

Establishing Space Policy

by

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ABSTRACT

In 1957, the Union of Soviet Socialist Republic (USSR) launched SPUTNIK-1. In 1958, United States of America (USA) set up NASA. The United Nation General Assembly (UN) established the Committee on the Peaceful Uses of Outer Space (COPUOS) in 1959. Since then space-related services have played a large role in our daily activities. When integrated into a Nation's development plans, space technology can impact its socio-economic development. A country's space goals are often reflected in the statement of its national strategy that can be used as guidelines for its agencies and for the deployment of resources.

From the above discussion, it can be seen that a Nation should establish a space policy to address its needs. A national space policy can shape a country's scientific interests and activities in the space arena, its national security; its civil and commercial applications. A good policy should also include implementation guidelines for each space sector.

Introduction:

Ever since USSR launched SPUTNIK-1 in 1957, space exploration and the exploitation of space resources have become dominant factors in our daily life. The Vienna Declaration on Space and Human Development ⁽¹⁾ illustrates how space technologies can affect the socio-economic development of any Nation when integrated into its development plans.

This paper focuses on issues and considerations regarding any Nation which has aims to explore outer space and enhance understanding of the earth and the cosmos to utilize outer space for peaceful purposes to meet the demands of economic construction, scientific and technological development, and national security and to raise the awareness of its citizens. In view of this, a Nation should decide to establish a space policy to achieve its national interests and rights, and build up its comprehensive national strength.

Definitions:

Delimitation of Airspace: there is no definition, and have been unable to reach a consensus on the uniform boundary delimitation of the term outer space. This is causing legal uncertainty in outer space and airspace law.

Airspace: each country has complete and exclusive sovereignty over the airspace above its national territory. "Chicago Convention / 1944" governs it with its annexed two agreements and eighteen annexes. ⁽²⁾

Outer Space: suppose to be laid beyond the current upper limit of a Nation's sovereign territory. According to the agreement of the Member States at UNCOPUOS 44 session 2001, the geo-stationary orbit is part of the outer space.

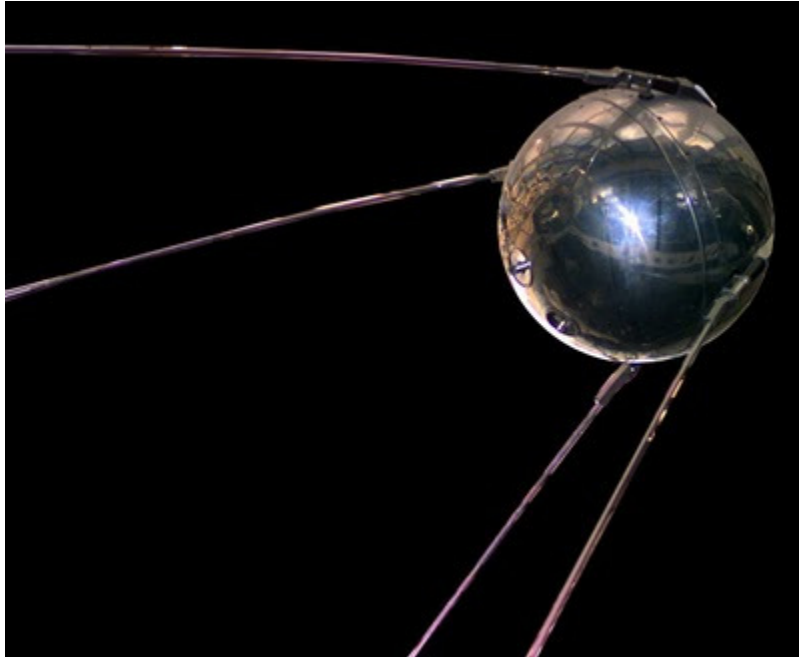
Treaty: is a legal and political agreement entered into by act of sovereign nations under the international law. It can be regarded as a legally binding agreement once enters into force.

Declaration and principles: are similar to agreements but do not have the same legal sanctity as a treaty.

