

A Space Policy for Sri Lanka: A Need of the Hour

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Abstract— Space Law which is a new branch of International Law is a body of law applicable to governing space related activities in outer space. It involves a responsible approach to the exploration and use of outer space for the benefit and in the interests of all humankind. Space Law consists of two layers of Laws and Regulations. The first layer is INTERNATIONAL SPACE LAW which regulates rights and obligations of States and intergovernmental organizations in outer space. And the second layer NATIONAL SPACE LAW which is for the implementation of State's international obligations under treaties, and to regulate the activities in outer space which are not covered by international treaties. Thus National Laws complements the deficiency of International Legislation to some extent. Today that a trend could be observed among the states that not only the major space faring nations such as Russia and USA but also non-space faring nations such as Australia and Argentina also have taken steps to implement national policies on activities in outer space and corresponding legislation. Some factors that laid to this are private actors within the states engaging in space activities, power play and pressure, making use of satellites and issues regarding sovereignty. The objective of this paper is to examine the steps that Sri Lanka should take in order to design and implement an outer space policy based on the above discussed developments and approaches of the other states. This study is largely based on qualitative approach which is a contemporary study on legislations of the countries which engage and not engage in the space activities with UN conventions on outer space and relevant scholarly works. Thus the conclusion emphasis that nation should establish a space policy to address its needs with implementation guidelines.

Keywords— Space Law, Air Law, Outer Space

I. INTRODUCTION

The entire space over a country, divided in to two parts as air space and the outer space. Airspace and Outer space together may call as flight space where flight crafts are capable of flying. Airspace is where air is normally to be found and is therefore identical with atmospheric space. Each planet or star that possesses an atmosphere

thus has its own airspace, each air space being co extensive with the corresponding atmosphere. Outer space which includes interplanetary and installer space, means space between the innumerable planets and stars, beyond their respective atmosphere where these exist. There is no legally accepted rather, universally recognized demarcation or line of demarcation between air space and outer space. Generally speaking there is a general agreement among nations that air space is limited at the maximum height that an airplane can fly. So it's generally accepted as 1000km from earth surface. This is considered as Air Space. So beyond this is known as the outer space.

Opening up of air space courtesy goes to Wright brothers' who invented the engine powered flights and meanwhile due to World wars existed airspace have been used by balloon flights for certain military perspectives. Ever since the Soviet Union launched the first artificial satellite in 1957, space has constituted a new frontier to be discovered before the human eye.

II. AIR SPACE AND OUTER SPACE LAW

Air Space is considered as an extension of state's territorial sovereignty. The territory of the state and the fact that whoever governs the state has control over the land territory of the state is considered as the territorial sovereignty. The territory of a State, consist with the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State. Sovereignty of a State was understood to extend for unlimited distance into the airspace above its territory. However this view has been modified by the law of outer space.

Air Law is the set of national and international rules concerning aircraft, air navigation, aero-commercial transport and all relations public or private arising from domestic and international air navigation. This present law of air space, which is centred on the regime concerning air navigation, has developed from the Chicago Conference of 1944 and the conventions adopted there (such as, the 1944 Chicago Convention on International Civil Aviation, the 1944 Chicago International Air Services Transit Agreement, and the 1944 Chicago International Air Transport Agreement).

The Chicago Conventions reaffirms the basic principles of customary international air law. The Chicago Conventions applies only to civil aircraft, not to State aircraft which are used in military, customs and police services. It provides that every State has complete and exclusive sovereignty over the airspace above its territory. Thus, the rule that the sovereignty of a State extends over its airspace to an unlimited height has been one of the fundamental principles of the law of airspace. However, this rule has been substantially modified as the result of the creation and development of the new law of outer space.

