

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

539<sup>th</sup> Meeting  
Friday, 10 June 2005, 3 p.m.  
Vienna

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*Chairman:* Mr. A. A. Abiodun (Nigeria)

*The meeting was called to order at 3.14 p.m.*

**The CHAIRMAN:** Distinguished delegates, good afternoon. I now declare open the 539<sup>th</sup> meeting of the Committee on the Peaceful Uses of Outer Space.

This afternoon we will continue consideration of agenda item 6, that is Implementation of the Recommendations of UNISPACE III, and item 7, Report of the Scientific and Technical Subcommittee on its Forty-Second Session.

At the end of this afternoon's session, there will be two technical presentations. The first will be from Mr. Toshibumi Sakata of Japan who will be addressing or making a presentation on "Archaeology from Space", within the context of the Symposium on "Space and Archaeology", which will be held next Monday. His presentation will be followed by a presentation by Mr. Lu Naimeng of China, and the title of Mr. Naimeng's presentation or Mr. Lu's presentation is "Chinese Meteorology Satellites and their Applications".

In the meantime, and time permitting, I intend to open the floor for a preliminary exchange of views, as we did towards the closing of the morning session, on the three issues that I articulated at this morning's meeting and which are on our work programme for this session. This is in order not to leave all our substantive matters until next week. The three issues I am referring to are the United Nations Programme on Space Applications, Contribution to the Commission on Sustainable Development, and High Level Plenary Meeting. I note, and I have been informed by the Secretariat, that a Conference Room Paper, CRP.9, is being circulated on the High Level Plenary Meeting.

That is the order of our work for this afternoon. Do you have any comments on that?

I see none.

So that means we are in agreement.

**Implementation of the recommendations of  
UNISPACE III (agenda item 6)**

That being the case, I now open the floor for a discussion of agenda item number 6, Implementation of the Recommendations of UNISPACE III.

I do not have any formal list in front of me showing that any delegations has indicated or inscribed their name to speak this afternoon.

Do we have any delegation wishing to take the floor now?

You are pushing everything to next week. It is going to be tough on everybody. OK. I just wanted to let you know but since you do not have anything to say formally on behalf of your government, can we speak informally then on the three items I have raised, that is, our individual reactions to the presentation this morning by the Expert on the United Nations Programme on Space Applications, our contribution as a group here to the Commission on Sustainable Development and what should be the contribution of this Committee to the High Level Plenary meeting.

The floor is open for any contribution from any delegate on any of these three subjects, any and all, these three subjects. And they are all being looked at

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within the context of agenda item 6, Implementation of the Recommendations of UNISPACE III.

Let somebody bear the cart now.

Vassilios, do you want to speak? No? You just came, you are not polluted yet.

Syria wants to take the floor. You have the floor Sir.

**Mr. M. RUKIEH** (Syrian Arab Republic) (*interpretation from Arabic*): Thank you very much Mr. Chairman. Mr. Chairman, in fact, I became aware of the report adopted at the session of the General Assembly and I became familiar with the recommendations of that report at that time. Now, these are recommendations that were examined by the various different task forces and bodies over the last few years. We are talking about a large number of recommendations here and it would seem that prospects are very good here but there is no implementation mechanisms for these recommendations which is why we need clear mechanisms in order to implement said recommendations otherwise they will simply remain a dead letter. And what would happen is that the same recommendations will be repeated, reiterated all over again in five years. So we do need a mechanism in order to implement two or three of these recommendations and then move on to the next stage rather than simply taking note of these recommendations and, as I have said, ultimately their destiny will be simply to remain a dead letter.

Thank you.

**The CHAIRMAN**: I thank the distinguished representative of Syria for his comment on that issue. And if I remember, you are referring to UNISPACE III recommendations? Is that it? Or the Plan of Action that we submitted. OK.

Any more comments please?

Now following what Syria has just stated, let us go back on our UNISPACE III recommendations. As all of us are aware, the Office is implementing some of these recommendations and the rest of us are addressing some of the other recommendations through the Action Teams. But the one question you have not asked the Action Teams is that we have presented, each of the Action Teams has presented its own recommendations but specifically how many of these recommendations actually have been implemented? or they are being implemented, what is the status? I think

one of our greatest problems here now is not that there are not enough recommendations to address, we have too many already but the ones that are being addressed, what is their current status? I think this is a challenge before this Committee.

The same thing with the other recommendations. We gave the responsibilities to the Office for Outer Space Affairs. What is the status of implementation? Remember we adopted the Action Team procedure because UNISPACE '82 recommendations were not appropriately implemented.

The floor is open for further comments please.

If we do not want to \_\_\_\_\_ (*not clear*) recommendations, what should be the contribution of this Committee to the work of the Commission on Sustainable Development? In fact, to make that easier for us, let me invite Dr. Camacho to remind us of what we are talking about when we talk about Commission on Sustainable Development and what they are doing and why we should ... The General Assembly has asked us to contribute to their work so please can you brief us?

**Mr. S. CAMACHO-LARA** (Director, Office for Outer Space Affairs): Thank you Mr. Chairman. I will provide a brief background and a little bit of information on what is involved. It is in General Assembly resolution 59/2 in that the Assembly does request the Committee to transmit to the Commission on Sustainable Development what its contributions could be to the themes that the Commission on Sustainable Development takes in clusters. The Commission on Sustainable Development is looking at the output of the World Summit on Sustainable Development. What they have done, the mechanism the Commission is following is they have taken the Plan of Implementation of WSSD and they have created a 10-year calendar. So they will be addressing a cluster because they will address more than one item per year. And at present, now they are in the second year in the cluster and the Commission already met and the main item on that cluster was water. So basically, that is past and the Committee is doing something in that area to the item on space and water and the Office is doing something in that area so it is history and the Committee will be able to contribute to the future items of future clusters.

The next cluster, if I remember correctly, it will be climate change, energy and industry. It is energy for sustainable development, protecting and management natural resource-base of economic and social development, industrial development, air

pollution, atmosphere, sustainable development in a globalizing world and climate change. Now, sorry, I read them ... I take that back.

The cluster is only four, energy for sustainable development, industrial development, air pollution, atmosphere and climate. That is the cluster. And, cross-cutting issues are protecting and managing resource-base of economic and social development that provides the context. And sustainable development in a globalizing world. These are cost-cutting.

Those are the four issues that are included in that thematic cluster. Part of what needs to be determined is how the Committee is going to contribute and another issue might be to what mechanism? Is it going to be through a report or is it going to be through the Chairman of the Committee transmitting a letter with an annex on the Committee's contribution, transmitting to the CSD. These are some of the issues that might be addressed and covered under this item.

I do not recall if the resolution calls for a response, to establish a response from the CSD. But it might not be that this body is communicating with that one to also think about what might they ask the Committee as to where space might be able to contribute to the thematic clusters, not just what the Committee thinks that it might be able to contribute.

Thank you Mr. Chairman.

**The CHAIRMAN:** Thank you very much Dr. Camacho.

Do we have any more comments on that?

