CHAPTER 5
AIR AND SPACE LAW: NATIONAL SCENARIO

The need and purpose for nations to establish national space legislation for implementation of international law, is known to every stakeholder. The requirement related to harmonization of international treaty obligations is indeed inherent in the international treaties. Harmonization thus represents the essential physical link, as it has been between a nation’s universally declared policy in the international arena and its national application.

In addition, based on international law each state or nation must fulfill all international obligations in good faith, irrespective of whether or not it harmonizes those obligations with its national law. Harmonizing (implementing) international conventions with national law provides the states with an important rationale to legislate domestic laws in accordance to its national circumstances and needs, while retaining at all times, the right to modify, amend, repeal and enact new laws whenever necessary. This is the most important factor.

Regarding air and space law, harmonizing the treaty obligations with national law shows the continuing resolve of countries to support the very need for collective measures to manage international affairs in such a way as to ensure that air and outer space does not become yet another battleground for nations. The apprehension of losing control over development and direction of space policy and activities is perhaps the single most important reason. And this is also the reason why space initiatives and programmes are continued to be controlled by government agencies in most countries that have taken

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neither initiative to harmonize international space law conventions nor to legislate specific national space laws. This is particularly true in case of developing countries in the Asia-Pacific region, a few of which are well recognized for their spectacular achievements and potential of space development. To name the few countries that can be seen as exceptions to the above norm, can be Australia, Japan and South Korea. None of the other countries in the Asia-Pacific region has implemented international conventions through national space laws. This is true of space fare powers in countries such as Indonesia, Pakistan, Singapore and Thailand that have space applications programs without launch capability.\(^2\) It is equally true of China\(^3\) and India which are super space powers with indigenous commercial launch capability.

Space law also comprises of national laws and legislations, which are passed by many countries as important national space legislation in the recent years. The Outer Space Treaty requires the essentials on the part of parties to authorize and supervise national space activities, including the activities of non-governmental entities such as commercial and non-profit organizations. The OST also incorporates the UN Charter by reference, and requires parties to ensure that activities are conducted in accordance with other forms of international law such as customary international law, etc.\(^4\)

The advent of commercial space activities beyond the scope of the satellite communications industry and the development of many commercial spaceports, is leading various countries to consider how to

\(^2\) It is however interesting to note that Malaysia is not party to any space law convention. This fact does not seem to preclude it as yet in any significant way from procuring commercial launch services to use space enabled technology applications for telecommunications, television & broadcasting and achieving accelerated economic development.

\(^3\) China’s Space Activities, (The State Council Information Office, P.R.C., Beijing, November, 2000).

\(^4\) Ibid.
regulate private space activities. The challenge is to regulate these activities in a manner that does not hinder investment while at the same time ensures that these commercial activities are in accordance with international law. The developing nations are concerned that the space faring nations will monopolize space resources and thus will affect neutrality of space and space assets. However, these doubts may be cleared and resolved by simply extending the scope of the UN Convention on the Law of the Sea to outer space.⁵

5.1 Air and Space Law: Indian Perspective

The need for national space legislation is seminal, especially because India is increasingly looking to privatize and commercialize space assets, expand its capability in space exploration and scientific use of this discovery, commercialize its capability to build satellites and offer launch services from its facilities. In view of this emerging trend, the national space law ought to have been legislated for the purpose of creating clear and transparent, accountable regulatory guidelines for domestic industries in order to accelerate investment and to ensure the growth and development in this capital intensive-high return and highly regulated strategic sector.⁶

In India, research in space science is dated back to the late 1940s. This beginning was stimulated by two individual scientists: Homi Bhabha and Vikram Sarabhai. They shared many qualities and achievements: both acquired these through researchers who studied cosmic rays at an early age. Moreover, both were visionaries with immense foresight. They were founding members of an institute for basic research. Bhabha founded Tata Institute for Fundamental Research in Bombay in 1954 while the Physical Research Laboratory in Ahmedabad was the result of Sarabhai’s efforts in 1947. The

