

Space Law Essay Submission:

Query: *What is the importance of the Study of Law in our country's quest to be a spacefaring and space capable nation?*

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Title: Philippine Space Law: A Public International Law and Public-Private Partnerships Perspective.

Introduction

At its core, Space Law is a natural derivative of Public International Law. "International space law and international law as a whole have common principles, which makes it possible to claim that the former is a part of the latter as a whole... ." ² It is an unavoidable premise that Space Law is also Public International Law. No regime of rules governing the use and enjoyment of space *stricto sensu* and *lato sensu* can exist exclusively within a domestic legal framework.³ Therefore, it is precisely the study of Public International Law, intermingled with principles in Treaty and Customary International Law may a Philippine Space Law endeavor to flourish in its quest to develop its own space program. Failing to appreciate the core principles of international law in relation to space may make the Philippines liable for an internationally wrongful act that could stifle its fledgling space program in the international scene. These core principles shall also serve as basis for any future domestic legislation aimed at regulating space activities of Filipinos.

Another facet of this paper is aimed at tackling discourse on the potential of Philippine Public Private Partnerships in advancing the aims of Philippine Space exploration and exploitation.

I. *Res Communis Omnium*

It is important for Philippine Space Law to first have a profound sense of the nature of space, as a subject or object of international law. Under the current regime of Space Law, brandished as an offshoot of Public International Law, space is not susceptible to occupation.⁴ Article II of the Outer Space Treaty lays down in deft and unambiguous terms this normative rule of Space Law:

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² GENNADY ZHUKOV & YURI KOLOSOV, INTERNATIONAL SPACE LAW 13 (2d ed, 2014).

³ See *id.* at 41-44.

⁴ *Id.*

*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.*⁵

This is otherwise known as the principle of **non-appropriation** in public international law.⁶ The same principle is predated by its customary roots. As far back as Yuri Gagarin's launch into orbit in the famous Sputnik 1, states have found it necessary to take the passive stance of allowing space-faring states to freely exploit and explore the 'new frontier', having universally recognized that such activities did not infringe on their own exercise of sovereign rights.⁷ Way before the drafting of the legal document that would become Article II of the Outer Space Treaty, states had already recognized, at least in its primitive form, the customary norm of 'limited sovereignty' in states' conduct with respect to outer space.⁸ It is obvious that what would eventually become Article II of the Outer Space Treaty is a mere recognition of the already established customary norm of non-appropriation with respect to space *strictu sensu*.⁹ In essence, there is factual impossibility to exercise territorial sovereignty over any portion of space (excluding its celestial bodies), at least as to how a customary legal regime had been accepted by the general conglomerate of space-faring nations.¹⁰

The Outer Space Treaty also made it clear that "the Moon and other celestial bodies are not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."¹¹ Under this regime of treaty law, celestial bodies are not considered to be *terra nullium*, capable of being subsequently occupied by a sovereign under general public international law.¹² In sum, both space *strictu sensu* and *lato sensu* are not subject to the conventional exercise of territorial sovereignty of any state. With the foregoing analysis complete, we can now refer to space as *res communis omnium*, "i.e. unsusceptible to forming a part of any state's territory."¹³

Regardless of the economic capacity of the Philippines to field its own space program, one of the most essential components of space travel and exploration is this internationally binding legal concept of non-appropriation. Any future Philippine space endeavor would not be treated nor classified as an exercise of its territorial sovereignty over

⁵ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies art. II, *opened for signature* Jan. 27, 1967, 610 U.N.T.S. 205

⁶ See ZHUKOV & KOLOSOV, *supra* note 1, at 43.

⁷ Ram S. Jakhu & Steven Freeland, The Relationship Between the Outer Space Treaty and Customary International Law, at 5 (2016) (Paper ID: 32294, 59th IISL Colloquium on the Law of Outer Space) (On file with the 67th international Astronomical Congress 2016).

⁸ See *id.*

⁹ ZHUKOV & KOLOSOV, *supra* note 1, at 41-43. Space *strictu sensu* pertains to pure space, that which is everything but the celestial bodies.

¹⁰ *Id.*

¹¹ *Id.* at 43.

¹² *Id.* at 40 41.

¹³ *Id.* at 44.

areas that vertically exceed its airspace, but rather a proverbial breaking of bread with other space-faring nations in the common enjoyment of space as *res communis omnium*.