I noted that a number of delegates came in a little bit later. Let me indicate that after opening the meeting, we will open for debate this afternoon both agenda items 6 and 7 but under agenda item 6, that is the Implementation of UNISPACE III Recommendations, there are no speakers listed. But instead of wasting that time, we are looking at critical issues before this Committee under that particular agenda item that we need to have agreement on. One of them is the reaction to the Expert's statement this morning, the United Nations Programme on Space Applications, our contribution to the Commission on Sustainable Development, and our contribution to the High Level Plenary Meeting and which the Secretariat has just circulated in CRP document, CRP.9. So that is what we are doing now and then I have been inviting input from the floor on any and all of these three items.

I recognize the distinguished Ambassador from Chile.

**Mr. R. GONZALEZ ANINAT** (Chile) (*interpretation from Spanish*): Thank you Mr. Chairman. Before I say anything else, I think it is important to make the following remark, namely that the shape you have given to our meeting so that we can have sensible discussions are matters of substance and that the way in which we have approached this meeting is along the right lines and, therefore, I would like to take this opportunity to take up this matter which was presented by Colombia, Bolivia and by Chile. And this proposal was strengthened by a review of the draft report that emerged from the High Level Meeting held during the General Assembly. But this draft report, to say the least, is somewhat vague. Generally speaking, this report leaves out or leaves aside a number of questions which are fundamental for us. If we want COPUOS to play an effective role here and if we want this issue to be taken up internationally, we simply cannot leave aside issues from this report, given that it is going to be submitted, this report is going to be submitted for review by the General Assembly at the High Level Plenary. We cannot leave certain questions out. We do not talk about, for instance, science and technology and yet those matters are absolutely fundamental and yet the document says nothing about them. And in the document dealing with human development in the 2001 Plan, that issue is the question of science and technology and exploitation of human resources, the use of human resources is mentioned for the first time and it is very important that we come up with a mandate whereby we deal with these issues and we should do this, of course, in the light of matters of interest to us here and interaction with the relevant body on sustainable development. There is no problem with that.

But, unless these matters are backed up by statements at the General Assembly and in particular the meeting that is being held with that particular aim in mind, unless that happens, then we run the risk of not having an appropriate coordination mechanism at our disposal.

We must make sure that we are in a position to take decisions on all these questions. So let me say that this is an excellent initiative taken by the General Assembly last year when, in the Plenary, which you chaired, which you presided over, it was a very good idea that the theme of space should be tackled, but unfortunately there were very few participants in that plenary session because States were not sufficiently aware of the commitment to which we had entered in this regard. There was a colloquium, a seminar, a

preliminary debate and at that debate, a number of delegations took part and the logical consequence of what happened last year should appear in this draft report with the future meeting in mind. We cannot simply expect that all these questions which, directly or indirectly, deal with space technology, are simply absent from this document. We talk about collective security and so on here but what about science and technology? How can we make sure that we get peace and security if we do not have the means to ensure them? In fact, all the matters that feature in this draft report need the clear and explicit and definite introduction of the theme of space and technology.

Thank you.

**The CHAIRMAN:** Ambassador Gonzalez, I thank you very much for the input you just made. I am very sorry you were not with us when the G15 met on Tuesday because you just articulated, for the benefit of the Committee, the concerns that we discussed for over an hour on Tuesday. But I am coming back to you in a minute. I need to speak with the Secretariat for a second so please take away the microphone for me.

So, Ambassador Gonzalez, once more, thank you very much.

The floor is open for further contributions on this issue, the United Nations Programme on Space Applications, contribution to the Commission on Sustainable Development, and High Level Plenary Meeting.

\_\_\_\_\_ (*not clear*) say something. Everybody is keeping quiet. This is your meeting. It is not my meeting. Please, we need input.

OK, there are no comments. That means that you are very satisfied with the presentation this morning by the Expert on Space Applications and you understand everything she said and you have no queries or questions for her. OK, so case closed on that.

On our contribution to the Commission on Sustainable Development. Let me open the floor for suggestions on how we should go about making our contribution and then let us take that just as a single issue, right now and let us look at it. Any suggestions? How can we put in something forward to the Commission on Sustainable Development on the role of space science and technology in the work of their Commission, as read out to us by the Director of the Office of Outer Space Affairs.

Ambassador Gonzalez, you have the floor.

**Mr. R. GONZALEZ ANINAT** (Chile) (*interpretation from Spanish*): I thank you Sir. As I was not present during the last meetings, I am afraid I might propose something which has already been proposed by others but despite that, ...

**The CHAIRMAN:** ... nobody has proposed anything. No proposal on the table yet. So you are free to propose, you are free to dream, you are free to propose anything, no proposal on the table.

**Mr. R. GONZALEZ ANINAT** (Chile) (*interpretation from Spanish*): Well, I am delighted to hear this for the last proposal I made was the result of dreams I had had in the plane. I apologize. In my view, it is necessary for us, just like all other United Nations bodies to have a mechanism for interaction. The world of today, the global village of today, precludes us from addressing issues before us in a fragmented way. One of the significant events which took place over the last few years in the field of technology and the environment is the launch of the ENVISAT space object which was launched by ESA, whose basic mission is the monitoring, the study of the environment. Concerning the technical side, I think there is a very close relationship here between the environment and space which means it is all the more difficult to understand why there are no links between the various bodies which deal with these two areas. In my view, one should, in a formal way, invite, and possibly do this upon the initiative of the General Assembly, one should, as I said, invite our counterparts, or the counterparts of our Director, I am not familiar with the organizational structure of our Committee, but the counterpart of our Director to assist and be present in all meetings on space. And the opposite is true too, the Director should be present in the meetings of the other Commission. This is my first proposal and I now turn to my second one.

It is as follows. There probably are other organizations involved, but I will refer to GEO which, as a Chilean, is the body I am familiar with. It is not a United Nations body. However, one of the areas it deals with is the environment. Dr. Camacho and me took part in GEO's meetings. The four co-Chairs are the United States, the European Commission on Science and Technology, South Africa and Japan, if I am not mistaken. Honduras, I am informed. So they are willing, and I believe, ready to participate in our meetings and we should invite them to do so.

Turning now, however, to the United Nations itself. I think there is a need to ensure that whenever

mainstream policies such as space are addressed, we should all be present to update our work, ensure that we are up-to-date, but also to ensure that the individuals leading the Commission, and this could happen upon a General Assembly resolution, and between parenthesis, we ourselves could draft a paragraph. We would propose that during the next General Assembly that these individuals be invited to take part in COPUOS' plenary meetings.

This, Sir, is my proposal. I am gratified that it has not been discussed previously and I thank you.

