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Committee on the Peaceful Uses of Outer Space

Unedited transcript

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Vienna

Chairman: Mr. G. Brachet (France)

The meeting was called to order at 10.14 a.m.

The CHAIRMAN (*interpretation from French*): Ladies and gentlemen, distinguished delegates, good morning. As you know we have two days left, today and tomorrow, for this session and there is a lot of work to be done. Therefore, I would like to ask everybody to be focused on the work at hand and, if possible, to be concise to the extent possible in your statements. Thank you.

I now declare open the 578th meeting of the Committee on the Peaceful Uses of Outer Space. This morning we will continue and hopefully conclude our consideration of agenda item 7, report of the Scientific and Technical Subcommittee on its forty-fourth session. Also, item 10, space and society and item 11, space and water. We will also continue our consideration of agenda items 12, the use space-derived geospatial data for sustainable development and 13, other matters.

Ladies and gentlemen, distinguished delegates, we are now taking up, or rather resuming, our consideration of agenda item 7. As you know we have concluded the discussion with regard to setting up the SPIDER programme and I will start by giving the floor to Dr. Camacho, Director of OOSA, for comments on the presentation that he made yesterday.

Mr. S. CAMACHO-LARA (OOSA): Thank you, Mr. Chairman. Yesterday, following the presentation the distinguished representative of Switzerland made some comments regarding the work plan and the representation, how it appeared. So, we had a coordination meeting, yesterday, and we realized that the representation could be done in a different way and what I would like to ask is if we could have a projection and then I will explain.

If you turn to CRP.13, which is the work plan, you will see that the activities have the table that contains the work plan. In the first column, an activity identified by a number that corresponds to the elements of the functions of SPIDER. On the first page you see activity 1.1, then you will see "targets" and then you will see "Bonn office". In the second column, still CRP.13, you will see "plan 2008 activities" and in the third column you will see "plan 2009 activities". This continues until we come to the end of that table, the last page of CRP.13, which ends with "activity 3.3" and that says "targets" and then in parentheses it says "OOSA Vienna" and the two corresponding columns.

What we have on the screen, right now, has that same structure, it says "targets Geneva liaison office". You notice that on it, it does not have an activity number. What we have then underneath, in the table, are the generic activities that the Geneva office would carry on at any time, it is not only 2008, 2009, 2010, 2011 and so on. In parentheses, next to each one of those activities, it says "link to activity" and then there is a number, 1.3, 1.5, 1.4 and so on. What this indicates is those would be the activities that would be carried out by Geneva then in coordination with each of the lead offices that are in the table that you have in CRP.13.

Our proposal for your consideration is that we then include this table immediately underneath the table that you currently have. It does not change the content, it describes these activities are the same that

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are described in paragraph 51 of CRP.14. It is a graphic representation so that you can see, these are activities that the Geneva office would be doing and, for 2008, these are the targets, this is what Geneva will be implementing in these two years. I hope that is a faithful representation of the discussion that I had yesterday with our colleague from Geneva. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Director, for this additional presentation, this table, which will complete the master document presented yesterday.

On this agenda item I have a request for the floor from the representative of Germany.

Ms. M. WÜLKER-MIRBACH (Germany): At its forty-fourth session in February this year, the Scientific and Technical Subcommittee had asked you and also to submit to this COPUOS meeting a summary report on SPIDER and the SPIDER work plan for 2008-2009. Germany wants to thank you and OOSA in particular, the Director, Dr. Sergio Camacho-Lara and David Stevens for the very hard work undertaken to establish SPIDER, to carry out the work plan 2007, to prepare for the work plan 2008-2009 and for the very helpful report on SPIDER submitted to this Committee.

Let me assure you, Germany believes in SPIDER, we are convinced that SPIDER will become a key initiative for applied space technologies serving, in particular, developing countries and the various end-users to improve disaster management situations especially in emergency response cases. SPIDER will contribute to develop solutions to save human life. SPIDER must build upon the momentum and the drive created by the resolution of the General Assembly in December 2006. As decided in the resolution of the General Assembly, SPIDER will have an office in Beijing and an office in Bonn, Germany and will be established as a programme of the Office for Outer Space Affairs under the overall supervision of the Director of the Office.

Last year, COPUOS has agreed to the distribution of tasks between the SPIDER offices in Beijing and Bonn and UN OOSA designating the lead and responsibility for specific activities and for coordinating the work to each office or to UN OOSA respectively. The coordination mechanism proposed by UN OOSA, as in document CRP. 14, corresponds to this already agreed mechanism by COPUOS on which the decision of the General Assembly was based.

Germany has offered to support the UN SPIDER office in Bonn with €150,000 per year and infrastructure and has also offered to UN OOSA two experts for the office in Bonn. The German offer covers four years, that is to say until 2011. My Government, in February 2007, has taken the necessary steps to enable UN OOSA to set up the Bonn office. Germany is confident that the SPIDER Bonn office will be opened within the coming months.

Germany welcomes that an increasing number of countries have offered support, in terms of cash money, experts, infrastructure or otherwise, in particular through regional support offices. The voluntary contributions already offered by member countries do not seem to be sufficient to carry out, in a sustainable way, the important tasks given to SPIDER by the General Assembly resolution 61/110. Additional resources are needed, Germany therefore appeals to all members of the Committee to give due consideration to offer additional resources to UN OOSA. UN OOSA in its report has identified the need for additional regular budget resources. I can assure you and OOSA that Germany will support a corresponding request and we encourage other member countries to do the same.

Mr. Chairman, with respect to the additional page, which was just submitted by UN OOSA, we would like to have a closer look at it before coming back to it. In concluding, we are looking forward to the discussions on documents CRP.13 and CRP.14 today. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Madam, for your contribution and for your support, your firm support on behalf of Germany, of the implementation of the SPIDER programme.

I am now going to call upon the distinguished representative of Nigeria.

Mr. J. AKINYEDE (Nigeria): I want to reaffirm, on behalf of my delegation, Nigeria's commitment to the implementation of SPIDER. As we are all aware that SPIDER has come a long way and, with all sense of belonging, is a solution to our general problem to disaster management all over the world. The programmes have been well-planned and laid out by OOSA as well as the mechanism for coordination of the various centres and the Nigerian delegation wishes to support this programme and the mechanism for the coordination with all the various activities of the respective centres. As earlier stated in a statement, Nigeria also wishes to inform this august body of our earlier commitment that we are working on it already,

to have Nigeria as a regional or subregional portal of SPIDER in Africa. A committee has been set up in Nigeria and the committee is putting together all possibilities and programmes that would be needed to set up in Nigeria, to liaise with all the centres and also to develop its own knowledge portal in Nigeria which will be linked up to the centres. Nigeria is willing to commit, not only two experts as earlier stated but other resources in order to make SPIDER meet all its needs, particularly in the West Africa subregion.

The CHAIRMAN (*interpretation from French*): Thank you, Mr. Akinyede for your statement and for your offer of cooperation and active participation in the SPIDER programme at the regional level in Africa.

Any other requests for the floor?

Mr. C. ARÉVALO-YEPES (Colombia) (*interpretation from Spanish*): The Colombian delegation would also like to say, as indeed we did during the preliminary statement and introduction, that we support SPIDER as a system which, among the capacity that OOSA has, gives major support to developing countries because they are engaged in an effort to better structure their response to disasters regardless of the nature of the disaster. There have been several statements made as to how the structure of SPIDER should be developing, so one of the criterion we have always mentioned is that there should be interlinkages with those in developing countries really bearing the brunt of serious disasters. Among the capacity already available in various countries, particularly via the Geneva office and of course the Bonn and Beijing offices, perhaps we should not lose sight, Mr. Chairman, of the fact that this is not a decentralized system, there is a hierarchy to this system, at least that was my understanding, where the Secretariat of OOSA has a very substantial and priority part to play. The significance of these offices is significant in nature, is distinct, the Swiss office in particular is going to make a contribution as a multilateral centre for humanitarian affairs and that dovetails with entry into COPUOS which is an excellent introduction and expression of a commitment and I am sure that this will develop subsequently. We are very pleased to see that the Bonn office already has an excellent structure in place and that there is a Chinese commitment also towards the office in Beijing.

As for the Latin American region, Sir, I am quite sure that this will be one of the items to be discussed at the next Guatemala conference of the Americas. This, no doubt, will be a concern conveyed to the pro temporary secretariat by Ecuador and it would be very interesting to give some thought and consideration to a regional office in that part of the world at some point in time. It is not a secret of course that this will be well received in the region.

In respect of my country, Colombia, we have put our name down on the list of countries since we are now studying how we could make a contribution and I am pleased to have here the Director of the Colombian Space Commission who could naturally help us very much indeed in that regard. Of course, we give our full support to the whole project, it is very important indeed. It is one way of showing that the Office is doing operational things and you can of course rely on the support of Colombia.

The CHAIRMAN (*interpretation from French*): I thank the Ambassador for his statement and for his comments on the institutional structure of SPIDER and the interest shown in this programme throughout the Latin American and Caribbean region and of course in his country, Colombia.

