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Draft report of the Working Group on the Long-term Sustainability of Outer Space Activities

1. In accordance with paragraph 7 of General Assembly resolution 66/71, the Scientific and Technical Subcommittee, at its forty-ninth session, reconvened its Working Group on the Long-Term Sustainability of Outer Space Activities.
2. The Working Group held [...] meetings, from [...] to [...] February 2012, under the chairmanship of Peter Martinez (South Africa).
3. At the first meeting, the Chair of the Working Group presented a report on the work conducted following the adoption of the terms of reference of the Working Group¹ by the Committee on the Peaceful Uses of Outer Space at its fifty-fourth session, held in June 2011.
4. In accordance with its terms of reference, the Working Group had before it the following documents:
 - (a) Note by the Secretariat on experiences and practices related to the long-term sustainability of outer space activities (A/AC.105/C.1/103 and Add.1);
 - (b) Conference room paper containing a list of points of contact for the Working Group, and members of expert groups A through D (A/AC.105/C.1/2012/CRP.12);
 - (c) Conference room papers containing full reports on experiences and practices related to the long-term sustainability of outer space activities received from member States and permanent observers of the Committee, as well as other international organizations and bodies (A/AC.105/C.1/2012/CRP.13, A/AC.105/C.1/2012/CRP.14 and A/AC.105/C.1/2012/CRP.15);

¹ *Official Records of the General Assembly, Sixty-sixth Session, Supplement No. 20 (A/66/20), annex II.*



(d) Conference room paper containing the report of the International Interdisciplinary Congress on Space Debris entitled “Active debris removal — an essential mechanism for ensuring the safety and sustainability of outer space” (A/AC.105/C.1/2012/CRP.16);

(e) Conference room paper containing a report received from Ecuador (A/AC.105/C.1/2012/CRP.18);

(f) Working paper submitted by the Russian Federation and Ukraine (A/AC.105/C.1/2012/CRP.21).

5. The Working Group recalled that four expert groups had been established in accordance with the terms of reference to address the following topics:

(a) Sustainable space utilization supporting sustainable development on Earth, chaired by Filipe Duarte Santos (Portugal);

(b) Space debris, space operations and tools to support collaborative space situational awareness, co-chaired by Claudio Portelli (Italy) and Richard Buenneke (United States);

(c) Space weather, chaired by Takahiro Obara (Japan);

(d) Regulatory regimes and guidance for actors in the space arena, co-chaired by Sergio Marchisio (Italy) and Anthony Wicht (Australia).

6. The Working Group welcomed the establishment by the Secretariat of a dedicated web page with restricted access (www.unoosa.org/oosa/en/COPUOS/stsc/lts/index.html) to facilitate the sharing of information on the work being conducted by the Working Group and its four expert groups. The Working Group further noted that the access details for that web page had been communicated to all Permanent Missions in Vienna of States members of the Committee.

7. The Working Group noted that expert groups B (space debris, space operations), C (space weather) and D (regulatory regimes) had held informal coordination meetings on the margins of the 62nd International Astronautical Congress, in Cape Town, South Africa, in October 2011. The reports of those informal coordination meetings had been made available on the web page referred to above.

8. The Working Group noted with appreciation the workshop that had been held during its first meeting, on 9 February 2012, in accordance with its multi-year workplan. During the workshop the Working Group considered the intersessional activities of the expert groups, as well as their plans for advancing the work under their respective mandates. A brief summary of the presentations delivered by the chairs and co-chairs of the expert groups during the workshop is contained in the appendix to the present report. The full presentations were placed on the web page of the forty-ninth session of the Scientific and Technical Subcommittee, as well as on the web page dedicated to the Working Group.

9. The Working Group noted that during the workshop the expert group chairs and co-chairs, in presenting their workplans for 2012, had proposed to meet on the margins of the fifty-fifth session of the Committee, to be held in Vienna in June 2012,

and the 63rd International Astronautical Congress, to be held in Naples, Italy, in October 2012.

10. The Working Group noted that all four expert groups had met on the margins of the current session of the Scientific and Technical Subcommittee and that the reports on the work they conducted following the workshop would be made available on the web page referred to above.

11. The Working Group noted that it was important that the expert groups perform a gap analysis to identify issues affecting the long-term sustainability of outer space activities that were not being addressed in any forum at present.

12. The view was expressed that satellite operators would welcome information on space weather hazards and conjunction risks on a daily basis and that expert groups B and C should consider means by which satellite operators could access space weather information and exchange orbital parameters to allow the most accurate risk analysis possible to be performed.

13. The Working Group noted that several countries had operational space situational awareness programmes and that improved coordination among those programmes could enhance the collective space situational awareness of the global space community.