Space from Imagination to Realty

In 1865, Jules Verne wrote the most famous fiction story "*De la Terre a la Lune*" (From the Earth to the Moon) ⁽³⁾. In 1903, Russian scientist Konstantin Tsiolkovsky published a paper in which he anticipated human expansion in outer space by using liquid fuel rockets. During the 1930s, Germany, USSR and USA made significant progress in space technologies. The great breakthrough happened in 1957, when

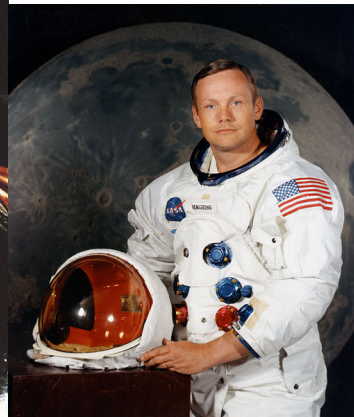
Sputnik-1 (Fig. 1) became the first satellite to orbit the Earth in outer space. This was soon followed by Yuri Gagarin (1961) (Fig. 2) completing the first human space flight and Neil Armstrong (1969) (Fig. 3) becoming the first human to set foot on the Moon. Following these space missions, there were a lot of human and robotic exploration missions which led to the advancement in space sciences and technologies.



(Fig. 1) SPUTNIK-1 which went into orbit in 1957



(Fig. 2) Yuri Gagarin (1961)



(Fig. 3) Neil Armstrong (1969)

Note: Figs. 1, 2 and 3 have been taken from the INTERNET

The advancements in space technologies and sciences have been used in applications to monitor, communicate and broadcast from space.

The whole world saw that space applications and activities were causes of deep concern for the safety of space. The United Nations General Assembly recognized these concerns and the need for a permanent body to deal with the legal problems involved in space activities, and to keep outer space only for peaceful uses.

Therefore, the Committee on the Peaceful Uses of the Outer Space (UNCOPUOS) was established in 1959.⁽⁴⁾ In 1963, the UN General Assembly adopted the Declaration of Legal Principles Governing the Activities of States in the Exploration and use of Outer Space.⁽⁵⁾

In the following years, the UN General Assembly developed and adopted the five general multi-lateral treaties, which incorporated and developed concepts included in the Declaration of Legal Principles. At the same time, France, UK, Japan, China, India and Brazil became major players beside Russia and USA in outer space exploration and exploitation, space activities and Intergovernmental organizations (INTELSAT, INMARSAT and INTERSPUTNIK) have been commercialized and privatized.

1. Treaty on Principles Governing the Activities of States in the Exploration and use of Outer Space, including the Moon and Other Celestial Bodies. (General Assembly resolution 2222 (XXI), annex), 1966.
2. Agreement on the Rescue of Astronauts, the Return of Astronauts and Return of Objects Launched into Outer Space. (Resolution 2345 (XXII)), 1967.
3. Convention on International Liability for Damage Caused by Space Objects. (Resolution 2777 (XXVI), annex), 1971.
4. Convention on Registration of Objects Launched in Outer Space. (Resolution 3235 (XXIX), annex), 1975.
5. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Resolution 34/68, annex), 1979. (6)

These five treaties ensured that there are no claims of sovereignty and no discrimination in the use of outer space and that all activities should be devoted to enhancing the benefit of all countries and are in the interest of all humankind. Also, they provide for the safety and rescue of spacecraft and astronauts, liability for damage caused by space objects, the freedom of exploration and the prevention of harmful interference with the environment.

According to the Outer Space Treaty, space activities should be carried out in accordance with the Charter of UN and the general principles of international law. The UN General Assembly adopted five sets of declarations and legal principles (1963-1992). Especially after the launch of communications, direct television

broadcast, meteorology and earth observation satellites and the use of nuclear power sources necessary for the exploration in deep outer space.

- 1 The Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space (resolution 1962 9XVIII), 1963.
- 2 The Principles governing the use by States of Artificial Satellites for International Direct Television Broadcasting (resolution 37/92) 1982.
- 3 The Principles Relating to Remote Sensing of the Earth from Outer Space (resolution 41/65) 1986.
- 4 The Principles Relevant to the Use of Nuclear Power Sources in Outer Space (resolution 47/68) 1992.
- 5 The Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries (resolution 51/122) 1996.

Treaties, conventions, and agreements will have great legal power after they come into force, but declarations and principles do not have the same legal power as treaties but are not without legal value.⁽⁷⁾

Today, space sciences and technologies are playing a major role in our daily life and each country is reliant on space-based systems for a variety of services and applications such as communication (fixed, mobile and Internet), direct TV broadcasting, meteorology, navigation, earth observation applications, disaster management and environmental protection and security. Thus, if there is any disruption in the availability and functioning of space based systems, it could have significant consequences on safety, security and economic activities.⁽⁸⁾ In view of the above we can say: space-based systems deliver services and information and protect the environment and lives, enhance security and activate industrial, scientific and economic development.

