Earth and the next users and explorers of outer space. By putting space in the forefront, the Space Education Programme not only brings a new dimension in science education but also introduces new knowledge, perspectives and values, related to the sustainability of the Earth's system. More important, space studies develop the critical thinking process, participatory problem solving and decision-making skills which are central to quality education, a priority goal of the UN Decade on Education for Sustainable Development.

The Space Education Programme focuses on three disciplines, space science, space and aeronautic engineering, space technology applications. The Space Education Programme covers all educational levels, including teachers and educators, although in the past years focus has been made at a secondary level as we all know that this is a crossroad where adolescents would be seriously considering their future, making choices and the paths to take regarding their careers and profession. To stimulate and enhance the interest of young students in the area of space, UNESCO has been organizing workshops in developing countries in

cooperation with space agencies and space-related institutions. These workshops have three components, a space education team made up of representatives of space agencies and space-related institutions who give interactive lectures and demonstrations and hands-on activities on different topics, such as human space exploration, astronomy, rocket science, remote sensing.

At this point I would like to take this opportunity to thank: the French Space Agency, CNES, for the participation of their astronaut, Jean-Jacques Favier; for the participation of the Japanese Space Agency, JAXA, for the contribution of the Japan Space Education Center, in particular the participation of Takemi Chiku; of INPE, through the participation of Dr. Tania Maria Sausen, who is responsible for education in INPE and is, at the same time, Director of CRECTEALC Brazil campus; and, lastly, of the Planetario de Bogota of Colombia. All these experts have consistently participated in the workshops and have contributed to the success of these events.

A second component of the programme is a donation of portable telescopes to schools, in partnership with Meade Instruments and Scientific Explorer, that are meant to transfer and share knowledge in astronomy to schoolchildren in remote areas through roving astronomy courses.

The third component, and the most important one, is the development of a pilot National Space Education Programme, also known as NSEP, which serves as a blueprint for the development and implementation of space education activities in the country. UNESCO has conducted workshops in the Philippines, Colombia, Ecuador, Nigeria, Viet Nam and Tanzania. It is worthwhile mentioning that high-level representatives of the Ministry of Education have participated at the opening or closing ceremonies of these workshops. I would like to mention in particular the workshops held in Ecuador, annually since 2007, as a commitment by UNESCO as a member of the Space Education Working Group established during the fifth Space Conference of the Americas in 2006. In 2007, a workshop was held in three different cities in Ecuador, out of which a meeting of the Ministry of Education was held concerning the insertion of space science and technology in the curricula. In 2008, UNESCO and the Pro Tempore Secretariat of the fifth Space Conference of the Americas, which is Ecuador, organized a regional workshop in Ibarra province with the participation of students and teachers from Argentina, Brazil, Chile and Peru. This year another workshop will be held in Salinas and Galapagos which covers all the ____ (?) provinces of Ecuador.

In early May this year, UNESCO participated in a big space event in Barranquilla, Colombia, called Aventura Espacial, which was participated by more than 5,000 students and teachers. This was a three-day event and this demonstrated that space education is given high priority by the national authorities and, as mentioned by the Executive Secretary of the Comisión Espacial de Colombia. Ecuador, Nigeria, Philippines and Tanzania are working on including space science in the science curriculum at the secondary level. This year, UNESCO will hold a space education workshop in Ecuador, Peru and, for the first time, in the Arab region, in Syria.

2009 is the International Year of Astronomy. As the lead UN agency for the Year, UNESCO, in cooperation with the International Astronomical Union, held the opening ceremony in UNESCO Headquarters on 15 and 16 January, which was attended by more than 900 professional and amateur astronomers, scientists and students. UNESCO covered the participation of 10 students and five single points of contact of IYA coming from developing countries and the two essay contents winners organized by the Space Generation Advisory Council. During the year when many activities are being carried out in different regions in cooperation with UNESCO regional offices, UNESCO Headquarters is partnering with the Observatoire de Paris, Fête de la Science(?) and Palais de la Découverte, in organizing lunchtime lectures, expositions and films in astronomy, including stargazing nights in different venues of the UNESCO permanent delegations, UNESCO Secretariat and the general public.

UNESCO is implementing, relevant to the IYA cornerstone projects, such as the Galileo project, which involves the distribution of low-cost, easy to assemble telescopes at \$15 each. Another project is universe awareness, which focuses on socially disadvantaged children to developing astronomy global project and a dark skies awareness project, which calls for awareness of light pollution. With regard to capacity-building, UNESCO is holding pilot teacher training courses in astronomy, in cooperation with IAU, in Ecuador and Peru. The course will introduce a new teaching methodology in astronomy and will test new education material. This education material will be ____ (?) tested in UN affiliated centres in space science and technology education, starting with the centre at Ill-Ife, Nigeria. The closing ceremony of the IYA will be held in January 2010 in Padua, Italy, the focus will be on secondary students.

