Chapter VI

National and International Legislation

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Air law is currently defined as 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.[1] Air law has also been defined as the branch of the law which determines and studies the law and legal relations regarding air traffic and the use of aircraft as well as the relations arising therefrom.[2]

In general, air law is the body of law directly or indirectly concerned with civil aviation. The generally accepted definition is as follows – 'Air law is a body of rules governing the use of airspace and its benefits for aviation, the general public and the nations of the world'. Aviation in this context extends to both heavier-than-air and lighter-than-air aircraft. Air-cushion vehicles are not regarded as aircraft by the International Civil Aviation Organization (ICAO), but the practice of individual states in this regard is not yet settled.

Because of the essentially international character of aviation, a large part of air law is either international law or international uniform law (rules of national law that have been made internationally uniform by agreement). So far as international air law is concerned, it hardly needs to be mentioned that an international agreement or an amendment thereto is binding only on states that are parties to it.

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[1] *M. le Goff, Manuel de Droit Aerien, Droit Public, Paris, 1954*
[2] *Lemoine, Traite de Droit Aerien, Paris, 1947*

The earliest legislation in air law was a decree issued on 23rd April, 1784 by the Paris police forbidding balloon flights without a special permit. As early as 1900 the French jurist Fauchille suggested that a code of international air navigation be created by the 'Institut de Droit International'. Generally, technology moves at a faster pace and law struggles to keep up with its pace. But this was one of the rare instances when the legal process went ahead of technology. In 1903 these discussions got a new impetus because the Wright Brothers had successfully carried out their first engine-powered flight.

The first determined attempt at codification on an international scale took place before 1910, when German balloons repeatedly made flights above French territory. As a result of this, the Paris Conference of 1910 was convened.

The body of rules that governs air law consists of the following –

i) Multilateral conventions
ii) Bilateral agreements
iii) General principles of international law
iv) National law
v) Judicial decisions
vi) Contracts between states and airline companies
i) Contracts between airline companies

Multilateral conventions are the primary source of air law. The most characteristic feature of an aircraft is its speed, in addition to the fact that it moves in three dimensions. Speed enables an aircraft en route to a particular destination to pass through the airspace of several countries, each having its own national laws and customs. Consequently, it passes from one legal sphere of influence to another.

It is a matter of prime importance to those involved in aviation, such as the state, the owner, the operator, the passengers, the owner of the goods carried on board, the mortgage holders, etc. to make sure that their rights are properly safeguarded and responsibilities effectively established. Achieving this objective is one of the most important elements in air law. The implementing measures are all to be found in international agreements and conventions.

6.1 The Paris Convention, 1919

This was the first legal instrument to come into force in the field of air laws. It recognised complete and exclusive sovereignty of states over the airspace above their territory. The annexes to this convention deal with matters like standards of airworthiness, certificates of competency for crew members, etc. The Paris Convention contained the first generally accepted definition of the term 'aircraft'.

This convention became outdated and was eventually replaced by the Chicago Convention in 1944. This convention failed to bring about a change in the definition of aircraft, which read as follows –

'Aircraft is any machine that can derive support in the atmosphere from the reactions of the air'.

Eventually, the ICAO brought out a new definition on 6th November, 1967, which goes thus –

'Aircraft is any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface'.

6.2 The Ibero-American Convention and The Pan-American Convention

The Ibero-American Convention followed the Paris Convention and was concluded at Madrid in 1926, and contained provisions very similar to those of the Paris Convention. But these provisions were also recognized by several Latin-American states that were invited by the Spanish government. In 1927, the United States initiated the drafting of an air navigation convention for North and South America, i.e. the Pan-American Convention. This was signed at Havana in 1928. The Pan-American Convention failed to achieve a measure of uniformity in air traffic regulations. All these conventions have been replaced by one single convention, i.e. the Chicago Convention.

6.3 The Chicago Convention, 1944

The Convention on International Civil Aviation, also known as the Chicago Convention, established the International Civil Aviation Organization (ICAO), a specialized agency of the United Nations charged with coordinating and regulating international air travel. The Convention establishes rules of airspace, aircraft registration and safety, and details the rights of the signatories in relation to air travel. The Convention also exempts air fuels from tax.