In the years to come, at the time of the Scientific and Technical Subcommittee session at the beginning of 2008, a report will be presented by the Office for Outer Space Affairs which will cover that particular dimension, the regional dimension of the SPIDER programme.

Thank you again for your contribution.

Any other requests?

Mr. A. OUSSEDIK (Algeria) (*interpretation from French*): The Algerian delegation would like to re-assert its support for the implementation of the SPIDER programme. We have already heard mention of the fact that Algeria has transmitted to the Office its proposal, confirmation of its support of the German initiative and a proposal that a regional entity be hosted in Algeria. Algeria has been active within the framework of the international charter for space and major disasters and the disaster monitoring constellation with the United Kingdom, Nigeria, Turkey and China has been functioning very actively. We should also like to recall our role in the regional coordination mechanism through the regional workshop on the use of space technologies for the prevention of natural disasters, organized in Algiers by the Algerian Space Agency and the European Space Agency and OOSA, so in human resources terms and infrastructural terms we are prepared to contribute to this regional effort. We would take upon ourselves coordination of the various services to protect civilians

and the various mechanisms underlying this work, put together a network throughout North Africa and put at the disposal of the competent regional authorities value-added space-based resources with regard to natural resource management and setting up a regional catalogue of principal natural disasters that occur in the area. Also, speaking on the continental scope including Nigeria, Kenya and South Africa, we are working on an African constellation for resource management throughout Africa, natural resources management and we could also make a contribution to the international work within the framework of this important programme.

The CHAIRMAN (*interpretation from French*): Thank you Mr. Oussedik for that statement. You have also recalled for us the major interest displayed in your country for participation in the SPIDER programme, a regional programme has been mentioned and Algeria has very often been affected by natural disasters. There have been quite a few of those unfortunately and quite a number of fatalities and that explains your interest in the programme.

Any additional statements from delegations or possibly observers on this item? I see none.

May I ask the German delegation whether they are now in a position to give us comments on the complimentary table, the additional table, that Mr. Camacho referred to this morning?

Ms. M. WÜLKER-MIRBACH (Germany): If possible, I would like to come back to it at a later stage after consultation with my delegation.

The CHAIRMAN (*interpretation from French*): That means that we will continue and hopefully complete our consideration of agenda item 7 in the early afternoon, it is very likely, to give the German delegation time to study the additional document which was handed out this morning and which was introduced by the Director of OOSA.

Distinguished representatives, perhaps now we should turn to item 10, space and society. We continue our consideration of this agenda item. I have one request to speak from the Republic of Korea.

Space and society (agenda item 10)

Mr. K. CHUNG (Republic of Korea): Thank you, Mr. Chairman. Space technology is based on _____ (*inaudible*) technology and it has been improving the quality of life through the application of space science and technology to everyday life. Therefore, it is important to make the public aware _____ (*inaudible*) the space technology and its application.

I would like to take this opportunity to briefly outline my country's efforts for the _____ (*inaudible*). In 2006, the World Space Week 2006 was held across Korea. The first day of the World Space Week 2006, Korea Aerospace Research Institute (KARI) and Young Astronauts Korea (YAC) hosted the National Model Rocket test to inspire space science and technology concepts for children and young people. Around 600 students were qualified in 13 regional competitions worked together to build and launch their own rocket. A total of 14 winners from each category were awarded prizes by the Ministry of Science and Technology. In a water rocket contest, 200 students actively participated. Young Astronaut Korea also hosted the annual nationwide Space Olympics, in Daejeon and Kangwon provinces during the World Space Week 2006. Thousands of children and their parents participated in various competitions such as water rocket, glider and air balloon contest and space drawing and writing.

Korea Science and Engineering Foundation (KOSEF) organized the first international symposium on space _____ (*inaudible*) in memory of World Space Week in Seoul on 12 June 2006. This international symposium provided a forum for the exchange of information and opinion for participants from leading countries in space technology providing an opportunity to establish and strengthen the relationship among participants.

We are currently selecting the first Korean astronaut candidate. The Korean Astronaut Project began with the learning test for selection. The final two astronauts from over 36,000 applicants were chosen on 25 December 2006 after the various stages of physical and mental intelligence tests. _____ (*inaudible*) televised nationwide by broadcasting company and it proved great attention from the public. KARI also established a public relations office for space education in the Korea Space Centre which is under construction at the Oinoro island, Goheung, southern part of Korea. _____ (*inaudible*) in educating space science by the exhibition of the _____ (*inaudible*) space science and the _____ (*inaudible*) launch vehicle and satellite. It is expected that many children will have the experience to operate the _____ (*inaudible*) and the space ship by using computer simulation. This first facility will inspire the dream and vision on space. Thank you very much for your attention.

The CHAIRMAN (*interpretation from French*): Thank you, Mr. Chung, for that statement describing the activities in your country to publicize space among the public at large and particularly young people.

I will next call on the distinguished representative of UNESCO, Ms. Yolanda Berenguer.

Ms. Y. BERENGUER (UNESCO): It is a pleasure for UNESCO to provide the distinguished delegates of COPUOS an update on the activities of the space education programme. It is worthwhile recalling that the space education programme was developed and launched based on the recommendations of two world conferences in 1999. The first is the World Conference on Science organized by UNESCO and the International Union of Scientific Unions and one of its recommendations was to improve science education at all levels as well as develop new curriculum and teaching methodologies. The second conference was UNISPACE III which proposed the enhancement of education and provide opportunities to young people to learn more about space science and technology and their importance to human security and development.

The space education programme was launched in 2002 with the following objectives. Promote the enhancement of space-related subjects and disciplines in schools and universities particularly in developing countries and provide teachers and educators opportunities to develop and improve their knowledge and skills in space-related topics. The overall objective of the programme is to contribute to the preparation of the next generation of space workforce.

The programme focuses on three disciplines, space science, space and aeronautic engineering and space technology applications and this is in tandem with our partners in the different fields of space science. We believe that space studies adhere to quality education which is what the UN Decade on Education for Sustainable Development promotes which has three components, quality education is value driven, it promotes critical thinking and problem solving and promotes participatory decision-making. These, indeed, are very important for the young generation and should be focused from here on and we believe that space studies does compliment quality education.

UNESCO organizes outreach activities at all educational levels and in particular for children from 6-9 years old, which is what we did in 2004, by organizing a drawing contest for children on the theme space and daily life after which a calendar was produced. At the secondary level UNESCO organizes workshops and the workshops are composed of three parts. We have a space education team that goes to the country, they provide lectures and demonstrations on various space topics. We also provide portable telescopes in cooperation with Meade Instruments. Finally we sit down with the host authorities and draft a pilot national space education programme.

These workshops have been organized in the Philippines, Nigeria, Colombia, Viet Nam and most recently in Ecuador. In 2008-2009, we are considering to hold workshops in Tanzania, Fiji, Morocco and Syria. We adhere to the United Nations principle of north-south and south-south cooperation. Having our experts not only from developed countries but also from developing countries, such as when we will organize a workshop in Tanzania we hope to be able to invite experts from Nigeria as well as from the other countries where we have organized our activities. In Ecuador, for example, we had an expert on astronomy from Colombia who participated in our Ecuador workshop. Moreover, we tend to reach a broad number of students which is why we organize the workshops in multiple series. In Colombia we organized it in four series, in Viet Nam in three, as well as in Ecuador.

These are just some pictures of the workshop we held in Ecuador. The bottom picture was held in Quito, as you well know this is where the 00 latitude is but we did succeed to launch some rockets.

Most recently we held a national workshop in Nigeria to develop the space science curriculum and we had teachers and education stakeholders participate in this workshop. This is a first primary step-up in order to have space science included in the science curriculum.

UNESCO works on regional and international mechanisms in order to implement its activities. The first is in cooperation with the Asia Pacific Regional Space Agency Forum which is spearheaded by JAXA. We have organized teacher training workshops and seminars and we intend to publish educational materials with them. UNESCO is presently the Chair of the CEOS working group on education and a workshop was organized for teachers in Buenos Aires last year in this framework. This year the CEOS working group will organize another workshop in South Africa. A third mechanism is the IAF Space Education and Outreach Committee which is a forum for information and networking and this focuses more on space and aeronautic engineering activities.

Lastly UNESCO is co-chairing the GEO Capacity Building Committee and I would like to take

this opportunity to invite member countries who have not yet applied or registered to take this occasion and be a member of GEO. As you well know GEO is working on the Global Earth Observation System of Systems process which is the coordination and enhancement of the monitoring of the Earth by putting together Earth observation satellites, *in situ* data as well as ground observation. The GEO has several committees, we are in the capacity building committee and, in September the committee will be organizing a donor symposium. It will be worthwhile for the members to participate or assist in this symposium because we will have funding agencies who would look into some projects that could be implemented at the national, subregional or regional level. The website of GEO is at the bottom of this slide.

Present and future activities of space education programme. This year UNESCO co-organized a panel on best teaching practices in Latin America during the thirteenth Remote Sensing Symposium of Brazil and the objective is to come up with a list of best teaching practices in Latin America and promote and disseminate this information in different Latin American countries. As I mentioned earlier we are also working on the space science curriculum development. Nigeria is the first country that has taken this giant leap and a second workshop will be organized to include the Ministry of Education.

