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English only

Committee on the Peaceful Uses of Outer Space
Legal Subcommittee
Sixty-third session
Vienna, 15–26 April 2024
Item 6 of the provisional agenda*
Status and application of the five United Nations treaties on outer space, and ways and means, including capacity-building, to promote their implementation

Responses to the set of questions provided by the Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space

Note by the Secretariat

At its sixty-second session, in 2023, the Working Group of the Legal Subcommittee on the Status and Application of the Five United Nations Treaties of Outer Space agreed (A/AC.105/1285, annex I, para. 5) that States members and permanent observers of the Committee should continue to be invited to provide the Subcommittee, at its sixty-third session, comments and responses to the "Set of questions provided by the Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, taking into account the UNISPACE+50 process" (A/AC.105/1285, annex I, appendix I).

The present conference room paper contains replies to the set of questions received from Angola, Argentina, Armenia, Bahrain, Ghana, Morocco and Slovakia.

* A/AC.105/C.2/L.326.

Replies received from States members of the Committee

Angola

[Original: English]
[Received on 23 January 2024]

1. The legal regime of outer space and global space governance

1.1. Impact of Additional principles, Resolutions, and Guidelines

The main impact on the application and implementation of the five United Nations treaties on outer space by additional principles, resolutions and guidelines largely depends on the nature of these supplementary instruments. Additional principles, resolutions, and guidelines can play a crucial role in interpreting, and clarifying the provisions of the existing treaties. They may address technological advancements evolving geopolitical dynamics, and emerging challenges in space activities, looking closely to the technology disruptions driven by the New Space Ecosystem.

Potential challenges may arise in these non-binding instruments introduce conflicting interpretations or create uncertainties in the legal framework. The key is to ensure that such instruments are consistent with the fundamental principles of the existing treaties promoting responsible and peaceful uses of outer space.

1.2. Legally Binding vs. Non-Legally Binding Instruments

The relationship between legally binding treaties and non-legally binding instruments should be carefully considered. While non-legally binding instruments can provide flexibility and adaptability to changing circumstances, they may not carry the same weight as binding treaties. Therefore, it is essential to assess whether the current legal framework adequately addresses the complexities of contemporary space activities or if additional legally binding instruments are necessary.

1.3. Perspectives for the Further Development of United Nations Space Treaties

The perspectives for the further development of the five United Nations treaties on outer space should be considered as we look at the landscape of space activities. Considering the rapid advancements in technology and the increasing number of spacefaring nations, there may be a need to explore updates or additional protocols to the existing treaties.

A comprehensive review should involve stakeholders in the space community to ensure inclusivity and transparency. Collaboration among States, international organizations and private entities is crucial for addressing contemporary challenges such as space debris managements, space traffic coordination, and the utilization of space resources.

2. United Nations treaties on outer space and provisions related to the Moon and other celestial bodies

2.1. Sufficiency of the Outer Space Treaty for Moon and Celestial Bodies

The provisions of the Outer Space Treaty (Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies) form a foundational legal framework for space exploration. However, some argue that treaty may not provide a comprehensive framework for the specific use and exploration of the Moon and other celestial bodies.

Potential legal gaps arise in the interpretation and application of the Outer Space Treaty alongside the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement). The Moon Agreement itself has not been widely ratified, contributing to uncertainties regarding its effectiveness in regulating lunar activities.

To address these concerns, discussions may focus on clarifying and reinforcing specific provisions within both the Outer Space Treaty and the Moon Agreement.

2.2. Benefits of Being a Party to the Moon Agreement

Being a party to the Moon Agreement carries several potential benefits:

- International Cooperation: The agreement emphasizes international cooperation in lunar exploration, fostering collaboration among states and promoting the peaceful use of the Moon's resources.
- Sustainable Use: The Moon Agreement encourages sustainable practices in the use of lunar resources, preventing harmful exploitation and promoting long-term benefits to all nations.
- Avoidance of Harmful Interference: States parties commit to avoiding any activities on the Moon that may cause harmful interference with the activities of other parties.
- Information Exchange: The agreement encourages the exchange of scientific and technical information related to lunar exploration, fostering a collective understanding of celestial bodies.