This document, along with two agreements annexed to it, i.e. the International Air Services Transit Agreement and the International Air Transport Agreement, was signed on 7th December, 1944 in Chicago, Illinois, by 52 signatory states. It received the requisite 26th ratification on 5th March, 1947 and went into effect on 4th April, 1947, the same date that ICAO came into being. In October of the same year, ICAO became a specialized agency of the United Nations

Economic and Social Council (ECOSOC). The Convention has since been revised eight times. At present, over 180 states have ratified or acceded to the convention.

The Convention is supported by eighteen annexes containing Standards and Recommended Practices (SARPs). The annexes are amended regularly by ICAO and are as follows:

Annex 1 - Personnel Licensing

Annex 2 - Rules of the Air

Annex 3 - Meteorological Service for International Air Navigation
Vol I - Core SARPs
Vol II - Appendices and Attachments

Annex 4 - Aeronautical Charts

Annex 5- Units of Measurement to be used in Air and Ground Operations

Annex 6 - Operation of Aircraft
Part I - International Commercial Air Transport - Aeroplanes
Part II - International General Aviation - Aeroplanes
Part III - International Operations - Helicopters

Annex 7 - Aircraft Nationality and Registration Marks

Annex 8 - Airworthiness of Aircraft

Annex 9 - Facilitation

Annex 10 - Aeronautical Telecommunications

Vol I - Radio Navigation Aids

Vol II - Communication Procedures including those with PANS status

Vol III - Communication Systems

Part I - Digital Data Communication Systems

Part II - Voice Communication Systems

Vol IV - Surveillance Radar and Collision Avoidance Systems

Vol V - Aeronautical Radio Frequency Spectrum Utilization

Annex 11 - Air Traffic Services - Air Traffic Control Service, Flight Information Service and Alerting Service

Annex 12 - Search and Rescue

Annex 13 - Aircraft Accident and Incident Investigation

Annex 14 - Aerodromes

Vol I - Aerodrome Design and Operations

Vol II - Heliports

Annex 15 - Aeronautical Information Services

Annex 16 - Environmental Protection

Vol I - Aircraft Noise

Vol II - Aircraft Engine Emissions

Annex 17 - Security: Safeguarding International Civil Aviation against Acts of Unlawful Interference

Annex 18 - Safe Transport of Dangerous Goods by Air

The rules of this convention apply solely and exclusively to civil aircraft. State aircraft are explicitly excluded. One of the fundamental principles underlying the convention is the fact that all states should be able to participate in air transportation on a basis of equality. The convention's preamble refers to the good faith of states in their dealings with each other and to the regard for equal opportunity and participation. But the implementation of this principle is hampered by the limitations or rights that states can impose upon each other, limitations which find their origin in the principle of sovereignty of the state over the airspace above its territory expressed in Article I of the convention. Governments wish to urge their own airline companies to satisfy the demand for air transport to and from their countries independently. For this reason, they show a strong tendency to impose major limitations on foreign airline companies. These may affect the number of passengers to be carried, the flight frequency and other vital matters.

However, the possibility of allowing greater freedom of movement has been made explicit in two Agreements annexed to the Convention, which divide the freedom of the air into five categories. The first two freedoms are described in the Transit Agreement – they concern the freedom to fly over a country or to make a technical landing. They are also listed in the Transport Agreement, together with three more freedoms. The third freedom enables the state to carry passengers and cargo from its own territory to a foreign state, whereas the fourth concerns the transport of passengers and cargo from a foreign state to

its own territory. The right to carry passengers and cargo between two foreign states is contained in the fifth freedom.

Article 2 of this Convention states that – 'For the purpose of this convention the territory of a state shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such state'.

Article 9 is a significant provision since it deals with bans and restrictions in exceptional circumstances and for reasons of public safety or military necessity. According to this Article, each contracting State has the right to restrict or prohibit flying of aircraft of other States over certain areas of its territory or over the whole or any part of its territory, for reasons of military necessity or public safety, or during a period of emergency.

Cabotage

The Chicago Convention also contains provisions on cabotage. In international law, cabotage was originally held to apply to a state reserving to itself the right to restrict all coastal navigation between two points within its territory for the exclusive use of its own subjects. The purpose of this provision was to protect the state's own navigation. This concept is included in air law. Article 7 provides that a state may reserve to itself the exclusive right of air transport within it own territorial limits and its overseas territories as well as between those two areas of sovereignty.

6.4 The Warsaw Convention

It is also known as the Convention for the Unification of Certain Rules Relating to International Carriage by Air, and was signed at Warsaw on 12th October, 1929.