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⁵ Ibid.
researchers were truly supported by the Indian government as well as private enterprises. They both were good managers with the right appreciation of the existing milieu in the country and both were successful institute builders. Ironically, both researchers died at the peak of their productive careers.\(^7\)

Should India, being a participant in the four most important international space treaties, also develop a national space law, as other states increasingly are doing? This discussion was the topic of the famous web-based LinkedIn networking site. The fact that India is currently one of the leading space faring nations in the world is beyond discussion. In itself, however, that does not necessarily require the government to go through the trouble of drafting and implementing a national space law.\(^8\)

5.1.1 Constitutional Provisions of India and Air and Space Law

The starting point for a discussion on the philosophy, which guides India in the conduct of international relations and in the meticulous discharge of international obligations, is articulated in the Constitution of India.

Article 51 in the Constitution\(^9\) directs the executive to promote international peace as India’s objective in the international sphere and


This Article embodies the object of India in the international sphere. But it does not lay down that international treaties or agreements entered into by India shall have the force of municipal law without appropriate legislation.

In order to be binding on municipal Courts, legislation [see under Schedule VII, List I(14),post] would be required if a treaty – provides for payment to a foreign power, which must be withdrawn from the Consolidated Fund of India; or affects the justiciable rights of a citizen;
provides the basis for the domestic implementation of international treaty obligations.

In addition to Article 51, two other articles in the Indian constitution have a direct bearing on the law making process in India relevant to the topic under discussion:

(i) Article 253 confers power to the Parliament to make laws for implementing India’s international obligations arising from treaties, conventions or decisions made at international conferences, associations or bodies. Thus it provides competence to the legislature for enacting national air and space laws to fulfill the directives inherent in Article 51 in national interest and 10

requires the taking of private property [Article 31(1), taking of life or liberty [Article 21], such as extradition or imposition of a tax [Article 265], which under the Constitution can be done only by legislation; or modifies the laws of the State

Even an amendment of the Constitution would be required where the implementation of a treaty would involve cession of Indian territory to a foreign power but nothing is required here it merely involves the settlement of a boundary dispute not involving ‘cession’.

Outside the foregoing specified matters, legislation or constitutional amendment would not be required, and a treaty may be implemented by exercise of executive power under Article 53.

In the absence of contrary legislation, municipal Courts in India would respect rules of International law, but if there is any express legislation contrary to a rule of International law, Indian Courts are bound to give effect to the Indian law.

Thus, Rules of International law as to immunity of a foreign state from being sued in India has been modified by the provisions of the Code of Civil Procedure, e.g. Section 86.

But in interpreting a statute, the Court would so construe it, if possible, as will not violate any established principle of International law”.

Ibid, Part XI: Relations Between the Union and the States:

“Article 253: Legislation for giving effect to international agreements. Notwithstanding anything in the foregoing provisions of this Chapter, parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or countries or any decision made at any international conference, association or other body”.

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(ii) Article 53\textsuperscript{11} empowers the president of India to exercise the executive power of the union of India in accordance with the constitution. The article also empowers him/her to delegate authority to the vice-president of India or to governors of states to exercise executive power on his/her behalf.

The government of India thus is competent to give effect to international treaty obligations through the exercise of executive power by the president of India directly or indirectly under Article 53 without invoking power of the legislature under Article 253 in order to fulfil the mandate of Article 51. At present, this is the principle on which state practice is founded in respect to international obligations arising out of the four international treaties on outer space\textsuperscript{12} ratified by India.

Till date, no occasion has arisen when the responsibility and liability clauses have been internationally invoked against India.\textsuperscript{13} This being said, it is not possible to predict if there will be occasion in the future when the Liability Convention will be invoked to claim compensation for damage caused to another member state or third party by an Indian space object on the surface of the earth, to aircraft in flight or in outer space. As already stated, the absence of specific domestic law to facilitate discharge of liability in liquidated damages is not a defence in law and cannot absolve international liability under the Liability Convention.