2.3. Clarification or Amendment of Moon Agreement Provisions

To enhance the adherence to the Moon Agreement by States, consideration may be given to clarifying or amending certain provisions. Areas for potential clarification or amendment include:

- Commercial Exploitation: Clarifying the rights and responsibilities of States and commercial entities in the commercial exploitation of lunar resources, ensuring alignment with the principles of equitable benefit-sharing.
- Environmental Protection: Strengthening provisions related to environmental protections on the Moon, addressing potential ecological concerns arising from human activities.
- Recognition of Property Rights: Clarifying the issue of property rights on the Moon to provide a balanced framework that encourages exploration and use without fostering disputes over ownership.
- Incentives for Ratification: Implementing incentives for States to ratify the Moon Agreement, potentially through international cooperation programmes or access to shared resources.

3. International responsibility and liability

3.1. Notion of "Fault" in the Liability Convention

The notion of "fault" as featured in articles III and IV of the Liability Convention is primarily related to liability for damage caused by space objects. It establishes a fault-based liability regime, holding a launching State liable for damage to another State's space object or its personnel on the Earth's surface resulting from the former's space object. However, applying the concept of fault to non-compliance with resolutions may not be straightforward.

Resolutions adopted by the General Assembly or its subsidiary bodies, such as those on the use of nuclear power sources or space debris mitigation guidelines are typically non-binding and lack the legal force of treaties.

3.2. Notion of "Damage" in the Liability Convention

The notion of "damage" in article I of the Liability Convention primarily refers to physical harm caused by space objects. Loss resulting from a manoeuvre performed to avoid collision with a space object or debris not complying with space debris

mitigation guidelines may not be the traditional definition of “damage” under the Liability Convention.

However, recognizing the importance of space debris mitigation, the international community may consider expanding the definition of “damage” to cover broader aspects, including preventive measures taken to avoid collisions. This would align with the need to address challenges related to space debris and ensure responsible space activities.

3.3. Implementation of International Responsibility under the Outer Space Treaty

Article VI of the Outer Space Treaty outlines the international responsibility of States for national space activities. General Assembly resolution 41/65 on the Principles relating to Remote Sensing of the Earth from Outer Space may influence the interpretation and implementation of these responsibilities.

Specific aspects related to remote sensing, such as data sharing, privacy concerns, and the peaceful use of space technology, should be addressed in accordance with the principles outlined in the resolution. The implementation of international responsibility should consider these specific aspects to ensure the responsible and equitable use of remote sensing technologies.

3.4. Need for Traffic Rules in Outer Space

The increasing congestion of objects in outer space raises the question of whether traffic rules are necessary as a prerequisite to a fault-based liability regime. Establishing traffic rules could help mitigate the risk of collisions, reduce space debris, and enhance the safety and sustainability of space activities.

4. Registration of space objects

4.1. Transfer of Registration of Space Objects

The existing international legal framework, particularly the Outer Space Treaty and the Registration Convention, does not explicitly address the transfer of registration of a space object from one State to another during its operation in orbit. The Registration Convention primarily focuses on the initial registration of space objects by the launching State.

However, the legal principles of the Outer Space Treaty, such as those related to the non-appropriation of outer space and the freedom of exploration and use, may be interpreted to allow for the transfer of registration provided the rights and obligations under the treaty are respected. Any transfer should involve the consent of both the original and receiving States, and the responsibilities of the launching State must continue until the transfer is completed.

4.2. Transfer of Activities or Ownership during Operation in Orit

The transfer of activities or ownership involving a space object during its operation in orbit, especially between companies of different States, should comply with the international legal framework. The principles of the Outer Space Treaty, such as the obligation of States to authorize and continually supervise national space activities should guide such transfers. States should notify relevant international bodies, and the receiving State should accept responsibility for the space object. The Registration Convention may not directly address such transfers, but adherence to its principles of transparency and international cooperation is crucial.

4.3. Jurisdiction and Control over Space Objects Registered by an Intergovernmental Organization

Article VIII of the Outer Space Treaty recognizes that States bear international responsibility for national space activities, even if carried out by non-government entities. If an intergovernmental organization registers a space object in accordance

with the Registration Convention, the member States of that organization would collectively exercise jurisdiction and control over the object. This implies shared responsibility among the member States. The Registration Convention does not specifically address space objects registered by intergovernmental organizations so coordination among member States would be essential to ensure effective jurisdiction and control.

