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Benefit Sharing of Space Development and Space Resource Exploitation

Conference room paper by the National Space Society

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Benefit Sharing of Space Development and Space Resource Exploitation

1. Introduction

This paper is submitted in response to the invitation for written contributions to the ongoing development of the *Initial Draft Set of Recommended Principles for Space Resource Activities*, currently under discussion by the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space. The National Space Society (NSS) welcomes this effort and offers this contribution to support the development of a shared understanding around the concept of benefit sharing. The Outer Space Treaty affirms that “the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries... and shall be the province of all mankind.” Building on that foundational principle, this document outlines a conceptual framework for benefit sharing that supports both the encouragement of space resource activities and the inclusion of all States in the long-term benefits of such endeavors.

2. Background

Space is the province of all humanity, meaning that it should be open to all nations for use and exploration. All nations shall have equal right of access to space for use and exploration. However, this does not imply that all nations will share the benefits of space equally. The NSS emphasizes that benefit sharing should not be based on the "common heritage of mankind" principle but rather that of equal access, not equal or common ownership.

3. Securing Benefits Requires Action

Benefit sharing should require action on the part of those receiving the benefits, i.e. hard work, investment, purchasing, etc. and not simply be a hand-out or transfer of money [tax]. This is similar to existing UN Remote Sensing Principles. Principle V says “shall make available to other States opportunities for participation therein.” and Principle XIII says “make available opportunities for participation and enhance the mutual benefits to be derived therefrom.” In other words, nations should encourage and promote collaboration with other nations regarding space

activities and space resources—but as with any collaboration there is work to be done on both sides of the relationship. This does not preclude the use of space infrastructure for humanitarian reasons, like disaster relief, where no return is expected, nor the voluntary offering of the free use of space infrastructure, like GPS signals.

4. Future Space Communities

Benefit sharing should be defined in such a fashion as to recognize that over time independent communities will come to exist in space with some form of sovereignty, that such entities will chart their own destiny, and must not be exploited as “colonial” states under a benefit sharing scheme. Such space communities must be allowed access to exploit local resources for the health and growth of the community. Such development will benefit space developers, investors, and space settlers. Disputes involving the distribution of benefits should favor the space communities rather than the Earth-bound stakeholders, but reasonable property rights and returns on investment should be expected and honored in any legal dispute. Considerations for the protection of heritage sites shall be appropriate.

5. Avoiding National Appropriation

One of the foundational principles of space resource exploitation is that the mere declaration or planting of a marker should not be used to seize vast space resources. This would subvert the intent of the OST. The exploitation of space resources should not be used as a form of national appropriation of large celestial bodies or regions of outer space.

6. Varying Levels of Effort to Secure the Benefits of Space

Benefit sharing is recognized as having varying levels of effort required to secure those benefits. These include:

1. **Widely Distributed Benefits:** Some benefits from space, such as GPS and weather predictions, are widely distributed essentially for free.
2. **Market-Based Benefits:** Other benefits, such as data services and video broadcasts, are made available for a competitive market-based price so as to be generally affordable to the public.
3. **Side-Effect Benefits:** Space infrastructure and services often have benefits that all of humanity will enjoy. For example, if Space Solar Power (SSP) technology helped to avert climate change, every human would benefit even if the builders of the SSP system

became wealthy themselves. A similar argument can be made for asteroid mining as such activity could supply humanity with minerals that are critical to economic development, thereby raising the standard of living.

4. **Research and Development Benefits:** Benefits that stem from research and development in the space field enable innovation, spur economic growth, and increase understanding of the universe. This area includes basic and applied research as well as scientific discovery. The sharing of scientific data, in accordance with current international practice, serves to disseminate knowledge across the human community. Cooperation and partnerships between nations in these areas should be encouraged with the goal of developing each nation's scientific and technological capacity. However, private, non-governmental actors should never be compelled to give up rights to proprietary R&D.

7. Preventing Monopolies Over Space Resources

The reservation of space resources must be ensured for "late comers" so that the most developed and wealthy nations or companies do not completely dominate the usage of space resources. In this case, the exploitation of reserved resources requires investment by the late comers for the benefits to be achieved, but such late comers are assured of a fair chance at developing space resources and will be doing so once many of the risks of development have been substantially mitigated by the earlier nations' public and private investments and operational knowledge, including the building of market demand for such space resources.

8. Addressing Intellectual Property Concerns

Benefit sharing should not be based on the involuntary transfer or sharing of intellectual property, as this would severely impact investment and economic development. Private, non-governmental actors should never be compelled to give up rights to proprietary research and development.

9. Returns and Investment

Benefit sharing shall be based on a recognition that commercial or private nongovernmental investment in space projects is highly risky, and highly risky projects must offer commensurately large financial returns to attract sufficient capital for research, development, construction, and operation. Benefit sharing that substantially decreases such investment returns must not be adopted. Likewise, investment in space projects by governmental entities supported by

taxpayers must also achieve a commensurately large benefit for such government and its associated citizens. The sharing of benefits from such publicly funded projects should therefore be at the discretion of the funding entity.

10. Conclusion

Space resource utilization has the potential to address both Earth-based and cislunar needs as well as enabling development and settlement throughout space. This will be especially so in a space economy that is free, emphasizes shared benefits, and encourages entrepreneurial activities. Therefore, we would endorse a space-based economy that is subject to the obligations established in the OST. Said economy would adhere to the principle that sovereign nations and their citizens would retain the rights and privileges of using space resources without interference, in compliance with the Treaty. Such a situation abrogates the need for any new global governance body claiming authority over space activities and resources, which would be in conflict with treaty requirements and which the NSS would oppose.

By recognizing the varying levels of effort required to secure benefits, addressing challenges related to the reservation of space resources, and emphasizing the importance of protecting intellectual property, the NSS aims to ensure that the exploration and utilization of space resources benefit all of humanity.

11. References

- United Nations Office for Outer Space Affairs. Principles Relating to Remote Sensing of the Earth from Outer Space.
<https://www.unoosa.org/oosa/en/ourwork/spacelaw/principles/remote-sensing-principles.html>