Therefore any nation can benefit from the use of space application and can have a role in space activities. Nowadays, every country can play a leading and significant role in space and space based technologies to maximize the benefits for the nation and its citizens for sustainable development. Therefore the nation that wants to have a role in the outer space arena nationally and internationally, to improve its space activities and strengthen its socio-economic status, should establish its own national space policy.

Space Policy

Every country is critically dependant on space sciences, technologies and satellite systems, to provide communications, natural resources management, meteorology and environmental monitoring and navigation. Besides, it has broad interest in

multiple areas and has the potential to contribute significantly to the challenges of the 21st century.

Therefore, space policy can be enunciated to employ space technologies to meet and achieve national needs and help the nation remain at the forefront of global scientific excellence and in the evolving space scene.

Establishing space policy requires taking into consideration the answers to these questions: why, how, and what are its principles and activities?

Why?

According to Professor Joanne Irene Gabrynowicz, a nation needs a space policy for three basic reasons. That is, to identify

- national space goals,
- What entities are responsible for achieving these goals? and
- What resources may be needed to achieve the goals?

A national space policy should contain the national and philosophical values held by the nation. It can also document how a nation interprets ambiguous provisions of international law. ⁽⁹⁾

In my view, the role and importance of space policy is to:

- Provide guidance to the public and private sectors as to which has what specific roles in the space arena
- Promote improved coordination and cooperative governance
- Inform the nation about its participation in space activities
- Support capacity building, scientific research, innovation and industrial development and the creation of knowledge
- Create new jobs as new ways of businesses are explored
- Support bilateral, multilateral, and international cooperation
- Contribute to economic growth and reduction of poverty
- Promote relevant industrial development

How?

Establishing a national space policy requires strategic decisions. The policy should emphasize the willingness of the nation to benefit from the treaties and principles of peaceful uses of outer space and relevant laws, and protect its national security in the international arena. Therefore, forming the policy should be based on the following:

- Nation will establish space policy based on its internal policy making process
- The government will decide on who is going to lead the development.
- The authorized department should coordinate with other relevant departments.

From my previous studies, I found the participation of all relevant departments will result in a good policy. If some of them opt out of the policy development, then they will have no interest in implementing the policy. Finally, policy makers and planners need to understand the broader space related international law, treaties and UN and other international organizations to which the nation is a party.

What are the policy principles?

What are the benefits that a nation gains from establishing its space policy? A nation will gain economic growth and social development if its space policy activities will be guided by some dedicated principles and comprehensive objectives.

Policy Principles

- Formulating the space policy in order to meet the Nation's obligations pursuant to UN treaties and principles
- Utilizing outer space for peaceful uses and the best for humankind
- Being a responsible user of space environment according to relevant international treaties
- Developing competitive national industry space applications
- Having good cooperation with others in mutually beneficial and peaceful uses of outer space
- Benefiting the society by strengthening innovation in space and encourage the creation of services for everyday use
- Being partner in global scientific mission will enrich national skills and research
- Participating in the preparation of new or updated international treaties
- Collaborating with ministries and relevant departments

Policy Objectives

- Making greater awareness and appreciation at all levels of the society of the benefits of space science and technology
- Fostering a strong science and technology base in research institutes and the higher education sector to create a strong future workforce
- Strengthening innovation from space
- Building a major channel for skill development and reach out to high technology future
- Creating a favorable business environment for aerospace industry
- Managing and tackling national natural resources and global environment

- Cooperating with other nations in space activity for the benefit of mankind
- Developing competitive economy (industry and application)
- Need of a supporting a national budget that reflects stable funding for multi-year space programs
- Establishing strong coordination mechanism between civilian and military authorities

Conclusion:

Developing a national space policy will give a nation a powerful role and strong activity in the international space arena. Non-government organizations (NGOs) have an important role in providing information, guidance and assistance in developing countries. Also, NGOs can provide access to resources, expertise and assistance to supplement state resources.

Finally, nowadays UN treaties and principles should be studied and reviewed in more detail to be updated to meet the present and future challenges and the needs of developing countries. As, at the 52nd meeting of COPUOS in June 2009, the chairman of the committee proposed that the UN should create a UN space policy.

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