OUTER SPACE ISSUES WITH IPR SHIELD[1]

Vivek Wilson- Assistant professor,IIL

Sneha Sharma-Assistant professor, IIL

Space exploration has begun in October 1957 when Russia has launched its unmanned satellite Sputnik-I into outer space. United States has followed this space venture by the unmanned satellite Explorer I in 1958. Later on Russia has sent the first manned satellite Vostak I into the earth's orbit in April 1961, which has been followed by United States with a manned satellite within a month.

International law plays a vital role in the Space law. The term "Outer space" means that 100 kilometres upward beyond the surface of earth. The specific point of periphery between air space and outer space has not been defined by any of the international agreement. But through the customary practices, but we can say that beneath of 100 kilometres from the earth, the spacecraft does not plunge and above this face the aircraft does not fly. The space activities were mainly done for the public activities or governmental activities but they were not for the commercial purpose. In modern era, the study and the use of the outer space have not been limited to the public and governmental actions but it have been extended to the private and commercial enterprises. The legal rationalization may be seen in Article VI of 1967 Outer Space Treaty which provides that States shall be responsible for international and national activities in outer space which is been carried out by Governmental or by non-governmental agencies. The outer space activities include remote sensing from the space, direct broadcasting from the space, launch and space vehicle services for the space, manufacturing in space activities and microgravity research programmes. But the question is that whether the sufficient protection has been given to the private sector for the commercializing the space activities i.e for their investment and profit. For the development of any technology on the earth for the purpose of space then its inventiveness is vital to achievement. Invention can be resulted into intangible property or intellectual property, which can be the part of patents, copyrights, trademarks, and trade secrets. On the earth there is a protection to the IPR but in the outer space the protection of IPR is not known. The international law on outer space is mainly based on the interpretation and the implementation

[1] Assistant Professor Vivek Wilson(B.A.LL.B,LL.M), Assistant Professor Sneha Sharma(B.A.LL.B, LL.M)

of the United Nations' space treaties. Treaties are primarily focused to the governmental activities in space but it does not specifically deal with intellectual property protection, which is very essential for the private sector to get commercially involved in the outer space activities.

SOVEREIGNTY IN FUNCTIONAL OUTER SPACE

The United Nation has passed the resolution i.e. 1721

(a) Charter applies to outer space and celestial bodies.

(b) Outer space and celestial bodies are free for exploration and it can be used by all the States in compliance with international law, which are not subject to the national requisition.

Article II of the Outer space Treaty states that the Moon and other celestial bodies, is not subject to national requisition by claiming the sovereignty, by occupation, or by any other means". So there cannot be state sovereignty in outer space. It is regarded to the "Res Communis", which is the part of the public domain or public property. So, outer space cannot be owned or controlled by anyone it is for all for any purpose.

International Law on Outer Space related with Intellectual Property Protection

The definition of space is hazy and not clearly defined in any of the international conventions. A commonly accepted definition has not been adopted yet. The entire international law on outer space based on the following treaties, principles and conventions

Treaties

1. Treaty on the Principles of Governing the Activities of the States in Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 1967.
2. Agreement on the Rescue of Astronauts, the Return of Astronauts and Objects Launched into Outer Space, 1968.
3. Convention on the International Liability for the Damage Caused by the Space Objects, 1972.
4. Convention on the Registration of Objects Launched into the Outer Space, 1976.
5. Agreement Governing on the Activities of States on the Moon and Other Celestial Bodies, 1984.

Principles

1. Declaration of the Legal Principles Governing the Activities of States in the Exploration and Use of the Outer Space, 1963.
2. The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting, 1982.
3. The Principles Relating to Remote Sensing of the Earth from Outer Space, 1986.
4. The Principles Relevant to the Use of Nuclear Power Sources in Outer Space, 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, 1996.

The treaties and principles are significant because of; "IPR protection in space" which has been discussed below. The most primitive treaty on the space law is the Multilateral Treaty on *Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and Other Celestial Bodies*, Jan. 27, 1967 (Outer Space Treaty: OST)[2]. The acknowledged article of the OST is mainly to "contribute the broad international support in the systematic as well as the lawful aspects of the study and the use of outer space for serene purposes and the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit of all the countries and interest, which is irrespective of their degree of economic or scientific development[3]. The treaty talks about the freedom of exploration in the outer space and into other celestial bodies, for non-requisition of outer space, the exploration is done in accordance with the principles of international law and UN principles, maintenance of sovereign rights over the space craft's launched and legal responsibility for space activities.