Space law is a new branch of international law initially elaborated under the auspices of the United Nations since 1960s. It is the law meant to regulate relations between states determine their rights and duties resulting from all activities directed towards outer space and within it and to do so in the interest of mankind as a whole, to offer protection to life , terrestrial and non-terrestrial wherever it may exist. Since it's a branch of Public International Law it consists of common sources. In sources of International law, the term "source" refers to methods or procedure by which international law is created. There are five sources of international law. According to section 38(1) of the statute of the "International Court of Justice" (ICJ), the most uniformly accepted source of international law is the convention or treaty. A treaty is an agreement between two or more countries. Treaties come in numerous forms, from bilateral understandings between two friendly states, to those that end world wars or create international arrangements like the United Nations Organization. They cover the entire scope of human activities from politics, economics and the arts to the sciences, agriculture, youth exchanges and family relations

A second uniformly-accepted source of international law is customary international law. There are three conditions under which the general behaviour of states becomes a rule of customary international law: a) if the behaviour is widespread, b) practices are followed over a not insignificant period of time, and c) it's viewed by it's practitioners as mandated by law.

The third broadly accepted source of international law is the so-called general principles of law which is, in the phrasing of the Statute of the International Court of Justice, "recognized by civilized nations".

The decisions of judicial and Arbitral Tribunal and finally juristic works are the other sources mention in ICJ. This adopts customary International Law like, Non-national appropriation, the common heritage of

mankind, no claim of sovereignty, free access to space and resources etc. so customary International Law is being effect by space law.

III. DEVELOPMENT OF SPACE LAW

Development of space law during the 20th century evolved in two interrelated phases: the development of space law before Sputnik: from 1910 to 1957 which is known as pre sputnik development and development of space law after 1957 which is post-sputnik development. During the first half of the 20th century there were only a handful of papers and one significant monograph proposing concepts of space law. The first paper in 1910 was by a Belgian lawyer, Emile Laude. The second paper appeared in the USSR in 1926. V. A. Zarzar, a senior official of the Soviet Aviation Ministry, presented a paper at an air law conference held in Moscow. Laude (1910) and Zarzar (1926) recognized the basic altitude and operational differences between air and space flights and declared the need for separate legal regimes to regulate use of air space and outer space. So likewise till the end of 1956 many written papers, dissertations and other forms of writings appeared regarding space law and air law.

When talking about the post sputnik development the decade of the 1960s involved the initiation and substantial successes of the United Nations' Committee on the Peaceful Uses of Outer Space (COPUOS) in drafting applicable space law. The secretariat support for UN space related activities was provided through a staff, which came to be known in 1992 as the Office of Outer Space Affairs (OOSA) in the UN Secretariat. During the 1960s the two main space fairing nations were USSR and the US. Both were dominant in spaceflight activities and meanwhile they had a cold war in order to achieve the best. For subjects on whom these two powers could agree, it was possible for the United Nations to formulate and obtain general assent to international agreements relating to spaceflight activities. COPUOS was a unique organ of UN in which there was no voting. Decisions were taken by consensus. The first, most significant of the relevant UN-produced instruments, a Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of OuterSpace, was adopted unanimously by UNGA in 1963. COPUOS then proceeded to elaborate five treaties implementing the declaration. Following are those five treaties ;

- Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

- Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space
- Convention on International Liability for Damage Caused by Space Objects
- Convention on Registration of Objects Launched into Outer Space
- Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

The COPUOS continues meeting annually. Its function is monitoring progress of States and international organizations in the use and exploration of outer space, and reporting to the General Assembly. As time passed, more countries became interested in space activities, and the size of COPUOS increased. As the size increased, obtaining consensus on the content of formal treaties became substantially more difficult. After 1980 the COPUOS oversaw the drafting, formulation and adoption of four additional General Assembly resolutions containing declarations of principles: Those are

- Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting, adopted on 10 December 1982 (UNGA Resolution 37/92)
- Principles Relating to Remote Sensing of the Earth from Outer Space, adopted on 3 December 1986 (UNGA Resolution 41/65);
- Principles Relevant to the Use of Nuclear Power Sources in Outer Space, adopted on 14 December 1992 (UNGA Resolution 47/68)
- Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking Particular Account of the Needs of Developing Countries, adopted on 13 December 1996 (UNGA Resolution 51/122).

In parallel with UN development of space law, starting in the 1950s, and significant international organizations appeared to facilitate international cooperation and the exploitation of space technology. Selected organizations generated by space related activities include IAF 1952 , ESRO & ELDO 1962 ,INTELSAT (Interim) 1964 ,INTELSAT (Permanent) 1971 ,INTERSPUTNIK 1971 ,ESA 1975 , EUMETSAT 1986 ,UN/OOSA (Secretariat) 1992 etc.

