ORBITAL JUSTICE: RESPONSIBILITY BEYOND THE ATMOSPHERE

B. Akshaya, Christ (Deemed to be University), Delhi NCR

ABSTRACT

Outer space was once up there, out of reach and reserved for superpowers and scientists.[1] Today, space is in our skies and is being fought over by conglomerates, who pour billion of dollars into the exploration of space. The sheer amount of junk orbiting the Earth has increased exponentially, with thousands of active satellites, private companies launching rockets every few weeks, and the fragments of dead machinery whizzing through the sky at unimaginable velocities. The question has become, who is responsible for stuff that goes wrong in space? This article explores the question of legal responsibility in outer space, focusing on the balance between the "vertical" component of the "launching State" and "orbiting" State, the implications of this balance when real space accidents happen, and the domestic law of States like the US and India.

[1] Agt. (2014, April 30). *United NationsOffice for Outer Space Affairs*. UNOOSA. https://www.unoosa.org/oosa/index.html

Introduction

[2]The determination of who was legally responsible in space has been under regular, close examination, and has had dire consequences for legal systems everywhere. At the time of the Outer Space Treaty's signing in 1967, only two countries had the technology to send anything beyond the earth's atmosphere, and both of them were governments. No one even thought it a possibility that a private company would in the future send hundreds of satellites into orbit to resell internet services.

As one might imagine, that the law has not kept pace with the rockets is painfully obvious. The concept, though, was conceived with great ingenuity: the universe is not the possession of the nation that might claim to own it, and no one can escape their impact on it. In Article II of the Outer Space Treaty, we note that "Outer Space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty.

In this article the following topics have been discussed: - Introduction of space law - Three incidents influencing the debates on liability - The obligation of the States under international law and - The domestic legal system resulting there from

[3]Historical Context of Space Law

4 October 1957-when the USSR launched Sputnik 1 The Cold War was at its height and the world was both in wonder and worry. A lone craft, no larger than a beach ball, had demonstrated that a State can now put something over the head of every other State, without its permission. The United Nations took prompt action as the Cold War threatened to descend into a new war: outer space.

Assembly, the Committee on the Peaceful Uses of Outer Space – during that same twenty-year period – submitted the five treaties.

- Outer Space Treaty, 1967

- The Rescue Agreement, 1968

[2] No. 13810 multilateral. (n.d.). https://treaties.un.org/doc/Publication/UNTS/Volume%20961/volume-961-I-13810-English.pdf

[3] *Agreement on the rescue of astronauts, the return of astronauts and the return of objects launched into outer space, April 22, 1968*. Avalon Project - Documents in Law, History and Diplomacy. (n.d.-a). https://avalon.law.yale.edu/20th_century/usmu014.asp

- The Liability Convention, 1972

- Registration Convention, 1975

- The Moon Agreement, 1979

The first four have gained the general consensus, whereas the Moon Agreement attempted to designate lunar resources as the "common heritage of mankind" with only very few States having ratified the agreement, and none of the mainspace nations ratifying it. That tells us something about space law. States were prepared to agree on responsibility if something goes wrong, but not to agree on who owns what in space.

The first treaties were concluded when rocket flights were conducted as a government enterprise. Consequently, the law makes States accountable, and that selection made more than fifty years ago still applies to private businesses.

Case Laws and Incidents

Unlike other branches of law, there are hardly any judgment in a space legal. States do not normally litigate space accidents against one another; as a rule they prefer to resolve these disputes by diplomatic means. The following events is the best we have as "case laws".

Iridium 33 and Cosmos 2251 Collision

On 10 February 2009, a live American communications satellite called Iridium 33 was destroyed in a collision with the Russian Cosmos 2251 which was an out-of-service military satellite. This occurred at around 790km above Siberia. It was the first significant collision between two operational satellites in orbit and resulted in the creation of thousands of pieces of debris that are still in orbit.

There was never a claim. The nature of the Liability Convention itself is partly to blame. For damage in outer space, as opposed to on the Earth's surface, liability hinges on fault. It is highly challenging to establish who was at fault for the crash of a functioning satellite and a dead satellite where nobody is obliged to give way. The incident revealed what the States had maintained for years behind the drapes: the rules of liability are plain when it comes to crashes on the surface, but rather uncertain when it comes to those on the orbit.

Disaster Columbia STS-107

On February 1, 2003, the US space shuttle- Columbia exploded when returning through the earth's atmosphere above Texas and Louisiana, killing seven members of its crew, including the Indian space traveller Kalpana Chawla. The Columbia Accident Investigation Board found the insulating foam that caused this tragedy through a detailed investigation. The tragedy is important for two reasons. First, since the debris fell within the territory of the launching State, the Liability Convention, 1972 does not apply as the damage caused to the US Nationals are not covered under the ambit of the Liability Convention, 1972 which is a Convention that excludes damage suffered by the nationals of the launching State (US). Secondly, the tragedy highlighted Article V of the Outer Space Treaty, in which the astronauts are referred to as the "envoys of mankind" and the States are to afford them every reasonable assistance in the performance of their duties as regards any space flight or exploration.