According to Article 1, this Convention applies to all international carriage of persons, luggage or goods performed by aircraft for reward. It also applies to gratuitous carriage by aircraft, but only if it is performed by an air transport undertaking. The reason for this exception is that free tickets are usually issued with the intention of obtaining something in return, such as for propaganda purposes. This Convention applies to carriage performed by the State or by legally constituted public bodies provided it falls within the conditions laid down in Article 1.

Article 1(3) states : Carriage to be performed by several successive air carriers is deemed, for the purposes of this convention, to be one undivided carriage if it has been regarded by the parties as a single operation, whether it had been agreed upon under the form of a single contract or of a series of contracts, and it does not lose its international character merely because one contract or a series of contracts is to be performed entirely within the territory of the same state.

There are some exceptions where the convention does not apply. They are mentioned below –

i) It does not apply to international carriage by air performed as an experimental trial by air navigation

enterprises, which is done with a view to the establishment of regular air services on a certain route. An example of this is when airline companies were planning to fly over the North Pole. (Art. 34)

ii) It does not apply to carriage performed in extraordinary circumstances outside the normal scope of an air carrier's business. An instance of this type was when an accident occurred to an aircraft bringing a new engine to a ship that had developed engine trouble while out fishing for sardines. (Art.34)

iii) It does not apply to carriage performed under the terms of any international postal Convention. (Art.2)

Passengers

It becomes pertinent to note here who exactly a passenger is. A passenger within the meaning of the convention is a person who is carried by aircraft by virtue of a contract of carriage. This gives rise to the question whether an airline employee is to be regarded as a passenger within the meaning of the convention. Opinion is divided where this issue is concerned. Some people believe that the convention applies exclusively to the legal relationship between the carrier and the passenger who has a contract of carriage with him. There is nothing in the convention on obligations with regard to persons who have no contract of carriage with the carrier. But others are of the opinion that an employee is not only bound by the terms of his contract, but also by the terms of the contract of carriage.

For the carriage of passengers the carrier must deliver a passenger ticket which shall contain certain particulars, which are mentioned below –

→ Place and date of issue
→ Points of departure and destination
→ Intermediate stops, if any
→ Name and address of the carrier
→ A notice that carriage is subject to the provisions of the Warsaw Convention.

The absence, irregularity or loss of the passenger ticket does not affect the existence or the validity of the contract of carriage, which shall none the less be subject to the rules of this Convention. All the same, if the carrier accepts a passenger without a passenger ticket having been delivered, he shall not be entitled to avail himself of those provisions of this Convention which exclude or limit his liability, and he will be fully liable.

A new trend that is emerging in the highly competitive world of civil aviation regarding tickets is the concept of flying without a ticket. Owing to the high costs involved in printing and issuing tickets and boarding cards, several airlines have decided to replace them by a simpler and economical procedure. Tickets are booked by telephone, a booking reference number is quoted and the passenger goes to the airport and pays the fare at the airline's desk at the time of boarding the flight. On quoting the reference number, the passenger is given a docket that contains his name, flight number and destination. The usual notice regarding the application of the Warsaw Convention is printed on the back of this paper.

Another aspect that begs consideration in this regard is the booking of tickets through the internet, which is capable of giving rise to legal issues. One of them is the determination of the place where the transportation contract is concluded. This is important because it may have repercussions when it comes to deciding which court has jurisdiction in cases arising from air transport. Is it the location where the keyboard of the passenger's computer is situated, the location of that of the electronic ticket agent, or the location where the computer of the internet provider of either party stands? The provisions of the Warsaw convention are not adequate to deal with these issues; and a uniform code applicable worldwide is the need of the hour.

Baggage

The definition of the term 'baggage' according to Article I of the IATA General Conditions of Carriage (Passengers) is as follows –

'Baggage means such articles, effects and other personal property of a passenger as are necessary or appropriate for wear, use, comfort or convenience with his trip. Unless otherwise specified, it shall include both checked and unchecked baggage of the passenger'.

In Article IX, IATA provides that the following shall not be included in his baggage by a passenger –

i) Articles which do not constitute baggage as defined in Article I hereof

ii) Articles which are likely to endanger the aircraft or persons or property on board the aircraft

iii) Articles the carriage of which is prohibited by the applicable laws, regulations or orders of any state to be flown from, to or over

iv) Articles which in the opinion of the carrier are unsuitable for carriage by reason of their weight, size or character

v) Live animals..... (with some exceptions)

The carrier may refuse to transport as baggage any of the articles mentioned above, and he may refuse onward carriage of any baggage on discovering that the passenger's baggage does contain such articles.