\textsuperscript{11} Ibid, Part V: The Union: Chapter I: The Executive: The President and Vice President: “Article 53: The executive Power of the Union The Executive power of the Union shall be vested in the President and shall be exercised by him directly or through officers subordinated to him in accordance with this Constitution”.

\textsuperscript{12} India has ratified the Outer Space Treaty, 1967, the Rescue Agreement, 1968, the Liability Convention and the Registration Convention, 1974. India has affixed signature to the Moon Agreement 1979.

\textsuperscript{13} Although in the late 1960s there was the incident when components of the US Skylab Satellite fell within Indian Territory.
In view of the above matter, it becomes essential to understand rules established by the four exceptions that restrict the general application of Article 51 of the Constitution. These rules have a direct bearing on the present state practice in respect to international space law conventions and show the way for development of Indian national space laws for the future. The exceptions must be understood in light of the fact that Article 51 does not lay down that international treaties entered into by India have force of municipal law without appropriate legislation. This position was conclusively decided by the Supreme Court of India in Varghese v. Bank of Cochin,\(^\text{14}\) and Civil Rights Committee v. Union of India.\(^\text{15}\) Moreover, although municipal courts in India respect rules of international law in the absence of contrary legislation, Indian courts are bound to give effect to the Indian law if there is an express legislation contrary to a rule of international law, although by doing so, they are directed to interpret law in such a way, as they will not violate any established principle of international law.

The below listed exceptions to Article 51 explain specific conditions attendant to international treaty obligations which can be discharged by the Government of India only through specific national law binding on Indian municipal courts. Thus, specific national law is necessary when an international treaty:

1. Provides for payment to a foreign power, which must be withdrawn from the Consolidated Fund of India;\(^\text{16}\)

2. Affects the justifiable rights of a citizen;\(^\text{17}\)

3. Requires the taking of private property,\(^\text{18}\) taking of life or liberty,\(^\text{19}\) such as extradition or imposition of a tax.\(^\text{20}\)

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\(^\text{14}\) AIR 1980 SC 470.
\(^\text{15}\) AIR 1983 Kant 85 (para 18).
\(^\text{16}\) Issue decided by the Allahabad High Court in Moti Lal v. U.P., 1951 All 257 (FB).
\(^\text{17}\) Issue was decided by the Supreme Court of India in Maganbhai v. Union of India, AIR 1969 SC 783 at 789, 807 and in Beubari Union, in re., AIR 1960 SC 845.
\(^\text{18}\) Article 31(1).
which under the Constitution can be done only by legislation;\(^{21}\) or

(4) Modifies the laws of the India\(^{22}\)

India has already established a precedent for implementing international conventions that carry financial implications. The Warsaw Convention, 1929\(^{23}\) that determines liability for damage caused in the course of international civil aviation provides a good example. In consequence to ratification of the Warsaw Convention\(^{24}\) as amended by the Hague Protocol 1955,\(^{25}\) Parliament enacted the Carriage by Air Act 1972\(^{26}\) empowering public sector airlines flying international routes\(^{27}\) to discharge liability to give effect to the treaty obligation.

