A STUDY ON OUTER SPACE REGULATORY LAW AND THE ROLE OF THE INTERNATIONAL COMMUNITY

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ABSTRACT

While the title of this article might reminisce one of the memorable phrase from the famous 20th Century comic - Asterix, the gravitas of the same with respect to international policy in the modern world can't be ignored. Space, as a subject of study, has been at the epicentre of scholarly attention for many centuries but never has it been used in such capacity as it is today.

What can space be used for or what is it being used for currently? The answer to this seemingly simple question has a complex manifold answer. As per the Outer Space Treaty (1967)[1], space is to be used for purposes beneficial to all countries and it shall be open to all for purposes of exploration. This means uses such as the installation of satellite technology, scientific research and potentially space tourism and resource extraction are permitted by the treaty and even encouraged. However, the treaty explicitly outlaws the weaponisation of space with respect to the Earth's orbit, the Moon and other celestial bodies, and the appropriation of territory on celestial bodies and claiming national sovereignty on the same. Yet, if a nation launches an object into space, it retains legal jurisdiction on the same and is liable for any damages caused by it.

It is in this context of legal ambiguity and uncertainty this study is set. It aims to explore the key treaties and conventions that currently govern international space law, raise pertinent issues and loopholes that currently prevail and discuss the role of the international community in the coming years.

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1. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies - Effective since 10 October, 1967

INTRODUCTION

There are many principles of international space law. Among others, three of them are of key importance: transparency, cooperation and reciprocity.[2]

Transparency is summarised as "a clean window that you can look through." [3] This is relevant along with Confidence Building Measures (CBMs) as it creates an environment for nations to be aware of their actions in the international domain without violating any international law. It is hence that the principle of transparency is a *condition sine qua non* for a realistic means of generating a more reliable, peaceful and accountable form of international relations that governs outer space.

The principle of ***cooperation***, as the name suggests is key for compliant and sustainable activity in outer space. This principle ensures all nations cooperate towards the spirit of preservation of the mandate of the United Nations Charter and the other conventions that international space legislation comprises of.

Reciprocity is considered a meta-rule of the system of international law. It contains the ideal that each party is bound to make contributions to other nations in the spirit of mutual assistance while engaging in outer space activity of any nature.

These principles have been specifically highlighted as all nation states participating in the utility of outer space in any capacity, need to keep in mind and ensure their actions are compliant with these principles.

INTERNATIONAL SPACE LEGISLATION

Before addressing the keys issues that exist in the current international regulatory framework, it is necessary to identify and understand all the major treaties and conventions that have been adopted by the United Nations to date. Special emphasis also needs to be laid on the historical context, provisions and criticisms of the same. It is only then can comments be made on their status, relevance and applicability.

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2. Comments: International Space Law - BRICS LAW JOURNAL Volume IV (2017) Issue 2

3. Ulrich K. Preuß, Transparency in International Law, 12(3) International Journal of Constitutional Law 820, 822 (2014)

The Outer Space Treaty is seen as the most widely accepted framework on international space law considering the fact over 107 nations are party to this treaty, with another 23 having signed it but haven't completed the ratification procedure. However, this isn't the only treaty that calls for outer space regulation. There exist four other major treaties with different visions and different aims as maintained by the United Nations Office for Outer Space Affairs (UNOOSA). The issue with the other treaties is that its content is riddled with loopholes and its premise for regulation is weak. Due to these drawbacks, some of them have become failed treaties in practice, considering the fact that many nations with leading space programs are a not party to some of these other treaties.

The Rescue Agreement [4] adopted in 1968 became the second document addressing outer space law since the introduction of the Outer Space Treaty in 1967. This agreement laid down an obligation of member nations to assist any distressed space personnel or 'astronauts' of any nation within their sovereign territory, encountering an accident or emergency. The major loophole in this agreement, however, is the lack of definition of the term 'astronaut' itself, and who in legal terms can be recognised as a 'personnel' of a spacecraft and what constitutes a 'space object'. [5] Furthermore, it doesn't consider a situation of rescue in space itself. So, when Dr. Ryan Stone in the movie Gravity enters the Chinese space station *Tiangong* to return to earth, after her shuttle is destroyed, she, in theory, is violating outer space law, just because of the Rescue Agreement being short-sighted!

The reason for the short-sightedness is in some ways apparent in the structure of the Agreement itself as it is the shortest among all the treaties governing space law, at only ten articles while the previous Outer Space Treaty stood at seventeen and successive treaties were noticeably longer and more constructive in their provisions.

