

Some Regulatory and Political Issues Related to Space Resources Exploration and Exploitation

Presentation

by

Prof. Dr. Ram Jakhu

Associate Professor

Institute of Air and Space Law

McGill University, Montreal, Canada

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Introduction

- Suitable legal framework is imperative not only to avoid international conflict but also to attract substantial financial investments required for embarking upon the exploration and exploitation of space (asteroid and lunar) natural resources
- Currently there are two main international space treaties that are applicable to the mining of space natural resources; i.e. the 1967 Outer Space Treaty, and the 1979 Moon Agreement.
- I intend to briefly discuss the key & relevant provisions of these two treaties in order to assess their strengths and weaknesses for specifically guiding the orderly exploration and exploitation of space natural resources by States and their respective private entities.

Race to-the-Moon & possibility of conflicts

- The race -to-the-Moon is heating up. This race is mainly for the purpose of exploring possibilities for mining the space natural resources.
- Several countries (including developing countries like China and India), as well as several private companies, are aspiring to reap potentially significant economic benefits from the space natural resources.
- With a multiplicity of actors having a variety of motives, the possibility of conflicts exists.
- Thus the search for appropriate legal principles and rules for mining of asteroid and the Moon is *important and timely* to avoid international conflict.
- Moreover, suitable legal regime is *imperative* to attract substantial financial investments required for space resources exploration and exploitation.

The 1967 Outer Space Treaty - General and Restrictive

- The 1967 Outer Space Treaty, applicable to 101 States, including Canada, is considered to be too general & restrictive with respect to exploration & use of space natural resources
- The Treaty has recognised the freedom of exploration, scientific investigation and use of outer space, the moon, asteroids and other celestial bodies.
- This freedom is available to all States & their private entities “without discrimination of any kind, on a basis of equality and in accordance with international law.”
- However, Article II of the Outer Space Treaty prohibits “national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.” This prohibition is very broad and applies to States and their private entities.
- Though still controversial, it is believed that the moon, asteroids and other celestial bodies, as well as their natural resources, cannot be subjected to proprietary rights.
- That is why a special treaty was negotiated and adopted (i.e. the 1979 Moon Agreement) which specifically deals with the moon, asteroids and other celestial bodies, as well as their natural resources.

The 1967 Outer Space Treaty - General and Restrictive

- States are internationally responsible for all their governmental and private space activities; i.e. States are obliged to ensure that the space activities of their private companies are carried out:
 - (a) pursuant to their respective national regulatory regimes providing for “authorization and continuing supervision” (licencing & monitoring); and
 - (b) in accordance with the provisions set forth in the Outer Space Treaty.
- Moreover, States are “internationally liable for damage” caused by their public entities as well as their private companies.
- Canada does not have general space policy or specific regulatory framework for:
 - (a) licensing of Canadian private entities for exploration and exploitation of space natural resources; and
 - (b) seeking reimbursement by the government of Canada if the government is required to pay compensation to foreign third parties for damage caused by Canadian private companies while carrying out exploration and exploitation of space natural resources.

The 1979 Moon Agreement – Fiction and Facts

- The Moon Agreement has attracted significant amount of criticism.
- However, in my view, such criticism is not fully justified since it is usually based on *improper interpretation* of the Agreement's provisions and on *fiction* rather than facts.
- It is said that during the last about 35 years since its formal adoption, the Moon Agreement could attract only a limited number ratifications and none of them is a major space-faring State.
- There are several reasons for such a low level of formal acceptance.
- Perhaps the most logical reason is that, for about 30 years, there has been no Moon-related activity. Thus, there was no pressing need for a legal regime specifically governing space natural resources.

The Common Heritage of Mankind (CHM) concept

- Most serious criticism of the Moon Agreement is *almost exclusively* directed at the Common Heritage of Mankind (CHM) concept in the Agreement, and the property rights over the natural resources of the Moon and other celestial bodies.
- For example, the U. S. Army Space Reference Text on Space Policy and Law mentions that under the Moon Agreement:
- *“the moon is a common heritage for all mankind which implies that all nations would share equally in any benefits derived from moon exploration. If the U.S. signed this treaty it would be hard to get private firms to invest in future moon projects if they had to divide the profits.”*
- Such assertion is wrong and misleading.

