

The common heritage of mankind doctrine as a basis for governing the use of lunar resources

Abstract

The governance of lunar resources presents a significant challenge as nations and private entities prepare for lunar exploration and resource utilization. While the 1979 Moon Treaty introduced the principle of the “common heritage of mankind” (CHM), the lack of widespread ratification has hindered its implementation. This paper argues that the CHM doctrine, when applied pragmatically, provides a sound framework for equitable and sustainable governance of lunar resources. By revisiting the Treaty and aligning it with contemporary technological and geopolitical realities, this article explores pathways to establish an international regime that balances economic incentives with the broader interests of humanity.

Keywords: CHM principle, geopolitical, global ecosystems, lunar resources

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Introduction

The Moon and other celestial bodies have become focal points for future exploration and potential resource exploitation. With advancements in technology and growing interest from both state and private actors, the question of governance becomes increasingly urgent. The 1979 Moon Treaty sought to address this by establishing the CHM principle, emphasizing that lunar resources should benefit all humanity. However, limited ratification, particularly by spacefaring nations, has stalled progress. This paper examines the historical context of the Moon Treaty, critiques opposition to the CHM principle, and outlines a framework for governance that reconciles equity with economic feasibility.

Background

The moon treaty and the CHM principle

The Moon Treaty, formally known as the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, was approved by the United Nations General Assembly in 1979. A key provision, Article 11, declared lunar resources the “common heritage of mankind.” This principle envisioned an international regime to govern resource exploitation, emphasizing equitable sharing of benefits, sustainable management, and peaceful use.

Despite its noble intent, the Treaty faced significant opposition. U.S. mining interests and space advocacy groups argued that the CHM principle would impose excessive regulation, discourage investment, and limit economic viability. These concerns were exacerbated by parallels drawn between the Moon Treaty and the contemporaneous Law of the Sea negotiations, which also incorporated the CHM principle.

Legal and geopolitical challenges

The Treaty’s lack of adoption by key spacefaring nations reflects deeper geopolitical divides. The Artemis Accords, initiated by the United States, represent a parallel approach to lunar governance, focusing on bilateral agreements rather than multilateral treaties. While pragmatic, this approach risks fragmenting the legal framework for space activities and marginalizing the broader international community. Notably, the Artemis Accords recently achieved a milestone, with 50 signatory nations demonstrating growing

international alignment on lunar governance principles, albeit outside the CHM framework.

Analysis

Revisiting the CHM principle

As lunar activities expand, Andrew Lee highlights that the dominance of companies like SpaceX in reusable rocket technology has positioned the U.S. as a leading player in lunar access. This advantage has driven competitive dynamics where other companies and nations are rapidly developing similar capabilities, reducing launch costs and democratizing lunar exploration. These advancements underscore the increasing feasibility of utilizing lunar resources, making the CHM doctrine even more relevant. The principle provides a framework to ensure equitable access and prevent the monopolization of benefits, especially as access becomes widespread.

Drawing on the work of Mariana Mazzucato and Elinor Ostrom, CHM gains further relevance as a governance framework rooted in collective action for the common good. Mazzucato emphasizes the importance of aligning governance systems with societal goals, while Ostrom’s studies on common pool resources demonstrate how shared management systems can prevent overexploitation and ensure sustainable use. Together, these perspectives reinforce CHM as a mechanism to balance competitive pressures with the equitable and sustainable use of lunar resources.

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governance needs pragmatically, they risk fragmentation without integrating CHM's broader principles of equity and sustainability. Unlike the rigid interpretations that fueled opposition in the 1980s, CHM can be applied as a flexible framework for cooperation.

Key elements include:

- 1) Equitable benefit sharing: Article 11, paragraph 7(d), of the Moon Treaty calls for equitable sharing, considering the contributions and needs of developing nations. This does not preclude economic incentives but ensures inclusivity.
- 2) Sustainability: Rational management of resources, as stipulated in Article 11, aligns with contemporary environmental and ethical standards.
- 3) Encouraging investment: Article 11, paragraph 7(c), emphasizes expanding opportunities, recognizing that investments require clear and predictable rules to ensure returns.

CHM and shared interests of humankind

One critical aspect of CHM is its linkage to the interconnected interests of humankind. Drawing from Andrew Lee's observations, while the U.S. might maintain a competitive edge initially, the proliferation of reusable rocket technologies and decreasing launch costs are likely to make lunar activities more accessible to diverse actors over time. This competitive environment supports the need for CHM to act as a stabilizing governance framework, fostering collaboration and equitable resource utilization.

Mazzucato's framework of shaping governance for collective goals, combined with Ostrom's emphasis on cooperative systems for managing shared resources, aligns seamlessly with CHM principles. These theoretical insights highlight the potential for CHM to act as a unifying force, ensuring that the economic benefits and scientific advancements arising from lunar exploration serve the interests of all humanity.

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Dennis O'Brien's analysis highlights that the CHM principle can link governance rules to shared global interests while addressing concerns about unilateral exploitation. O'Brien argues that frameworks like the Artemis Accords, despite their collaborative intentions, may inadvertently fragment governance efforts if they fail to integrate broader principles like CHM.