II. *Space: The New Frontier of Resources and Private Public Partnerships*

Any undertaking involving space exploration or exploitation will inevitably involve government participation and intervention. In the Philippine context, however, allocating state revenue to space exploration infrastructure might be viewed by the public eye as yet another unnecessary and burdensome expense to be shouldered by the Filipino taxpayer. To put it bluntly, the commonfolk Filipino would rather have food on their mouths than rocket fuel for space craft. Nevertheless, the Senate itself had found that space exploration and exploitation has its potential to aid the nation in multiple facets of daily life. Former Senator Bam Aquino has this to say:

*Satellites can improve disaster management from providing accurate information that allow early warnings and predicting of disasters to reliable and quick communication during relief and recovery operations.*¹⁴

As a new government entity, the Philippine Space Agency is tasked with implementing the Philippine strategic roadmap for space development.¹⁵ It is, as its original bill proposed, to be funded is as follows:

Under the bill, initial funding for the space program in the amount of ₱1 billion will be taken from the current fiscal year's appropriation of the Office of the President. The amount for the subsequent operation and maintenance of the PhilSA will be included in the General Appropriations Act.

*Additional funding amounting to ₱10 billion will come from the gross income of the Philippine Amusement and Gaming Corporation (PAGCOR) and the Bases Conversion and Development Authority (BCDA) for five years after the effectivity of the act, with ₱2 billion to be released to PhilSA yearly.*¹⁶

Despite recent developments in space technology, the lowest projected cost to send a microsatellite into earth's lower orbit costs a hefty sum of \$150,000 per instance in a commercial small satellite rideshare (such that of SpaceX).¹⁷ The question of maintaining and replacing these micro satellites multiply the cost factor involving these activities. It is submitted that congressional budget allocations for Philippine Space exploration and exploitation will not be sufficient if it aims to expand its operations and diversify its scope of

¹⁴ Senate of the Philippines, Senate Okays Bill on Final Reading to Strengthen Space Program, *available at* https://legacy.senate.gov.ph/press_release/2019/0520_prib4.as (last accessed July 15, 2024). (This is a press release from congress following the introduction of Senate Bill No. 1983.)

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ Nano Avionics, How Much Do CubeSats and SmallSats Cost?, *available at* <https://nanoavionics.com/blog/how-much-do-cubesats-and-smallsats-cost> (last accessed July 15, 2024). (The Author has deemed it sufficient to source this amount for purposes of demonstrating the big pecuniary amount needed to fund space exploration and exploitation endeavors)

functions. It is further opined that politicians will not be so keen as to increase the budget of PhilSa for obvious political reasons. Put simply, the government will need to fund its space projects from somewhere other than its own internal revenue. Public Private Partnerships has the potential to serve as the modicum of success for Philippine Space exploration and exploitation.

i. Public Private Partnerships, In General

According to Van Ham & Koppenjan, public-private partnerships (PPP/PPPs) are “co-operation of some durability between public and private actors in which they jointly develop products and services and share risks, costs[,] and resources which are connected with these products or services.”¹⁸ In the same work, it is recognized that individual entities “often possess insufficient expertise to deliver the high-quality products and services demanded of them.”¹⁹ In essence, Public Private Partnerships are cost and risk sharing ventures between the public and the private sector in relation to an undertaking to provide goods or services to the public.²⁰ Republic Act No. 11966, otherwise known as the Public-Private Partnership Code of the Philippines provides in its declaration of policy:

*The State recognizes the indispensable role of the private sector, encourages private enterprise, and provides incentives to needed investments. To this end, the State shall provide an enabling environment for the private sector to mobilize its resources to finance, design, construct, operate, and maintain infrastructure or development projects and services.*²¹

Public and private cooperation in the provision of certain goods and services are inevitable subjects of lawmaking as it involves the intermingling of public interest and commercial venture. Though it has been traditionally accepted that space projects tend to be exclusively within the realm of the public sector,²² recent developments such as NASA’s Commercial Orbital Transportation Services program serves as an ideal manifestation of the potential of Space PPPs.²³

ii. NASA’s Commercial Orbital Transportation Services and the Potential of Philippine PPP

It is submitted that the Philippines could still tread the path of conventional procurement in its space-related endeavors, but this would mean that it would take away valuable resources from the State’s internal revenue capacity to fund other equally important public

¹⁸ Hans van Ham & Joop Koppenjan, *Building Public-Private Partnerships*, 4 PUB. MGMT. REV. 593, 598 (2001).

