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**Committee on the Peaceful Uses
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Future role of the Committee**Next Phase in Global Governance for Space Research and
Utilization****Discussion paper submitted by the Chair of the Committee on the
Peaceful Uses of Outer Space for the period 2012-2013*****I. Proposed topics for discussion by the Committee considering the
next phase in global governance for space research and utilization**

1. In June, 2012, a discussion paper entitled "Next phase in global governance for space research and utilization" (A/AC.105/2012/CRP.4), was submitted by the current Chair of the Committee with the aim of stimulating thought and promoting an open dialogue on various cross-cutting issues before the Committee, considering the next phase in global governance for space research and utilization. This initiative responded to the Declaration on the Fiftieth Anniversary of Human Space Flight and the Fiftieth Anniversary of the Committee on the Peaceful Uses of Outer Space, annexed to General Assembly resolution 66/71 of 9 December 2011 (hereinafter referred to as the "50th Anniversary Declaration").
2. This present paper is an updated and streamlined version of the above paper from 2012 prepared to facilitate further actions and more direct discussions.
3. For more than half a century the Committee has continued to resolve complex issues that have influenced space activities of many countries around the world while maintaining the principle of consensus in its decision-making process. The Committee has been at the centre of humankind's efforts to peacefully explore and

* The ideas and suggestions contained in this discussion paper are being presented by Yasushi Horikawa (Japan), in his capacity as Chair of the Committee for 2012-2013, with the intention to stimulate thought and promote an open dialogue in the Committee on various cross-cutting issues before it.



utilize the outer space environment with the objective of bringing the benefits of space science and technology and their applications to contribute to the social development of all countries.

4. In terms of governance, the overall mandate of the Committee and its subsidiary bodies aims to strengthen the international legal regime which governs the use of outer space, leading to improved conditions for expanding international cooperation with emphasis on the peaceful uses of outer space. In this connection, the Committee has been instrumental in the development of five United Nations treaties on outer space, including the Outer Space Treaty which established the fundamental principles of international space law, and the development of the total of nine sets of legal principles, declarations, and framework on outer space activities.

5. The legal regime and corresponding instruments support efforts at the national, regional and global levels, including the United Nations system and international space-related entities, in order to maximize the benefits of the use of space science and technology and their applications and to increase coherence and synergy in international cooperation in space activities at all levels, emphasizing the need to give particular attention to the benefit and the interests of developing countries through multilateral or bilateral cooperation pursued not only by governmental and intergovernmental entities but also by non-governmental organizations and private sector entities.

6. Against this background, it is now a good occasion to consider future activities and roles for the Committee. It is becoming increasingly important to re-assess the significance of international cooperation and its future perspectives in the next half century based on the past and present situation of space research and utilization for peaceful purposes. We should take concrete steps that will open the door for a new era of international cooperation and international harmonization.

7. The three main ideas I am proposing to target in space research and utilization are the following.

A. To strengthen the role of the Committee and its Subcommittees as a unique platform for the global level international cooperation in space science and technology and long-term space utilization for the peaceful use of outer space;

B. To promote greater dialogue between the Committee and the regional and interregional cooperation mechanisms in space activities for sustainable development;

C. To stimulate the further advancement of space science and technology and their applications for the benefit of all humankind.

A. To strengthen the role of the Committee and its Subcommittees as a unique platform for the global level international cooperation in space science and technology and long-term space utilization for the peaceful use of outer space

(i) Fostering the contribution of space to all humanity through the application of space science and technology

8. Space science and technology and their applications, such as satellite communications, Earth observation and meteorological systems and satellite navigation services, provide indispensable tools for viable long-term solutions for sustainable development and can contribute more effectively to promote the development of all countries and regions of the world, to improve people's lives, health and security, to preserve natural resources and to enhance the preparedness for and mitigation of the consequences of disasters.

9. Over the past decade, the Committee has made efforts to align many of its activities with the global efforts to attain Millennium Development Goals, as set out by the Millennium Summit in 2000, subsequently articulated by the World Summit on Sustainable Development in 2002 and reaffirmed by the World Summit in 2005 and Rio+20 in 2012.