A third activity is a follow-up of the teachers workshop that was held in Buenos Aires last year and we will hold this workshop in Córdoba, the ground station of CONAE, wherein we will have Argentinian teachers being exposed on the fundamentals of remote sensing and some hands-on training. On this occasion we will do some rocket launching as well and hold a special event during the World Space Week.

UNESCO, as I said, is looking into the publication of pedagogical materials in cooperation with different space agencies in particular JAXA.

Milestones for UNESCO. 2008, the United Nations International Year of the Planet Earth and we believe that Earth and space is one, so 2009, we are going to propose the declaration of the international year of astronomy. In this respect we would like the support of the COPUOS member States to the proposal on the declaration of the United Nations international year of astronomy in 2009 at the forthcoming United Nations General Assembly. At the moment it is only an international year of astronomy and so we would like to have the United Nations insignia included in this celebration.

To conclude, Mr. Chairman, we would like to suggest as well that under agenda item 10, that astronomy could be included as a theme or subtheme for 2008-2009 and we would like again to invite all space agencies, space-related institutions at national level to participate in our activities for which we endeavour to prepare the next generation of space workforce. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Ms. Berenguer, for that statement and your description of UNESCO's work in the particular area of space education. There is a full range and variety to what you do and you span the world as a whole as demonstrated just now in your statement.

Any additional delegations or observers wishing to take the floor on this agenda item, which is space and society.

Distinguished representative of Colombia.

Mr. C. ARÉVALO-YEPES (Colombia) (*interpretation from Spanish*): Very briefly, if I may, on this topic but I simply could not let the occasion slip by without congratulating Yolanda Berenguer for that contribution. They have worked hard, they have been very active in educational topics and they are fundamental for our country as you know in the particular case of Colombia. She headed a series of space camps in four cities of the country, where it is still recalled that, this was an outstanding event. Young people tend to remember this over long periods of time and UNESCO played a very major part in this exercise.

I would like to refer to some of the elements that she listed. The world astronomical year is one element which, I think, we should be bearing in mind. In addition to which, there is a major event to be held in Latin America which is FIDAE, the Fair and UNESCO plays such an important part there, it would be absolutely of the greatest significance to have them participate. I myself did so on two occasions and it really deserves to be properly underpinned and supported from the side of education.

Finally, since Yolanda chaired the Interagency Meeting, the last one was held here in Vienna and we were all very much impressed, all of those who were able to participate. I would like to appeal so that we can have this meeting in the context of the Scientific and Technical Subcommittee. This is something we have requested on several occasions. We would like to make use of that audience and make sure that there is appropriate exchange of experience between such organizations. No doubt you were witness to this, it

was indeed very important and it was of basic and fundamental use.

The CHAIRMAN (*interpretation from French*): Thank you Ambassador Arévalo and also thanking him for the kind words addressed to UNESCO and to Ms. Berenguer personally for the work done in this area of education. As for the suggestion to have interagency meetings during the Scientific and Technical Subcommittee session, I would like to turn to the Director and ask whether this could be envisaged in 2009. Is this feasible?

Mr. S. CAMACHO-LARA (OOSA): Yes, it is possible and it has been done before. We do not have it on the agenda for this next session and the interagency has to, at any rate, coordinate. It certainly has been done and I personally think it was very successful when we had that event exactly in the framework of the Scientific and Technical Subcommittee. It might either become a rather periodic type of activity maybe not every year but every two years.

The CHAIRMAN (*interpretation from French*): Very well. I will next call on our distinguished colleague, the representative of Greece.

Mr. V. CASSAPOGLOU (Greece) (*interpretation from French*): I would like to say hello to all of you and express not just my congratulations to UNESCO for the whole of their work on education and, on this occasion, I would like to point out that there is a need to make reference to the part on educational material because I am really very much interested and indeed concerned. It is the whole message that is at issue, in political terms and in the widest meaning of the word, our message to young people and the use of outer space. Here I would very much welcome that UNESCO which is the most suitable forum anywhere in the world, the whole concept of peace should be stressed there, solidarity, selflessness, all things that are important to human beings, to preserve space as an environment where we have peace and which benefits humankind generally.

Since I have the floor you will no doubt recall, Sir, a very attractive CNES publication, this included cartoons for children and that was hugely successful. Perhaps this could be distributed in schools, in any event it was distributed in French schools in the Athens community and I can tell you that it was very successful. There is not just scientific conferences that we have to organize and, through you, Sir, I would like to turn to our distinguished friend from UNESCO and ask her to say whether they have special programmes for very young children and students.

Since we are on education, let me express my regret. In the school manual of the European Space Agency I saw that there are two items for archaeological sites which are part of the common heritage but there is not a single photograph of Greece or a Greek historical site, archaeological site. Athens or any other site. I am sure you cannot miss out Greece in an official publication, for heavens sake. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you Mr. Cassapoglou for that statement. On the particular question put to UNESCO let me turn back to Ms. Berenguer. Can she answer the question in respect of programmes for very young children?

Ms. Y. BERENGUER (UNESCO): As I have already mentioned during my presentation, the purpose of our programme is to achieve all levels of education. Having said that, starting at the age of six all the way to university, UNESCO discharges its duties to provide for activities for children and students but we do not have a special project for very young children. We are, however, working with charitable institutions such as Science _____ (*inaudible*) among others in order to promote space science.

The CHAIRMAN (*interpretation from French*): Thank you, Ms. Berenguer, for pointing that out. On the last item that you mentioned, Mr. Cassapoglou, I have not had time yet to look at the school publication that Lothar Beckel very appropriately made available for us but I am sure that the following edition can only repair such a mishap especially since Greece has now joined the European Space Agency.

I have noted a request to take the floor from the distinguished representative of Chile.

Mr. R. GONZÁLEZ-ANINAT (Chile) (*interpretation from Spanish*): Thank you. First and foremost my delegation would like to say how pleased it is with the very complete, comprehensive presentation that we have just had from our colleague, Ms. Yolanda Berenguer from UNESCO. There are some salient features there that I would like to underline. We did express some disappointment because there was less active participation from the side of UNESCO in the fifth Space Conference of the Americas in Quito and the preparatory conference leading up thereto. There were excellent initiatives in

the area of space camps, something that also plays a major educational role.

Second, she brought to our attention the fact that Italy, unless I have misunderstood, will be promoting the adoption of a General Assembly resolution on astronomy. Astronomy is of great relevance and significance to our country, we have major observatories sited in our country, we are very lucky in that, in that part of the world, the skies are very clear, top quality for observation purposes in other words. I certainly would not recommend that they go to Santiago de Chile because astronomers would be disappointed there but in the northern parts of my country they will certainly not be disappointed.

We would like to offer our cooperation, through UNESCO, to the Italian delegation and direct to the Italian delegation as well, of course, so that we pool our efforts between Italy and Chile with the widest possible criterion that applies and cooperation from all countries flowing into this exercise and also the presence of COPUOS staff members. It could be a special assembly together with the fiftieth anniversary and that jubilee for COPUOS. It would be an excellent thing for the 15 to be represented, in terms of launching a major activity, which has one impact, that of backing up UNESCO's efforts on the one hand but, let me say quite frankly also, asking UNESCO to be evermore active in this, in plans, projects and programmes that are part of the key area which is education. That is part of their responsibility, they have excellent infrastructure, good logistics, they furthermore have, well I personally did not meet the Director-General but there is an Assistant Director-General I know well, Mr. Barbosa, who has assured us that we will be getting cooperation and fortunately has attended some events but there were other bureaucratic reasons that prevented attendance but FIDAE, as appropriately mentioned and described by my colleague from Colombia, is an event where we would formally like to invite UNESCO to attend so that they can make a statement and that there is proper interconnection between astronomy, climate change and space technology, that is the reference or conceptual framework that we would have envisaged for FIDAE, with experts at the highest level participating, some have already confirmed that they will be able to attend. We would like to formally extend an invitation to UNESCO and ask Yolanda Berenguer to convey this to the highest authorities of the organization and she would be very welcome of course because she is always cooperated with Latin America. That takes care of the topic of UNESCO.

My distinguished friend and colleague from Colombia made a reference which we think is particularly interesting. There is an historical gap, to a certain extent, between these top level staff members and the interagency meetings and the topic of space. On the occasion of these meetings we get very topical information, up to date, it comes via OOSA but here we should consider matters in a chronological manner. I do differ slightly in respect of what was said by the Ambassador of Colombia because I think that agency meetings, agencies of the United Nations system regardless of their legal status, are very important, you cannot just reduce this to a meeting that comes about in the context of the legal and technical subcommittees. In as far as possible such a meeting should be placed in the context of the Commission starting next year. We could perfectly well, at this point in time already, adopt a recommendation in that it should be at the Committee level as a whole because for the Secretariat it may be difficult but, let us not make it mandatory at this point in time, let us just say that there is a declaration of intention in that the Interagency Meeting should be done in the context of the next Committee meeting. There are global issues that we are facing and we have to have a more varied vision, broader in scope of the topics under consideration. Basically these are the comments I have to make at this point in time.