¹⁹ *Id.* at 594.

²⁰ Moon J. Kim, *Coherence to Choices: Informing Decisions on Public-Private Partnerships in the Space Sector*, at 24 (March 2023) (A dissertation available at https://www.rand.org/content/dam/rand/pubs/rgs_dissertations/RGSDA2700/RGSDA2739-1/RAND_RGSDA2739-1.pdf) (last accessed July 15, 2024)).

²¹ An Act Providing for the Public-Private Partnership (PPP) Code of the Philippines [PUBLIC-PRIVATE PARTNERSHIP CODE], Republic Act No. 11966, § 2 (2023).

²² Kim, *supra* note 18, at 24.

²³ *Id.*

undertakings such as public housing, food security, etc. Utilizing the medium of PPPs as a viable economic alternative to fund further development in space exploration and exploitation could unlock the self-sustainability of space infrastructure. Minimal government funding would be required, while private participation could drive innovation in Philippine Space undertakings forward. This could be the delicate dance that may very well enable the Philippines to fully realize its potential as a spacefaring and space-capable nation.

NASA's Commercial Orbital Transportation Services (COTS) is a landmark in Public Private Partnership between a state's primary space agency and competing private enterprises in space travel. In essence, the undertaking of NASA to provide transportation to the International Space Station was sourced from two competing companies, namely: SpaceX and Rocketplace Kistler.²⁴ To cut the story short, this specific arrangement between NASA and the two contracting companies allowed it to bypass Federal Acquisition Regulations that would have stringent requirements of acceptable contracts within the Code of Federal Regulations.²⁵ These three distinctions from traditional procurement are what makes COTS a successful, pioneer PPP undertaking in the space industry:

First, each of the companies selected was expected to pay part of its own development costs. This ensured that the companies were building something useful they could go on to commercialize — they would not have agreed to share costs to build something they knew was inefficient.

Second, the use of fixed-price, milestone-based payments limited the amount of oversight necessary to ensure success. It allowed NASA to turn over development entirely to the companies, knowing that it was only on the hook for payments when the programs successfully met pre-defined milestone criteria.

Third, NASA didn't dictate the vehicle's requirements. They evaluated the proposals based on the goal of providing reliable cargo service to the ISS, but they didn't specify the technical means that participants could use to achieve that goal.²⁶

In sum, NASA's COTS program attained success on the premise of utilizing a distinct procurement process outside the stringent requirements that would have been imposed had the arrangement been classified as 'traditional procurement'. This premise is premised on the legal basis wherein NASA had "limited other transactions authority".²⁷

Under the Public Partnership Code, the Philippine Space Agency is considered an implementing agency authorized to identify, develop, assess, evaluate, approve, negotiate, award and undertake PPP projects.²⁸ It is worth noting that Republic Act No. 9184 also

²⁴ Eli Dourado, A 2006 NASA Program Shows How Government Can Move at the Speed of Startups, *available at* <https://www.thecgo.org/benchmark/a-2006-nasa-program-shows-how-government-can-move-at-the-speed-of-startups> (last accessed July 15, 2024).

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ PUBLIC-PRIVATE PARTNERSHIP CODE, § 5.

governs ‘traditional’ procurement projects by the Philippine Space Agency.²⁹ It remains to be seen how these laws could interact with projects undertaken by the fledgling Space-arm of the Philippine government. It is submitted that PhilSA should be given the same authority to have a “limited other transactions authority” that would skirt and integrate with the provisions of both the Public-Private Partnership Code and the Government Procurement Reform Act. It is further submitted that once PhilSA is armed under the law to exercise such authority, it would have more leeway to conduct spacefaring missions that would in turn encourage and even incentivize private participation. As a viable alternative to traditional procurement, this arrangement would work to serve the best interests (from a socioeconomic/political point of view) of Filipinos in their quest to be space-capable by the end of the decade.

²⁹ An Act Providing for the Modernization, Standardization and Regulation of the Procurement Activities of the Government and for Other Purposes [Government Procurement Reform Act], Republic Act No. 9184, § 4 (2002).