5.1.2 Various Indian Statutes relating to Air Law

India since its independence has a long and established precedent for implementing international conventions through specific national laws. As a member of the International Civil Aviation

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\(^{19}\) Article 21.
\(^{20}\) Article 265.
\(^{21}\) Issue in reference to extradition was decided by the Supreme Court of India in Ali Akbar v. U.A.R, AIR 1966 SC 230 (para 30).
\(^{22}\) Issue has been decided by the Supreme Court of India in State of W.B. v Jugal, AIR 1969 SC 1171(para 6).
\(^{23}\) As amended by the Hague Protocol, 1955.
\(^{24}\) Convention for the Unification of certain Rules Relating to International Carriage by Air signed at Warsaw on 12 October 1929, Source: English Translation: Schedule to the United kingdom Carriage by Air Act, 1932; 22 & 23 Geo.5,ch.36, refer to the Preamble (hereinafter referred to as the Warsaw Convention) [Warsaw].
\(^{25}\) Protocol to Amend the Convention for the Unification of certain Rules Relating to International Carriage by Air at Warsaw on 12 October 1929 done at the Hague, 28 October 1955. Source: ICAO Doc.7632 ( hereinafter referred to as Hague 1955) [Hague]
\(^{26}\) Carriage by Air Act, 1972 (69 of 1972) [replaced the Act of 1934].
\(^{27}\) Air India and Indian Airlines are government held airlines. Recently domestic airlines have also been granted permission to fly international routes and will consequently be bound by international liability clause in the Carriage by Air Act 1972. Available at: www.airindia.com, www.indianairlines.com.
Organization, the government of India has implemented several international civil aviation conventions through domestic laws.

Regarding air navigation recently India has introduced The Civil Aviation Authority of India Bill, 2013 which provides for constitution of a Civil Aviation Authority for administration and regulation of civil aviation safety, for the better management of civil aviation safety oversight over air transport service operators, air service navigation operators and operators of other civil aviation facilities, matters relating to impact of financial stress on safety operations, consumer protection and environment regulations in civil aviation sector and for proper implementation of the provisions of the Aircraft Act, 1934 and the rules made thereunder and for matters connected therewith or incidental thereto.


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28 Refer to 'Preamble' of Convention on international civil aviation, signed at Chicago on 7th December 1944, ICAO Doc.7300/6(1980) [Chicago, 1944].

The International Civil Aviation Organization, Montreal, Canada is a specialized agency of the United Nations mandated by the Chicago Convention 1944 to ensure the future development of international civil aviation in a safe and orderly manner to help create and preserve friendship and understanding among nations and peoples of the world, to promote cooperation among nations, to obviate its abuse which could be a threat to global security and ensure that international air transport services may be established on the basis of equality of opportunity.

29 India has not yet ratified the Montreal Convention, 1999.


31 Article 20 of Tokyo Convention Act, 1975.


33 Ibid, Article 66.
and the Montreal Protocol for the Suppression of Unlawful Acts 1988 of violence at airports serving International civil aviation. Now let’s briefly analyze these Acts:

1. **The Tokyo Convention Act, 1975**

The salient features of this Act are mentioned below:

(i) This Act extends to the whole of India\(^{34}\). It defines some important terms like aircraft,\(^{35}\) commander,\(^{36}\) Indian registered aircraft,\(^{37}\) military aircraft,\(^{38}\) operator\(^{39}\) and pilot in command.\(^{40}\)

(ii) It provides that any act or omission taking place on board an Indian registered aircraft while in flight elsewhere than in or over India which, if taking place in India, would constitute an offence under any law in force in India shall constitute that offence.\(^{41}\) However, no proceedings for an offence under any law in force in India, committed on board an aircraft while in flight elsewhere than in or over India (other than an offence under the Aircraft Act, 1934) shall be instituted except by or with the consent of the Central Government.\(^{42}\)

(iii) For the purposes of application of the Extradition Act, 1962, the crimes committed on board an aircraft in flight, any aircraft registered in a Convention country shall, at

\(^{34}\) Available at: www.bcasindia.nic.in/law/acts/tokyo1975.pdf, (visited on July 4, 2015).

\(^{35}\) Ibid Section 2(1)(a).

\(^{36}\) Ibid Section 2(1)(c).

\(^{37}\) Ibid. Section 2(1)(e).

\(^{38}\) Ibid. Section 2(1)(f).

\(^{39}\) Ibid Section 2(1)(g).