10. In 2004, the General Assembly conducted a review based on the report prepared by the Committee on the matter. Following the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE-III) and through the implementation of its recommendations, including by follow-up action teams, the Committee identified new areas of focus of its work and prioritized actions. The Committee has also been working actively towards the global United Nations agenda to achieve internationally agreed development goals. It might be useful to devise cooperation schemes that would foster the integration of space-based services and products into the implementation of regional and national plans to achieve sustainable development.

11. There are a number of upcoming events at the global level that might impact future deliberations of the Committee. Their topics or agenda include climate change, food security, sustainable use of valued resources, and the process leading towards the post 2015 development agenda and review of the Millennium Development Goals.

Proposed topics for discussion:

- (a) With increasing awareness of and concern for the environmental impacts on Earth of climate change associated with carbon cycle, water cycle, human health, food security relating to agriculture and fisheries, and natural disasters, the Committee should recognize the critical importance of monitoring these changes so as to enable the development of and climate change mitigation and adaptation measures by all countries. In this regard there is a need to strengthen international collaboration and support for data sharing and access to geospatial information, useful to address climate change.

- (b) The applications for human health, tele-medicine and tele-epidemiology were identified as significant space application fields through the dedicated Action Team report. It is important to encourage investigation of such new useful applications of space capabilities.
- (c) In order to avoid duplication of efforts for overall consideration and outputs, the Committee might wish to consider how it could combine a number of relevant items on its agenda in order to create an efficient method of work to meet those future demands at the global level.

(ii) Promoting long-term space utilization

12. In recent years, significant changes have occurred in the structure and content of the space endeavour, as reflected in the emergence of new technologies and the increasing number of actors at all levels. International cooperation for the peaceful uses of outer space through enhancing the capacity of Member States for economic, social and cultural development has been promoted by strengthening the regulatory frameworks and mechanisms to that effect. Member States have expressed deep concern about the fragility of the space environment and the challenges to the long-term sustainability of outer space activities, in particular the impact of space debris.

13. One of the major trends over the past decade and a half has been the steady increase in the presence of private actors in space. There have been active discussions for several years to address the increasing involvement of private actors in the exploration and use of outer space. The increase in space activities carried out jointly by government agencies and non-governmental entities has also been dealt with, as well as partnerships among non-governmental entities from one or more countries. It will continue to be important to reflect and review the implementation of international obligations and the way in which Member States can best act and cooperate for the safe, peaceful and sustainable use of outer space, particularly in view of the increased private sector involvement.

14. The work currently being carried out by the Scientific and Technical Subcommittee through its Working Group on the Long-term Sustainability of Outer Space Activities is of critical importance: its goal is to ensure the safe and sustainable use of outer space over many years by future generations. With the aim of coming up with a set of practical and prudent measures that could be implemented in a timely manner to enhance the long-term sustainability of space activities, the Working Group is addressing the following topics: (i) sustainable space utilization supporting sustainable development on Earth, (ii) space debris, (iii) space weather, (iv) space operations, (v) tools to support collaborative space situational awareness, (vi) regulatory regimes, and (vii) guidance for actors in the space arena.

Proposed topics for discussion:

- (a) The Committee should examine on-going and new forms of cooperation to advance space utilization. Specifically, how can space-faring and non-space-faring nations use space in a collaborative way to bridge the development gap and further the development toward common goals.

- (b) The Committee should also take this opportunity to look into the overall role and interaction of the Committee and its Subcommittees in view of creating synergies among common interest issues, and to study the prospects for new collaborative approaches. Issues faced by the Committee increasingly have both technical and legal dimensions and their separation into different forums may not allow to fully and rapidly appreciate their inter connection. There is a need to discuss how the Committee as a whole can build a cooperative infrastructure aimed at sustainable and forward looking joint utilization of outer space.
- (c) In the broader perspective, the work and processes being undertaken within other intergovernmental forums outside the Committee including other United Nations organizations should be recognized. The Working Group on the Long-term Sustainability of Outer Space Activities has, through its terms of reference and its methods of work, set up a mechanism for enhanced sharing of information among several United Nations entities, international intergovernmental and non-governmental organizations, and other forums including the group of governmental experts on transparency and confidence building measures in space activities. This work could be further stimulated in view of the need to strengthen closer dialogue for the benefit of long-term space utilization by the international space community as a whole.
- (d) The work on the long-term sustainability of outer space activities should be understood and shared with other relevant forums and non-space entities in order to maximize the effective use of outer space by all actors involved for the protection of Earth and its space environment for future generations.