As per Article 4 of the Warsaw Convention a baggage check must be issued for the transportation of all baggage other than those items that are carried by the passenger. The baggage check must contain the same particulars as the passenger ticket requires, but in addition it must also contain a reference to the serial number of the passenger ticket, the number of packages and their weight, the amount of value if the passenger has made such a declaration, and a statement that the baggage will be delivered to the bearer of the check.

The absence, irregularity or loss of the baggage check does not affect the existence or the validity of the contract of carriage, which shall none the less be subject to the rules of this Convention. Nevertheless, if the carrier accepts luggage without a baggage check having been delivered, or if the baggage check does not include the notice regarding liability, the carrier shall not be entitled to avail himself of those provisions of the Convention which exclude or limit his liability.

Failure to comply with documentary technicalities of the convention leads to unlimited liability in baggage cases. Following everyday practice, the baggage check may now be combined with or incorporated in the passenger ticket.

Cargo

Every carrier of goods has the right to require the consignor to make out and hand over to him a document called an "air consignment note"; every consignor has the right to require the carrier to accept this document.
The absence, irregularity or loss of this document does not affect the existence or the validity of the contract of carriage which shall, subject to the provisions of Article 9, still be governed by the rules of this Convention.

If the carrier accepts goods without an air consignment note having been made out, or if the air consignment note does not contain all the required particulars, the carrier shall not be entitled to avail himself of the provisions of this Convention which exclude or limit his liability.

The air waybill is made in triplicate, but each copy is given the status of an original. The first is for the carrier and must be signed by the consignor, the second copy is for the consignee and must be signed by both the carrier and the consignor. This copy accompanies the goods. The third copy is signed by the carrier and delivered to the consignor after the receipt of the goods.

Article 9 specifically provides that the stopping places en-route must be mentioned in the air waybill. Article 10 states that the consignor is

responsible for the accuracy and truthfulness of the statements that he inserts in the bill. He is liable for all damage suffered by the carrier or any other person as a result of his inaccurate, incorrect or incomplete declarations or indications. The air waybill is prima facie evidence of the receipt of the goods by the carrier and hence he is liable if they are damaged while on the carrier's premises.

Loss of goods/baggage

If the carrier cannot put the passenger or consignee into possession again, even though he knows where the goods or the baggage are, then loss must be assumed. Thus, if a carrier delivers cargo to the wrong consignee and there is no way of recovering it, it is assumed that the cargo is lost. But if the consignor lists only 9 items while filling the air waybill instead of 10, then it is not loss.

Liability of the Carrier

Article 17

The carrier is liable for damage sustained in the event of the death or wounding of a passenger or any other bodily injury suffered by a passenger, if the accident which caused the damage so sustained took place on board the aircraft or in the course of any of the operations of embarking or disembarking.

Article 18

1. The carrier is liable for damage sustained in the event of the destruction or loss of, or of damage to, any registered luggage or

any goods, if the occurrence which caused the damage so sustained took place during the carriage by air.

2. The carriage by air within the meaning of the preceding paragraph comprises the period during which the luggage or goods are in charge of the carrier, whether in an aerodrome or on board an aircraft, or, in the case of a landing outside an aerodrome, in any place whatsoever.

3. The period of the carriage by air does not extend to any carriage by land, by sea or by river performed outside an aerodrome. If, however, such a carriage takes place in the performance of a contract for carriage by air, for the purpose of loading, delivery or trans-shipment, any damage is presumed, subject to proof to the contrary, to have been the result of an event which took place during the carriage by air.

Article 19

The carrier is liable for damage occasioned by delay in the carriage by air of passengers, luggage or goods.

Article 20

1. The carrier is not liable if he proves that he and his agents have taken all necessary measures to avoid the damage or that it was impossible for him or them to take such measures.

2. In the carriage of goods and luggage the carrier is not liable if he proves that the damage was occasioned by negligent pilotage or negligence in the handling of the aircraft or in navigation and that,

in all other respects, he and his agents have taken all necessary measures to avoid the damage.

Article 21

If the carrier proves that the damage was caused by or contributed to by the negligence of the injured person the Court may, in accordance with the provisions of its own law, exonerate the carrier wholly or partly from his liability.