**The CHAIRMAN:** I thank you Ambassador Gonzalez for your input on these issues.

Distinguished delegates and representatives, the floor is still open. What shall we do as a Committee to make a contribution to the work on the Commission on Sustainable Development? How shall we approach it? Ambassador Gonzalez has advised us that it is important for the Commission to know what we are doing but it is equally important for us to know what the Commission is doing. And to bridge the gap, he has proposed that, representing our interests at the United Nations Secretariat level, that the Director of the Office for Outer Space Affairs should represent the space interest in the Commission's meetings and activities. Similarly, his counterpart in the Commission should be here and particularly at our science and technical meetings to have a flair of what we are doing. He can himself see, he or she because it can be a she, he or she can have a feeling for how our work impacts on the activities of the Sustainable Development Commission.

Any reaction to that?

Ambassador Gonzalez?

**Mr. R. GONZALEZ ANINAT** (Chile) (*interpretation from Spanish*): Yes Sir. Apparently the interpreters have worked in a stunning way for they have even managed to interpret my thoughts over and beyond what I had said. It is, of course, a dangerous situation when others are able to read one's own thoughts but I must say that the interpretation was excellent. I apologize for this witticism. I do not always want to be serious in our meetings.

You heard my proposal. It is on the table and I await your reaction.

**The CHAIRMAN:** OK. Now you heard the proposal. Any more additional proposals?

OK, I see nothing happening. The Chair has a proposal. And that is, one, we accept Ambassador Gonzalez's proposal. Two, I would like to see a group of volunteers, both from delegations and from the NGOS, the observers, that we meet in the margins of this session and we come to us by Tuesday afternoon, Wednesday afternoon latest, and tell us and make recommendations in addition to what Ambassador Gonzalez has stated on what this Committee can do with the Commission. If I do not see any volunteers, I will end up appointing people in that Committee and you will have to serve.

I am waiting for volunteers please. Please do not let me appoint anybody. I want volunteers. I think it would be a lot easier that way. You can be a friend of the Chair, a friend of the Bureaux. Come on now.

Alright, what I am going to do is the following. We have to come up with something. The Committee has to have something written as an agreed text and it is going to appear in our report. So what I am going to do that in the absence of any finger going up right now, even though I can see some fingers being pointed into individuals shirts and instead of putting it up, they are pointing at their shirts. So if you can approach the Chair or the Chair will approach you, let us have this result by the end of today so that the Committee can start working immediately and come up with the statement of the Committee's position by Wednesday afternoon.

With that, being an agreed position, we have agreed on Ambassador Gonzalez's point number one as one of our decisions. If there is a need for any supplementation, then we need to move further. OK?

OK, Austria, God bless you, thank you.

You are volunteering? OK, that is good. Volunteer number one. Our host country is volunteering.

Is my campaign good enough to get you to think and submit yourself for the service of the Committee and service of the world? Because all of you have been making statements about your country, we want to protect the environment, we want to save the world, we want to feed the hungry, we want to protect the forest. Now stop talking. Now come and act. Volunteers please. If that is not strong enough.

I hope we can reach a meeting of the minds in the margins of the meeting today.

Now, the last point for the afternoon before we continue formally is the High Level Plenary Meeting. What shall our Committee do? Do not forget the General Assembly is meeting 14-16 September on this subject. Ambassador Gonzalez has made some statements on this issue a few minutes ago. And let me remind you exactly what he said. I am now summarizing what he said. And that is, the issue of natural disasters, the issue of deforestation, the issue of food security, the issue of science and technology, all issues associated with one aspect or another of space science and technology. These issues appear in the report but space science and technology by itself did not. The Group of 15 that you have established, that is the Bureaux that was in place before the current one, the current Bureaux and the Bureaux that is going to come in next year. We all met with the President of the General Assembly on Wednesday morning before we started our meeting and we brought this to his attention. So he is waiting for what we have to do. He is asking us because he does not know our minds, he is not a space scientist, but he recognizes that as well. So what are we going to do?

Chile has the floor, Ambassador Gonzalez.

**Mr. R. GONZALEZ ANINAT** (Chile) (*interpretation from Spanish*): Thank you. Microphone please. Thank you. I make a statement, I believe, for the fifteenth time this afternoon, I am not sure, I have lost track and count. I get the feeling that this is a one-way meeting. No one else is brave, courageous enough to speak or is it perhaps that I am so brilliant that everyone is in agreement with what I am saying. I cannot possibly believe that to be the case however. No, it will take more than this to convince me of that. However, my ego, of course, does push me in that direction.

I return to the previous item, I crave the indulgence to do so Sir. In my view, all those present here are people we can trust from the human point of view and the intellectual point of view and have the greatest amount of respect for all of you, all of you at a scientific level and other levels, of course. And before I make the proposal I am about to make, I did want to reiterate this.

However, concerning the group of volunteers or friends of the Chair, as you so aptly designated them, I believe that we could resolve the make-up of this group if you who are fully trusted by us, and I have followed your past experience, your past career, and I have every trust in you, as a representative of your country first and secondly as a specialist, an expert indeed, of the system. I am convinced you are the

natural leader of the group which we are proposing to create. And I would propose that you, of course, be assisted by the Director of the Office who is a person we intimately trust and, of course, the representative of the host country, Austria. And in my view, these three individuals could represent us for there is no need here to carry out any undue amount of work. No, three or four lines would be sufficient here. I am sure there is a precedent, as Mr. Camacho will recall. I cannot remember the year in which this happened but when I had the honour of chairing the Committee, our idea, I believe, was to write to the Secretary-General and in our letter to the Secretary-General, we asked him, officially, formally, to incorporate the issue of space on the agenda of all the major conferences. What I would suggest is that we should draw inspiration from this initiative and that you, as a representative of the Committee, and I am sure that the whole of the Committee supports you, should write a letter to the Secretary-General.

Thank you.

**The CHAIRMAN:** I thank the distinguished Ambassador of Chile for his comments.

The floor is open for further comments please.

OK, in the absence of any further comments, let me make the following observation. When the United Nations is organizing conferences like UNISPACE III and we are developing the programmes and issues to be discussed, a lot of the input and preparatory work is left to the Secretariat. But in the case of this High Plenary Meeting, the Secretary-General is not in charge of the meeting. It is the President of the General Assembly. Am I correct? The Group of 15 also examined this prospect last Tuesday and after it became clear to us that this could be a possible route but since the person who has put out the preliminary report was going to be with us on Wednesday, that was this past Wednesday, why not actually confront him and bring it to his attention? So we did. And what he said to us, we tried to find out whether the Office could represent us. He said this was a meeting of Member States. Even at the leadership level, that is Prime Ministers and Presidents speaking. Then we said whether the Committee, he said the Committee is made up of Member States, therefore, if the Committee wants to say anything, he would be happy to hear about it but it would be better if those ideas are brought to the Plenary by individual delegates that want to see space as an issue to be discussed in an intelligent manner.

So in order not to prolong this debate, this is what I propose on the basis of our interaction with the President of the General Assembly and my interaction with my colleagues in the past Bureaux, in the current Bureaux and in the Bureaux to come, and that is, by next Monday or Tuesday, I am going to put a paper together and get some co-sponsors as a CRP and present it to you for your consideration. Is this agreeable?