\(^{40}\) Ibid. Section 2 (1)(h).

\(^{41}\) Ibid. Section 3(1).

\(^{42}\) Ibid. Section 3(2).
any time while that aircraft is in flight, be deemed to be within the jurisdiction of that country. Whether or not it is for the time being also within the jurisdiction of any other country.\footnote{Ibid. Section 4.}

(iv) It provides that if the commander of an aircraft in flight (wherever the aircraft may be) has reasonable grounds to believe in respect of any person on board the aircraft that he has done or is about to do any act on the aircraft while it is in flight which jeopardizes or may jeopardize the safety, good order and discipline of the aircraft or of persons or property on board, or that the person in question has done on the aircraft while in flight any act which in the opinion of the commander is an offence under any law in force in the country in which the aircraft is registered, not being a law of a political nature or based on racial or religious discrimination, then the commander may take such reasonable measures with respect to that person as may be required to protect the safety of the aircraft or of persons or property on board.\footnote{Ibid. Section 5(1).}

(v) Regarding jurisdiction the Act states that any proceedings before a court in India, any court having jurisdiction in respect of piracy committed on the high seas shall have jurisdiction in respect of offences and other acts committed on board an aircraft as described in this Act wherever that offence or act is committed.\footnote{Ibid. Section 6.}

(vi) It provides that the Central Government may, by notification in the Official Gazette, certify as to who are the contracting parties to the Tokyo Convention and to

\footnote{Ibid. Section 4.} \footnote{Ibid. Section 5(1).} \footnote{Ibid. Section 6.}
what extend they have availed themselves of the provisions of the Convention, and any such notification by the Central Government shall be conclusive evidence of the matters certified therein.46

2. The Anti-Hijacking Act, 1982

The salient features of this Act are mentioned below:

(i) This Act extends to the whole of India and applies also to any offence thereunder committed outside India by any person.47

(ii) Under the act any person on board an aircraft in flight, unlawfully, by force or threat of force or by any other form of intimidation, seizes or exercises control of that aircraft, commits the offence of hijacking of such aircraft.48 Whoever attempts or abets the commission of hijacking, shall be deemed to have committed the offence of hijacking.49

(iii) Significantly, stringent punishment is provided under the Act for the offence of hijacking i.e., imprisonment for life and fine.50 It further provides that whoever, being a person committing the offence of hijacking of an aircraft, commits, in connection with such offence, any act of violence against any passenger or member of the crew of such aircraft, shall be punished with the same punishment with which he would have been punishable under any law for the time being in force in India if such act had been

46 Ibid. Section 10.
48 Ibid. Section 3(1).
49 Ibid. Section 3(2).
50 Ibid. Section 4.
committed in India. However, no prosecution for an offence under this Act shall be instituted except with the previous sanction of the Central Government.

(iv) Further, the offences under this Act are made extraditable offences and provided for in all the extradition treaties made by India with Convention countries and which extend to, and are binding on, India on the date of commencement of this Act. It further provides that for the purpose of the application of the Extradition Act, 1962 the offences under this Act, any aircraft registered in a Convention country shall, at any time while that aircraft is in flight, be deemed to be within the jurisdiction of that country, whether or not it is for the time being also within the jurisdiction of any other country.

3. The Suppression of Unlawful Acts Against Safety of Civil Aviation Act, 1982

The salient features of this Act are mentioned below:

(i) This Act extends to the whole of India and it applies also to any offence under Section 3 committed outside India by any person.

