



UNOOSA

**Establishing an International Framework for
the Governance
and Regulation of Lunar
Resource Extraction**



I. Committee Background

The United Nations Office for Outer Space Affairs (UNOOSA) is an important component of the United Nations. It was created in 1958 after the United Nations realized the need for international rules and regulations for space, as space exploration was on the rise. UNOOSA acts as the means of communication and unity for both nations and corporations, aiming to promote international cooperation. It serves as a space for over 100 nations to explore topics such as preventing spacecraft collisions, space debris, space traffic, dealing with asteroids, and many other issues. UNOOSA strongly believes that every country has the right to explore space regardless of its specific scientific contribution or wealth, often providing opportunities for free launches. This is beneficial for developing countries beginning their space journeys, assuring that no country is shunned from exploration.

UNOOSA creates and supports space law through the Committee on the Peaceful Uses of Outer Space (COPUOS), the committee where representatives of each nation come together to discuss space policy. UNOOSA arranges and manages these meetings, and carries out any decisions that were made in them. This committee is the means by which international space laws are proposed and put into practice. Through these meetings, UNOOSA has mandated for all nations to assist astronauts in distress, register launched spacecraft, and refrain from weapons of mass destruction (WMD) in space along with many more regulations and boundaries to help maintain peaceful uses of outer space.

Nations and corporations are attempting to move from simply exploring the moon, to extracting resources from it. International space governance is absolutely needed to avoid conflict over the scarce resources, and to avoid having powerful countries lock out developing nations from space opportunity, as UNOOSA believes space operations must be carried out for the benefit of not just one nation, but of all nations. UNOOSA plays a significant role in creating solutions for space related issues like these.

II. Introduction to the Topic

Lunar Resource Extraction

Lunar resource extraction is the process of extracting and using natural resources from the Moon instead of the earth. Lunar resources like water ice and metals can be used for the benefit of future space exploration and scientific advancements. For example, water ice, which is trapped deep in the hidden craters of the moon, can be turned into drinkable water, fuel, and even oxygen that humans can breathe. This is significant because it can be very beneficial for space travel, and change the way it operates completely. For example, launching fuel or water into space from earth can cost up to 6,000\$ per kilogram. If nations and corporations have the ability to extract fuel and water from the moon, they can spend significantly less money launching rockets from earth, as less resources will be needed to take off because they have the ability to make a galactic pit stop on the moon to refuel the spacecraft.

Key Developments

There have already been significant developments in lunar exploration, reinforcing the need for international space law and governance. The lunar campaign led by the National Aeronautics and Space Administration (NASA), Artemis, is an example of this. After completing the first two missions, Artemis I(2022) and Artemis II(2026), NASA, with the help of private corporations, is preparing to send humans to the moon for the first time since the Apollo mission in 1969, about eight years after President John. F Kennedy famously set the initial goal. In order to complement these missions, NASA is also planning to construct

lunar bases close to the Moon's south pole. A timeline has already been established that runs into the coming decades, aiming for human establishments and crewed missions to the Moon by 2032. This outline includes technology like rovers and solar arrays, and will likely cost billions of dollars.

Current Legal Regulations

Many rules and regulations have already been negotiated and put into practice through COPOUS meetings scheduled and held by UNOOSA. This includes the Outer Space Treaty (1967), and the Moon Agreement (1979). The Outer Space Treaty is an agreement that was ratified by over 100 different nations, including powerhouses in space exploration like the United States and China. In simple wording, it states that no nation can plant their flag on the moon and claim or occupy the Moon's craters as territory. Since it was written before lunar resource extraction was a popular idea, it does not specifically ban or allow extracting and owning lunar materials. This became a literary loophole that nations are currently attempting to take advantage of. The Moon Agreement said that the Moon's resources cannot be owned or controlled by any nation or corporation. This agreement emerged after the United Nations realized the issues that may come from nations and corporations trying to mine too many resources off of the Moon only for their benefit, which would go against the Outer Space Treaty. With this being said, only 18 nations have officially ratified this agreement, and none of them are space exploration powerhouses like the United States, Russia, or China. This continues to be a major topic of negotiation.

Current Challenges

There are many challenges when it comes to establishing a fair and orderly system for lunar resource extraction. These include ownership issues, unequal abilities between nations, and lunar environmental protection. The Artemis Records, a non binding set of space regulations made by NASA and the USA, say that a nation cannot own the Moon itself, but can legally own the resources it extracts, like water. Other nations that are advanced in space exploration, like China and Russia, argue that this idea ignores United Nations regulations and can risk causing one nation to control all of the lunar resources, which will lead to conflict. Lunar resource extraction takes advanced rockets, robotics, and special chemical processing. Most nations in the world do not have access to these things. The Outer Space Treaty said that space exploration must "benefit all nations", and countries that are developing their space agencies like Kenya argue that the few nations that do have access to these things will take over the lunar resources. In terms of the lunar environment, the craters that these nations want to explore contain billions of years worth of untouched history. If nations and corporations are rushing to mine for resources, it can be destroyed before scientists get the chance to analyze it, which would be detrimental to the worldwide effort of trying to understand the history of our solar system.

Need for an International Framework

An international framework would be helpful in a variety of ways. They include protecting some parts of the Moon for scientific analysis, avoiding a mining model that will deplete the scarce resources quickly, and preventing potential conflict escalations. An international framework would include an objective set of rules for countries who participate in space activity regarding the protection of scientifically precious lunar sites. Collective agreement regarding the avoidance of said sites will be helpful to help mankind understand the solar system that we call home. An international framework would be beneficial to prevent the depletion and overconsumption of lunar resources, as it would help to regulate the quantity of resources that a given country can extract, ensuring the longevity and protection of lunar resources. An international framework would also be beneficial to prevent conflict escalations between nations regarding obstruction of mining operations or other technical operations that may easily blow into a political and military conflict. This is because this framework would create an orderly and organized international model that would limit most conflicts from taking place.

III. Essential Questions / Key Issues

What strategies can help ease conflicts about lunar property claims between countries that refer to their own domestic space laws?

How will international regulations distinguish the ownership of extracted lunar resources from ownership of lunar territory itself?

How will compliance to international lunar regulations be enforced? Should a new international agency be established, or should the power of enforcing regulations go to COPUOS?

How would an international space agency prohibit specific lunar regions for scientific purposes?

What strategies can be carried out to make sure that nations who aren't involved in space exploration still benefit from it?

What strategies can be carried out to make sure that developing nations have the opportunity to participate in space operations?

How would liability be determined should there be an accident that damages mining infrastructure?

IV. Countries List

1. Republic of Kenya
2. Kingdom of Saudi Arabia
3. Peoples Republic Of China
4. United States of America
5. Russian Federation
6. Republic of India
7. Islamic republic of Iran
8. United Mexican States
9. United Arab Emirates
10. Dominican Republic
11. Democratic People's Republic of Korea
12. Japan
13. French Republic
14. Republic of Colombia
15. Federal Republic of Nigeria
16. Arab Republic of Egypt
17. Federative Republic of Brazil
18. State of Qatar
19. Democratic Socialist Republic of Sri Lanka
20. Kingdom of the Netherlands
21. Republic of Mauritius
22. Kingdom of Bahrain
23. Republic of Côte d'Ivoire
24. Republic of Slovenia
25. Bolivarian Republic of Venezuela

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