The CHAIRMAN (*interpretation from French*): Thank you Mr. González for your contribution. We are going to first put aside the issues pertaining to space and society, space and education which is on the agenda and, on the other hand, the matter of the Interagency Meeting which is almost part of item 13.

On item 10, space and society. Would any other delegations wish to speak at this point? It is my intent to conclude our consideration of this agenda item by making two suggestions.

We have heard various statements under this agenda item, some of them contained proposals of actions, on the other hand I would like to recall that the mandate that we have states that we should prepare a document, this is a mandate following from our work plan. We need to prepare a document on the role of space in education and the links between space and education. It is a document that will be then handed over to the UNESCO General Conference. This mandate puts together the various proposals that have been made specifically, the proposals made by our distinguished colleague representing Japan yesterday in his statement.

What I would like to suggest is that in conclusions on agenda item 10 we should refer to some of these proposals. I am going to read an excerpt from the presentation made by our distinguished colleague from Japan. It is in English.

In this regard I think that it would be useful if the Committee addressed specific issues of space and education at its future session either special themes under the agenda item of space and society or through a symposium. As one of the outputs of the work plan to address space and education, consideration could also be given to compiling information, either on line or in the form of a brochure, on successful activities and initiatives of member States and international entities in enhancing space education while categorizing those activities and initiatives by the target beneficiaries and main objectives. This could be useful for interested decision-makers and educators to initiate space education activities particularly in developing countries if the context for those activities could also be made available to provide further information upon request.

This is what I wanted to read, this is an excerpt from the statement made by the distinguished representative of Japan yesterday. Maybe we could reprise that in a more condensed form and also add some of the proposals made toward the end of Ms. Berenguer's statement on UNESCO activities and thus put all that as part of the implementation of our mandate under agenda item 10. This will be put in the appropriate form by the Secretariat of course as part of the report.

If you agree with this manner of proceeding we can, at the moment, conclude our consideration of agenda item 10 and move on to agenda 11, space and water.

Under item 11, I have two delegations on my list, India, Mr. Radhakrishnan you have the floor.

Space and water (agenda item 11)

Mr. RADHAKRISHNAN (India): The Indian delegation is delighted to note that since the inclusion of this agenda item, space and water, in the forty-seventh session, the Committee has been contributing significantly to promote use of space-based systems for water management. Also, the Indian delegation is happy to note that a symposium on space and water has been organized under this agenda item during the current session.

Mr. Chairman, with the ever increasing population _____ (*inaudible*) is to preserve and utilize better the water resources on the planet Earth to ensure at least minimum quality of life to every citizen, hence it is imperative not only to develop new water resources but to conserve, recycle and re-use the water wherever possible. Earth observation satellites by virtue of capturing the variability, vulnerability and dynamism of the diverse ecosystems provide the operational inputs that decision making body leading to the natural resources management. The strength of the Earth observation and Geographic Information System lies in unfolding the various _____ (*inaudible*) and the underlying factors that exist between the state of natural resources and the _____ (*inaudible*) opportunities of the stakeholders.

In India, the Indian remote sensing satellite systems, the workhorse for major new applications, have made considerable impact in the areas of natural resources management particularly in the surface and groundwater management. The Rajiv Gandhi National Drinking Water Mission has been quite successful towards effective water resources utilization in the country enabling the communities _____ (*inaudible*) in terms of maps, like groundwater prospects maps as well as _____ (*inaudible*) sites _____ (*inaudible*), a generation of natural resources repository, waste plan mapping and watershed monitoring projects for the country comprising mainly from the use of data from the remote sensing satellites has shown considerable progress. This has provided valuable input towards developmental planning, monitoring and evaluation. All these initiatives have paid rich dividends and help make possible optimum utilization of the country's natural resources.

With this rich experience in water resources management in the country, India is willing to share its experience and consider providing the necessary assistance for developing countries particularly in the African region with the support of a few like-minded countries.

Acute water shortages and floods are a point of major concern in developing countries. Putting to use the space-based platforms in a cost-effective manner for water resources management and handling water-related emergencies is getting more prominence in the international arena. In India we have plans to adopt a two-pronged approach for meeting the future challenges of water requirements. One is the short term approach which would involve conserving water through rainwater harvesting and groundwater recharge by putting to use the space-based systems. The long term plan could be for transfer of water by interlinking _____ (*inaudible*). The space applications programmes in India will continue to contribute towards meeting all

the national initiatives taken up for water resources management for the benefit of mankind.

The CHAIRMAN (*interpretation from French*): Thank you Mr. Radhakrishnan for your statement, for your description of the missions organized by India to promote better use of space technologies for the benefit of your country in terms of water management.

On this agenda item I also have a request from Japan, Ms. Tanabe.

Ms. R. TANABE (Japan): Mr. Chairman, distinguished delegates, on behalf of the delegation of Japan I have the honour to present Japan's experiences and future plans for space-based water cycle observations and their applications.

Within the last year we have witnessed the damaging effects caused by major water disasters across the world. Last year in May there occurred a flood in Thailand and also in February this year there occurred a flood in Indonesia. Many people died and lost their homes because of the disaster. I would like to extend my deepest sympathy to the affected nations, their people and the families of all victims.

In each of the afore-mentioned cases Japan Aerospace Exploration Agency (JAXA) made rapid response observations using the Advanced Land Observing Satellite, Daichi, which was launched in January last year with cartography and environmental and disaster monitoring missions. Daichi carries optical sensors that provide stereo viewing ground surface images, as well as Synthetic Aperture Radar (SAR) which can _____ (*inaudible*) observations regardless of the time of the day or weather.

Today Japan supports projects such as Sentinel Asia which was developed to disseminate and share disaster information of this kind in the Asia Pacific region. Last October the Internet operations site of Sentinel Asia has been opened. Sentinel Asia started to provide a disaster information platform based upon an Internet and Geographical Information System. This March, the third joint project team meeting was held with the participation of 19 countries and 8 international organizations, additionally Sentinel Asia contributes to the activity of GEOS in the Asia Pacific region.

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 7, reinforce the Japanese meteorological observation and disaster monitoring system. Just recently research has found that global scale water cycle changes are directly affecting precipitation, water resource management and contributing to water disasters on a regional and national scale. Because Japan is located in _____ (*inaudible*) 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 observation needs to be made globally and frequently due to short term variability. Thankfully satellite observations provide the single most effective means of making global water cycle observations in this way. For this reason Japan with JAXA as lead agency promotes water cycle observations with a focus on precipitation. Moreover, JAXA and NASA are working together to observe global water cycles. Data acquired by Tropical Rainfall Measuring Mission (TRMM) and by Aqua contribute to the analysis of global water cycle mechanisms and to improvements in the accuracy of weather forecasts. The Precipitation Radar (PR) aboard TRMM is the first space-borne precipitation radar that enables three dimensional observations of precipitation. We expect PR to contribute to the understanding of precipitation mechanisms and the development of advanced models of precipitation systems.

The Advanced Microwave Scanning Radiometer - EOS (AMSR-E) is the most advanced passive microwave radiometer in the world providing highly spatial resolution and unique capabilities of all-weather sea surface temperature and soil moisture measurements not possible with other _____ (*inaudible*) sensors. Observation data are being used not only for research but also for weather forecasting and trajectory predictions of hurricanes and typhoons by meteorological and disaster management agencies worldwide.

Plans are underway to complete the global precipitation measurement, GPM mission, in order to establish the monitoring of international water cycles, a Japanese/US initiative based upon the technological experiences we have gained. GPM seeks to focus weather and monitor water cycle variations and natural disasters including torrential rain, typhoons, flood and drought. The GPM system accurately observes rainfall every three hours using the main satellite which carries the dual frequency precipitation radar (DPR) operating a precipitation radar _____ (*inaudible*) in Japan and a

microwave radiometer _____ (*inaudible*) in addition to small satellites that carry microwave radiometers in polar orbit. DPR is the key to ensuring accurate rainfall intensity data acquired by the GPM project and will contribute to improving the accuracy of weather forecasts. We just studied the development of Global Water Cycle Change Observation Mission (GCOMW-1) which carries microwave radiometers to continue the measurement of 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. The GFAS is taking account of the GPM mission enabling the prediction of areas of high flood probability based on precipitation data obtained by satellite and disseminating water _____ (*inaudible*) information to member agencies and to users worldwide using International Software Network ISNnet.

In March last year the International Centre on Hydrological Assessment and Risk Management (ICHARM) was established within the Public Work Research Institute in the city of Tsukuba, Japan, under the auspices of UNESCO. ICHARM is promoting three pillars of activities, research, training and information networks in cooperation with national and international related programmes including the ISNet, JAXA and Research Institute.

Demand for space-based observations and the prediction of global scale water cycle and water resources continues due to increasing water disaster trends and other _____ (*inaudible*) 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 associated demands for information. Water cycle changes and reliability of water resources cause a big influx 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, improving the accuracy of weather forecasts cause a direct affect to our daily life.