Responsibility of States for National Activities

Article VI requires that the State be internationally responsible for all national activities in outer space regardless of whether it is a governmental or non-governmental entity. It further provides that activities of non-governmental entities require authorization and continuing supervision by the State party concerned. This entails that when a private company launches a satellite, the liability for such act does not fall into the company's balance sheet but belongs to the State for registration of the company is under the national database and thus ultimate liability n lies with the state.

Liability for Damage

Article VII makes the launching State liable for any damage its space objects cause to another State including damage to natural and juridical persons.

- Absolute liability: According to Article II, the launching State shall be absolutely liable for any damage caused by its space objects on the surface of the earth, to any aircraft in flight. No proof is required to establish this liability.

- Article III states that: For damage caused by the launching State to another part of the universe, not on the Earth's surface, the launching State shall be liable only if the damage was due to its fault or that of persons for whom it is responsible.

"Launching State" means a State which launches or procures the launching of a space object, or a State from whose territory or from the facility on its territory an object is launched. Several States may thus be jointly and severally liable for a single launch, thus providing a claimant with a greater likelihood of receiving compensation.

Registration and Jurisdiction

According to the Registration Convention, in order to be a launching State, you need to register your space objects, and Article VIII of the Outer Space Treaty explicitly states that the State of registry maintains jurisdiction and control over the object and its personnel. Registration is much more than just a formality. It's the connection by which the world knows who to hold accountable when something goes awry.

Settling Claims

The claims under the Liability Convention are submitted by way of diplomatic channels and, if the dispute has not been settled within the period of one year, the parties may establish a Claims Commission whose award shall be final and binding if the parties have agreed upon it and not otherwise advisory. A slow and political process and this is why most States prefer quiet diplomacy to claims.

It is generally accepted that the Outer Space Treaty forms the basis of space law, and that the provisions of the Treaty can be considered to constitute rules of customary international law applicable to all States.

Domestic Legal Environment

As a consequence of the international treaties imposing obligations on States, it is necessary that each State has national legislation enabling and controlling private acts of this nature. It is in this case that international law is crucial in affecting national legislation.

The Indian Legal Framework

[4]India is a signatory to the Outer Space Treaty, the Rescue Agreement, the Liability Convention

[4] No. 13810 multilateral. (n.d.). https://treaties.un.org/doc/Publication/UNTS/Volume%20961/volume-961-I-13810-English.pdf

and the Registration Convention. But for long, India's space activities have been limited to government policy and through ISRO's work rather than law. India had prepared a Space Activities Bill in 2017 to formalise the country's treaty obligations including on licensing and liability, but this was never enacted.

The change came in recent years. In 2020, the Indian National Space Promotion and Authorisation Centre (IN-SPACe) was set up as an umbrella agency to licence and promote private participation, and Indian Space Policy 2023 delineates the responsibilities of ISRO, IN-SPACe and private actors. But Indian Space Policy 2023 is only policy and not legislation. Some questions about insurance, indemnity and the method by which India would get back from a private operator the amount it has to pay to a foreign State remain unanswered till a statute of law is passed by Parliament.

The United States Legal Framework

By comparison, the US has followed a more granular approach, requiring both a licence and insurance for private launch operators under its Commercial Space Launch Act and its subsequent enhancements, including the Commercial Space Launch Competitiveness Act 2015. The US Government indemnifies private industry for claims made above a set level, providing protection for the industry from being bankrupted by excessive claims, whilst still providing compensation to claimants. The 2015 Act also extended to American private citizens the right to own and sell resources they extract from asteroids, a principle which other States, including Luxembourg, have adopted into legislation.

Emerging Challenges

The framework developed decades ago in the 1960s and 1970s runs into problems the original authors could not have foreseen.

- Space debris: No binding regulation obliges States to dismantle their expired satellites. The higher the amount of debris, the higher the risk that the collisions will cascade, forming the infamous Kessler syndrome, to make the orbits unviable.

- Mega-constellations: Thousands of small satellites pose collision risk; the fault-based test of Article III more difficult to deploy.

- Anti-satellite tests: The destruction of satellites by missiles, as done by several States, results in debris which affects all other space users.

- Private actors: State responsibility while companies make the decisions, and might have little effective control.

- There are unresolved debates about who might be entitled to everything mined on the Moon or even on individual asteroids.

Conclusion

Once, outer space was the one territory where humanity could leave its squabbles behind. Now, outer space has become the one territory on which those squabbles are brought with them. The law of outer space has fulfilled the task of shifting responsibility to States; the principle of the launching State being responsible for the damage caused by its objects has emerged over the fifty years of its existence.

This article has outlined the place of that duty, how incidents like Cosmos 954 and the like have tested it, and how law in India and the United States attempts to make it practical. It has argued that the framework still leaves something to be desired: it is more clear about crashes in the Earth's atmosphere than it is about collisions in orbit; it has something to say about nothing in a vacuum; and it was not made with private space fields in mind. Space is not a land of lawless frontier; it is instead an area that must be managed so that it remains a frontier.