The Common Heritage of Mankind (CHM) concept

- Article 11 (1) of the Moon Agreement specifies that:

“The moon and its natural resources are the common heritage of mankind, *which finds its expression in the provisions of this Agreement and in particular in paragraph 5 of this article.*”

- Paragraph 5 of Article 11 calls upon States Parties to establish an international regime for the *exploitation* of the natural resources of the Moon, but only when such *exploitation* is about to become feasible.
- Article 11 (7) of the Agreement lays down the main purposes (*guidelines*) of the *envisioned* international regime for the *eventual exploitation* of the natural resources of the Moon.

The Common Heritage of Mankind (CHM) concept

- Article 11 (7) (d) of the Agreement specifies that in the *envisioned* international regime there should be a provision for:
- “An *equitable* sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the moon, shall be given special consideration.”
- It must be noted that, firstly, it is evident that the interests of all States Parties shall be taken into consideration.
- Secondly, those countries that have made considerable efforts towards the exploration of the Moon shall be protected by this provision.

The Common Heritage of Mankind (CHM) concept

- Thirdly, “equitable sharing” does not mean “equal sharing” and therefore it is simply not true that such sharing is or would be one-sided in favor of only the developing countries.
- Fourthly, the CHM does not have any meaningful impact on the *current and future exploration and use* of the natural resources of the Moon, although it may become important later, *but only* when the envisioned international regime is to be negotiated. It may take 10 or 20 years for the exploitation of the natural resources of the Moon to become feasible, and additional 10 to 20 years for the envisioned international regime to be negotiated, if at all.
- Therefore, the presence of the CHM concept in the Moon Agreement *has no serious restriction* on the exploration of space natural resources and *might not be applicable* to the eventual exploitation of these resources, but only if the States would wish to do so.

Right to collect & remove minerals & other substances

- If the Moon Agreement is *not accepted* by the Moon-faring States, then the exploration and use of its natural resources will be governed by the provisions of the Outer Space Treaty.
- As noted earlier, Article II of the Outer Space Treaty imposes serious restrictions on the exploration of space natural resources since it is believed to prohibit national appropriation strictly, expansively and extensively.
- On the other hand, Article 6 (2) of the Moon Agreement specifically entitles States Parties to collect and remove from the Moon and other celestial bodies mineral and other substances and to use them for the support of their exploratory missions.
- This Article of the Moon Agreement is an improvement to, and shall prevail over, the provisions of Article II of the Outer Space Treaty.

Exclusively peaceful activities and non-militarization

- Article 3 (4) of the Moon Agreement expressly prohibits the establishment of military bases on the Moon and other celestial bodies.
- More importantly, its Article 3 (2) makes illegal any threat or use of force or any other hostile act or threat of hostile act.
- Such threat or act cannot be committed in relation to the Earth, the Moon, spacecraft, the personnel of spacecraft or man-made space objects, including those on the Moon and other celestial bodies.
- Such an unequivocal prohibition of threat or use of force on the Moon and other celestial bodies is not found in the Outer Space Treaty.
- Thus, the Moon Agreement establishes the rule of law relating to asteroids and the Moon exploration under an *exclusively peaceful and threat-free* environment. This is believed to be an important factor (inducement) for attracting financial investments required for space resources exploration.