IMPORTANCE OF IPR IN SPACE SYSTEM

In spite of the fact that the space technology has always been one of the most advanced technical area, but the outer space activities is one of the intellectual creations, it is the only in recent years that the intellectual property protection has been in connection with the outer

[2] So far 98 countries have been ratified this treaty and 27 have signed.
[3] Article 1 of Outer Space Treaty, 1967 and Article 4 of Moon Treaty.

space activities due to which it has raised an wider attention. One of the most important reasons is that, the space activities are progressively more and now they are shifting from state owned activities to the private and commercial activities. These activities are inclusive of remote sensing from the space, the direct broadcasting and research and manufacturing in micro-gravity environments. It is not only for the commercialization increase but also the private agency are equally growing and these non-governmental entities are more aware of their property either it is tangible and intangible. Government agencies are collaborating with the private agencies for space activities due to financial and technical resources help.

In space activities the globalization plays important role for the growth of intellectual property rights protection in the outer space. In the case of an International Space Station (ISS), the space activities are operated under the international cooperation schemes. The intellectual property laws are also well harmonized but due to different national laws still they apply for different principles.

By the development of the space technology, there is a growth to the new business potential which has been rising and due to which there has been development in the space transportation technology which has been clearing the way to space tourism. If we are concern with the intellectual property rights protection for space activities, so the prime object is related to patent protection for the inventions which has been created or have been used in outer space, or copyright protection for space activities. If the space tourism has becomes true in its sense, then the protection of trademarks and industrial design in outer space can also become an important matter.

NEED FOR HARMONISATION BETWEEN INTELLECTUAL PROPERTY LAWS AND SPACE LAW

It is known that the rule of intellectual property is governed by the protective or public laws of the respective countries and there are certain levels of harmonisation among these national laws which are achieved by the patronage of WIPO and WTO/TRIPS regimes. Under this situation, there is an extension to the space law, it is a province of all mankind is having a potential for copious opportunities, which deserve a re-examination in the view of its ability

which undermine a global space hard work. It is very much necessary to establish and develop a uniform and harmonised Intellectual property protection regime for the space to the interest of the developing countries. Outer space adds many innovative legal dimensions to the intellectual property rights such as application to the earthly based national laws in the outer space for the acquisition and the enforcement of rights, ownership of rights and the entitlements for the use in the joint activities, settlement of disputes and compliance to international obligations.

Certain developments are taking place at the national, regional and multinational levels, to extend the applicability of global based intellectual property laws in the outer space. Only patent laws are extending its territorial jurisdiction to space. Relevant provisions for the applicability of domestic IPR law to Space Activities exist only in US law today, found within the US Space Bill and the NASA act. The US Space Bill extends the applicability of US patent law into Outer Space. The NASA act includes a provision to consider a "space object" as a vehicle.

OUTER SPACE ACTIVITIES IN INDIA AND LAW ON INTELLECTUAL PROPERTY PROTECTION

India is an emerging country in space power. India's space programme has been started in the 1950s as a part of the department of atomic energy under the vision of Homi Bhabha and Vikram Sarabhai[4]. The prescribed programme had a humble start in 1962 with the creation of Indian National Committee of Space Research under the chairmanship of Vikram Sarabhai[5]. India has started its space operations by the induction of its first rocket on November 21, 1963. In 1965, India had recognized its Space Science & Technology Centre (SSTC) in Thumba. Indian Space Research Organisation (ISRO) has been formed under Department of Atomic Energy in 1969. The Government of India has established the Department of Space in 1972. The ISRO was brought under the Department of the space programmes were executed by ISRO and it has become a government organization in 1975[6]. In 1975 India launched its first satellite remote sensing satellite Bhaskara-1 and 2, which has been followed by other satellites like APPLE and Rohini. India has sent its first astronaut Rakesh Sharma to the

[4] Upendra Chodhury, "Twenty-five Years of Indian Space Programme: An Evaluation," *Economic and Political Weekly*, vol.33, No.5, 1998, pp. 212-213.
[5] He is considered as the father of Indian space programme.
[6] http://www.isro.org, visited on 23.04.2017.

space with the collaboration of USSR in 1984 in space station Salyut -7. Indian Remote Sensing Satellite System has been commissioned in 1988[7]. The Antrix Corporation Ltd., established in 1992, was an commercial entity of the Department which was dealing with marketing of various commercial space products. For the last four years India has launched more than 50 satellites for scientific and technological applications.