Article 22

1. In the carriage of passengers the liability of the carrier for each passenger is limited to the sum of 125,000 francs. Where, in accordance with the law of the Court seized of the case, damages may be awarded in the form of periodical payments, the equivalent capital value of the said payments shall not exceed 125,000 francs. Nevertheless, by special contract, the carrier and the passenger may agree to a higher limit of liability.

2. In the carriage of registered luggage and of goods, the liability of the carrier is limited to a sum of 250 francs per kilogram, unless the consignor has made, at the time when the package was handed over to the carrier, a special declaration of the value at delivery and has paid a supplementary sum if the case so requires. In that case the carrier will be liable to pay a sum not exceeding the declared sum, unless he proves that that sum is greater than the actual value to the consignor at delivery.

3. As regards objects of which the passenger takes charge the liability of the carrier is limited to 5,000 francs per passenger.

4. The sums mentioned above shall be deemed to refer to the French franc consisting of 65 « milligrams gold of millesimal fineness 900. These sums may be converted into any national currency in round figures.

Article 23

Any provision tending to relieve the carrier of liability or to fix a lower limit than that which is laid down in this Convention shall be null and void, but the nullity of any such provision does not involve the nullity of the whole contract, which shall remain subject to the provisions of this Convention.

Article 25

1. The carrier shall not be entitled to avail himself of the provisions of this Convention which exclude or limit his liability, if the damage is caused by his wilful misconduct or by such default on his part as, in accordance with the law of the Court seized of the case, is considered to be equivalent to wilful misconduct.

2. Similarly the carrier shall not be entitled to avail himself of the said provisions, if the damage is caused as aforesaid by any agent of the carrier acting within the scope of his employment.

Article 26

1. Receipt by the person entitled to delivery of luggage or goods without complaint is prima facie evidence that the same have been delivered in good condition and in accordance with the document of carriage.

2. In the case of damage, the person entitled to delivery must complain to the carrier forthwith after the discovery of the damage, and, at the latest, within three days from the date of receipt in the case of luggage and seven days from the date of receipt in the case of goods. In the case of delay the complaint must be made at the latest within fourteen days from the date on which the luggage or goods have been placed at his disposal.

3. Every complaint must be made in writing upon the document of carriage or by separate notice in writing despatched within the times aforesaid.

4. Failing complaint within the times aforesaid, no action shall lie against the carrier, save in the case of fraud on his part.

Article 29

The right to damages shall be extinguished if an action is not brought within two years, reckoned from the date of arrival at the destination, or from the date on which the aircraft ought to have arrived, or from the date on which the carriage stopped.

Article 30

1. In the case of carriage to be performed by various successive carriers and falling within the definition set out in the third paragraph of Article 1, each carrier who accepts passengers, luggage or goods is subjected to the rules set out in this Convention, and is deemed to be one of the contracting parties to the contract of carriage in so far as the contract deals with that part of the carriage which is performed under his supervision.

2. In the case of carriage of this nature, the passenger or his representative can take action only against the carrier who performed the carriage during which the accident or the delay occurred, save in the case where, by express agreement, the first carrier has assumed liability for the whole journey.

3. As regards luggage or goods, the passenger or consignor will have a right of action against the first carrier, and the passenger or consignee who is entitled to delivery will have a right of action against the last carrier, and further, each may take action against the carrier who performed the carriage during which the destruction, loss, damage or delay took place. These carriers will be jointly and severally liable to the passenger or to the consignor or consignee.

Provisions relating to Combined Carriage

Article 31

1. In the case of combined carriage performed partly by air and partly by any other mode of carriage, the provisions of this Convention apply only to the carriage by air, provided that the carriage by air falls within the terms of Article 1.

2. Nothing in this Convention shall prevent the parties in the case of combined carriage from inserting in the document of air carriage conditions relating to other modes of carriage, provided that the provisions of this Convention are observed as regards the carriage by air.

Article 34

This Convention does not apply to international carriage by air performed by way of experimental trial by air navigation undertakings with the view to the establishment of a regular line of air navigation, nor does it apply to carriage performed in extraordinary circumstances outside the normal scope of an air carrier's business.

6.5 Montreal Convention

This convention is also known as the Convention for the Unification of Certain Rules for International Carriage. It was adopted by the ICAO member states in 1999. It amended important provisions of the Warsaw Convention's regime concerning compensation for the victims of air disasters. The Montreal Convention was brought about mainly to amend liabilities to be paid to families for death or injury whilst on board an aircraft.