So that is my proposal. And I have been conversing and soliciting support for this CRP and delegates in this room are helping me to put it together right now.

Any further comments on this subject. Ambassador Gonzalez, do you have any reaction?

**Mr. R. GONZALEZ ANINAT** (Chile) (*interpretation from Spanish*): Well, you can see that I am a little hesitant, Mr. Chairman. I am not sure if I can go so far as to make any comments or not but I feel rather awkward. I am in a slightly fragile condition psychologically when it comes to replying. You know you are entirely authorized to make such proposals, Sir. We do not need to give you any instructions. You are fully entitled to submit a proposal of this kind dealing with this topic and all I have to say is as Chair of the Committee you can do it with our support Sir. Because if nobody objects to said proposal, that means you have unanimous support.

Thank you Sir.

**The CHAIRMAN:** I thank you Ambassador Gonzalez. And distinguished delegates, what I propose is to give you the CRP early next week and my hope is that it will be an intelligent proposal and it will meet with your approval.

So that being the case, let us close our debate this afternoon on agenda item 6 unless we have anybody else who wants to make a formal presentation on agenda item 6.

**Report of the Scientific and Technical Subcommittee on its forty-second session (agenda item 7)**

If not, I move now to agenda item number 7, Report of the Scientific and Technical Subcommittee. Before I do, let me say thank you very much for giving me the opportunity to have the discussion we have just had. I really believe that we should have more of this type of discussion on issues. After we make a formal presentation, I would prefer if delegates would listen to

other delegates and, if we have time, as we are blessed with some time today, then we discuss whatever may come out of the input from individual delegations.

Having said that, the first speaker on my list on agenda item 7 is Nigeria and I invite the distinguished representative of Nigeria, Dr. Akinyede, who is the Director of Space Applications at the Nigerian Space Agency.

**Mr. J. O. AKINYEDE** (Nigeria): Thank you Mr. Chairman. The Nigerian delegation is pleased with the progress which the Scientific and Technical Subcommittee of COPUOS continued to make, especially in the conduct of its scientific and technical meetings and the discharge of its responsibilities. The conduct of its forty-second session with the achievements record in some agenda items, under the chairmanship of Ambassador Dumitru Dorin Prunariu, was remarkable.

In particular, Nigeria commends the establishment of an Ad Hoc Group of Experts to prepare a study proposal on DMISCO, Disaster Management International Space Coordination entity. It is significant to note that the proposal to establish DMISCO is the result of endorsement of the Action Plans on UNISPACE III + 5 report by the General Assembly and the first concrete action to be taken by COPUOS' Scientific and Technical Subcommittee on UNISPACE III recommendations. We wish to express our support to COPUOS to ensure that DMISCO is institutionalized to assume the responsibility of coordinating and implementing an integrated operational space-based system to manage and mitigate natural disaster globally. Nigeria will be willing to be involved in the African regional coordination of the work of DMISCO.

We also note with satisfaction the activities under the United Nations Programme on Space Applications carried out in 2004 or proposed for 2005, which include a United Nations/NASRDA collaboration to organize an international conference on space law. We are delighted to inform the international community that, in November 2005, Nigeria will host Africa and the world in a five-day Conference on Space Law and the first "African Leadership Conference on Space Science and Technology for Sustainable Development". The proposed theme of the African Leadership Conference is "Space: An Indispensable Tool for Africa's Development and Growth". The Conference will be organized in collaboration with Algeria and South Africa. The Abuja Conference will provide awareness on and opportunity for capacity-building in space law,

which include international space agreements/legal instruments with impact and implications on Africa. The African Leadership Conference will reflect on the aspects of space science and technology that are most relevant in addressing Africa's problems and needs, as well as strategies for ensuring Africa's effective and rewarding participation in the space enterprise.

Mr. Chairman, the COSPAR/IAF Symposium has continued to generate interest to Nigeria in view of its implications on the development of our national space policy and programme, particularly in the areas of application to socio-economic development. The February Symposium on High-Resolution and Hyperspectral Satellite Data Integration for Precision Farming and Environmental Monitoring was very timely and most appropriate to finding solutions to some site-specific environmental problems in the Niger Delta area of Nigeria, as well as improving the yield and agricultural production of the small-holder farmers which constitute the majority of the farming population in Nigeria. However, the advances of such applications are limited by the high cost of the data. We believe that the problems can be tackled with a reduction in the cost of imageries and the development of affordable high-resolution small satellites. This has again reinforced our belief that the proposed high-resolution African Resource Management Satellite Constellation will meet such needs. We will also be willing to cooperate with the satellite providers and the international community who wish to share their experiences in this field.

My delegation also believes that space-system-based tele-medicine holds an enormous potential for rural health care delivery in Nigeria. The belief reiterates our interest and efforts in providing the necessary satellite backbone to support any initiative and pilot project for tele-medicine development in Nigeria. Accordingly, the Nigeria Communication Satellite project is aimed, among other things, at bridging the present huge gap between health care system in urban and rural areas, as well as greatly reducing the high cost of health care delivery in both areas. The proposed NigComsat-1, when launched, will also be well accessible to the countries of Africa to meet their health care needs. However, the Nigerian delegation is still very much concerned about the barriers in legal and regulatory issues in the application of tele-medicine and high cost of the relevant electronic biomedical equipment and software. We, therefore, call on the international community not to relent on its efforts in finding appropriate solutions to these problems, in order to open more windows of opportunities for the developing countries to derive

maximum benefits from satellite-system-based tele-medicine.

Thank you Mr. Chairman.

**The CHAIRMAN:** I thank you Dr. Akinyede for Nigeria's input on agenda item 7.

And the next speaker on my list is the distinguished representative of India, Mr. Sundararamaiah, the Scientific Secretary of the Indian Space Research Organisation. Sir, you have the floor.

**Mr. V. SUNDARARAMAIAH (India):** Thank you Mr. Chairman. The Indian delegation is pleased to note the progress achieved during the forty-second session of the Scientific and Technical Subcommittee and would like to convey its appreciation on the leadership and guidance provided by Dr. Dumitru Dorin Prunariu as the Chairman of the Scientific and Technical Subcommittee.

Mr. Chairman, the Indian delegation already commented on two of the agenda items discussed during the last session of the Scientific and Technical Subcommittee, namely Implementation of UNISPACE III Recommendations, and the Space-System-Based Disaster Management Support. We would like to express our comments on the other elements of the work of the Subcommittee.

We strongly support the United Nations Programme on Space Applications and the work carried out by the Office for Outer Space Affairs in implementing the Programme. We fully concur with the view expressed by the Subcommittee that the limited resources of the United Nations should be focused on the activities with the highest priority and with its observations that the United Nations Programme on Space Applications is the priority activity of the Office for Outer Space Affairs.

We also noted that the United Nations Programme on Space Applications would place emphasis on supporting education and training for capacity-building in developing countries, in particular through the Regional Centres for Space Science and Technology Education.