14. The view was expressed that the Office for Outer Space Affairs should take part in the discussions of expert groups B and C relating to data centres, with a view to possibly linking the Register of Objects Launched into Outer Space maintained by the Office and other data centres.

15. Some delegations were of the view that the expert groups should hold consultations in different regions, including engaging with regional forums.

16. At its second meeting the Working Group agreed on the following:

Meetings and decisions of the expert groups

(a) That the expert groups would, in accordance with the terms of reference of the Working Group, meet on the margins of and/or during the sessions of the Scientific and Technical Subcommittee and the Committee, and at other times to be agreed in advance by the expert groups, preferably at the session of the Scientific and Technical Subcommittee;

(b) That expert groups could decide to hold some of their meetings jointly to address mutually relevant matters;

(c) That decisions of the expert groups would be taken only at the meetings referred to in subparagraph (a) above;

(d) That the expert groups could decide to hold additional working meetings and/or informal coordination events to advance their work intersessionally, but that no decisions would be taken at such meetings and/or events;

Reports of the expert groups

(e) That the expert group chairs and co-chairs would report to the Working Group at its meetings during the sessions of the Scientific and Technical

Subcommittee on the intersessional activities and progress of their respective expert groups;

Information flow from expert groups to the Working Group

(f) That the expert groups would, in accordance with the terms of reference of the Working Group, agree on the appropriate status, reliability and relevance of the information to be provided to support the deliberations of the Working Group;

(g) That the expert groups would make available submissions received, in their original form, on the dedicated web page referred to in paragraph 6 above;

(h) That the expert groups would prepare their draft inputs to the Working Group on the basis of their work;

(i) That those draft working documents should be made available to member States and permanent observers of the Committee for comment, preferably during the sessions of the Committee in June in 2012 and 2013;

(j) That the comments from member States would be transmitted to the respective expert groups for their consideration;

Incorporation of expert group inputs to the Working Group

(k) That the inputs from the expert groups would be received by the Working Group at its meetings during the sessions of the Scientific and Technical Subcommittee.

17. The Working Group noted that the Chair of the Working Group and the chairs and co-chairs of the expert groups would hold coordination meetings on the margins of the fifty-fifth session of the Committee, in June 2012. The purpose of those meetings would be to coordinate the work of the expert groups, including with respect to addressing gaps, identifying cross-cutting issues and avoiding duplication of efforts. The Working Group noted that some of the expert groups could decide to hold joint meetings to address certain cross-cutting issues identified in those coordination meetings.

18. At its [...] meeting, on [...] February 2012, the Working Group adopted the present report.

Appendix

Summaries of the presentations delivered at the workshop held during the meeting of the Working Group on the Long-Term Sustainability of Outer Space Activities on 9 February 2012

Presentation of expert group A: sustainable space utilization supporting sustainable development on Earth

In the presentation an attempt was made to organize the issues of sustainable development through the identification of four strongly interconnected clusters of drivers of unsustainability, namely: (a) inequalities of development, poverty, hunger and deficiencies in health and well-being; (b) unsustainability of energy systems;

(c) climate change; and (d) food insecurity, biodiversity loss, water scarcity and scarcity of other natural resources. Questions related to equitable access to the limited resources of outer space were also identified. The final part of the presentation was devoted to the process methodology and scheduling for the development of the report of expert group A.

Presentation of expert group B: space debris, space operations and tools to support collaborative space situational awareness

The presentation began with a consideration of the various aspects of space debris, space operations and space situational awareness listed in the terms of reference of the Working Group on the Long-Term Sustainability of Outer Space Activities that could fall within the scope of the deliberations of expert group B. The flow of information, projected activities and timelines envisaged for the expert group were then presented. This was followed by a summary of submissions received to date from member States, intergovernmental entities with permanent observer status with the Committee and other invited entities in relation to space debris, space operations and space situational awareness.

Presentation of expert group C: space weather

The presentation identified 16 risk areas in the context of space weather. As the risks were time-dependent, continuous monitoring of observable parameters linked to those risks was essential, and current monitoring capabilities in each of the 16 areas were identified. When combined with various models, observations of the risk parameters allowed the forecasting of future space weather conditions. Eleven forecasting tools in common use were identified; forecasts relied on cooperative sharing of space weather data from a wide variety of sensors on Earth and in space. The International Space Environment Service, involving 13 countries, was mentioned as an example of a cooperative service. The presentation concluded with the proposed methodology and general plan of work for expert group C.

Presentation of expert group D: regulatory regimes and guidance for actors in the space arena

The presentation began with a discussion of the terms of reference of expert group D in order to define the boundaries of its discussions and to draw attention to other work currently being undertaken in the regulatory area so as to avoid duplication. The presentation included the expert group's plan of work for its meetings on the margins of the 2012 session of the Scientific and Technical Subcommittee and a draft schedule of work for the period 2012-2014.