IV. DOMESTIC SPACE LEGISLATION

The current space law consists of the five international treaties at the core. It is also complemented by relevant UN GA resolutions, regional or bilateral treaties and customary international law, as well as legislations and practices of States and intergovernmental organizations

as subsidiary means for the determination of rules of space law. Generally speaking, space law consists of two layers of laws and regulations. The first layer is international law that regulates rights and obligations of States and intergovernmental organizations in outer space. The second layer of space law is the national law. As technology developed and national programs matured, national governments established laws and national organizations devoted to the management and or regulation of national activities in space. Among the countries establishing national entities mainly the spacefaring nations hold a significant position. The term Spacefaring carries out many definitions. Simply it is the action or activity of travelling in space. In other words it is a nation with the ability to access space capabilities using their indigenous space systems. To be spacefaring that nation should be capable of and active in the art of space travel or space transport, the operation of spacecraft or space planes. This involves a knowledge of a variety of topics and development of specialized skills such as aeronautics; astronautics; programs to train astronauts; space weather and forecasting; ship-handling and small craft handling; operation of various equipment; spacecraft design and construction; atmospheric take-off and re-entry; orbital mechanics (aka astrodynamics); communications; engines and rockets; execution of evolutions etc. The degree of knowledge needed within these areas is dependent upon the nature of the work and the type of vessel employee. As per the literal meaning of the term spacefaring this can be divided in to two parts. They are major spacefaring nations and emerging spacefaring nations.

The Soviet Union started sending space missions, which inspired other countries to explore the space as well. And in line with that, here are the top ten countries with the most space presence what we known as major space faring nations ; Russia (inherited from USSR) ,United States, France ,Japan ,China ,United Kingdom ,India ,Israel and Iran

V. SPECIAL FEATURES RECOGNIZED

There are several reasons behind them but the main thing is that there is a space race among these superpowers as it is a useful weapon for them stands superior to others. When moving in to major spacefaring nations;

Russia - They have adopted a respective number of norms to regulate outer space activities and to secure compliance with its obligations arising from the international space law instruments. The most important norm is the Law of the Russian Federation on Space Activities; this was adopted on August 20, 1993 and

enacted on November 29, 1996. The Principal norm in the Russian Federation is the Law on Space Activity. It lays down the main legal scenario for the development of space activities; it establishes the organization of space activities in Russia.

China- As a developing country, fundamental task is to develop its economy and continuously push forward its modernization drive. The reason for the space activities of China is the space industry as an integral part of the state's comprehensive development strategy, and they believed that the exploitation and utilization of outer space for peaceful purposes. China participated in space corporation in mid-1970.

Japan- Talking about Japan, Japan Aerospace Exploration Agency, which is the major institution governing the space activities has established on 1st October 2003. The purposes of this are; to facilitate development of academic research at university or other institution, Enhancement of the level of space related science and technology, Enactment of the level of aeronautics science and technology and Promotion of space development and utilization

India- There is a respective weight on space activities from India also as a space faring nation in developing world. India is the powerful emerging state among the other South Asian countries; they push their space activities just like a competitive in nature joining the other superpowers. Indian Space Research Organization is the primary body for space research was established on August 15, 1969. ISRO travelled along with a vast space mission. ISRO has established two major space systems. Indian National Satellite system series of communication, television, broadcast and material services. Then Indian remote sensing satellite system for resources monitoring and management.

Therefore these countries for the management and regulation of national activities in space establishing national entities were quite normal. But today a trend could be observed among the states that not only the major space faring nations but also non-space faring nations also have taken steps to implement national policies on activities in outer space and corresponding legislation. Australia, Argentina can be taken as examples. Basically they designed and implemented National Space Industry Policy in order to focus on space applications of national significance such as earth Observation, Satellite Communications, Position Navigation, timing etc. to assure access to space capability, to strengthen and increase international cooperation (to prioritize partnerships with the US, UK,