Mr. Chairman, the technological progress and applications in the area of Earth observation satellites is an important area for the developing countries due to its potential to promote sustainable development. We support the emphasis given by the Subcommittee to providing access to remote sensing data and to the derived information on non-discriminatory basis, at

reasonable cost, and in a timely manner to meet the needs of developing countries.

Mr. Chairman, the Indian delegation attaches high importance to the subject of space debris in the Scientific and Technical Subcommittee. We are happy that the Working Group of the Subcommittee agreed to develop a document on Space Debris Mitigation and arrived at the consensus on the basic considerations in evolving such a document. We note that the document on Space Debris Mitigation to be developed by the Scientific and Technical Subcommittee through its Working Group would use technical content of the IADC document on Space Debris Mitigation Guidelines. We are also happy to note the consensus reached in the Subcommittee that the implementation of space debris mitigation measures remains voluntary and should be carried out through the national mechanisms. The target to complete the task and submit the document to the Subcommittee at its forty-fourth session in the year 2007 appears reasonable and practical. We noted that the agreement arrived at by the Working Group was endorsed by the Subcommittee in its session.

Mr. Chairman, we have noted with satisfaction the detailed work carried out by the Working Group on the Use of Nuclear Power Sources in Outer Space. We support the conclusion of the Working Group on holding a joint workshop, along with the IAEA, on developing a potential technical safety standard for nuclear power sources in outer space, during the next session of the Subcommittee in the year 2006.

On the subject of space-systems-based tele-medicine, the deliberations in the Scientific and Technical Subcommittee and technical presentations were of high quality and the exposure is useful to the developing countries.

Mr. Chairman, scientific and technology aspects of outer space activities are the foundation on which the space applications and international space treaties stand. Hence, the work of the Scientific and Technical Subcommittee has special importance for all of us. The forty-second session of the Scientific and Technical Subcommittee had contributed to the progress of international cooperation in this vital area. The Indian delegation endorses the report of the Scientific and Technical Subcommittee on its work during the last session.

Thank you Mr. Chairman.

**The CHAIRMAN:** I thank the distinguished representative of India, the Scientific Secretary of ISRO, for his presentation on agenda item number 7.

Distinguished delegates and representatives, that is the last inscribed presentation on agenda item 7 for this afternoon.

Does any other delegation wish to take the floor on agenda item number 7?

### Technical presentations

If not, for this afternoon, we are not adjourning yet so please sit down. We have now two technical presentations. The first presentation will be from Mr. Toshibumi Sakata of Japan and he will be addressing us on "Archaeology from Space". Let me remind Mr. Sakata that he has 20 minutes to make his presentation. We may give you an additional five minutes, do not mind my saying 20 minutes. And after that, we have Mr. Lu, who is of China, who will be speaking to us on "Chinese Meteorological Satellites and their Applications".

So, Mr. Sakata, are you ready?

**Mr. T. SAKATA (Japan):** Thank you Mr. Chairman. My name is Toshibumi Sakata from Japan. My presentation is "Archaeology from Space". This application of satellites is very useful \_\_\_\_\_ (*not clear*). Space technology must be applied to archaeology but not only archaeology we have also tried to \_\_\_\_\_ (*not clear*) out of \_\_\_\_\_ (*not clear*) for the world heritage. And then also we have, looking for some of our ancient ruins inside their arid area. In that case, we have also looking for some of results of the ancient climate condition. And then we have tried archaeology. This is a global image we can see all global conditions and then we can see ancient city or the ruins, inside are the arid areas or desert areas. And then we called in Space Archaeology almost 8,000 years to 2,000 years. Between 6,000 years, we are looking for several hundred points of archaeological points.

And the most important thing it is all priority(?) that is distributed to the desert areas of the world, and Northern Hemisphere also Southern Hemisphere much more the desert areas to find its ruins. And then it is another interesting point, all cities, \_\_\_\_\_ (*not clear*) cities are ancient cities, distributed to the arid areas and the desert areas. And the yellow and blue is a new city. And old cities are also ancient cities are located just by the centre, more the middle or the near equator area.

And then we tried two kinds of things. One is looking for the ancient city \_\_\_\_\_ (*not clear*) from satellite data. Also we are looking for the environmental or a climate change over the world. In the case of very famous archaeological points, such as central part of South America, we have here NASCA. We found it of a picture and the picture \_\_\_\_\_ (*not clear*) in deserts. You can see the several kinds of deserts.

Before we cannot see them but after that, increasing of \_\_\_\_\_ (*not clear*) makes quality, the satellites, so we detected more \_\_\_\_\_ (*not clear*) all ancient pictures in the deserts.

Also, another distribution, also near the mountain areas of Chile and other places, and this one is \_\_\_\_\_ (*not clear*) place, very dry area to find its ancient city. We call this \_\_\_\_\_ (?) of Peru. To find, the colour indicated the green but the white one is mostly sand and the black one is mostly a rocky place. The centre part right round we have found these older canal to detect and we have found it at some place.

Also another place, in the case of South Asia, I call what that is a big lake. We found this lake but this is a manmade lake. In the centre parts, that square type of lake, 8 kilometres length, 3 kilometres wide, and the centre parts we found and call a temple. But another interesting point, we have found that many of the canals, all canals are inter-connected \_\_\_\_\_ (*not clear*) and this big city supplied the water, all canals connection and we found this very famous temple Angkor Wat.

Another application of the Silk Road, the Silk Road it is at just the middle latitude through the west to east, east to west from Rome to Xian and to Japan. We felt that \_\_\_\_\_ (*not clear*) to try to looking for the ancient city, the connection, ancient road. And above the case, another point, are Mongolia. We have found many tombs of the ruins, around the river.

Another application also, we found this old castle inside but in the winter time, we cannot go to there but you can find it some place here because there are some windows that snow created the shape of the castle, the old one.

Another application on this site, looking for the Mongolia, and the centre part is the Yellow and the Red \_\_\_\_\_ (*not clear*) Area, the more private area, to find its ruins out of Mongolia.

And then also water supplied this area, probably people living here some time.

This is a very famous city of the world. Beijing, its just centre parts. Around this site, we have many kinds of tombs of kings. And also it is a very famous place of the The Great Wall detectable. We have tried two ways. One is a general way. Another way \_\_\_\_\_ (*unclear*) to find it. And why to \_\_\_\_\_ (*not clear*) trying. Because this one is made by the clay. \_\_\_\_\_ (*unclear*), we cannot detect because of the same canal. But the distance of deflection or microwave, so we have detectable and long-lying along the Wall. \_\_\_\_\_ (*unclear*) different types along the Wall, different dynasties.

Also we have found that several kinds of temple and the city and all ancient types of shapes of roads and connections of rivers and mountains. This is a very old city. Also we found it. New cities, old cities separated.