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4. Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space - Effective since 3 December, 1968

5. Journal of Space Law (2008) - A Sleeping Beauty Awakens: The 1968 Rescue Agreement after Forty Years by Frans G. von der Dunk

The Liability Convention [6] was adopted in 1972 to specifically expand on the liability provisions of states for damages caused by their space objects, as laid down in the Outer Space Treaty. This convention again is very limited in its regulation considering the fact it permits dispute resolution between state parties only.

Hence if in a hypothetical scenario, a Chinese satellite is destroyed and some of its debris falls into India and damages the house of Mr. X, he is powerless to take any remedial action unless the Government of India initiates a lawsuit against the Chinese Government. More importantly, it gives a free ticket to private space contractors or launching corporations to be absolved of any liability from damages caused by space objects they have launched. This means Elon Musk has no liability under space law for damages Space X shuttles might cause to other nations, as of now.

The last two conventions are the ***Registration Convention*** [7] and the ***Moon Agreement.*** [8] The former, as the name suggests the systematic registration of all space objects launched by member nations with the UNOOSA and revealing their primary functions along with their orbital parameters. The latter however addressed completely different issues.

The Moon Agreement was definitely a standout agreement considering the fact it addressed advanced issues in outer space law surrounding celestial bodies in specific. It aimed to bring about a similar nature of regulation as that of the United Nations Convention on the Law of the Sea (UNCLOS) did with the sea floor.

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6. Convention on International Liability for Damage Caused by Space Objects - Adopted in September 1972

7. Convention on Registration of Objects Launched into Outer Space - Effective since September 15, 1976

8. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies - Effective since July 11, 1984

In summary, the treaty outlaws the claiming of sovereignty on celestial bodies or installing any type of weaponry on the same. It encourages exploration only with prior consent of the United Nations and discourages activities that might cause contamination or result in the unlawful appropriation of outer space resources by a single state. Hence on paper, it looks like an agreement which is noble in its cause for encouraging fair utilisation of celestial bodies by the international community. Yet in practice, it is a failed treaty as none of the nations which engage in manned space exploration or plans to do so is party to this treaty. This again is largely due to the shallowness of the provisions in the treaty.

The most controversial aspect of the treaty is the provision targeting the exploitation of resources on the Moon and other celestial bodies. Legal scholars have drawn parallels of the Moon Treaty Model with the UNCLOS model [9] of making it mandatory for nations with space agencies to share technology, research and even resources extracted in outer space with nations which don't have space agencies to encourage research and development.

This has been called out as a breach of basic Intellectual Property rights of nation's domestically developed technologies. Furthermore, the term 'resource' itself has not been defined beyond ambiguity. There exist many other contradictory provisions in the Agreement that have caused the United States, Russia and China to not be parties to this treaty.[10] Considering these three nations are responsible for the majority of manned space missions, the treaty remains a failed treaty to date, having a negligible impact on real spaceflight. [11]

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9. The Space Review - The Moon Treaty: Failed international law or waiting in the shadows? by Michael Listner

10. Status of International Agreements relating to Activities in Outer Space - United Nations Office for Outer Space Affairs

11. The McGill Daily - Commentary: 'The Moon Treaty is dead.' Discuss - January 27, 2011

DRAWING A LINE: THE ISSUE OF MILITARISATION AND WEAPONISATION

'Militarisation' and 'Weaponisation' of space are topics often delineated and deliberated upon when the international security debate regarding outer space arises. However, no present treaty has defined these terms to be legally binding on states. Yet at the same time, it is necessary to draw a line between the two to demarcate and differentiate them in their utility and interpretation.

Spatial Weaponisation in simple terms, refers to the installation or placement of weapons having a destructive capacity to any extent in outer space. These may include weaponry to conduct space-based attacks, weapons that travel through orbit to hit targets on earth or even ground-based weapon systems that can be used to manoeuvre space objects for destructive purposes or hit extra-terrestrial targets from the ground. Many elements of existing military missile defence systems by definition too can be classified as space weapons as many of them are equipped to destroy space assets as well as ballistic missiles. [12]

Space Militarisation, on the other hand, has a much broader definition and can be used to describe a variety of functions, the most basic ones being the use of space technology to support ground, sea and air based military operations. These include early warning mechanisms, command and control, military navigation, strategic communications, intelligence gathering etc. Legal confusion arises when satellites deployed for civilian purposes such as weather reporting or global positioning services are used covertly for military purposes leaving no scope of differentiation between civilian and military installations, causing ambiguity in the scope of the definition 'militarisation' holds. [13]

With respect to the real world, it is publicly evident that the militarisation of space has already occurred to a large extent. Hence assessing the threats of weaponisation needs greater attention.