(iii) Sustainability of space activities

15. Given the already congested space environment with many satellites, the condition has been exacerbated by a large number of space debris. Space utilization could become unnecessarily constrained unless the operations of all space vehicles and other space objects are well managed. Except for some specific missions that require the most advanced technologies or for specific scientific researches, small satellites are not too difficult to manufacture as demonstrated by the development of spacecraft by various governmental and non-governmental entities with limited financial and technological resources.

16. While the significance of increasing and advancing the ability needed for development and utilization of space science and technology applications in all societies through capacity-building efforts is well recognized, the limited human and funding sources could be more effectively applied if space development and utilization were pursued in a coordinated, cooperative and complementary manner. For example, a country pursuing satellite development might wish to focus on the development of payloads for new emerging missions rather than the development of its own spacecraft or launch vehicles and their associated infrastructures. A mission instrumentation combined to well-coordinated satellites or platforms of other countries could contribute to the long-term sustainability of space utilization.

Proposed topics for discussion:

- (a) The safety of current and future space activities are considered and discussed at various levels, politically, programmatically, legally, and technically. Information on non-functional space objects which threatens operational space objects should be shared among all Member States concerned. Issuance of warning for the collision with space objects whether functional or non-functional, as well as manoeuvre or removal of space objects, should take into account legal aspects such as definition and identification of space objects, jurisdictions, process of caution and warning, sharing the role of players, and responsibility and liability with reasonable and verifiable approach.
- (b) The operation of small and nanosatellites for scientific observation missions, Earth resources observation, and educational and capacity-building activities, planned and carried out by an increasing number of governmental and non-governmental entities gives rise to the matters that could be further explored and discussed including responsibility and liability under the legal regime on outer space.
- (c) The application of the concept of the launching State in national regulatory frameworks, registration and notification measures, and the continuing development of national regulatory frameworks, as well as guidance to space actors, should be well understood or newly established as appropriate. The user community should be made aware of these perspectives through various activities, including workshops and symposiums.

B. To promote greater dialogue between the Committee and mechanisms for regional and interregional cooperation in space activities for the benefit of global development

(i) To foster dialogue with regional mechanisms

17. Over the years, the Committee has devoted its energies and resources to promote and increase awareness and capacity-building in the use of space science and technology applications, at the international, regional, and national levels. These efforts have been particularly relevant to critical areas of global concern, such as climate change, food security, global health, sustainable use of natural resources, economic development, and disaster management.

18. The Committee has been leading the global efforts to share the results of space science and technologies and applications among countries irrespective of their economic development status. The Committee is well-positioned to further strengthen efforts at the national, regional, and interregional levels to work towards the Millennium Development Goals.

19. In addition, through the work of the Committee, the United Nations has also adopted a number of resolutions, declarations, and recommendations that aim at promoting international and interregional cooperation involving both governmental and non-governmental organizations.

20. The role of international organizations including of the United Nations and other entities in the space field continues to be essential in promoting space activities at the national, regional, and interregional levels. Regional cooperative mechanisms have a specific role in providing platforms to enhance coordination and cooperation between space faring nations and emerging space nations and to establish partnerships between users and providers of space-based services.

21. The General Assembly, in its resolution 67/113 of 18 December 2012, emphasizes that regional and interregional cooperation in the field of space activities is essential to strengthen the peaceful uses of outer space, assist Member States in the development of their space capabilities, and contribute to the achievement of the goals of the United Nations Millennium Declaration. To that end, the General Assembly requests relevant regional organizations to offer the assistance necessary so that countries can carry out the recommendations of regional conferences. The General Assembly also recognizes, in this regard, the important role played by conferences and other mechanisms, such as the African Leadership Conference on Space Science and Technology for Sustainable Development (ALC), the Asia-Pacific Regional Space Agency Forum (APRSAF), the Asia-Pacific Space Cooperation Organization (APSCO), and the Space Conference of the Americas (SCA), in strengthening regional and international cooperation among Member States. The same resolution, noted with satisfaction the activities of these four main regional mechanisms for space cooperation.