And another one is application is the centre part, of Saudi Arabia. So we have found it is a different kind of a city. That is a most important detection. It is the central part of the drought area to find out an ancient city that is called Palmyra, Syria. The broad spotted areas, the centre part is an ancient city, around \_\_\_\_\_ (*unclear*) is just \_\_\_\_\_ (*not clear*) the Sun to \_\_\_\_\_ (*not clear*) this area. It was a lake and then it dried. Sometimes, when it rained it became again a lake. That \_\_\_\_\_ (*unclear*). That lake is very dry but water is supplied at some place. Surface conditions, in normally that is very dry but underground it is contained the water.

And this is the centre parts in the ancient city. And here is an ancient city that still remains, some of the shape of roads and structure of towns and cities. This is an old picture, that one, 1970 or 1980, that type is remained at this site. At the present time, they have changed. This is the present condition. Still remains a site, though more detectable. This whole area is very important to the city site giving to the water.

Behind the city, we found some ruins and the inside and underground, it is detectable, that is the \_\_\_\_\_ (*not clear*) on this site.

Another interesting point, Pompeii. That is just the centre part, its volcanic mountain, Vesuvius, that is south of the field, we have found it at the Pompeii area. That is a very important thing that satellite data detectable(?) that on different kinds of soil and rock and the rock area mostly is something \_\_\_\_\_ (*not clear*), it is a volcanic mountain.

And the centre parts, through the satellite, is not so clear but we think we can get this high resolution and then detectable old city of Pompeii. This site, we can see more clearly each road, each house is detectable, to get this kind of data.

Another data that is another interesting point this site, the centre part of the Nile River and the following Nile River is the west side of Nile Delta and going to the south, just following the Pyramid line. You can see the Pyramid line here. The Pyramids are located just this side of the river. And then we found it is so easy to know that it is a big Pyramid. The more clearly we can get the very clear image of the surrounding areas and also environmental conditions is each side, we found it some of the \_\_\_\_\_ (*unclear*) and rivers connection to the under construction of the port area.

And another application is that we are getting this data also extraction from the \_\_\_\_\_ (*not clear*) because data connection to detectable of \_\_\_\_\_ (*not clear*) conditions and when this is a computer simulation, when it came a water \_\_\_\_\_ (*not clear*), how to change \_\_\_\_\_ (*unclear*) condition but \_\_\_\_\_ (*not clear*) constructed areas is detectable because that side is not water coming up to this side.

One case around in this area, we can see the \_\_\_\_\_ (*not clear*) condition but we are looking for the underground area. The \_\_\_\_\_ (*not clear*) area of the \_\_\_\_\_ (*not clear*) spotted area before we can see a grand \_\_\_\_\_ (*not clear*) but after we can try to satellite data through the \_\_\_\_\_ (*not clear*) part of the radar so we are detectable. That is the case of some place where \_\_\_\_\_ (*unclear*) but the shape is \_\_\_\_\_ (*not clear*) underground.

In the case of this centre part, it is south of \_\_\_\_\_ (*not clear*), what the picture, west side south point is alleged(?) pyramid. This pyramid is 100 metres(?) square and the circled area it is no detection. That is a \_\_\_\_\_ (*not clear*). And what \_\_\_\_\_ (*not clear*), that is the deflection of the Sun on the \_\_\_\_\_ (*not clear*). And then this area, another area that we can see the shrine also the Pyramids but \_\_\_\_\_ (*not clear*) areas are nothing in that area. But before we can detectable, light deflection of this area by the synthetic aperture radar. And then when we tried this area survey, the first one we had just tried. This area is \_\_\_\_\_ (*not clear*) but we had tried excavation, just to \_\_\_\_\_ (*not clear*), and after one week we found this. This is a deflection area. And then after two or three years, we tried excavation. And then we found this vertical shaft in the underground, 25

metres, we found a strong coffin, that one, eight tons, and inside that site.

Another \_\_\_\_\_ (*not clear*) of the same place, we are looking for this one, of this years, of January, to find another one. Also the deflection this \_\_\_\_\_ (*not clear*) area, here, we found here, excavation, and the underground of two or three metres underground, that coffin, that wooden coffin that is inside here, that is not yet open, just under the study that is finished. That new application satellite system is a very useful one, using this kind of thing.

Thank you very much.

**The CHAIRMAN:** Mr. Sakata, thank you very much for that presentation showing us what you have been able to accomplish using various capabilities of space science and technology, particularly satellite technology in archaeology. Through your presentation, you have given us sight of ruins around the world and some of the things you and your university. I am assuming you are at Tokai University, right, you and your University have been able to do in deserts. Again, here, we are now looking at some of the results of your work on pyramids in Egypt, in caves, ancient roads, ancient rivers and different shapes underground and, of course, you concluded with the mummies from Egypt.

Distinguished delegates, do you have any questions or comments?

Yes Sir. Syria, you have the floor.

**Mr. M. RUKIEH** (Syrian Arab Republic) (*interpretation from Arabic*): Thank you Sir for this outstanding presentation which listed a number of examples of the application of remote sensing techniques, as far as archaeology is concerned. We noted that most of the images which were showed to us were spectral images, except for a few radar images which were utilized to detect and pinpoint a number of areas in the area of the Pyramids. Were any thermal images used during the course of these studies? For thermal images have important applications as far as the identification of archaeological sites is concerned. Indeed, archaeological sites have a much higher temperature level than the areas surrounding them and thermal images contribute to identifying these sites. We have utilized this method to detect a number of archaeological sites in Palmyra in Syria.

Thank you.

**The CHAIRMAN:** Mr. Sakata, do you want to respond?

**Mr. T. SAKATA** (Japan): Yes, I think ... (*no microphone*) ... I think in this case I really tried two kinds of case. One is optical and another one is radar microwave, but we tried not only that case, we have a very important thing, also thermal and also another microwave. But each time we tried the radar, it is not only data, the data an optical way. And also the most important thing is cooperation between archaeologists of course. We have a very important thing is getting the ground data, the ground truth. Without any ground truth data we cannot detection, also we cannot \_\_\_\_\_ (*not clear*) it archaeology. In that case, this is a very important thing, cooperation between any other field.

This is my comment.

**The CHAIRMAN:** I think what the question the gentlemen from Syria wanted to know from you was that from among the sensor systems you used, whether you tried anything in the area of thermal infrared or things like that.

Mr. Sakata, I was speaking to you. I said my friend from Syria wanted to know from you whether, in addition to your optical sensor and the radar sensor, whether you tried anything in the area of thermal sensor.

**Mr. T. SAKATA** (Japan): I think I have tried this picture during the 1980 to 1990 but the first decade set some of the limitation of the survey. At the present time it has now improved this equipment. I think it is more expanding in this area. Also Palmyra is a very important treasure. In that case, we have tried another new sensor or the use of it to detect more the large area in that case. It is a most important feature, environmental change of sanitary, also water content. In that case, it is not only optical or radar.

That is my comment on Palmyra.

**The CHAIRMAN:** Thank you very much Mr. Sakata. I think for the Committee this is a new beginning. This is the first time we are touching this subject and I think it is a very, you have educated most of us because we have been looking only at food and water and pollution and forests. We did not think of archaeology until a member of our Committee said, no, we have to look at archaeology and I think the Committee is indebted to you for your contribution to this work. So thank you very much.