The Convention re-establishes urgently needed uniformity and predictability of rules relating to the international carriage of passengers, baggage and cargo. This convention maintains the core provisions of the Warsaw convention which have successfully served the international air transport community for several decades, but it achieves the required modernisation in a number of key areas. It protects passengers by introducing a two-tier liability system and by facilitating the swift recovery of proven damages without the need for lengthy litigation.

Under the Montreal Convention, air carriers are strictly liable for proven damages up to 100,000 Special Drawing Rights (SDR), a mix of

currency values established by the International Monetary Fund (IMF), approximately $138,000 per passenger at the time of its ratification by the United States in 2003 (as of June 2009, around $154,800)[3]. Where damages of more than 100,000 SDR are sought, the airline may avoid liability by proving that the accident which caused the injury or death was not due to their negligence or was attributable to the negligence of a third party. This defence is not available where damages of less than 100,000 SDR are sought. The Convention also amended the jurisdictional provisions of Warsaw and now allows the victim or their families to sue foreign carriers where they maintain their principal residence, and requires all air carriers to carry liability insurance.

The Montreal Convention has changed and generally increased the maximum liability of airlines for lost baggage to a fixed amount 1000 SDR (the amount in the Warsaw Convention is based on the weight of the baggage).

6.6 International Conventions and Treaties Relating to Aviation Terrorism

In the early days hijacking was not considered a criminal offence, nor was there any penal action for this act. However, in the late nineteen fifties and early sixties there was a spurt in hijacking incidents, which caused anxiety in aviation circles. Subsequently the International Civil Aviation Organization organised three conventions that were signed at Tokyo on 14th September, 1963, at Hague on 16th December, 1970 and at Montreal on 23rd September, 1971 respectively. These

[3] *http://en.wikipedia.org/wiki/Montreal_Convention*

conventions are applicable to civil aircraft only and not to aircraft used in military, customs or police services.

6.7 Convention on Offences and Certain Other Acts Committed on Board Aircraft, 1963 (Tokyo Convention)

1. This Act is applicable in respect of –

   i) offences against the penal law, and

   ii) any acts that may endanger or do endanger the safety of the aircraft or of persons or property therein or that endanger good order and discipline on board.

2. Except as provided in Chapter III, this Convention shall apply in respect of offences committed or acts done by a person on board any aircraft registered in a Contracting State, while that aircraft is in flight or on the surface of the high seas or of any other area outside the territory of any State.

3. For the purposes of this Convention, an aircraft is considered to be in flight from the moment when power is applied for the purpose of takeoff until the moment when the landing run ends.

4. This Convention shall not apply to aircraft used in military, customs or police services.

This convention is not basically aimed at hijacking alone, but it covers various other acts of indiscipline in general, aboard an aircraft including hijacking. It mainly deals with powers of the pilot-in-command, and it establishes the jurisdiction of the state of the registry

of aircraft. The convention provides that a country where hijacked aircraft is taken would permit its passengers and crew to continue their journey as soon as practicable. It also requires that the seized aircraft would be returned to the owners. But it never mentions any penal action against hijackers.

Under this convention, the pilot can take preventive action against hijackers or any other criminal on board and can take the help of other crew members and passengers. If a passenger feels that some person intends to hijack or is hijacking the aircraft, the passenger himself can take action against him.

Since this convention did not cover all aspects and was not a proper solution for the serious offence of hijacking, and also since it did not contain penal provisions, a need was felt for a more elaborate convention.

6.8 The Hague Convention

This convention is also called the Convention for the Suppression of Unlawful Seizure of Aircraft and was signed in 1970. It came into force on 14th October, 1971. It makes the unlawful seizure of aircraft an international extraditable and serious offence. In response to a wave of hijackings that began in 1968, the 1970 Hague Convention for the Suppression of Unlawful Seizure of Aircraft was concluded in an effort to prevent hijackers from finding immunity in any of the contracting states.

According to Article 1 of this convention, if any person on board an aircraft in flight –

(a) unlawfully seizes or attempts to seize that aircraft by any form of intimidation, or
(b) is an accomplice of such a person, he is said to have committed an offence under this convention.

An aircraft is considered to be in flight at any time from the moment when all its external doors are closed following embarkation until the moment when any such door is opened for disembarkation. In the case of a forced landing, the flight shall be deemed to continue until the competent authorities take over the responsibility for the aircraft and for persons and property on board.