It is fair to say that we have come to a point where we must target the operations of global water cycle observation and the use of these data in daily weather forecasts, _____ (*inaudible*) management and food production systems. We believe space-based observation will be able to play a major role in these areas. Integrating the outcomes of space-based and _____ (*inaudible*) observations achieving high accuracy and frequent global water cycle observations using forecasts and _____ (*inaudible*) information for disaster management and agricultural production planning will bring numerous benefits to all humankind. Japan, in full cooperation with other countries, will make every effort to achieve these targets. Thank you for your kind attention.

The CHAIRMAN (*interpretation from French*): Thank you Ms. Tanabe for your presentation and for the information you provided, a very comprehensive information on the ambitious programmes pursued by Japan in this area of water management. We will follow with interest the preparation of the global water cycle observation mission. I note also, with interest, the setting up of the International Centre to monitor the hydrological risks, ICHARM, which was established last year in Tsukuba. Thank you again for the information.

I now call upon Ambassador González of Chile.

Mr. R. GONZÁLEZ-ANINAT (Chile) (*interpretation from Spanish*): My delegation wanted to simply emphasize the fact that we were privileged to participate in the Day of Water organized by Laxenburg and it was a very important way to highlight a scientific and practical issue that is of great global significance. We were very happy that experts of the highest level in the area of water management participated which conveyed an extremely important character to this event. We know that IIASA the Japanese Agency has observer status in this Committee but we thank Japan for this very important presentation.

The CHAIRMAN (*interpretation from French*): I thank Ambassador González for this information on the day organized by IIASA. IIASA does have observer status but it also has the International Institute of Systems Analysis. Still on the issue of space and water, it would be interesting if, at the next meeting of the Scientific and Technical Subcommittee, we had a presentation on the very interesting results of the German/American mission, GRACE, the product of cooperation between Germany and the United States, which was to observe with great precision, great accuracy, the kind of accuracy that it was possible to measure continental water masses as felt in the orbit. These are extremely interesting results and they are very impressive and it would be interesting for all delegations attending the next meeting of the Scientific and Technical Subcommittee to be made aware of these results in its next session in February. This is a request I am putting to the two delegations, US and to Japan.

Are there any other requests for the floor under the item, space and water? I see none. We have thus concluded our consideration of agenda item 11, space and water.

We will now take up, distinguished delegates, our consideration of agenda item 12, the use of space-derived geospatial data for sustainable development. We have the United States on the list, Mr. Ken Hodgkins.

International cooperation in promoting the use of space-derived geospatial data for sustainable development (agenda item 12)

Mr. K. HODGKINS (United States of America): My delegation welcomes the opportunity to present activities undertaken by the United States, both governmental and non-governmental, in the field of geospatial technology applications for sustainable development.

The geospatial data I will be referring to is data that is location-based, much of it acquired from space platforms, that is processed into useful information products through the synergy of Earth observations, Geographic Information Systems, GPS and fast-evolving Internet-based tools for dissemination and problem solving to address a broad spectrum of challenges affecting billions of people.

The pursuit of sustainable development has been one of the pillars of United States foreign policy and has served as the main guide to most of United States development assistance around the world. A large portion of United States international science and technology cooperation in many fields and disciplines not just space, emphasize the need to promote this type of development in both domestic and international spheres. This includes of course how we bring to bear geospatial technologies to better address problems such as environmental degradation, loss of biodiversity, food insecurity, access to clean water, natural and technological disasters, human disease and urban sprawl.

Today I wanted to highlight for the Committee some examples of how United States government, often in partnership with the private sector and other international stakeholders, has been making important contributions in this type of application. A fact sheet with more details has been provided to each delegation. By Presidential Executive Order, the United States created the Federal Geographic Data Committee to help guide and manage public geospatial data in order to facilitate the widest distribution possible to multiple users. This Committee has orchestrated the development of a National Spatial Data Infrastructure (NSDI), the United States was one of the first countries to give spatial data infrastructure government priority but many countries around the world have followed suit. Today the international community shares SDI development through the Global Spatial Data Infrastructure Organization. GSDI is an umbrella organization that brings together national and regional committees and other relevant international institutions that are working toward SDI development.

In 2002, the United States brought multiple deliverables to the world summit on sustainable development. One of our more effective initiatives at Johannesburg was called geographic information for sustainable development, which focused on defining the opportunities and constraints that geospatial data and information offered to policy makers when addressing sustainable development challenges. The United States has made significant contributions to the wide distribution of global Earth Observations datasets, for instance, in 2001, NASA and the United States Geological Survey announced the distribution of global Landsat datasets to the international community through the United Nations Environment Programme. In regions of the world where Internet connectivity was not an option for dissemination, UNEP's Division of Early Warning and Assessment worked to deliver the data using high density data bricks which packaged Landsat and other relevant data.

During the period from 2003-2005, the Department of State, working together with the United Nations Office for Outer Space Affairs, organized workshops in different regions of Africa to promote the distribution and use of these datasets by users at the local, national and regional levels. The goal was to encourage access to and use of these datasets as decision support tools for policy makers and professionals tackling Africa's many sustainable development challenges.

One of the most robust demonstrations of the full spectrum of capabilities that geospatial technologies offer us today for environmental monitoring and addressing sustainable development can be found at NASA's SERVIR project, a regional visualization and monitoring system based in Panama City, Panama. SERVIR is a platform that integrates satellite and other geospatial data for improved scientific knowledge in decision making by managers, researchers students and the general public. Currently all the materials in the SERVIR website are in both English and Spanish. Although SERVIR started as a

NASA technology demonstration project it has been adopted and endorsed by multiple ministries of every central American country as well as numerous non-governmental and international institutions.

The United States is also developing the Americas component of GEO Netcast which is a near real time global environmental information delivery system by which *in situ* airborne and space-based observations, products and services from GEOSS are transmitted to users through communication satellites. Reception equipment is generic and relatively inexpensive. GEO Netcast has significant potential to enhance access to a wide range of information to users who may not have previously had access to such resources.

The radio and Internet technologies for the communication of hydro-meteorological and climate-related information (RANET) was designed to address information access and support of world communities. A public/private partnership which includes NOAA, USAID and the United States based satellite company World Space, RANET was originally conceived as a way to improve technical capacities in networks of national hydro-meteorological services and extension agencies in Africa. Today RANET is an international cooperative effort of many national and international organizations and provides service to the Pacific region and several Asian countries.

There is a substantial list of projects that are funded by the United States Agency for International Development and implemented by the US Geological Survey and through their EROS data centre located in Sioux Falls, South Dakota. I would like to briefly describe a few.

The Famine Early Warning System Network is one of the longest running geospatial technology projects in support of sustainable development. Having started in 1986, it was first implemented in 22 sub-Saharan African countries but has now been expanded to Central America, the Caribbean, Afghanistan and Iraq.

The MesoAmerican and Caribbean Geospatial Alliance features an ambitious capacity building programme on spatial data technologies. The project seeks to promote the establishment for improvement of spatial data infrastructures to provide a framework for improved spatial data generation, management and dissemination in these two regions.

The Tree Crops Africa and Latin America projects are designed to support USAID's sustainable tree crops activities in these two continents. Tree crop growers for example, growers of coffee, coca and cashews are provided with web-based information systems to monitor market competitiveness during an era of increasing consumer awareness and widespread concern about environmental quality.

I wanted to mention the Environmental Monitoring and Information System programme which is also funded by USAID and implemented by the US Geological Survey with a focus on Africa. The project's main theme is the facilitation of spatial data infrastructure development in different countries in Africa by facilitating networking among regional centres for capacity building.

As the world's population becomes increasingly urbanized it is important to look at opportunities for applying these technologies to improve the delivery of infrastructure services to urban populations including transportation, clean water, sanitation, health and education. In 2006, three United States government agencies, in partnership with private industry and non-governmental organizations, hosted a five-day workshop in Jordan, entitled, geo-information for sustainable cities. The event brought together geospatial technologists and policy makers from cities across the Middle East and North African region. The United States Department of State is currently working with the Environment Agency of the UAE to organize a second meeting later this year and to implement geospatial projects that address the sustainable development challenges of cities in this region.

United States Government agencies also work closely with the United Nations agencies in the application of geospatial technologies. A prime example is the cooperation between UNEP's Division of Early Warning and Assessment and the US Geological Survey's EROS Data Center. Since 1991 the North American node for UNEP's Global Resource Information database has been hosted by the US Geological Survey. The USGS provides data management and advanced Internet technologies to address sustainable development issues on almost every continent. United States Government agencies routinely share data with other agencies of the United Nations family including FAO, United Nations Office for the Coordination of Humanitarian Affairs and its Humanitarian Information Centres.

The list of initiatives I have described here is but a sample of what the United States has contributed and will continue to contribute to international efforts to use geospatial technologies for sustainable development. The pursuit of sustainable development

remains a guiding principle of our foreign policy in its development assistance programmes and in its international science and technology agenda. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you Mr. Hodgkins for that interesting statement and presentation on the vast gamut of activities the United States is engaging in, in geospatial matters at the service of development.

Under this agenda item we have a statement from UNESCO. Ms. Berenguer please.