(ii) Under the act any person who unlawfully and intentionally:
(a) commits an act of violence against a person on board an aircraft in flight which is likely to endanger the safety of such aircraft; or

(b) destroys an aircraft in service or causes damage to such aircraft in such a manner as to render it incapable of flight or which is likely to endanger its safety in flight; or

(c) places or causes to be placed on an aircraft in service, by any means whatsoever, a device or substance which is likely to destroy that aircraft, or to cause damage to it which renders it incapable of flight, or to cause damage to it which is likely to endanger its safety in flight; or

(d) communicates such information which he knows to be false so as to endanger the safety of an aircraft in flight, commits an offence. And he is to be punished with imprisonment for life and shall also be liable to fine.56

(iii) The act clearly states that whoever at any airport unlawfully and intentionally, using any device, substance or weapon, commits an act of violence which is likely to cause grievous hurt or death of any person; or destroys or seriously damages any aircraft or facility at an airport or disrupts any service at the airport, endangering or threatening to endanger safety at that airport, shall be punished with imprisonment for life and shall also be liable to fine.57

56 Ibid. Section 3(1).
57 Ibid. Section 3A.
(iv) Any person who unlawfully and intentionally destroys or damages air navigation facilities or interferes with their operation in such a manner as is likely to endanger the safety of the aircraft in flight shall be punished with imprisonment for life and shall also be liable to fine.\(^{58}\)

(v) It is important to mention that an attempt or abetment of any offence mentioned under this Act shall also be treated at par with the completed offence and shall be punishable as such.\(^{59}\) It further provides that no prosecution for an offence under this Act shall be instituted except with the previous sanction of the Central Government.\(^{60}\)

(vi) Where an offence under Section 3 is committed outside India, the person committing such offence may be dealt with in respect thereof as if such offence had been committed at any place within India at which he may be found.\(^{61}\) However, no court shall take cognizance of an offence punishable under Section 3 which is committee outside India unless such offence is committed on board an aircraft registered in India.\(^{62}\)

(vii) Lastly, for the purpose of providing speedy trial, the State Government shall, with the concurrence of the Chief Justice of the High Court, by notification in the Official Gazette, specify a Court of Session to be a Designated Court for such area or areas as may be specified in the notification.\(^{63}\)

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\(^{58}\) Ibid. Section 4(1).
\(^{59}\) Ibid. Section 3(2), 3A(2) and 4(2).
\(^{60}\) Ibid. Section 9.
\(^{61}\) Ibid. Section 5(1).
\(^{62}\) Ibid. Section 5(2).
\(^{63}\) Ibid. Section 5B.
5.1.3 Anti Hijacking Policy of India

Apart from various Acts relating to hijacking, India has formulated Anti Hijacking policy. In August 2005, India revealed its New Anti-Hijacking Policy which came into force after the Cabinet Committee on Security (CCS) approved it. The main features of the policy are:

(i) Any attempt to hijack is considered an act of aggression against the country and will prompt a response fit for an aggressor.

(ii) Hijackers, if captured, will be sentenced to death.

(iii) Hijackers will be engaged in negotiations only to bring the incident to an end, to comfort passengers and to prevent loss of lives.

(iv) The plane will be shot down if it is deemed to become a missile heading for strategic targets.

(v) The plane will be escorted by armed fighter aircraft and will be forced to land.

(vi) A grounded plane will not be allowed to take off under any circumstance.

5.1.4 Various Indian Policies Relating to Space Law

The international conventions on outer space ratified by India and obligations arising out of the Liability Convention 1972 falls the rule of exception 1 while obligations attendant to the Rescue Agreement 1968 falls within the boundaries of Indian constitution.\(^{65}\)


\(^{65}\) Exceptions 2, 3 and 4 of Article 51 of Indian Constitution Law.
There is no need for reiteration that principles of international law are crucial to the management of national activities in outer space. It was on the Outer Space Treaty, 1967 that it was decided there must be a mirror image of International law that is reflected in national space laws of ratifying nations.  

1. As noted above, India has implemented neither relevant international space treaties nor legislated specific national space laws. We have described the limitations of present state practice to give effect to treaty obligations through exercise of executive power by the President of India in respect to the international space law conventions that hold the government responsible and liable. In terms of the OST, the government of India bears the onus of responsibility, authorization, continuing supervision and liability of all space activities conducted by its own agencies and by domestic private entities.