I would like to conclude, Mr. Chairman, that the Space Education Programme was developed and

launched, based on the recommendations of two world conferences in 1999, the World Conference on Science and UNISPACE III. In this respect, we will continue and are ready to co-organize activities with UNOOSA and interested COPUOS member States. Thank you Mr. Chairman.

The CHAIRMAN (*interpretation from Spanish*) Thank you very much to the representative of UNESCO, Yolanda Berenguer, a person who is very committed to the theme of education around the world and has worked very assiduously with COPUOS, working with the Chair, the kind of cooperation that is necessary to carry out joint programmes. Let me again thank her for all of that assistance.

I believe that space and society has been concluded. It is an important item, a lot of initiatives have been described here. One which really comes to mind is communication, to create greater understanding among peoples. When we have space programmes, even if it is just a satellite programme, what this can bring to people, what the benefits and spin-offs can be, this is a communication theme and I think in the future we do more thinking about. We have delegations that have made important contributions on this agenda item which will duly be reflected in the report.

If there are no other speakers let us conclude space and society and we will now move on to item 11, space and water. Kazuhiro Miyazaki has the floor.

Mr. K. MIYAZAKI (Japan) Thank you Mr. Chairman, distinguished delegates. On behalf of the Japanese delegation, I am pleased to present Japan's experiences with, and future plans for, space-based water cycle observation and applications.

In recent years we have witnessed the damaging effect caused by major water disasters around the world. In the south-east area of Nepal, on the Koshi river, the huge river flooded and damage caused by heavy rain. Other huge floods occurred in urban areas, for example, in Hanoi, Viet Nam, flooding has occurred each year of the past decade. Flooding has also occurred in Washington and North Dakota of the United States. A sediment disaster occurred due to the generation of the delta dam by the earthquake in Sichuan, China. Many people died and lost their homes because of those disasters. I would like to extend my deepest sympathy to all victims, their families and the affected countries.

In each of the aforementioned cases Japan Aerospace Exploration Agency, JAXA, made rapid

response observations using the Advanced Land Observation Satellite, Daichi. JAXA provides image information that is useful to understand the aftermath of the disasters through the international schemes, such as the International Charter. Daichi carries two types of optical sensors, one of which can provide stereo viewing ground surface images as well as Synthetic Aperture Radar, SAR, which can conduct observations regardless of the time of the day or weather.

Now Japan supports projects such as Sentinel Asia which was developed to disseminate and share disaster information of this kind in the Asia Pacific region. Since 2006, the Internet operation site of Sentinel Asia has been available. Sentinel Asia has successfully finished step 1 and has been switched over to step 2. Sentinel Asia and the International Charter are now making a structure of an interface for generating synergistic effect with each other. The Asian Disaster Reduction Centre, ADRC, which has been acting as a contact point to receive requests from member countries for emergency observations, has officially applied as an UN-SPIDER regional support office. ADRC and OOSA signed their cooperation agreement last week, during this session.

Mr. Chairman, of utmost importance to Japan is the ability to distribute and share information on water-related disasters and water resource management through mechanisms that can quickly and accurately disseminate satellite data and information. The two Japanese geostationary meteorological satellites, Himawari-6 and Himawari-7, one of the worldwide geostationary meteorological satellite networks, reinforce Japan's meteorological observation and disaster monitoring system. In addition, Japan has made a contribution all over the Asia Pacific region as well as in Japan, through 30 years observation by the Himawari series. Observation data through Himawari is also utilized efficiently as the basis for research on climate change, including water cycle. Just recently, research has found that global scale water cycle change directly affecting precipitation, water resource management and the contribution to water and sediment disasters on a regional and national scale. Because Japan is located in east Asia its environment is frequently affected by monsoons. Understanding the global water cycle is therefore vital for predicting its future and for ensuring and improving the quality of our daily lives. Water cycle observations need to be made globally and frequently due to short-term variability. Thankfully, satellite observation provide the single most effective means of making global water cycle observation in this way. For this reason, Japan with JAXA as its lead agency, promotes water cycle observation with a forecast on precipitation. Moreover,

Japan, JAXA and NASA are working together to observe global water cycles.