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12 and 13. See Also - Centre of Land Warfare Studies: Weaponisation and Militarisation of Space by PN Tripathi

Historically the whole concept of weaponising space emerged during the Cold War era for purposes of greater offence and defence. However, with the advent of the Outer Space Treaty, most efforts to weaponise space was largely abandoned or halted. There was, however, a re-emergence during the Reagan Administration in the United States, when the *Strategic Defence Initiative* to develop anti- ICBM technology was proposed.[14] Although the initiative never actively deployed any such weaponry, tests were briefly conducted on the same.

There also exists no substantial evidence of active weaponry being placed on any launched space objects presently. However, the closest a weapon of such 'space to space' capability was installed by the USSR in the 1970s. It was a 23-millimetre cannon designed for the Tupolev TU-22 Blinder supersonic bomber but installed on the Almaz Space Station. It's testing was a highly classified mission and it involved firing the cannon in space on January 24, 1975, but the results of this test were withheld and the upgraded Almaz decommissioned before its scheduled launch in 1978.

Having established a working understanding of the two terms, it is now relevant to look into the legality of both 'militarisation' and 'weaponisation'. Militarisation, for the most part is legal and even encouraged to the extent of garnering common benefit for the international community and promoting peaceful scientific research and exploration. This is highlighted in the last two sentences of Article IV of the Outer Space Treaty. However, the first part of the same article outlaws the stationing of any weapon of mass destruction in outer space and the performance of any military tests or manoeuvres in outer space or celestial bodies. Article VI, VII and IX of the same, among its other provisions also states the possibility of legal action against nations attempting to weaponise space.

Notwithstanding the provisions that these treaties already hold, it is necessary to keep in mind there still exists no treaty that specifically defines either 'militarisation' or 'weaponisation' in a binding manner but rather lay down its provisions vaguely based on the features of both.

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14. The Strategic Defence Initiative in Soviet Planning and Policy by Benjamin Lambeth and K.N Lewis

The question that arises in the context of these various conventions agreements is - **what can the international community do to ensure free and fair ventures into outer space?**

The first step would evidently be a thorough amending and rewriting of existing conventions as these post-cold war era documents are outdated and often dysfunctional in the 21st-century environment. One of the major factors that has to be addressed in the amending procedure has to be the rise of private space contractors and establish regulations to fix liability on them for any unlawful actions that might not have been addressed in the pre-existing treaties. The members of the international community should hence be asked to reconsider the status of these treaties post the amendments stage.

The second step would be to establish a mechanism to prevent unsolicited secessions from the treaties. Most of the current space treaties are very liberal about member states' rights to withdraw from the treaties as and when they like. This makes the foundation of these treaties weak and susceptible to legal abuse as any party with personal motives can withdraw from these treaties without a valid reason and violate the provisions of these treaties yet face no legal challenge for the same. Not only should the secession mechanism be tightened but also the defining procedure of a 'valid reason' for secession should be made more specific.

The final step towards strengthening international space legislation would be to establish a fair and strict penalties system to penalise offenders of these treaties. The lack of clear penalty provisions in the existing treaties means that a new agreement will have to be established by the United Nations Committee on the Peaceful Uses of Outer Space (UN-COPUOS) regarding the same.[15] This agreement will have to be deliberated upon to contain no loopholes so that it does not end up with the fate of the Moon Agreement. A treaty of this nature shall only be possible if nations with leading space agencies take the responsibility of upholding the principles of such an agreement and are party to its provisions in all capacities.

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15. United Nations Committee on the Peaceful Uses of Outer Space (UN-COPUOS) - Legal Subcommittee

CONCLUSION

As newer uses and methods of exploration in outer space emerge, space law shall come to play a vital role in maintaining momentum among the members of the space race and ensuring fair utility. However, since it is hard to envisage in which direction space technology or utility could go next, speculating the future pathway of space legislation shall continue being challenging. This lies largely in the fact that new frameworks can be created only when newer unregulated technology is invented.

The legacy of the 20th century treaties will continue to influence 21st century space policy globally as the need for the same is urgent like never before. To further strengthen international space law, it is also necessary to encourage the fine tuning of domestic space policy to prevent any contradictions or ambiguities that might affect nations' ability to comply with international legislation. The same caution also has to be taken with respect to regional space alliances such as the European Space Agency or the Asia Pacific Space Co-operation Organisation. The aforementioned caution is with respect to Article 102 and 103 of the UN Charter establishes the supremacy of United Nations obligations over regional agreement obligations.

The future for space exploration if done in a transparent and fair manner is indeed bright and is possibly a haven for the human race in the coming decades. Space law has been neglected by the international community over the years due to its ambiguity and controversial provisions, but it cannot be so if space exploration and commercialisation keeps on being diversified. Fair regulation may not be the panacea for this age-old issue, but it certainly a step in the right direction for mankind.