Article 2 of the convention requires that each contracting state undertakes to make the offence punishable by severe penalties. Article 4 (3) of this Convention does not exclude any criminal jurisdiction exercised in accordance with national law.

Article 6(1) provides that upon being satisfied that the circumstances so warrant, any contracting state in the territory of which the offender or the alleged offender is present, shall take him into custody or take other measures to ensure his presence. The custody and other measures shall be as provided in the law of that State but may only be continued for such time as is necessary to enable any criminal or extradition proceedings to be instituted. Article 6(2) says that such State shall immediately make a preliminary enquiry into the facts.

Article 9(1) requires that when any of the acts mentioned in Article 1(a) has occurred or is about to occur, the contracting States shall take all appropriate measures to restore control of the aircraft to its lawful commander or to preserve his control of the aircraft.

Article 9(2) further requires that in such cases, any contracting state in which the aircraft or its passengers or crew are present shall facilitate the continuation of the journey of the passengers and crew as soon as practicable, and shall without delay return the aircraft and its cargo to the persons lawfully entitled to possession.

Article 11 states that each contracting state shall, in accordance with its national law, report to the Council of the International Civil Aviation Organization as promptly as possible any relevant information in its possession concerning:

(a) the circumstances of the offence;

(b) the action taken pursuant to article 9;

(c) the measures taken in relation to the offender or the alleged offender, and, in particular, the results of any extradition proceedings or other legal proceedings.

Thus it is obvious that this convention is a step forward in preventing and reducing the occurrences of hijacking. It makes a provision for penalties for the offenders, which was lacking in the Tokyo convention. Persons committing an offence under this convention will be treated as ordinary criminals, in the sense that they will not be treated as political criminals. They shall be extradited to the country owning the aircraft. If the criminal is not extradited, the case should be submitted to the concerned authorities for the purpose of prosecution of the criminal. In other words, it is forbidden to honour or felicitate a person involved in unlawful seizure of an aircraft.

As against the Tokyo convention, this convention was accepted by a large number of countries. But a major limitation of this convention was that it was confined to the aircraft in flight, and offences against the aircraft on ground were not covered. Further, it was aimed only against those persons who had committed an offence while on board the aircraft. Thus cases of sabotage, attacks on aircraft from ground or attack on aircraft on the ground, etc. were not included in it. As a result of this, another convention was signed at Montreal on 23rd September, 1971, i.e. before the Hague convention even came into force. The reason for this urgency was that two mid air explosions took place in February 1970 and were caused by sabotage. They resulted in a total loss of the two airliners and death of the passengers.

6.9 Montreal Convention, 1971

This convention is also called the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation. It has a wider coverage and includes a range of offences committed against civil aviation, such as acts of sabotage, armed attack on aircraft, destruction of aircraft in service and damage to air navigation facilities, etc. These are all declared as criminal offences under the convention. It also covers bomb hoaxes.

According to this convention, any person commits an offence if he unlawfully and intentionally does any of the following acts –

i) performs an act of violence against a person on board an aircraft in flight if the act is likely to endanger the safety of that aircraft

ii) destroys an aircraft in service or causes damage to such an aircraft which renders it incapable of flight or which is likely to endanger its safety in flight

iii) places or causes to be placed on an aircraft in service, a device or substance which is likely to destroy that aircraft, or to endanger its safety in flight

iv) destroys or damages air navigation facilities or interferes with their operation if any such act is likely to endanger the safety of aircraft in flight

v) communicates information which he knows to be false, thereby endangering the safety of an aircraft in flight

Each contracting state has to make the above mentioned offences punishable by severe penalties. Besides these provisions, there is also a supplement to the Montreal Convention, namely the 1988 Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation.

6.10 International Convention against the Taking of Hostages

This convention was signed on 18th December, 1979. Article 1 of the convention defines hostage-taking and declares it to be an offence. It says that any person who seizes or detains and threatens to kill, to injure or to continue to detain another person (hereinafter referred to as the "hostage") in order to compel a third party, namely, a State, an international intergovernmental organization, a natural or juridical person, or a group of persons, to do or abstain from doing any act as

an explicit or implicit condition for the release of the hostage commits the offence of taking of hostages ("hostage-taking") within the meaning of this Convention. Any person who attempts to commit an act of hostage-taking, or participates as an accomplice of anyone who commits or attempts to commit an act of hostage-taking likewise commits an offence for the purposes of this Convention.

Article 2 of the convention requires that each State Party shall make the offences set forth in Article 1 punishable by appropriate penalties which take into account the grave nature of those offences.