2. It is also well known that India has a definite space programme to encourage systematic and strong development of space capability and the application of space science and technology for identified national objectives has evolved over the last four decades. However, no document issued by the Space Commission, the Apex Government body responsible for policy formulation, is available in public domain, which articulates a space policy for India. In fact, it is curious that the only reference point to understanding India’s vision and objectives for the exploration and use of outer space is found in the Citizen’s Charter of the Department of Space (DOS) issued by Indian Space Research

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66 Ibid.
Organisation (ISRO). ISRO is an agency admittedly mandated to carry out research in conformity with the policy laid down by the Space Commission and implemented by DOS. In fact, all communication related to the space sector is issued by ISRO and not the Department of Space.

3. A possible explanation for the absence of a space policy and corresponding domestic laws could be that because activities in outer space were completely out of private domain and conducted exclusively by government until 2000, it was not felt necessary to articulate a space policy or develop national space laws. In fact, a plain reading of

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67 ISRO: Citizen’s Charter of Department of Space:
The Citizen’s Charter issued by ISRO states that the indigenously developed Indian Space Programme is directed towards the goal of self-reliant use of space technology for national development. The main thrusts of the programme are (a) Satellite communications for various applications; (b) Satellite remote sensing for resources survey and management, environmental monitoring and meteorological services; and (c) Development and operationalization of indigenous satellite and launch vehicles for providing these space services.

Thus in the Citizens Charter the Department of Space has announced a programme to promote development and application of space science and technology to assist in all-round development of the nation in the following ways: (i) INSAT programme for telecommunications, broadcasting, meteorology, developmental education, etc.; (ii) Remote Sensing programme for application of satellite imagery for various developmental purposes; (iii) Development of spacecraft and associated technologies for communications, resources survey and space sciences; (iv) Research and Development in Space Sciences and Technologies for sub-serving the end of applying them for national development; (v) Launch Vehicle programme having indigenous capability for launching spacecraft.

Thus the DOS has pledged commitment to (i) Provide national space infrastructure for the telecommunication needs of the country; (ii) Provide satellite services required for weather forecasting, monitoring, etc.; (iii) Provide satellite imagery required for the developmental and security needs of the country; (iv) Provide satellite imagery and specific products and services required for the application of space science and technology for developmental purposes to the Central Government, State Governments, Quasi Governmental Organisations, NGOs and the private sectors; (v) Proof of concept demonstration of Space Applications; (vi) Promote Research and Development in space sciences and technology.

While implementing commitments DOS will (i) Provide required transponders and facilities out of its own capacity as well as by hiring additional capacity, if need be; (ii) Register Indian Satellite System for public and private sectors; (iii) Provide launch services to meet national requirements and commercial needs from abroad; (iv) Provide its products and services in a prompt and efficient manner to all the users/clients. www.isro.org

the Citizens Charter shows clearly that the document emphasizes on the commitment of the government to make benefits of space technology for various sectors but does not have any suggestion to facilitate commercialization and to privatize participation in that effort.\textsuperscript{69}

4. The only articulation on private enterprise in outer space is in the new telecom policy of 1999 at paragraph 3.9 entitled Satellite Communication (SATCOM) Policy. This policy is limited statement announcing permission to users to avail transponder capacity from domestic and foreign satellites for certain services in the Ku band frequency in consultation with the Department of Space for application in the telecommunications and the broadcasting sectors.\textsuperscript{70} Guidelines and procedures were announced by ISRO in 2000 for implementing the SATCOM Policy and for establishing private satellite systems. The ISRO Guidelines and Procedures do not have force of law. Meanwhile even though space has been ‘opened’ for commercial private participation for the last five years the sector continues to be supervised through guidelines and procedures issued by ISRO from time to time and through application of relevant normative laws in force.\textsuperscript{71}

5. If commercialization and private participation in space activities is in fact a serious goal then it will serve a useful purpose to recognize that commercialization of


\textsuperscript{70} New Telecom Policy, 1999: available at: www.dot.gov.in [NTP99]. See para.3.9 for statement relating to the SATCOM Policy.