4.4. Legal and Practical Questions Raised by Megaconstellations

The concept of megaconstellations, involving a large number of interconnected satellites raises both legal and practical questions. Legal challenges may include issues related to frequency coordination, collision avoidance, and the potential creation of space debris. Practical challenges may involve managing orbital congestion and ensuring the sustainable use of outer space.

4.5. Registration "On Behalf" of a Launch Service Customer

Introducing a registration on behalf of a State's launch service customer, with prior consent, could be a potential tool to address challenges posed by megaconstellations. This approach could provide a more efficient way to register numerous small satellites associated with megaconstellations.

Such an alternative tool should align with existing international legal frameworks, including the principles of the Outer Space Treaty and the Registration Convention. It would require careful consideration of the legal status and responsibilities of the customer States, ensuring compliance with applicable international law.

5. International Customary Law in Outer Space

It is challenging to definitively identify specific provisions from the five United Nations treaties on outer space that have crystallized into customary law. However, some principles within these treaties are widely regarded as reflective of customary norms due to extensive State adherence. These include:

- Principle of Non-Appropriation (Outer Space Treaty, Article II): The prohibition against national appropriation of outer space and celestial bodies is a fundamental principle widely considered to be customary.
- Freedom of Exploration and Use (Outer Space Treaty, Article I): The principle affirming the freedom of exploration and use of outer space for all States is often seen as a customary norm.
- Liability for Space Activities (Liability Convention, Article II): The principles regarding State liability for space activities causing damage are reflective of customary expectations.

6. Proposal for Other Questions

To enhance the set of questions for the UNISPACE-50 thematic priority on the legal regime of outer space and global space governance consider the following additions.

Space Resource Utilization:

- How can the legal framework be adopted or expanded to address the extraction and utilization of space resources, such as minerals from celestial bodies?

National Space Legislation:

- What measures can be takes to encourage States to develop comprehensive national space legislation to ensure compliance with international obligations and enhance responsible space activities?

Private Space Activities:

- In light of the increasing involvement of the increasing involvement of private entities in space activities, what legal principles should be emphasized to ensure accountability, liability, and responsible behaviour of non-governmental space actors?

Emerging Technologies:

- How can the existing legal framework accommodate and regulate emerging technologies in outer space, such as satellite megaconstellations, small satellites, and space tourism?

Argentina

[Original: Spanish]
[Received on 15 January 2024]

1. Status and Application of the five United Nations treaties on outer space

The Argentine Republic has approved and ratified, through its domestic legislation, four of the five United Nations treaties. The "Set of questions provided by the Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, taking into account the UNISPACE+50 process" continue to be analysed.

Armenia

[Original: English]
[Received on 16 January 2024]

1. The legal regime of outer space and global space governance

Armenia, as a country that ratified all five United Nations Treaties on Outer Space, also welcomed the adoption of the Guidelines on Long-term sustainability of outer space activities, which are considered, though non-legally binding, but nevertheless important guiding principles for national space policies.

As a new space actor Armenia has adopted its first national space legislation in 2020–2021 on the basis of international space law, including non-legally binding principles and approaches. These principles and approaches to some extent compensated for the gap in experience and capacities in that field. Furthermore, consistent improvement of the existing legislation to bring it into further compliance with the United Nations resolutions and guidelines is a part of the national space strategy, which is in its final stages of development.

The Ministry of High-Tech Industry (the government body responsible for coordination and development of space industry) pays special attention to engagement and empowerment of private commercial and research organizations in development of national space industry, through setting the rules, norms as well as providing guidelines and coordination.

As regards the issue of perspectives for the further development of the five United Nations treaties on outer space, the proliferation of space actors, both State and non-State (private commercial and research and educational), expansion of space economy, development of space technologies and space applications have significant implications, including in terms of international space law. On the other hand, we still should strive for ensuring the implementation of and adherence to the existing international space law.