In the space sector, India (ISRO) and Canada (CSA) signed an interagency Memorandum of Understanding (MOU) in 2003, which provides for space cooperation with the rapid development and equally fast rate of commercialization of space science and technology, space-related products and services are becoming elements of significant commercial value[8]. On February 1, 2008, both American National Aeronautics and Space Administration (NASA) and ISRO signed a framework agreement in order to continue and expand their space related cooperation[9]. India signed Framework Agreements with Argentina, Australia, Brazil, Brunei Darussalam, Bulgaria, Canada, Chile, China, Egypt, European Centre for Medium Range Weather Forecasts (ECMWF), European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), European Space Agency (ESA), France, Germany, Hungary, Indonesia, Israel, Italy, Japan, Kazakhstan, Mauritius, Mongolia, Myanmar, Norway, Peru, Russia, Spain, Sweden, Syria, Thailand, The Netherlands, Ukraine, United Kingdom, United States of America and Venezuela[10]. In April 2008, Antrix launched a remote sensing satellite, CARTOSTAT-2A along with eight nano-satellites of various countries into the orbit[11]. The company is marketing Indian remote sensing data. In October 22, 2008 India entered into another era of space research by launching a spacecraft into the moon under the name Chandrayaan-1[12]. The prime objective of moon mission was to finding traces of water on the lunar surface besides mapping minerals and chemicals on the Moon. The experiments conducted by the mission revealed the presence of hydroxyl and water molecules in moon.49 Now India is planning to launch its first manned mission in 2015. The development of its own technologies and collaborative efforts made India a space power and

[7] http://www.spacetoday.org/India/IndiaSpaceHistory.html, visited on 23.04.2017.

[8] "IPR Issues in Space Activities—A Comparative Study of India, USA and Canada,"

[9] "NASA and India Sign Agreement for Future Cooperation" NASA Release: 08-033. 6 May 2008. http://www.nasa.gov/home/hqnews/2008/feb/HQ_08033_Indiaagreement html.

[10] http://www.isro.org/scripts/internationalcooperations.aspx, visited on 23.04.2017.

[11] http://www.antrix.gov.in/main/news2008.html, visited on 12.02.2010. various satellites like Kitsat (Korea), Tubsat (DLR - Germany), BIRD (DLR - Germany), PROBA (Verhaert, Belgium), Lapan Tubsat (Indonesia), Pehuensat-1 (Argentina) aboard the ISRO's Polar Satellite Launch Vehicle (PSLV) in addition to the dedicated launch of Agile (Italy) were carried out.

[12] http://www.isro.org/satellites/spacemissions.aspx, 23.04.2017.

used those technologies in a variety of applications like telecommunication, remote sensing, meteorological observation, radio and television broadcasting, satellite aided rescue and operations, navigation and mobile satellite communications. The National Remote Sensing Agency is vested with the authority of acquiring and dissemination of remote sensing data for value. The *Remote Sensing Data Policy (RSDP) of 2001* provides that all data of resolutions up to 5.8 m shall be distributed on a non discriminatory basis and on "as requested basis."[13] The policy doesn't talk about the intellectual property aspects of remote sensing data. Government of India come out with "Satcom Policy" in the 2001 which paved the way for commercialization of Indian satellite communication. India allowed TV broadcasting and up linking through Indian satellites.

CONCLUSION

Outer Space, is the "universal legacy of the Mankind", which promises plenty of opportunities for many joint venture programmes who are involved in multi state partners and private entrepreneurs for the various original applications towards the cause of humankind.

The intellectual rights have been acquired by certain special dimensions in the outer space. So the conflicts between the Intellectual Property Laws and the Space Law regime can be resolved through a synchronized system which can be developed by the international IPR and Space Law community under the hold of UN Bodies like UN COPUOS and WIPO. The harmonised system of IPR management for the outer space should fully comply with the basic principles of the international space law and such other international obligations.

[13] http://isro.gov.in/news/scripts/Sep24_2009.aspx, visited on 23.04.2017.