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**Committee on the Peaceful
Uses of Outer Space**
Scientific and Technical Subcommittee
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Long-term sustainability of outer space activities

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

Working paper submitted by expert group A

I. Introduction

1. At the forty-ninth session of the Scientific and Technical Subcommittee, the Working Group on the Long-term Sustainability of Outer Space Activities agreed that the expert groups established by the Working Group should prepare draft working documents on the basis of their work, and that those working documents should be made available, in the six official languages of the United Nations, for comments by member States and permanent observers to the Committee on the Peaceful Uses of Outer Space, preferably on the margins of and/or during the fifty-fifth and fifty-sixth sessions of the Committee (A/AC.105/1001, annex IV, paras. 16 and 17).

II. Objective and outputs

2. Space activities play a vital role in supporting sustainable development on Earth. More specifically, space activities are essential for the achievement of the Millennium Development Goals, which provide a framework for the entire United Nations system and are some of the most broadly supported, comprehensive and specific development goals the world has ever agreed upon. Hence, the long-term sustainability of space activities is a matter of interest and importance not only for current and aspiring participants in space activities, but also for the international community as a whole, both at the present time and in the future. Expert group A was established by the Working Group in 2011 to focus on the link between



sustainable development on Earth and sustainable utilization of the space environment, and on the question of ensuring equitable access to outer space and to the resources associated with it, as well as to the benefits of outer space activities for human development. The expert group held its first meetings on the margins of the forty-ninth session of the Scientific and Technical Subcommittee, in February 2012.

3. The objective of the expert group is to identify areas of concern for the long-term sustainability of outer space activities in the context of the contribution of space systems to the support of sustainable development on Earth and to disaster management, and to ensure that the benefits of space activities continue to be enjoyed by all nations.

4. The expert group will prepare a report on the contribution of space science and technology to sustainable development on Earth and will consider measures to enhance the long-term sustainability of outer space activities in the form of voluntary guidelines that are consistent with existing international legal frameworks for outer space activities and that can be implemented by space actors to ensure that all countries are able to have equitable access to outer space and the resources and benefits associated with it. As specified in the terms of reference and methods of work of the Working Group (A/66/20, annex II, para. 13), the guidelines should promote the protection of the space environment, giving consideration to acceptable and reasonable financial and other connotations and taking into account the needs and interests of developing countries. Furthermore, the guidelines should be consistent with the existing legal frameworks for outer space activities and be voluntary and not legally binding.

III. Method of work

5. The expert group will 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 group, preferably at sessions of the Subcommittee. The expert group will also use opportunities provided by intersessional coordination events, such as meetings, teleconferences, electronic meetings and workshops, as feasible and as agreed by its members.

6. The expert group will agree on the appropriate status, reliability and relevance of the information to be provided to support the deliberations of the Working Group and will prepare draft reports to the Working Group on the basis of its work. Any decisions taken by the expert group regarding inputs received or reports to be submitted by the expert group will be taken only at the expert group meetings agreed to above.

7. The expert group will coordinate with other expert groups to address gaps, identify cross-cutting issues and avoid duplication of efforts. For this purpose, the various expert groups may decide to hold joint meetings to address certain cross-cutting issues identified at those coordination events.

8. The expert group will also make use of the dedicated web page established by the Working Group for the purpose of facilitating intersessional work and for keeping the national focal points informed about the activities of the expert group.

9. The chair of the expert group will report to the Working Group at its meetings during the sessions of the Scientific and Technical Subcommittee on the intersessional activities and progress of the expert group.