Syria wants to say something. Alright, you have the floor Sir.

**Mr. M. RUKIEH** (Syrian Arab Republic) (*interpretation from Arabic*): Thank you for these clarifications. In Syria, we are ready to invite the good doctor to come and cooperate with us in the field of archaeological research, not only in Palmyra, but in various sites. Indeed, there are more than 5,000 archaeological sites in Syria. I reiterate, we are ready to cooperate with him in all the various areas of utilization of remote sensing technologies, including the use of geo-physical methods.

Thank you.

**The CHAIRMAN:** I thank you very much for that and I am sure that Mr. Sakata has heard you very loud and clear and when you finish your work, maybe in another year or two, will you please bring it back to the Committee so we know what you have done? OK? Thank you very much.

Gentlemen and ladies, please join me in thanking Mr. Sakata with your hands.

Our next speaker is Mr. Lu and Mr. Lu will be addressing us on "Chinese Meteorological Satellites and their Applications".

Mr. Lu, you have the floor.

**Mr. L. NAIMENG** (China) (*interpretation from Chinese*): Thank you Mr. Chairman and all the distinguished delegates. I am very pleased to be here to present to you the Application of Chinese Meteorological Satellites and its Application Programmes.

My report will cover the basic features of the Chinese satellite programmes, its service programme and the application of satellite data in weather analysis and disaster management and environmental monitoring with satellite data.

China has now two major categories of satellites. The first one is FY-1 series. This is the first generation of polar orbiting meteorological satellites. FY-1A, FY-1B and the FY-1D were launched on 7 September 1988 and also in 1990, 1999 and 2002. Now here you can see the first image of the first picture of Feng Yun image. Here you can see a dragon from this image. This brings good luck to the Chinese. It has a life span of five years, five and a half years. This is also the first imagery of Feng Yun satellite. We can see that that is the storm here. We normally cannot observe the storm with normal means. Here, we can see the composite, visible composite picture. We can

have a global multiple orbit mosaic image every 14 hours. This Feng Yun satellite can also have images from around the world. Here we can see the pictures of planes and ships in North America. Here we can see the five big lakes, European images, South African images and the polar images.

Apart from the Chinese expert, we also have the following experts using Chinese imageries. Here we can see the imageries used by our users in Britain. Austrian experts also receive our imageries. Here we can see the trace of two planes here. This is provided to us by the Austrian Space Agency. Australian.

Until now, we also launched A,B, C-3 satellites. They were launched in 1997, 2000 and 2004. This is the first imagery of the Feng Yun-2B satellite. This high-frequency imagery can provide important data for weather forecasting.

Through Data Processing Centre, we provide all the data to different users in China. This includes State Council Ministry of Agriculture, National Forestry Administration, National Remote Sensing Centre, Local Provincial Meteorological Office. This process is very complicated. The normal users can log in onto the website to get information.

Next, I would like to present to you the application of satellite data in weather analysis. These kind of applications include the synoptical analysis, typhoon guidance, dust storm monitoring, fog monitoring, precipitation estimate, cloud classification and NWP.

We use Feng Yun satellite imagery to analyze extra-tropical cyclones, cloud system over North Pacific, Mei-Yu front cloud system which Japan and China also give high importance to.

Now we can see the long longitudinal co-cold front cloud system. Typhoon is a very important element disturbing the weather situation in Asia. The dust storm also affects the Asian countries a lot. Every hour, through the data imageries, we can analyze the sand and dust storm, which is very credible and is very advantageous for the users. We also monitor the fog. In this way we can monitor the fog situation over the highway system. We also use the satellite data system to analyze the precipitation and provide an estimate. These are very important data for cloud and flood. We have two sensors on the Feng Yun satellite which is very sensitive to cloud and the precipitations here, the red colour, is ice, the cloud, the white colour is the water cloud. We use the imagery to provide forecasters with various information.

In digital forecasting, the data is very important and provides significant information for forecasting. Here we can see the deep coloured route is the movement of a typhoon. On the left, we can see the result without digital analysis. Here the dot line is the result we received from data analysis from the satellite. Here we can see that digital satellite data is very important information for correct forecasts.

Finally, I would like to touch upon disaster management and environment monitoring with satellite data. Here, it covers the flood, drought, snow disaster, forest and grassland fire monitoring.

China is a country with frequent drought. The satellite provides a very important means for forecasting of drought. The upper right is the picture of the drought. We can see through the rain the drought is relieved. Every 10 days we can provide a picture of the rain situation nationwide.

Through the monitoring of vegetation growth, we can see the growth situations of vegetation in China every year. The Agricultural Department can rely on this data to forecast the growth of plants and crops.

In the grassland area, the crop situation is also very important. Now we are trying to use the Feng Yun-1-C satellite to forecast the agricultural situation in other countries. The harvest situation will be very important for exports estimates.

In winter, we do snow coverage monitoring and we also provide an image data covering the whole country every 10 days. We also accumulate days of snow cover for the winter season which is very important for weather forecasting and analysis.

We also monitor floods. Here, in this picture, the red colour reflects the flooded area. The blue colour reflects the normal water body. We monitor the flood situations in every county of China. Everyone knows, every county in China normally report more flood areas when they do the reporting in to the Central Department. So, such kind of imagery will help the Central Government to analyze the real situation.

We also monitor the snow melt situation. We use geographical data, combined with the flood monitoring data, we can calculate the snow melt area.

We also contribute to the monitoring of reservoir water sites.

The most successful area in applying satellite data is in the area of forests and the grassland fire monitoring. This is one of the examples of how the data monitoring could be used to monitor the grassland fires situation. From this imagery we can see we find the grassland fires in neighbouring countries. Through two imageries every hour, we can see that the fire has spread to other areas, spread to China, so we have cut out a prevention area and we can see from this imagery that the fire has been stopped along the Chinese border. We have now also developed the hot spot of sub-pixel size and the temperature evaluation application. We also monitor and analyze a small burning site. All these burning and fire sites are connected with the post-harvest situation and wheat straw burning. Wheat straw burning is prohibited by the Chinese Government in China because it pollutes the environment. However, peasants in many areas are still secretly burning it. The Central Government of China are using our data imageries to monitor the local situations.

Now here we can see the monitoring data of sea ice. We have many oil drilling stations in coastal areas and they need our sea ice monitoring data.

We also have applications in other areas. These include urban expansion. This is the global sea surface temperature. They are very useful for fishing and \_\_\_\_\_ (*not clear*) situation monitoring. This is a picture of global mean distribution of aerosol optical depths over oceans. This is imagery of \_\_\_\_\_ (*not clear*) distribution over Bohai Bay. This is the sea sedimentation in the East China Sea.

Finally, I would like to give a summary of my report. Until now, China has developed its polar and orbiting satellite systems. They are very useful in the weather forecasting, global change of research disaster management and environmental monitoring. In the past two decades, China benefits from the use of foreign meteorological satellites and with the purpose of making benefits to the people of the world.