Recent scholarship has emphasized how CHM links governance to shared ecological and social interests. For example, the oceans, governed by the United Nations Convention on the Law of the Sea (UNCLOS), are considered a common heritage due to their

interconnectivity and their influence on global climate systems and economies. Similarly, lunar governance requires rules that account for the shared interests of humankind, reflecting the interconnected nature of space exploration and its impacts.

Indigenous perspectives and equity

The critique that CHM can overlook the rights of specific groups, such as Indigenous peoples, adds another layer of complexity. Dennis O'Brien's insights suggest that CHM frameworks can be adapted to better integrate the perspectives of marginalized communities. By incorporating participatory governance models and emphasizing transparency, these frameworks can ensure that no stakeholder group is excluded from decision-making processes, addressing historical inequities. Recent analyses, such as those from the Harvard Human Rights Journal, highlight how CHM frameworks can unintentionally marginalize vulnerable communities if not carefully implemented. In applying CHM to lunar governance, careful attention must be paid to ensuring equity and avoiding exclusion of stakeholder groups. This aligns with modern interpretations of CHM that emphasize participatory governance and the integration of diverse perspectives.

Compatibility with modern initiatives

The Artemis Accords highlight the potential for CHM to complement rather than conflict with current governance efforts. Dennis O'Brien notes that while the Artemis Accords provide a pragmatic framework, they lack the universality and neutrality offered by CHM principles. Integrating CHM into the Accords could help bridge divides between signatory and non-signatory states, fostering a more unified and inclusive governance structure for lunar resources. For example, the principle of transparency in the Accords mirrors the collaborative ethos of the CHM doctrine. With 50 nations now signatories to the Artemis Accords, there is a significant opportunity to bridge these frameworks with CHM principles to foster greater international consensus.

The Moon Treaty, unlike the Artemis Accords, provides a neutral international forum approved by the United Nations General Assembly (UNGA). This neutrality makes it a potential platform for harmonizing governance approaches between competing power blocs, including the United States and China. By creating a framework that does not explicitly align with any geopolitical bloc, the Moon Treaty could serve as an elegant solution to unify global governance efforts.

The upcoming Unispace IV conference in 2027, announced under the UN's Pact for the Future, offers a unique opportunity to leverage the Moon Treaty as a foundation for unified resource governance. With both the Artemis Accords and the Moon Treaty addressing similar governance needs, this conference could be a pivotal moment to reconcile divergent approaches under a truly global framework.¹⁻¹⁴

Addressing criticisms

Opponents of the CHM principle often cite concerns about overregulation and inefficiency. However, Article 11 provides mechanisms to mitigate these risks:

- a) International regime development: The Treaty calls for an international regime to be established only when exploitation becomes feasible, ensuring a phased and adaptive approach.
- b) Streamlined governance: Efficient administrative structures can prevent bureaucratic overreach while maintaining oversight.
- c) Incentivizing contributions: Provisions for equitable benefit sharing explicitly account for the efforts of nations and entities that contribute to exploration and development.

Proposal for governance framework

A viable governance framework must address economic, legal, and ethical considerations. The following recommendations aim to operationalize the CHM principle:

- 1) International forum: Establish a dedicated forum under the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) to negotiate resource governance rules. This forum should include stakeholders from governments, private entities, and civil society.
- 2) Adaptive legal instruments: Develop protocols under the Moon Treaty that provide clear guidelines for resource extraction, benefit-sharing, and dispute resolution.
- 3) Public-private partnerships: Encourage partnerships that align commercial interests with the CHM principle, leveraging private sector innovation while ensuring public oversight.
- 4) Incorporating equity: Ensure governance frameworks are inclusive and address the rights and interests of marginalized communities, drawing lessons from the critiques of CHM in terrestrial contexts.
- 5) Unifying frameworks: Use the Moon Treaty's neutrality and international recognition as a bridge between the Artemis Accords and other governance regimes, leveraging events like the Unispace IV conference to create a globally unified approach.
- 6) Technological collaboration: Promote international collaboration on technologies for sustainable resource extraction and utilization, reducing barriers to entry for developing nations.

Conclusion and call to action

The exploration and use of lunar resources present both opportunities and challenges. Revisiting the CHM principle within the framework of the Moon Treaty offers a path toward equitable and sustainable governance. By fostering international cooperation, balancing economic and ethical imperatives, and aligning with modern initiatives like the Artemis Accords, the CHM doctrine can serve as a cornerstone for the next era of space exploration.

The Moon Treaty's neutrality provides a unique opportunity to act as a bridge between competing governance frameworks, such as the Artemis Accords, and geopolitical blocs. This neutrality can help harmonize efforts, ensuring inclusivity and global equity. The upcoming Unispace IV conference in 2027 represents a pivotal moment to reconcile these approaches and to develop a truly unified governance framework for resource utilization on the Moon and beyond.

It is imperative that international stakeholders seize this opportunity to leverage the Moon Treaty's framework and foster meaningful

collaboration. Such efforts will ensure that the exploration and use of lunar resources are conducted for the benefit of all humanity, safeguarding shared interests and securing a sustainable and equitable future for space governance.

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Conflicts of interest

The author declares that there are no conflicts of interest.

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