Whereas work on possible legally binding international instruments takes considerable time, we could consider launching a multi-stakeholder dialogue with all

space actors, especially from developing countries, to identify possibly issues and assess needs and challenges related with the Untied Nations outer space treaties.

Bahrain

[Original: English]
[Received on 13 December 2023]

1. The legal regime of outer space and global space governance

1.1. What is the main impact on the application and implementation of the five United Nations treaties on outer space of additional principles, resolutions and guidelines governing outer space activities?

Each treaty in a way acts as a basis and reinforces the principles and resolutions governing outer space activities. Since for a time, the five United Nations treaties on outer space were the only sources of law regarding outer space its application and implementation mainly solidifies and serves as a prerequisite for following principles that govern outer space meaning in order to follow these principles the application and implementation of the treaties are necessary.

1.2. Are such non-legally binding instruments sufficiently complementing the legally binding treaties for the application and implementation of rights and obligations under the legal regime of outer space? Is there a need for additional actions to be taken?

They do not necessarily compliment the legally binding treaties but do serve as previously mentioned in the report as a way, to bridge the gap on subjects that have not been regulated by the treaties themselves such as the Guidelines for the Long-term Sustainability of Outer Space Activities. It is necessary for additional actions to be taken ideally by the States members internally such as establishing legislative norms and putting policies in place to resolve issues that the treaties themselves do not necessarily cover.

1.3. What are the perspectives for the further development of the five United Nations treaties on outer space?

Further development of the treaties is necessary as we find that many topics have not been thoroughly covered and that the practical applications of some are limited, the treaties need to develop further in the aspects of sustainability and debris mitigation as well as space mining as the fast growing number of States participating in space activities has vastly increased in the last few years than it has in a long while, so legally binding mechanisms need to be put in place before bigger issues may arise in this matter.

2. United Nations treaties on outer space and provisions related to the Moon and other celestial bodies

2.1. Do the provisions of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty) constitute a sufficient legal framework for the use and exploration of the Moon and other celestial bodies or are there legal gaps in the treaties (the Outer Space Treaty and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement))?

Yes, there are gaps. The most prominent gap is the lack of regulation on debris mitigation.

2.2. What are the benefits of being a party to the Moon Agreement?

Currently Bahrain is not party to the Moon Agreement, so it cannot comment further on this question.

2.3. Which principles or provisions of the Moon Agreement should be clarified or amended in order to allow for wider adherence to it by States?

Article 5, paragraph 11 refers to establishing an international regime that focuses on regulating and rationally sharing resources with State members. It is recommended to amend this part of the treaty and embed the "international regime" as part of the treaty itself to make it enforceable on the State members of the treaty.

3. International responsibility and liability

3.1. Could the notion of "fault", as featured in Articles III and IV of the Convention on International Liability for Damage Caused by Space Objects (Liability Convention), be used for sanctioning non-compliance by a State with the resolutions related to space activities adopted by the General Assembly or its subsidiary bodies, such as Assembly resolution 47/68, on the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, and the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space? In other words, could non-compliance with resolutions adopted by the General Assembly or with instruments adopted by its subsidiary bodies related to space activities be considered to constitute "fault" within the meaning of Articles III and IV of the Liability Convention?

I do not believe that the term "fault" as defined by articles III and IV of the liability convention could be considered with non-compliance with resolutions adopted by the General Assembly or with instruments adopted by its subsidiary bodies because the term itself refers to damage caused most likely by collision from one space object to another, it is difficult to determine a broader definition based on the two articles.

3.2. Could the notion of "damage", as featured in Article I of the Liability Convention, be used to cover loss resulting from a manoeuvre performed by an operational space object in order to avoid collision with a space object or space debris not complying with the Space Debris Mitigation Guidelines of the Committee?

I believe that it can be used if there is a loss caused by impact otherwise it is difficult to determine.

3.3. Are there specific aspects related to the implementation of international responsibility, as provided for in Article VI of the Outer Space Treaty, in connection with General Assembly resolution 41/65, on the Principles Relating to Remote Sensing of the Earth from Outer Space?

International responsibility as referred to in article VI of the Outer Space Treaty is referring to space activities generally whereas resolution 41/65 refers to international responsibility relating to remote sensing which is a specified space activity.