The data of the Chinese Feng Yun satellites are also open and free to the international community. We would also like to thank the counterparts in the United States, Britain and Japan for their contribution.

I believe the weather forecasting data is very important for weather forecasting and we hope the scientists the world over will use the outer space and space technology for the development of mankind.

Thank you Mr. Chairman.

**The CHAIRMAN:** Mr. Lu, thank you very much for that impressive presentation. Definitely your country, through your Feng Yun series of satellites is making a significant contribution to our understanding of our environment and everything about it. I noted your satellite has something for virtually every country of the world and so the question then is, the question in the mind of most people, how can they have easy access to this data? Secondly, you addressed several monitoring capabilities. I know for this, of course, in Africa, particularly in Nigeria, beginning from December through March, we are bombarded by the dust storm from the Sahara Desert and that is one of the concerns of our Space Agency, how can they get the data from your satellites to use in this?

I noted also you talked about the movement of typhoons and that means it may be capable for hurricanes, definitely in the Caribbean, people depend a lot, and it has been very effective, especially during the Hurricane Ivan last October. And I am trying to find out, when the tsunami happened, whether your satellite was able to track the subsequent impact of the tsunami on South-East Asia. So you have given a very comprehensive presentation and we thank you very much. But before you answer my own questions, I think you might want to answer questions from the delegates themselves first.

**Mr. L. NAIMENG (China)** (*interpretation from Chinese*): First of all, meteorological satellites, the reception of meteorological satellites data is very open and the frequency and format is also public. Many countries using their current satellite systems only with a minor modification can receive data from our FY satellites. China also provides to its neighbouring countries, like the Republic of Korea, Viet Nam, the satellite receiving systems. These systems can receive very well the data from satellites over-flying their countries.

With regard to dust storm monitoring, the best satellite data comes from a geostationary satellite because their temporal resolution is very high. Using which geostationary satellites depends on their position, location of a certain country. It should be noted that monitoring dust storms using GSO satellites is the latest result of Chinese work in this area and has attracted attention from meteorologists from neighbouring countries. Our \_\_\_\_\_ (*not clear*) are also used in Korea. The Chinese experts provide technical assistance and exchange with other countries working in this area.

Typhoon is similar to dust storms. First of all, it depends on what data to use from which satellite. In

Asia, we use most data from the Japan GMS and also data from the Feng Yun FY geo-satellites. The day before yesterday, I discussed with the Japanese delegate. He said that after the end of this month we will be able to receive the data from Japan's MT satellite. So in Asia, we both have the Japanese meteorological satellites and also China's GSO satellites. So at least every half hour we can have a remote sensing image covering the entire Asian region.

With regard to tsunamis, it seems the resolution of meteorological satellites is one kilometre. Therefore, for tsunami analysis, it still remains at the research stage.

Thank you.

**The CHAIRMAN:** Thank you very much.

Distinguished delegates and representatives, the floor is open. Professor Mazlan Othman.

**Ms. M. OTHMAN** (Malaysia): Thank you Mr. Chairman. We would like to express our deep appreciation to the Government of China for establishing the Feng Yun series of satellites. Our amateur radio satellite station at the National Planetarium routinely tracks these satellites using inexpensive, off-the-shelf, \_\_\_\_\_ (not clear) equipment and antenna.

Thank you.

**The CHAIRMAN:** Thank you very much because actually that is the second question I was going to ask later on, whether, giving the fact that most countries in the world using expensive antennas to take information from American meteorological satellites. Are we going to build giant antennas for these ones or are they going to be simple ones? And you just answered that question. So thank you very much.

The distinguished representative of Cuba, you have the floor Madam.

**Ms. L. PALACIOS** (Cuba) (*interpretation from Spanish*): Thank you very much Sir. I would like to ask a question to the distinguished representative of China, through you Sir, but I would like to start by thanking the distinguished representative of China.

I am going to talk about organization. We saw slides which showed the organogram of this flowchart and I would like to know to which body this institution belongs and what are the relations when it comes to communication here? Is the information

already developed, processed by that body or is such information processed and analyzed by the Ministries that receive the information?

Thank you.

**Mr. L. NAIMENG** (China) (*interpretation from Chinese*): A short while ago, I showed the flood and monitoring imagery which covered only China. We provided this information to our Hydrological Departments for their use so specific applications are not very clear to us.

**The CHAIRMAN:** Thank you very much for that input.

India, Dr. Suresh.

**Mr. B. N. SURESH** (India): Thank you Mr. Chairman. First of all, I must compliment Mr. Lu for a very impressive presentation on meteorological satellites. I have seen that a considerable amount of work has been done in weather forecasting, data generation, data collection and weather forecasting. I am just interested to know what is the accuracy level and what is the kind of accuracy achieved in this weather forecasting?

Thank you.

**Mr. L. NAIMENG** (China) (*interpretation from Chinese*): This is a not easy to answer question because right now our meteorologists have a different judgements on the accuracy of weather forecasts. It does not depend on whether short-term or medium-term or long-term forecasts but depends on the specific analytical method. Accuracy also depends on which kind of weather system, whether torrential rain or snow fall, so one cannot give a general answer to this question. In fact, as far as I know, not only China but also the American and European meteorologists are still exploring other methods to accurately describe and analyze weather forecasts.

**The CHAIRMAN:** Any more contributions?

Thank you everybody and can we put our hands together for Mr. Lu of China for his job well done.

Mr. Lu, thank you very much.

Distinguished delegates and representatives, in the absence of any further business, I would now like to adjourn this meeting of the Committee. But before doing so, I would like to inform delegates of our

schedule of work for Monday morning. We will convene promptly in this Conference Room III at 10.00 a.m. At that time, we will continue our consideration of agenda item 6, Implementation of the Recommendations of UNISPACE III, and agenda item 7, Report of the Scientific and Technical Subcommittee on its Forty-Second Session.

We will also begin consideration of agenda item 8, Report of the Legal Subcommittee on its Forty-Fourth Session.

At the end of Monday morning's meeting, there will be a technical presentation by the representative of Thailand.

Are there any questions or comments on this proposed schedule for Monday morning?

I see none.

So that means you have all agreed to that.

Furthermore, please let me remind all of you that there are going to be several side meetings next week, particularly on Monday. For example, the Ad Hoc Expert Group that is conducting a study on the possibility of creating an international entity to provide for coordination and the means of realistically optimizing the effectiveness of space-based services for use in disaster management, will hold its meeting in Room C0727 beginning at 9.00 a.m.

Similarly, the Working Group on Space Debris of the Scientific and Technical Subcommittee will hold its intersessional meeting in Conference Room VII beginning at 2.00 p.m., also on Monday.

Finally, the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Subcommittee will begin its intersessional meeting in Room C0713 at 9.00 a.m., also Monday morning, 13 June.

There are no other comments. This meeting is adjourned and we will meet at 10.00 a.m. in this room on Monday.

*The meeting closed at 5.15 p.m.*