Ms. Y. BERENGUER (UNESCO): Thank you, Mr. Chairman. In my capacity as Chairman of the 27th session of the United Nations Interagency Meeting on Outer Space Activities, which was held 17-19 January 2007 in Vienna, I would like to take this opportunity to inform the Committee on the half-day open informal session of the Interagency Meeting which took place in the afternoon of 19 January.

The open informal sessions for members of the Committee have been held since 2004 with a view to provide a mechanism for an active dialogue between the entities of the United Nations system and member States of the Committee. This year's open informal session addressed the theme, the use of space-derived geospatial data for sustainable development in the United Nations system. This topic was agreed upon by the focal points of the Interagency Meeting, in view of the new agenda item on space-derived geospatial data on the agenda of the Committee under a three-year work plan starting 2007 and which we are discussing at this moment. Representatives from 13 United Nations entities and from 29 member States, including the Chair of COPUOS, exchanged views on the use of space-derived data for sustainable development during the session. The following representatives of the United Nations organizations reported on its activities as follows.

The Office for the Coordination of Humanitarian Affairs, otherwise known as OCHA, which is presently co-chairing the United Nations Geospatial Information Working Group gave a presentation, together with the United Nations High Commissioner for Refugees, on the plans to establish a United Nations Spatial Data Infrastructure, the acronym of UNSDI.

The United Nations Geospatial Information Working Group (UNGIWG) was established in 2000 to address common geospatial issues such as maps, boundaries, data exchange, data standards and, at the moment, in 2006 it has 33 members from United Nations entities, offices and programmes. The establishment of a United Nations Spatial Data Infrastructure is aimed to have a mechanism for establishing a system coherence for the applications and exchange of geospatial data for United Nations activities.

The representative of the United Nations Institute for Training and Research Operational Satellite Applications Programme (UNOSAT) gave a presentation as well and he illustrated how UNOSAT provides space-derived mapping and GIS tools to support emergency response and vulnerability reduction and how this information has a role in the pursuit of sustainable development.

The representative of the World Health Organization provided examples of the use of space-derived geospatial data in the context of the WHO EMRO (Eastern Mediterranean Regional Office) Atlas of Disaster Risk. This Atlas shall map the distribution of the risks for five hazards, namely, floods, heat, earthquakes, wind speed and landslides at a resolution of $1km^2$ with the objective of better understanding the health impact and vulnerability to such events.

The representative of the Office of the United Nations High Commissioner for Refugees demonstrated the use of geospatial data for camp mapping including the use of satellite imagery, GPS points and other information.

Presentations were also made on the International Committee on Global Navigation Satellite Systems (ICG) and on the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER) both of which are related to the use of space-derived geospatial data. Though the informal session has provided an overview of the extent to which space-derived data is already being used by a large number of United Nations organizations and demonstrates the huge potential of such data relevant to a broad range of activities of the United Nations system. Presentations of this informal session are available on the following website, www.uncosa.unvienna.org. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Ms. Berenguer, for that full summary of the session of the Interagency Meeting. You presided over this meeting here in Vienna in January, since I myself attended that session, I confirm that we indeed had some interesting presentations by a variety of representatives of United Nations bodies that you have aptly summarized. I encourage all delegations

to visit the site to explore the content of each and every one of these presentations.

I also have a statement from CEOS and I again turn to Ms. Berenguer, she has been collecting many hats. So I again call on you Ms. Berenguer to speak on CEOS.

Ms. Y. BERENGUER (UNESCO): I apologize to monopolize today's presentation, I cannot help it, they all put me on one day. I am giving this presentation on behalf of the CEOS Chair and this is concerning one of the working groups of CEOS which is the working group on information systems and services.

Just to give you a brief background on CEOS. CEOS stands for Committee on Earth Observation Satellites and it was established in 1984 with the objectives of optimizing the benefits of space-borne Earth observations through cooperation in mission planning, development of compatible data products, formats, services. Also to serve as a focal point for international coordination of space-related Earth observation activities, to exchange policy and technical information and encourage complementarity and compatibility in space-borne Earth observation systems and data and to provide the satellite Earth observation systems to the GEO System of Systems which is presently the overall objective of many space-borne Earth observation satellites.

Memberships of CEOS. There are two types of memberships. Number one is what we call the principals, which are national or international governmental organizations that are responsible for a civil space-borne Earth observation programme, currently operating or at least in phase B. The second type of membership are the associates, which are national or international governmental organizations that currently have a civil space-based space segment activity in phase A or has a significant ground segment activity that supports CEOS activities.

Another type of associate are those satellite coordination groups and scientific or governmental bodies that are international in nature and currently have a significant programmatic activity in space activities.

Just to give you an example, some United Nations agencies are associate members of CEOS such as the United Nations Environment Programme, the United Nations Food and Agriculture Organization, United Nations Office for Outer Space Affairs and of course UNESCO.

This is the structure of CEOS. At the very top you see the CEOS plenary which is headed by the CEOS Chair. The duration of the Chair is one year and the plenary takes place every November wherein the next Chair is turned over. The members and associate members usually meet to discuss present activities, cooperative activities and the way forward and the CEOS Chair is supported by the Secretariat who takes care of the daily functions and daily activities of CEOS and by the strategic implementation team which is made up of the Troika, that is the previous Chair, the present Chair and the future Chair, together with the Chairs of the three working groups which you see below in the diagram. CEOS has three working groups, you have the working group on calibration and validation, the working group on education, training and capacity building and the working group on information systems and services. This validates my presence and why I am giving this presentation is because UNESCO is presently the Chair of the working group on education, training and capacity building.

The WGISS is made up of agencies that have a vast amount of data, systems and other sources that support science or applications. The WGISS is working to make these resources accessible through a common set of discovery, a portal, search through access and service interfaces. WGISS works closely with standards organizations such as OGC and ISO, International Standards Organization, to ensure that the WGISS data and tools can inter-operate with the different national and international spatial data infrastructures and facilitate the development of commercial products. WGISS has a very important role at the moment in the framework of GEO as it is chairing the GEO Architecture and Data Committee. WGISS is promoting international cooperation as we all know it is important that no single national or international organization has the complete picture on environmental processes and their implications on people and country and anything with complete picture can only be obtained through collaboration with multiple bodies and definitely new technologies is necessary. These technologies enable decision making and it enables synthesizing data from multiple sources and WGISS advocates and promotes this technology and implements pre-operational examples.

I would just like to show you some of the websites of the different members of WGISS wherein they promote information systems and services. This is a diagram on what the services of WGISS provides. WGISS products and services to the scientific community. This is the website of the Goddard Space Flight and, on the right hand side, you will see the final

data services wherein you can click on. So those who are interested in data policies, data services and systems are invited to visit this website and verify if there are any systems or services that could be used at the national level and forward any questions or information to the WGISS Chairman for further information.

This is an example of the use of data which one of WGISS members NASA is doing, the integration of satellite data with model data using Aqua and MODIS. Another website which is in cooperation with JAXA, in the framework of the CEO project in Viet Nam. As I said WGISS is chairing the GEO Data and Architecture Committee which is contributing to the nine societal benefit areas which are disaster, health, energy, climate, water, weather, ecosystems, agriculture and biodiversity.

In summary, scientists, application providers and decision makers need to synthesize data from multiple sources in order to come up with decision making policies and finding and using this data needs multiple sources and international collaboration is necessary. The CEOS WGISS advocates and promotes technologies that enable the discovery, the search and the access of data and services needed to support scientists, application providers and decision makers. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Ms. Berenguer, for your presentation on behalf of CEOS and particularly the working group on information systems within CEOS. It is true that CEOS is an organization that makes a direct contribution to GEOS programmes. As you pointed out yourself, CEOS is in the Chair of the working group of the architecture of GEOS data, one of the most advanced working groups within that area.

Some delegations have perhaps comments to make as a follow-up to this presentation but of course we will continue our consideration of agenda item 12 this afternoon.

Very well, we will continue our consideration of agenda item 12 this afternoon and now, if you do not mind, we will move on to item 13 which we opened yesterday morning. On item 13 we need to consider the additional comments of delegations on the future role of the Committee, the document presented to you yesterday. Some delegations that spoke yesterday expressed a wish to go back to this document L.268 today to make more accurate comments.

At the moment I have the delegation of Nigeria on my list.

Other matters (agenda item 13)

Mr. A. ABIODUN (Nigeria): Thank you very much for giving my delegation an opportunity to make a contribution to agenda item 13. Mr. Chairman, as you yourself could recollect, we have come a long way from 2005 to 2007. Those of us who were here in 2005 cannot forget the uproar in this particular chamber of the forty-eighth session of COPUOS following the introduction of the non-paper by the then chairman of COPUOS on possible follow-up to Dr. _____ (*inaudible*) lecture. We ourselves invited _____(*inaudible*) to provide us with that lecture and we are still very grateful to him and to Canada that sponsored him to make their presentation. It is a sort of recollection of that event that gives me, what I call, a lot of pleasure in congratulating you, Mr. Chairman, for coming out with this particular paper. However, I would like you, if you do not mind, in your own way to adequately and correctly reflect the genesis of this paper in your paragraph 1 because there are a lot of things missing there and I am sure you know what I am talking about.