Proposed topics for discussion:

- (a) Regional policymaking mechanisms for space cooperation and coordination are given attention and are important to the work of the Committee and its Subcommittees. It might be worthwhile for this Committee to discuss the possibility of establishing greater dialogue between the Committee and the main regional mechanisms identified by the Committee and the General Assembly.
- (b) In addition, the Regional Centres for Space Science and Technology Education, affiliated with the United Nations, play an important role in capacity-building and in strengthening regional cooperative efforts. The work carried out by the Regional Centres with support from the United Nations Office for Outer Space Affairs (UNOOSA) through the United Nations Programme on Space Applications (PSA) is highly commendable. The new network of Regional Support Offices (RSO) under the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) Programme is innovative and caters for more concerted efforts in bringing national and regional perspectives closer to the global level in disaster risk reduction. The role of these institutional mechanisms in promoting regional and interregional coordination and cooperation could be enhanced.
- (c) More specifically, actions to be undertaken by the Regional Centres for Space Science and Technology Education affiliated to the United Nations and new projects to be carried out through regional cooperation efforts should further advance data utilization and relevant scientific research.

(ii) Promoting global knowledge and expertise

22. In the coming years, closer and more intense cooperation is expected between countries with established space capabilities and those gaining experience in space utilization. Over the past fifty years, space-faring nations have significantly advanced their space technologies, overcoming numerous technical, programmatic and political challenges. The path toward attaining a similar level of excellence and accomplishment in space technology capabilities will not be easy for developing countries without making comparable commitments particularly in research, development and funding.

Proposed topic for discussion:

- (a) The past fifty years of space research and development have produced many experts with significant experience and knowledge in this field. More and more of these experts are now retiring, but the knowledge, lessons learned and best practices gained from their expertise and involvement should be utilized for space activities in the interest of emerging space countries. It would be very useful to examine how such expertise could be made globally available on request.

C. To stimulate the advancement of space science and technology and their applications for the benefit of all humankind

(i) Advancement of space science and technology:

23. Within the framework of the Committee, the UN-SPIDER and the International Committee on Global Navigation Satellite Systems (ICG) provide good examples of sharing the benefits of space technology through national efforts and collective mechanisms. In order to provide a transparent system to the users, international cooperation, which pursues compatibility and inter-operability including information exchange among different operational systems, is encouraged.

Proposed topics for discussions:

- (a) The Committee should encourage and support new cross sector collaborative approaches aimed at yielding tangible results. For example, consideration could be given to possible new cooperative activities that would combine the utilization of Global Navigation Satellite Systems (GNSS) and Earth observations for instance in the field of agricultural applications, food production monitoring and tele-health. This could usher a new era of space utilization for the improvement in the quality of human lives, health and security.
- (b) The Committee should take a closer look at how the recent advances in space science and technology and applications including space exploration might contribute to addressing specific issues of global concern, such as the availability of clean and renewable energy, access to water, better management of land and coastal natural resources, food security, and wider uses of tele-education and tele-health capacities, as well as strengthening capacity-building in each of these areas.

- (c) Similarly, the Committee should also carefully examine how scientific research in human spaceflight and their spin-offs could become a useful tool to advance development on Earth. In that sense we should discuss further how international cooperative efforts in human space flights, including the International Space Station, could be appropriately used to meet those objectives.

II. Concluding remarks

24. It is important for the Committee to continue assessing its role and its work in view of the continuously changing environment that surrounds the peaceful uses of outer space and with an increasing number of countries and private sector actors that are now participating in space activities. It is also important that the Committee continues to work towards improving efficiency and effectiveness with regard to the implementation of its mandate. In that sense, it would be timely to look into the overall role of the Committee and its structure of work in meeting the needs for long-term space utilization by appropriately identifying the synergies of common interest issues.