Data acquired by the Tropical Rainfall Measuring Mission, TRMM, and by Aqua, contribute to the analysis of global water cycle mechanisms and to improvement in accuracy of the weather forecasts. The precipitation radar, PR, on board TRMM, is the first space-borne precipitation radar that enables three-dimensional observation of precipitation. We expect PR to contribute to the understanding of precipitation mechanisms and development of advanced models of precipitation systems.

Improved Advanced Microwave Scanning Radiometer for EOS, AMSR-E, is the most advanced passive microwave radiometer in the world providing high spatial resolution and unique capabilities of all-weather sea surface temperature and soil moisture measurement, not possible with other similar sensors. The data of AMSR-E also contributes to the sustainable observation for monitoring research of Arctic sea-ice dissipation which has been declining in recent years. The coverage data of Arctic sea-ice, which has been monitored by AMSR-E, recorded the lowest levels in the Earth observation satellite monitoring history during the summer of 2007 and the data of last year, 2008, was the second lowest. Recently, the expansion of the ____ (?) ice area has also been observed, therefore, the importance of the monitoring system from Earth observation sensor on satellites like AMSR-E is recognized. Observation data being used not only for research but also for weather forecasting and trajectory predictions of cyclones, hurricanes and typhoons, by meteorological and disaster management agencies worldwide. Also, Japan made efforts to publish results online of the global rainfall map, which are created from the data of TRMM.

Mr. Chairman, plans are underway to complete the Global Precipitation Measurement, GPM, project, which is Japan-US initiative based on technological experience we have gained in order to establish the monitoring system of water cycle. GPM seeks to forecast weather and monitor water cycle variation and natural disasters including torrential rain, typhoons, flood and droughts. The GPM system accurately observes rainfall every three hours using a main satellite which carries a Dual-Frequency Precipitation Radar, DPR, upgrading precipitation data DPR of TRMM in Japan and the microwave radiometer like TRMM, in addition to small satellites that carry microwave radiometers in polar orbit. DPR is the key sensor to ensure the accuracy of the rainfall intensity data acquired by the GPM system. It will contribute to

improve the accuracy of weather forecasting including ____ (?) prediction of typhoons are so on.

We have just started development of Global Water Cycle Change Observation Mission, GCOM-W, which carries microwave radiometer to continue the measurement of the Advanced Microwave Scanning Radiometer for US, AMSR-E.

The Global Flood Alert System, GFAS, initiated by the Ministry of Land, Infrastructure and Transportation, is conducting experimental operations towards the effective utilization of satellite data. GFAS is taking account of the Global Precipitation Measuring mission, GPM, enabling the facilitation of areas of high flood probability based on precipitation data obtained by satellite and disseminating water hazard information to member agencies and users worldwide, through the International Flood Network, IFNet.

The International Charter on Hydrological Assessment and Risk Management, ICHARM, was established in March 2006 within the Public Works Research Institute in the city of Tsukuba, Japan and under the auspices of UNESCO. ICHARM is promoting three periods of activities such as, research, training and an information network, in cooperation with national and international related programmes including IFNet, JAXA and research institutes. At ICHARM, research activities for the development and widespread use of Integrated Flood Analysis System, IFAS, utilizing the rainfall amount data and promoted with the cooperation of the National Graduate Institute for Policy Studies. A course in water hazard waste management ____ (?) management policy, opened in 2007. In this course, 10 students earned a master degree from the inaugural class and 8 students are studying in this programme now.

As for the network of information, ICHARM organized some sessions as a leading organization in water disaster issues at the first ____ (?) water forum last December and came to be recognized as a member of basic organization network, established as a mutual cooperation platform for water issues in the Asia Pacific region. Also ICHARM has enhanced its international presence by organizing sessions concerning water disaster management at the fifth World Water Forum in Turkey in March 2008.

Mr. Chairman, demand for space-based observation and prediction of the water cycle and water resources on the global cycle continue due to an increase in water and sediment disaster trends and other social significant water-related issues in many countries. Therefore, it is necessary to promote the

development and utilization of space-based observations as an effective tool to respond to the associated demands for information. Water cycle changes and availability of water resources pose a significant impact on societies around the world, such as water-related disasters, the availability of fresh water, the consequences on agriculture and commercial activities, and so on. In addition, it can include the accuracy of weather forecasts and also directly affect our daily lives.

Mr. Chairman, it is fair to say that we have come to a point where we must target operations of global water cycle observations and the use of this data in daily weather forecasts, river management and flood reduction systems. We believe, space-based Earth observation will be able to play a major role in these areas, integrating the outcome of space-based and ____ (?) observations, achieving high accuracy and high frequency global water cycle observation using forecast and hazard information for disaster management and agricultural production planning. We are ____ (?) numerous benefits to all of humankind. Japan, in full cooperation with other countries, will make every effort to achieve these targets. Thank you for your attention.