My delegation is particularly pleased with this paper for a number of reasons. It shows that you have not taken up this mantle because you are Chairman of COPUOS but, given the text you have provided one could read into this text that you are really interested in getting this particular Committee to look into the future. I just hope that _____ (*inaudible*) members of this Committee will not just want to stay on the spot and not yield but will actually, given all the presentations we continue to have at every session of the Scientific and Technical Subcommittee and COPUOS, realize that a lot is coming in the future. That may be correct for those in the forefront of the technology but it is not so for many others and if as a result of that that we need to make a reflection as you have adequately provided for in your paper.

The second thing we are very proud of in what you have done is that you have not just brought us a paper by yourself, you have invited contributions from several delegations or individuals and you reflected this in your report as well. My own delegation was happy to be invited and we are happy to make our contribution as well.

Going back to the contents of your paper, we noted that you focused on some of the things that are already in progress in this Committee and how this Committee could better address them. We particularly

appreciate your urging the Committee to extend invitations to distinguished experts through some NGOs such as IAF, COSPAR and so on and so forth, as well as to bring the developing countries themselves to articulate what irks them and what are their aspirations in this particular field. We also thank you for looking into the future particularly as we reflect back on last Wednesday's _____ (*inaudible*) session whereby, in sections F and G, you focused on some issues which this Committee excels. When we are looking at the future needs, to plan the way of addressing and you have also made a suggestion that probably in helping the Committee to shape its mind we might need to bring some distinguished people in the field to address us.

Given all of this, we thank you very much and we look forward to getting your ideas introduced as agenda items in one form or another in the deliberations of this Committee. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Mr. Abiodun. Thank you for your statement which obviously is an encouragement and also a recollection of the fact that this work realized on the initiative that you yourself launched when you were in the Chair of this Committee. Thank you again.

I will now recognize the distinguished representative of Chile, Ambassador Raimundo González.

Mr. R. GONZÁLEZ-ANINAT (Chile) (*interpretation from Spanish*): Mr. Chairman, one problem that we still have to look into, under agenda item 13, has to do with the unresolved issue of observers and I do refer to all observers. Since we are in the context of this subject I was going to suggest that this afternoon we again open this item for discussion which has not been settled. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Ambassador. For the moment we are on the issue of the future role of the Committee. As to the matter of observers, as I said yesterday evening, we were going to have consultations, they are not yet completed, we will go back to it this afternoon.

I have a request for the floor from the United States on the future role of the Committee. You have the floor.

Mr. K. HODGKINS (United States of America): Mr. Chairman, yesterday I shared with the Committee our general views on your paper and the future work of the Committee and, as I noted, we will have some more specific comments but I did want to also address the future role of the Committee as it is reflected in Conference Room Paper 3 that is the United Nations Office of Internal Oversight Services, this document has made reference to at the beginning of our session and I wanted to make a few observations in relation to the inspectors report and how it relates to the future work of the Committee.

First I would commend all delegations to read Conference Room Paper 3 because the Office should be commended for first, surviving the inspection and secondly having such a stellar report. You will see that, in this document, the Office was complimented and thought very highly of by the inspectors and that is obviously a reflection on the Office staff and I have to say the Committee and the subcommittees need to take some credit for this as well because I believe the delegations have developed a very good working relationship with OOSA and I think it has been mutually supportive.

In terms of the future work, there are two observations I wanted to make that were reflected here in the inspectors report. The first one is on the system wide coordination, that is section E of Conference Room Paper 3. In that section they discuss the role that OOSA is playing in coordinating the use of space technology to the United Nations system. In addition to the report, I also call attention to the document that OOSA had provided to us entitled, space solutions for the world's problems, how the United Nations family uses space technology to achieve development goals. The thought occurred to me that there should be on the agenda of COPUOS either a standing item or an item that comes up perhaps every two years where the United Nations specialized agencies, who are part of the Interagency Meeting, can report on how they are using space technology to meet their mandates. I have attended several of the open meetings of the Interagency Meeting, the last one being here in Vienna in January, and very impressed with the work that is being done and I know that delegations here would also be quite impressed. Perhaps, in the terms of the future of our work, we can consider the possibility of having an agenda on this whole question of the use of space technology in the United Nations system. I do not want to create any extra work for the other agencies but I do think it could be useful for us and it could also be useful for them.

The second question about the future work of the Committee and what the Committee should consider, as reflected in Conference Room Paper 3, I call your attention to section C on fund-raising strategy. Here the inspectors noted that the operational

activities of OOSA are financed not by regular budget but by extrabudgetary resources and they note that there is lack of these extrabudgetary resources or when there are resources available they are targeted. The inspectors, in paragraph 18, recall that since 1998 in the area of space activities the investment by private sector entities has surpassed spending by governments and that this change in the emphasis has not necessarily been reflected in budgetary resources being made available to OOSA from non-governmental sources. The inspectors also noted that the participation by the private sector in OOSA activities is currently miniscule and the inspectors further said that there is a great unexplored opportunity in developing partnerships with the private sector as a resource multiplier for OOSA. One of the things that we have to be quite aware of, in terms of the future work and in terms of helping OOSA meet the recommendations of the report of the Internal Oversight Services, is how do we increase the interest and participation in the work of the Committee by the private sector. That relates directly to what we will discuss this afternoon in terms of granting observer status to government and non-governmental entities. We should bear in mind that we have always tried to encourage private sector involvement in our work and increase the participation of civil society and, in fact, this is one of the areas where the inspectors felt that the Committee and the Office could do better work. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you, Mr. Hodgkins, for your comments. They are very interesting inasmuch as they have to do with the report contained in CRP.3.

I noted a request for the floor from the Russian Federation.

Mr. E. ZAGAYNOV (Russian Federation) (*interpretation from Russian*): As we mentioned yesterday we have some comments to make on some sections of the documents you have presented for our attention, specifically sections B and F. If this is the appropriate time to do that I would like to state our views.

In section B, coordination of global navigation satellite systems. We noted in paragraph 20 of that section the language referring to the coordinating committee on global satellite systems considering legal aspects of the provision of global navigation satellite services. Furthermore, this section goes on to say that ICG will be submitting separate reports to the Scientific and Technical Subcommittee and to the Legal Subcommittee. We perused the terms of reference of ICG, which was distributed here as a COPUOS document A/AC.105/879 in December last year. Its provisions on ICG, to the best of our knowledge, did not contain any reference to the legal aspects of its activities. Furthermore, paragraph 9 of that document states that ICG recommendations are not legally binding. Thus, we have some doubts as to whether or not we can ask ICG to report on matters that are not, it seems, included in its mandate. Furthermore, the ICG terms of reference stipulate for periodic reporting by ICG to COPUOS not to its subcommittees. We believe that the interaction between ICG and this Committee should be based on consensus approved provisions contained in the terms of reference. If, as a result of the work of ICG, the need arises to consider certain legal aspects of its work in the future, the ICG can always propose that to this Committee.

Now, moving on to section F, protection, conservation of designated areas of the Moon and other bodies of the solar system. With regard to this section I would like to recall yesterday's statement by the distinguished representative of Venezuela. As far as we understood she spoke in favour of studying the consequences of human activities upon the Moon at this juncture, we share that view, we think that to begin with we need to have a clear objective picture of the actual threats that exist for various areas of the Moon, of the actual man-made impact currently existing on the Moon and other celestial bodies and also, with regard to the consequences of possible future designation of protected areas, what impact that will have. We have a number of questions with regard to the future status of such protected areas, how the designation of such areas is going to tally with the existing international legal instruments on outer space and their provisions. We also noted that this section of the document refers not only to areas of historic cultural, environmental or other significance on the Moon and other celestial bodies it refers to something else, such as, Lagrange points. In our view any approach to Lagrange points should be different, these are different things.

Summing up our position. We believe that first and foremost studies need to be carried out as to the actual state of affairs, in terms of man-made threats that exist to specific areas on the Moon and other celestial bodies, once we have that information should we discuss the matter of whether or not we need to issue specific recommendations or take other measures in the future. Thank you.

The CHAIRMAN (*interpretation from French*): I thank our distinguished colleague from

Russia for these comments, for this very useful contribution to the future work of the Committee.

On the first item, I just want to confirm in response to you that, indeed, the ICG should be doing only what is part of its mandate, that is obvious.

On the other issue, I thank you for your very interesting and useful comments which, I think, will go a long way toward establishing the right structure for our future work on these concepts because at this stage these are just concepts when we talk about the protection or conservation of designated areas of the Moon and other celestial bodies, these are just concepts.

Therefore, the provisions of section F are preceded by a comment which makes reference to the non-governmental organizations that have the academic, scientific and theoretical wherewithal to study these issues before they are formalized within the framework of the Committee.

Our distinguished colleague from Japan has the floor.

Mr. S. YAMAKAWA (Japan): Thank you Mr. Chairman for giving me the floor. This is the first time to take the floor in this agenda, on behalf of the Japanese delegation I would like to join in congratulations which many delegations have presented of the Chairman's efforts to draw up a document A/AC.105/L.268. Japan welcomes and supports the Chairman's initiative. We believe the paper could be a good basis for further consideration of the future role and activities of the Committee.