IV. Preliminary outline of areas of work

10. The expert group has considered the broad outline of topics contained in the terms of reference and methods of work of the Working Group (A/66/20, annex II, para. 14 (a)) and has identified the following areas for detailed consideration:

(a) Contribution of space science and technology to sustainable development on Earth, early warning of potential disasters and support for management of disaster-related activities

11. The expert group will consider the applications of space systems to support sustainable development and disaster management, with emphasis on:

(a) Applications of Earth observation for sustainable development in areas such as human security and welfare, human health and its relation to environmental change; sustainable agricultural management and development, including crop system analysis, assessment and management of drought and assessment of land productivity and land degradation; development and management of water resources; development and management of forests, including forest fires; management of ecosystems and biodiversity conservation; management of energy resources; mineral and mining exploration and management; land-use and urban planning; and other areas related to the Millennium Development Goals;

(b) Applications of Earth system observation for monitoring the Earth system, including atmosphere and ocean observation; weather forecasting; and monitoring climate change and its impacts, including climate system tipping points, in order to support mitigation and adaptation to climate change, including by monitoring carbon stocks and greenhouse gas emissions;

(c) Applications of communications satellites, including radio, television and telephone transmissions, tele-health and tele-education;

(d) Applications of global navigation satellite systems in everyday life, including navigation, cell phone operations, social networking and emergency assistance; land, air and maritime navigation, traffic control and rescue operations; the finance industry; surveying, mapping and geographic information systems; precise time reference; geophysics and geology, including monitoring earthquake-prone areas and volcanic activity; and agriculture, including guidance, tracking and soil sampling;

(e) Applications of space systems for disaster warning, prevention and management, including early warning and management of disasters related to geophysical, meteorological, hydrological and climate events; vulnerability and risk analyses for disaster prevention; rapid mapping, communication and assessment of local emergency situations; and post-disaster reconstruction activities.

(b) Equitable access to outer space and to the resources associated with it, as well as to the benefits of outer space activities for human development

12. Under this subtopic, the expert group will consider issues relating to equitable access to orbital and frequency slots in the geostationary orbit and access to the radio frequencies in which satellites operate.

13. The expert group will engage with the other expert groups to ensure that any proposed measures and guidelines to enhance the sustainability of space activities give consideration to acceptable and reasonable financial and other connotations and take into account the needs and interests of developing nations.

(c) International cooperation in peaceful uses of outer space as a means of enhancing the long-term sustainability of outer space activities and supporting sustainable development on Earth

14. The expert group has identified capacity-building and awareness of the important contribution of space applications for sustainable development as key areas for discussion under this subtopic. The expert group will thus address capacity-building and awareness of space applications with emphasis on international cooperation for technical capacity-building; data accessibility and processing; and institutional and public awareness of space applications for sustainable development.

(d) The concept of sustainable development extended to the domain of outer space, including the avoidance of harmful contamination of celestial bodies

15. Under this subtopic, the expert group will prioritize its considerations of the protection of the near-Earth space environment, as this is currently the issue that needs urgent consideration, both in terms of the long-term sustainability of space activities and in terms of ensuring that the benefits of such activities continue to be enjoyed by all nations. The expert group believes that, while the issue of protection of other celestial bodies is important, the need to address it is less pressing at this point.

16. In its consideration of these topics, the expert group will prioritize topics for attention in the short, medium and long term, depending on the urgency of the topic in relation to promoting the long-term sustainability of space activities.

V. Preliminary schedule of work

17. The expert group intends to carry out its work in accordance with the following indicative workplan:

2012 Prepare working papers on the four subtopics referred to above. Hold consultations with other expert groups to address areas of mutual relevance and to identify gaps. Commence consolidation of all information gathered and commence drafting its report and guidelines based on the inputs received.

2013 Further develop the draft expert group report and recommendations for guidelines at its meetings on the margins of and/or during the

fiftieth session of the Scientific and Technical Subcommittee. Coordinate with other expert groups and incorporate additional information to finalize the draft report and guidelines for the expert group's input to the draft Working Group report by October 2013, for consideration by the Working Group at its meetings during the fifty-first session of the Scientific and Technical Subcommittee, in 2014.

- 2014 Additional work as required to support preparation of the report of the Working Group to be submitted to the Scientific and Technical Subcommittee.
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