\textsuperscript{71} For example Law of Contracts, Intellectual Property Rights etc.
space activities requires a clear and unambiguous space policy and corresponding laws as basic infrastructure for its growth and acceleration. It is no longer sufficient to announce guidelines and procedures, which do not have force of law. Specifically, from the Indian perspective, it is important to understand not only legislative requirements for national space law for India in order to implement its international obligations within Indian legal system. Instead, it is important to create a corpus of domestic law in respect to the legal issues related to launch services (space transportation systems), the legal issues related to satellite telecommunications, including satellite broadcasting, analyzing issues related to earth observation services including data processing and distribution, satellite navigational systems and analyzing the intellectual property rights (IPR) regime and transfer of technology.

Typically, these specific laws (or even a single omnibus national space law) will have to prescribe national treatment for issues including:

(i) Licensing;

(ii) Certification of space technology;

(iii) Safety of space activity;

(iv) Funding of space activity;

(v) Insurance;

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74 Ibid.
(vi) Responsibility and liability for damage;

(vii) Protection of IPR consequent to space activity;

(viii) Dispute resolution;

(ix) Protection of environment and ecology;

(x) Promotion and financial support to development of space sciences; and

(xi) International cooperation

Intellectual Property Rights (IPR) are legal rights granted to the owner by a state. These are rights that owner is allowed to seek enforcement within the boundaries of the state. Logically, “IPR in Outer Space” are those rights, which a state is ready to grant which may have effect in outer space, but is only enforceable in the state. After having these rights, the owner forbids others from using the IPR in Space. Relevant provisions for the applicability of domestic IPR law to Space Activities exist only in US laws today, found within the US Space Bill and the National Aeronautical Space Agency (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.

Any invention made, used, or sold in outer space, on a space object, or component thereof under the jurisdiction or control of the US must be considered to be made, used, or sold within the United States for the purposes of this title. This however, excludes any space object or component thereof that is specifically identified and otherwise provided for by an international agreement to which the US is a part of, or . . . carried on the registry of a foreign state in

75 Ibid.
76 Ibid.
accordance with the “Convention of Registration of Objects Launched into Outer Space”.77

The Citizens Charter, which is out of date, must be replaced by a space policy for India articulated by the Space Commission. The goal and purpose of India’s space activity includes the commitment that these activities will bring “benefit to all mankind”. In addition, such activities must:

(i) Enhance the achievement of national security;

(ii) Develop the space economy and benefit to the Indian economy;

(iii) Provide a timely and responsive regulatory environment for licensing commercial space activity;

(iv) Encourage and facilitate Indian civil space transportation objectives and commercial space transportation industry;

(v) International cooperation; and

(vi) Increase the industry’s international competitiveness.78

On 24th September 2014, India became the third country in the world to place a satellite into the orbit of Mars. It became the first Asian nation to do so, and the first country in the world to achieve this feat in the first attempt. The Mars Orbiter Mission team won the US-based National Space Society’s (NSS) 2015 Space Pioneer Award in the science and engineering category. NSS said that the award was given as the Indian agency successfully executed a Mars mission in its first attempt. The spacecraft is in an elliptical orbit with a high

77 Ibid.
78 Ibid.
apoapsis where, with its high resolution camera, it is taking full-disk color images of Mars. Very few full disk images have ever been taken in the past, mostly on approach to the planet, as most imaging is done looking straight down in mapping mode. These images will aid planetary scientists.\textsuperscript{79}

\textsuperscript{79} Walton, Zach, India Announces Mars Mission One Week After Landing, (retrieved September 8, 2013).