The CHAIRMAN (*interpretation from Spanish*) Let me thank the distinguished representative of Japan for that statement on space and water. With that statement I think we can conclude our work on agenda item 11. Again let me thank you for that statement.

We now come to other matters. Under other matters, I have one request from APSCO. The Secretary-General of APSCO is going to introduce his organization and, after that, I have a very specific request from the same organization to become a permanent observer. You have the floor.

Mr. W. ZHANG (APSCO) [Presentation]

The CHAIRMAN (*interpretation from Spanish*) On behalf of the Committee let me thank you for the presentation on APSCO, the Asia-Pacific Space Cooperation Organization. Mr. Wei Zhang who is from the general secretariat and who is requesting status of permanent observer to this body. Let me thank him for that presentation. You all have heard the presentation, you have copies of the presentation and we will be making a decision on this request.

Iran has the floor.

Mr. A. TALEBZADEH (Islamic Republic of Iran) Mr. Chairman, my delegation strongly supports the Asia-Pacific Space Cooperation Organization, APSCO, to be granted permanent observer status with COPUOS. The Asia-Pacific Space Cooperation Organization and ____ (?) of regional cooperation is dealing with a variety of issues, such as earthquake, flood, pollution, environment, climate change, drought, etc. through using space technology for disaster mitigation and management. The Islamic Republic of Iran believes the presence of the Asia-Pacific Space Cooperation, as a permanent observer in this Committee, will contribute to the work of COPUOS. We are also of the view that the cooperation within the Asia-Pacific Space Cooperation Organization and COPUOS can be a fruitful result for both regional and international committees. Thank you.

The CHAIRMAN (*interpretation from Spanish*) Let me thank the distinguished representative of Iran.

We are a little bit short of time, we are going to now move on to the presentations and this afternoon we will, of course, come back to this very important question, this request for status.

The first presentation this morning is going to be done by Japan. Mr. Kato will be talking to us about introduction of a tool for space education.

Mr. T. KATO (Japan) [Presentation: Introduction of a Tool for Space Education]

SECOND VICE-CHAIRMAN Thank you Dr. Tsunehiko for your presentation and for taking us from the Earth to the frontiers of the universe and back again. Very interesting.

Now distinguished delegates, we will move to the second presentation that you will hear this morning and it is by the representative of Turkey, Mr. Nurcan Bac, who will make a presentation on science of advanced materials in space with spin-off applications on Earth.

Mr. N. BAC (Turkey) [Presentation: Science of Advanced Materials in Space with Spin-off Applications on Earth]

SECOND VICE-CHAIRMAN Thank you very much Mr. Bac for your presentation on space applications for development of advanced materials which have very diverse uses, especially in medicine and also in energy. We may have some time at the end for questions and comments.

We will now move to the third presentation, that is by Mr. Abdulmalek Al-Alshaikh, Secretary-General of the Prince Sultan Bin Abdulaziz International Prize for Water, which will be followed by a video presentation. You have the floor.

Mr. A. AL-ALSHAIKH (Prince Sultan Bin Abdulaziz International Prize for Water) [Presentation]

SECOND VICE-CHAIRMAN Thank you very much Mr. Al-Alshaikh for your video and presentation. We have some time for questions and comments on these three presentations.

I see none.

I will shortly adjourn this meeting of the Committee. Before doing so, I would like to inform delegates of our schedule of work for this afternoon. We will reconvene promptly at 3 p.m. At that time we will continue and conclude our consideration of agenda item 15, other matters. Time permitting, we will begin our adoption of the report of the fifty-second session of the Committee, agenda item 16.

There will be four technical presentations in the afternoon. The first one by a representative of DESY,

Germany: From Quarks to the Universe - the Big Bang in the Lab. The second one by Indonesia on: Space and Climate in Indonesia: Status and Challenges. The third one by SGAC on the outcome of the SGAC tenth anniversary, space generation on the tenth anniversary conference, UNISPACE III, how far we have come. The fourth one, by Algeria, on the third African Leadership Conference on Space Science and Technology for Sustainable Development.

I would now like to invite delegates to the light buffet, which will start in a moment, which will be served next to the coffee room pigeon holes on this floor, to be followed by the round-table, astrophysics and cosmology: 400 years after Galileo, hosted by the Permanent Mission of Italy to the international organizations and the Italian Space Agency, which will take place in this conference room at 1330.

Are there any questions or comments on this proposed schedule?

I see none.

This meeting is now adjourned until 3 p.m.

The meeting closed at 12.40 p.m.