The paper contains several suggestions which we can support such as reinforcement of cooperation between COPUOS and other international organizations and international _____ (*inaudible*) such as GEO, _____ (*inaudible*) promotion of international cooperation in the field of space exploration and use of science and technology for sustainable development expected and, perhaps required, as _____ (*inaudible*) and future activities of COPUOS.

In Japan's view, item (d) long-term sustainability of space activities related to a broad range of legal, science and technical aspects and _____ (*inaudible*) issue which need to be discussed in the Committee to tackle these matters effectively. With regard to developing further rules of the road, COPUOS and its subcommittees have recently concluded three important achievements. The space debris mitigation guidelines, General Assembly resolution 59/150, application of the concept of the launching State and draft General Assembly resolution regarding the practice of States and international organizations in registering space objects on a consensual basis. Japan _____ (*inaudible*) such step by step approach to building up a new _____ (*inaudible*) space use. At this stage Japan would like to reserve its declaration of support for item (b) in the document, we need more debate on the matter. Japan is ready to continue discussion with member States and observers.

The CHAIRMAN (*interpretation from French*): Thank you distinguished representative of Japan for your comments on this document and for clearly stating your position.

I am now going to invite the distinguished representative of South Africa to take the floor.

Ms. J. SCHNEEBERGER (South Africa): Like those before us our delegation would like to thank you for your very valuable and timely document on the future role and activities of COPUOS which we have before us in its latest version A/AC.105/L.268. At present we would like to confine our comments to section E on international cooperation in space exploration and we would like to offer a suggestion to strengthen the suggested decision proposed in paragraph 32 of this document.

Mr. Chairman, you may recall that, in our statement during the general exchange of views, the South African delegation suggested that COPUOS might consider ways to create opportunities for interested countries that are not directly involved in space exploration activities to become part of this great adventure within their means. We are happy, therefore, that the proposal in paragraph 32 of the document to invite the IAF to consider the issue of participation by developing countries in space exploration initiatives and projects and to request the IAF to report back to the Committee in 2008 in this regard. However, my delegation is mindful of the fact that a significant number of developing countries are not represented in the IAF and, it is important for developing countries themselves to be involved in the identification of such capacity building initiatives. Therefore, we would like to suggest some additional language in paragraph 32 which encourages the IAF to consider ways to involve interested developing countries in their consideration of this issue perhaps via a call for participation in this matter through OOSA. Thank you.

The CHAIRMAN (*interpretation from French*): Thank you distinguished representative of South Africa for your comments, specifically on this

section. You are quite right to recall that the objective is to involve, to the extent possible, the developing countries in this process of thinking, of consideration and the Office for Outer Space Affairs should re-open this process to the extent possible and facilitate participation of the developing countries in this process. I think this recommendation that you have made can be easily incorporated in the report of the Committee.

I will now invite our distinguished colleague from Algeria.

Mr. A. OUSSEDIK (Algeria) (*interpretation from French*): The Algerian delegation would like to express its gratitude for the high quality of the report on the future role and activities of COPUOS. The report faithfully takes up some of the proposals on suggestions made by Algeria and translates the concerns of the developing countries as to the role COPUOS is to play in the future. Furthermore, there is no doubt as to the importance of this matter and the need to address it. It is desirable that implications for developing countries should be looked at in such areas as the matter of space debris, conservation of areas designated on the Moon and other bodies of the solar system, matters that pertain to not just years but decades to come. Our country has made the point that these issues are not necessarily of interest to all countries but, in legal terms, we are convinced that the majority of countries, all countries, are interested in the development of international outer space law which needs to be strengthened and become an instrument that ensures the more and more equitable use of outer space and its benefits. Even if developing countries are not necessarily interested in some of the specific issues that were mentioned here, in some of them they will certainly want to get involved but the technological framework of these developments makes it imperative that the development and exploration of outer space should be oriented towards sustainable development, equitable distribution of benefits, management of natural resources and so forth and this is mentioned in the report. The fight against poverty and the mobilization of resources are paramount.

Mr. Chairman, this is a complex body of work and the concerns and interests of countries may be very different but it is possible to bridge them. For example the use of water, the use of natural resources, all delegations are interested in making sure that the future activities of COPUOS proceed in harmony as a whole, that the technological framework should reflect the various and diverse concerns of countries. Knowing your subtlety and your competence, Mr. Chairman, I think it is possible to inject into this text a note of solidarity, rapprochement between the two types of concerns those of space-faring nations and those of developing nations.

The CHAIRMAN (*interpretation from French*): I thank you for your statement on behalf of Algeria. In listening to you I, of course, understood the link between your important statement and what was suggested by the distinguished colleague from UNESCO when she referred to space and education. You see, when we discussed astronomy and education we of course all realize that astronomy is a subject where it is possible to capture the interest of young people anywhere in the world without any distinction whatsoever. Why? because it is an activity turned towards the somewhat mysterious world of planets and stars, they have a certain aura and when we here refer to the protection of certain areas of our planet, our natural satellite the Moon, being one, there we could tie it up with space and education and astronomy and observation that our colleague, Yolanda Berenguer, was referring to, to show that this is a subject that captures the interest of mankind as a whole and not just those with the technical capacity to go to the Moon that is what occurred to me in listening to you and your comments. Something that we can build on whilst bearing in mind the concern that you conveyed which is that of associating as we go along developing countries and others. Thank you yet again for that contribution.

Do we have any additional statements on this particular item having to do with the future part and role of the Committee?

Yes, we do. Distinguished representative and colleague from Syria.

Mr. O. AMMAR (Syrian Arab Republic) (*interpretation from Arabic*): First and foremost, I would like to thank you for the many efforts exerted to prepare this document. This document is evidence of a large widespread vision of the future activities of this Committee. I would here join in with the views expressed by my colleague from Algeria and, for my part, I am of the view that bringing in developing countries, helping them likewise to use space technology will certainly made a major contribution in terms of meeting the objectives under (c) in this document. We know that capabilities differ, you have those countries with fairly advanced programmes and others that do not even have the basic and essential means to master that technology. So we would have to establish forms of solidarity, the better to achieve an advanced stage in such technology, especially in developing countries, whereby these countries may

have minimum access to such technology. The Committee might set up a data bank or some other method to make sure that information and data are available to developing countries more particularly in the management of natural resources and prevention of natural disasters or mitigation. Thank you.

The CHAIRMAN (*interpretation from French*): Let me thank you for that statement, distinguished colleague representing Syria. Naturally I wish to take on board all these comments in the report on item 13. It is obvious that the purpose and goal of bringing developing countries on board in the context of these developments and the future role and activities of the Committee needs to be borne in mind.

I see no further requests for the floor at this juncture on item 13, we will continue of course our consideration of certain aspects of item 13, this afternoon however, the future role of the Committee unless I hear additional comments. I do not think there will be any reason to revert to this and besides I do not think we will have enough time to do so but, of course, if delegations wish to take floor on this item it will still be possible.

It is now 12.40 a.m. so I will be turning to the distinguished representative of Germany. Would it be possible at this point to revert to item 7? We were awaiting a statement from that delegation on the subject of the table that Mr. Camacho produced this morning. Germany please.

Ms. K. SCHICK (Germany): First we are prepared to give a statement this afternoon but maybe I can do it in this time. First I want to assure OOSA we trust in your able _____ (*inaudible*) such a paper and we have only one small thing. I have the paper not here but I have only one small thing. In part 3, our proposal is to delete “in cooperation with OOSA” because we trust in OOSA and all of the OOSA programme and we have no other comments and no other things which would be deleted _____ (*inaudible*) and that is why I can tell you we are checking now the proposal and we are checking now the approval of this document. Thank you.

The CHAIRMAN (*interpretation from French*): I thank the representative of Germany. In any event we will revert to 7 this afternoon, the Director of the Office has some supplementary information to give us on the follow-up to SPIDER and, at that point in time, we would be in a position to formally approve CRP.13 and 14, that will be this afternoon.

Distinguished delegates, I will soon adjourn this meeting of the Committee. May I give you some points of information concerning this afternoon. We will meet at 3 p.m., I would like us to start at 3 sharp because we still have quite a heavy workload for this afternoon and the Secretariat is just preparing the report of the Committee which must be available in the six languages tomorrow morning for consideration and approval and that means that we have a heavy day.

So we start at 3, no doubt we will be able to complete agenda item 7 in a short time. The report of the Subcommittee on the forty-fourth session, we also ought to be in a position to complete our deliberations on 12, use of space-derived geospatial data for sustainable development and also I hope 13, other matters.

I would also like to invite you to the screening of the final three documentaries during the lunch time today. At 1.45 there will be a documentary by Germany on remote sensing data for disaster management and this will be followed by a documentary provided by South Africa at 2.15 p.m. on South African large telescope and lastly, a short movie is provided by the European Space Agency on its activities.

I would like to thank you for your cooperation and very effective contribution to today’s work. We are now in a position to finish early and I would like to call you back here at 3 p.m. for the afternoon’s session.

The meeting closed at 12.44 p.m.