

SPACE POLICY AND LAW COURSE 2018**SPACE RESOURCE CASE STUDY****THE FACTS:**

Galactic Enterprise Limited ("GEL") has obtained the exclusive right to exploit by mining resources in an area of 10,000 km² of the Moon under the Space Mining Act of the Kingdom of Macina ("Macina").

GEL will first launch probes to explore the Moon and bring rocks back to Earth to study their potential market and revenue generation. Should the extracts contain valuable resources, such as iridium, titan, silicates, and other useful substances, GEL proposes to build a permanent mining station on the Moon.

Once these are established, GEL will exploit the Moon, using silicates to build the Moon station, comprising drilling halls, laboratories, launch pads and fuel station. It will send robotic and manned missions to the station.

Macina has ratified all the space treaties.

QUESTION:

Can GEL legally establish a mining business on the Moon.

Clearly distinguish between *exploration* and *exploitation*.

Consider any parallel with fishing in the High Seas.

DISCUSSION

1. Can GEL Explore the Moon

- 1.1 The Outer Space Treaty, OST, grants certain *freedoms* to conduct certain activities in space. These include the freedom of *exploration* and of *scientific investigation*. These freedoms are available to all states.

Article I

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, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the Moon and other celestial bodies, shall be **free for exploration and use** by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be **free access to all areas** of celestial bodies.

There shall be **freedom of scientific investigation** in outer space, including the Moon and other celestial bodies, and States shall facilitate and encourage international cooperation in such investigation.

- 1.2 The *space freedoms* only entitle states parties to the OST to carry out activities under these freedoms. However, states may authorise and must supervise their non-governmental entities to carry out permitted activities in space for which they are responsible; OST, Article VI.
- 1.3 In the first phase of its business GEL intends to explore the Moon by sending probes to determine the potential for possible future exploitation of the resources. It follows that GEL can legally conduct *exploration* of the Moon. It does not appear that GEL is undertaking *scientific investigation*, which requires a scientific purpose.

2. Can GEL Exploit the Moon and its Resources

- 2.1 The OST clearly also grants the *freedom of use* to all states. No definition of *use* is given in the OST. Logically, exploitation of the Moon's resources can be considered a form of "use."
- 2.2 However, the OST makes clear that not all *use* is permitted.

Article II

Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of **use** or occupation, or by any other means. *cf*CLS Art 89: No State may validly purport to subject any part of the high seas to its sovereignty.

- 2.3 Note that the Article specifically prohibits appropriation of any part of space by various acts including "by means of use." Furthermore, commercial mining of the Moon cannot be considered to be "for the benefit and in the interest of all countries" as required by OST, Article I.

3. The Moon Agreement

- 3.1 The Moon Agreement (ratified by 17 countries) applies to all celestial bodies in the solar system and provides the framework for *exploitation* of natural resources of celestial bodies. It establish the principle of *equitable sharing of benefits from space resources*, under a regime to be established:

Moon Agreement Article 11(5)

States parties to this Agreement hereby undertake to establish an international regime ... to govern the *exploitation* of the natural resources of the Moon as such exploitation is about to become feasible.

- 3.2 It further provides that the regime's purposes include:

Moon Agreement Article 11(7)(d)

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.

- 3.3 Since no international regime has yet been established, these provisions of the Moon Agreement do not assist in legitimising the proposed activities of GEL.

4. Effect of National Space Mining Act

- 4.1 The national legislation of parties to the OST must conform to its provisions and give effect to the international obligations of the state. In the absence of an international regime for the exploitation of space resources the legality of the Macina Space Mining Act is in question.
- 4.2 Similarly, by granting GEL exclusive rights to a part of the Moon territory, Macina is in contravention of OST, Articles I and II. Under those provisions, exclusive occupation of the 10,000 km² amounts to appropriation of that part of the Moon.

5. Analogy with Fishing in the High Seas

- 5.1 The ICJ Statute does not recognise analogy as a means of establishing international law. However, many commentators, even lawyers, have argued that extraction of space resources is equivalent to fishing in the High Seas, universally regarded as lawful.
- 5.2 One source of international law is *general international law* that may be evidenced by long practice of states. Such general international law is often incorrectly referred to a *customary international law*. To evidence such international law it is necessary to show practice by states *and* the recognition of such practice as law.
- 5.3 Fishing in the High Seas has been practiced for centuries and recognised by all states as lawful. It is acknowledged as part of international law in the Convention on the Law of the Sea. The Convention includes as one of the *freedoms* of the Sea the *freedom of fishing*, together with those of navigation, over-flight, scientific research and laying submarine cables and pipelines [CLS, Art 87].
- 5.4 There are no equivalent rights in respect of space resources.