Canada, New Zealand, Japan and the EU. Countries who do not have a space launch carriers just like USA, France etc. therefore, their domestic regulatory framework has been conceived to encourage foreign companies to establish space launch facilities in their countries) , to contribute to a stable space environment in order to Support SSA initiatives, EU's proposal for an international Code of Conduct and regulatory frameworks, to improve domestic coordination, to support innovation, science and skills development and as well as for the national security and economic well-being

VI. DOMESTIC SPACE LEGISLATION FOR SRI LANKA

So even if countries who have not even thought of engage in space race or countries which are not major space fairing nations either, if have domestic space legislations then having a such legislation is Sri Lanka will be useful for the time being and will be a good investment for the future as well in order to formulate and implement policies pertaining to the popularization and advancement of science and technology, including scientific research and development and transfer of technologies, to ensure improved quality and productivity so as to upgrade economic activities, which are essential for the economic and social development of Sri Lank and ultimately to become a scientifically and technologically advanced country of the region . At this moment Sri Lanka , like many others countries, has not enacted any space legislation. Therefore, the absence of domestic space legislation as a major lacuna in the Si Lankan Legal System when compared to other developed and developing countries and suggest the drafting of a comprehensive and futuristic domestic enactment on outer space activities.

VII. RELEVANT PRINCIPLES OF INTERNATIONAL SPACE LAW TO CONSIDER IN NATIONAL LEGISLATION

As the law standards today following seven international space law principles should be considered in national space legislation. This is internationally accepted.

- No national appropriation of outer space; Only peaceful use of outer space permitted,
- All space activities must be conducted in accordance with International law, including UN Charter;
- Nations must avoid harmful contamination of Earth's environment;
- Nations must promote international cooperation in space activities;
- Conduct space activities with due regard for the space activities of others
- Duty to render assistance to astronauts

- Duty to notify of any anomalies during conduct of activities in outer space;

VIII. REASONS WHY SRI LANKA NEED ONE

Sri Lanka is a dualist country which means that its domestic law does not automatically incorporate public international law. Thus unless it is cooperated by treaty law it is not particularly part of law. Notwithstanding Sri Lanka becoming a party to an international legal instrument such as a Convention, it was always necessary for the national legislature which is this Parliament to enact enabling or implementing legislation to give legal and domestic effect to our obligations and rights under international law. Thus by now Sri Lanka is a party to three of the international space treaties; Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, The Convention on International Liability for Damage Caused by Space Objects and The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space which form the main body of international space law. Yet it is not a party to The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies and the Convention on Registration of Launched Objects into Outer Space.

Sri Lanka has also played a significant role to adopt 5 sets of legal principles by the U.N General Assembly Resolutions, which provide for the application of international law and promotion of international cooperation and understanding in space activities. It is also under an obligation to give effects to the various rules contained in these norms through the medium of appropriate legislation in the domestic field. All the areas which directly or indirectly related with space activities under the Sri Lankan Constitution fall within the domain of the Chapter VI – Directive Principles of the State Policy and Fundamental duties. It is for the Parliament of Sri Lanka to take the starting step in the direction of enacting a law for Sri Lanka for the purpose of the effective regulation of various aspects of Sri Lanka's space policy. Because of recent national and global developments, active involvement of the private sector and commercialisation of space activities and the agreements made nationally and globally with various agencies, governments, international and intergovernmental organisations, there is a huge need of space law in Sri Lanka.

The second most important reason for a space law in Sri Lanka is that now the Sri Lankan space activities have become vastly diversified and have come to stay, having successfully demonstrated their implicational capabilities,

there is a need to redefine and formalize the existing set up of institutional mechanism, and to facilitate inter-departmental coordination, making it a legal norm.

Thirdly, there is a need to clarify applicable legal norms and rules relating to both public laws and private law aspects of space activities, as demonstrated by the experience of developed countries like USA. The public laws deals with competence of authorities in the space field, legal status of space objects, control of space activities, control over space industries, dispute settlement and jurisdiction of courts and security aspects of space activities and installation. On the other hand, Private Laws include fair trade practices, company law, insurance and indemnity, securities, contracts and specific performances, torts, personal property, patents, copyrights and other intellectual property rights etc.