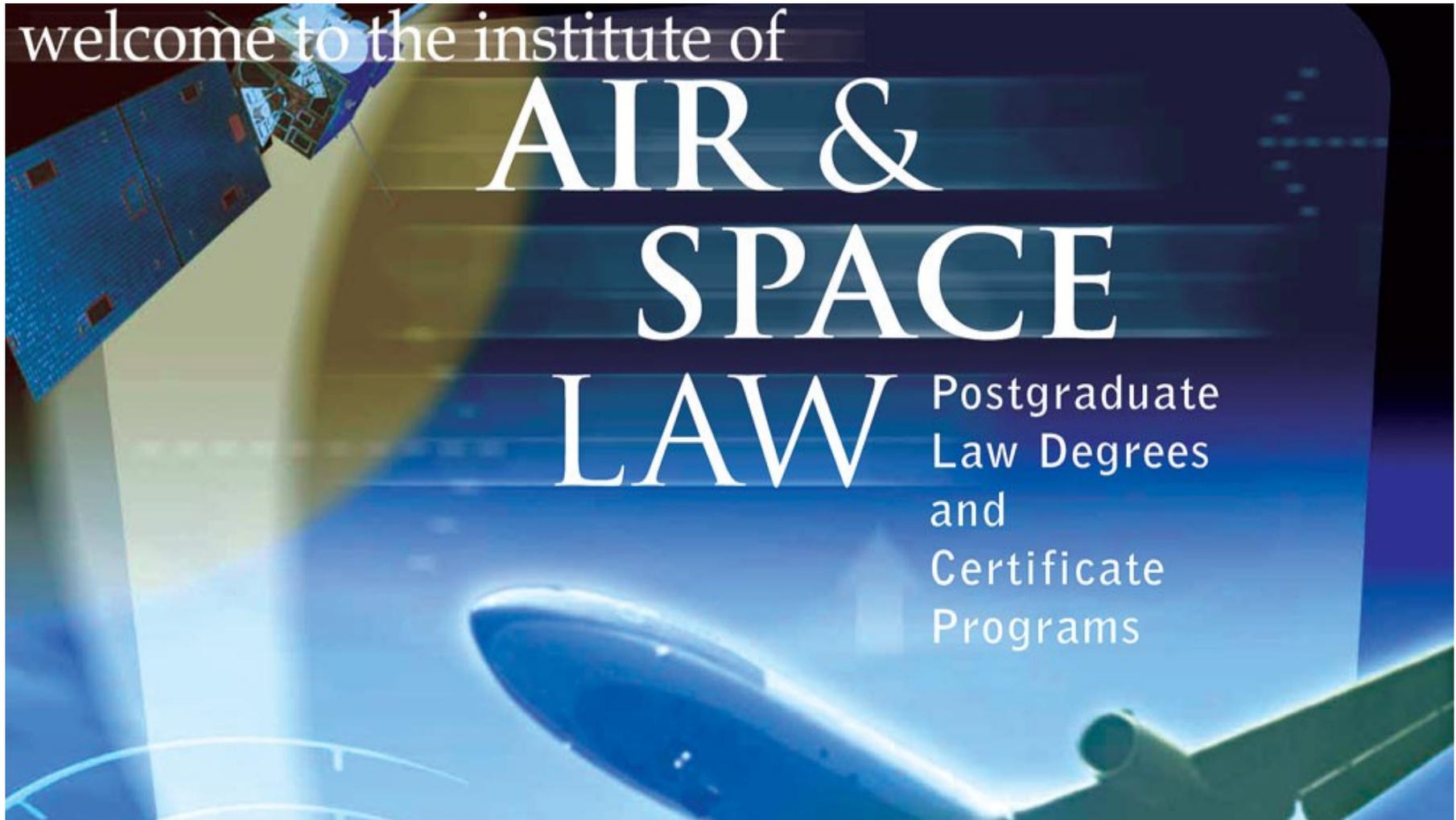
Safety of life and assistance in emergencies

- For humanitarian reasons, Article 12 of the Moon Agreement accords very high priority to the safety of life on the Moon and other celestial bodies.
- Moreover, during an emergency involving a threat to human life, the equipment, vehicles, installations, facilities or supplies belonging to other Moon-faring States Parties to the Moon Agreement may be used even without their prior permission.
- However, non-States Parties are not entitled to this right.

Final Remarks

- Understandably, commercial enterprises prefer less regulatory burdens. However, it is also believed that no law or confusing law could create chaos and uncertainties, which might not be conducive for attracting huge investments for space operations.
- The Moon Agreement is a well balanced and forward looking legal instrument. In a number of ways it was ahead of its time.
- The Moon Agreement creates a suitable *interim* legal regime to govern and guide the *orderly initial* exploration of space natural resources by States and their respective private entities. Moreover, any attempt to conclude a new agreement would be difficult at present & even in the near future.
- Canada should ratify the Moon Agreement and adopt an appropriate national regulatory (including licensing) system for encouraging & facilitating exploration & eventual exploitation of space natural resources by Canadian private companies.

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