3.4. Is there a need for traffic rules in outer space as a prerequisite of a fault-based liability regime?

Traffic rules in outer space would be difficult to regulate as there are many different components that need to be taken into consideration such as operational and non-operational space objects and space debris. It is difficult to determine a need for traffic rules without the proper consideration of the random movement of space debris as well as non-operational space objects.

4. Registration of space objects

4.1. Is there a legal basis to be found in the existing international legal framework applicable to space activities and space objects, in particular the provisions of the Outer Space Treaty and the Convention on Registration of Objects Launched into Outer Space (Registration Convention), which would allow the transfer of the registration of a space object from one State to another during its operation in orbit?

No, there is no legal basis to be found from international laws in this concern.

4.2. How could a transfer of activities or ownership involving a space object during its operation in orbit from a company of the State of registry to a company of a foreign State be handled in compliance with the existing international legal framework applicable to space activities and space objects?

Through agreements existing between the international parties.

4.3. What jurisdiction and control are exercised, as provided for in Article VIII of the Outer Space Treaty, over a space object registered by an international intergovernmental organization in accordance with the provisions of the Registration Convention?

It is understood that State parties to the international organization itself can resolve this question, so it is left at their discretion and nothing is imposed by the article.

4.4. Does the concept of megaconstellations raise legal and/or practical questions, and is there a need to react with an adapted form of registration?

It would most definitely raise the question of how space traffic will be dealt with in terms of megaconstellations and what responsibilities will lie on the parties involved. In terms of registration, it will most definitely require a new form of registration.

4.5. Is there a possibility, in compliance with the existing international legal framework, based on the existing registration practices, of introducing a registration "on behalf" of a State of a launch service customer, based on its prior consent? Would this be an alternative tool to react to megaconstellations and other challenges in registration?

With the current legal framework it would not be a possibility, an amendment would be necessary to implement this practice. I do not believe it would resolve the challenges of megaconstellations as that would still require legislative amendments to be made to the registration convention in order to address the issue. However, further research needs to be done in order to come up with best practice to register megaconstellations.

5. International customary law in outer space

5.1. Are there any provisions of the five United Nations treaties on outer space that could be considered as forming part of international customary law and, if yes, which ones? Could you explain the legal and/or factual elements on which your answer is based?

Articles I and II of the Outer Space Treaty can be considered to form part of international customary law as it is very similar to the United Nations convention of the Law of the Sea and most importantly the concept of the freedom of the seas which gives freedom of navigation and research and more specifically to articles 88 and 89 of the same convention which promotes peaceful use of the high seas and denies national appropriation of the high seas similar to that of the peaceful exploration of space and no sovereign claim on space including the Moon and other celestial bodies.

6. Proposal for Other Questions

6.1. Please suggest additional questions that could be inserted into the set of questions above to meet the objective of the UNISPACE+50 thematic priority on the legal regime of outer space and global space governance

Would space mining for commercial purposes create controversy in regard to article II of the Outer Space treaty?

Is it possible to impose a percentage of space debris clearance as a prerequisite before the launch of megaconstellations to be imposed on the launching party?

Ghana

[Original: English]
[Received on 7 February 2024]

1. Status and Application of the five United Nations treaties on outer space

Ghana has signed three of the five United Nations treaties on outer space, including the Outer Space Treaty, Rescue Agreement, and Liability Convention. Although not ratified, the principles of the treaties still have some influence on Ghana's space activities.

Morocco

[Original: French]
[Received on 18 January 2024]

1. Status and Application of the five United Nations treaties on outer space

Morocco has signed and ratified the five United Nations treaties on outer space. The treaties constitute an appropriate legal code governing space activities. However, this international legal framework must be continuously discussed and strengthened in order to take into account technological developments and the emergence of new actors and activities and to consolidate international cooperation and safeguard the interests of all States with regard to the use and exploitation of outer space and its resources.

Slovakia

[Original: English]
[Received on 15 January 2024]

1. Status and Application of the five United Nations treaties on outer space

Slovakia is party to four United Nations treaties on outer space out of five. The prepared draft of the Slovak Space Law takes into account the four United Nations treaties and is in line with them.