Fourthly commercialisation of the space activities is in the process of establishing a vast space activities and vast space market where India plans to and has already begun to sell, its space products. Thus the question of private participation in space activities both in Sri Lanka and in international ventures, transfer of technology and products marketing may need to clarify. So, it is the need of the hour that Sri Lanka should enact domestic space legislation keeping in view of the dramatic changes that are taking place in the domestic as well as international spheres. Therefore, there is need for Sri Lanka to enact a National Space Legislation as soon as possible.

IX. KEY AREAS TO ADDRESS

There are two principal considerations of space law that any country would have to think before implementing their space policy. One is the protection of common interests and the other one is respect for the interests of individual States. So the first principal consideration of space law, namely the protection of common interest, the primary objective of space law consists of the following five aspects of interests: Ownership by all and equitable sharing of benefit, The maintenance of peace and common security, The promotion of international cooperation, The promotion of the rule of law in outer space and Sustainable development.

The second principal underlying consideration of space law is the respect for the interests of individual States. This is the secondary objective of space law. Space law recognizes the right of free exploration and use of outer space in accordance with international law. However this freedom is not absolute and it is subject to some limitations too. Apart from these major facts Sri Lanka needs to critically and objectively address all legal and commercial issues related to domestic and international

space activities before enactment of space laws. The associated regulatory risks in grant of authorizations, licenses, permits and approvals for communication satellite operations are required to be minimized by properly defining the guidelines and procedures. A well-defined space law shall enable better capitalization and optimization of existing infrastructure and resources by:

- (i) Promoting orderly and organized growth of space business by providing recognition and legitimacy to on-going space programs;
- (ii) Providing opportunity to potential space operators, domestic and international;
- (iii) Promoting development of indigenous technology matching international standards;
- (iv) Providing mechanism for enforcement and prevention of misuse of space activities; and
- (v) Providing stringent punishment for violators of space law.

Sri Lanka also needs to critically and objectively study the provisions contained in the space laws of other countries like USSR, China and also US Space Laws, Commercial Space Act, 1998; Land Remote Sensing Policy Act, of 1992, Inventions in outer space etc. to frame and adopt its own space laws.

X. ESSENTIAL ELEMENTS OF NATIONAL SPACE LEGISLATION

The future Sri Lankan domestic space law must include following provisions for peaceful use of outer space for the benefit of all mankind worldwide and aimed at welfare and security of Sri Lanka. This can be drafted under following themes.

Scope of Application - Scope should consist of launching of objects and their return from outer space, site operation and as well as operation and Control of space objects in Orbit. Further application of space science and technology (earth observation, space communication, etc.) and as well as jurisdiction over national activities in the territory or elsewhere should be included in the scope.

Authorization and licensing – Basically this should be competent with national authority and include categories of Licenses and procedures. Setting out conditions for granting, modifying, revocation and licensing norms for space entrepreneurs associated with various commercial activities and applications are also important under this.

Continuing supervision – under this, procedure for in-situ inspection and enforcement mechanisms should have implemented. Further aeronautical and space activities

would have been controlled by a civilian agency except those associated for development of weapons systems, military operations, or the defence of Sri Lanka

Safety – This should address condition to verify that activities are carried out in a safe manner, ways and means to minimize risks to persons, environment and property, provide international co-operation in promoting public safety and space business and defence machinery

Liability and Insurance – under this legislation should address liability provisions, should include insurance and should cover damage claims of indemnification matters.

Registration- Under this theme provisions should address National registry of Space Objects and that Information should be submitted to UN Secretary-General. Also Operators should provide information on changes.

Environmental considerations. Under this the legislation should protect property rights in inventions and stipulate provisions on environment safety like Space debris mitigation/ Apart from above areas in general provisions should further consist ways to promote commercial use of space , development and operation of vehicles capable of carrying instruments, equipment, supplies, and living organisms through space and as well as promotion and management of autonomous educational institutions of international standards for nurturing space professionals

XI. CONCLUSION

The proposed legislation should provide for Creation of National Space Agency, Licensing and Certification of space activities, Economic conditions of space activities, a provision on space infrastructure, space safety and space liability, space insurance, international cooperation and protection of intellectual property rights in outer space. This draft should be a

Convergence of divergent regulations in order to bring comprehensive and harmonious space legislation that would be beneficial for our Nation.

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