Article 3 prescribes that the State Party in the territory of which the hostage is held by the offender shall take all measures it considers appropriate to ease the situation of the hostage, in particular, to secure his release and, after his release, to facilitate, when relevant, his departure. If any object which the offender has obtained as a result of the taking of hostages comes into the custody of a State Party, that State Party shall return it as soon as possible to the hostage or the third party referred to in Article 1, as the case may be, or to the appropriate authorities thereof.

Article 4 says that States Parties shall co-operate in the prevention of the offences set forth in Article 1, particularly by:

(1) taking all practicable measures to prevent preparations in their respective territories for the commission of those offences within or outside their territories, including measures to prohibit in their territories illegal activities of persons, groups and organizations that encourage, instigate, organize or engage in the perpetration of acts of taking of hostages;

(2) exchanging information and co-ordinating the taking of administrative and other measures as appropriate to prevent the commission of those offences.

Article 5 states that -

(1) Each State Party shall take such measures as may be necessary to establish its jurisdiction over any of the offences set forth in Article 1 which are committed:

(a) in its territory or on board a ship or aircraft registered in that State;

(b) by any of its nationals or, if that State considers it appropriate, by those stateless persons who have their habitual residence in its territory;

(c) in order to compel that State to do or abstain from doing any act; or

(d) with respect to a hostage who is a national of that State, if that State considers it appropriate.

(2) Each State Party shall likewise take such measures as may be necessary to establish its jurisdiction over the offences set forth in Article 1 in cases where the alleged offender is present in its territory and it does not extradite him to any of the States mentioned in paragraph 1 of this Article.

(3) This Convention does not exclude any criminal jurisdiction exercised in accordance with internal law.

According to Article 6,

(1) on being satisfied that the circumstances so warrant, any State Party in the territory of which the alleged offender is present shall, in accordance with its laws, take him into custody or take other measures to ensure his presence for such time as is necessary to enable any criminal or extradition proceedings to be instituted. That State Party shall immediately make a preliminary inquiry into the facts.

(2) The custody or other measures referred to in paragraph 1 of this article shall be notified without delay directly or through the Secretary-General of the United Nations to:

(i) the State where the offence was committed;
(ii) the State against which compulsion has been directed or attempted;
(iii) the State of which the natural or juridical person against whom compulsion has been directed or attempted is a national;
(iv) the State of which the hostage is a national or in the territory of which he has his habitual residence;
(v) the State of which the alleged offender is a national or, if he is a stateless person, in the territory of which he has his habitual residence;
(vi) the international intergovernmental organization against which compulsion has been directed or attempted;
(vii) all other States concerned.

Article 8 requires that –

(1) The State Party in the territory of which the alleged offender is found shall, if it does not extradite him, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case to its competent authorities for the purpose of prosecution, through proceedings in accordance with the laws of that State. Those authorities shall take their decision in the same manner as in the case of any ordinary offence of a grave nature under the law of that State.

(2) Any person regarding whom proceedings are being carried out in connexion with any of the offences set forth in Article 1 shall be guaranteed fair treatment at all stages of the proceedings, including enjoyment of all the rights and guarantees provided by the law of the State in the territory of which he is present.

Article 9 states that –

(1) A request for the extradition of an alleged offender, pursuant to this Convention, shall not be granted if the requested State Party has substantial grounds for believing:

a) that the request for extradition for an offence set forth in Article 1 has been made for the purpose of prosecuting or punishing a person on account of his race, religion, nationality, ethnic origin or political opinion; or

b) that the person's position may be prejudiced:

(i) for any of the reasons mentioned in subparagraph (a) of this paragraph, or

(ii) for the reason that communication with him by the appropriate authorities of the State entitled to exercise rights of protection cannot be effected.

(2) With respect to the offences as defined in this Convention, the provisions of all extradition treaties and arrangements applicable between States Parties are modified as between States Parties to the extent that they are incompatible with this Convention.

6.11 Convention on the Marking of Plastic Explosives for the Purpose of Identification

This convention was signed in 1991 because it was recognised and accepted that plastic explosives are used for terrorist acts for the destruction of not only aircraft but also various other means of transportation besides other targets. Considering that the marking of such explosives for the purpose of detection would contribute significantly to the prevention of such unlawful acts, the United Nations General Assembly urged the ICAO to devise an international regime for marking plastic or sheet explosives for the purpose of detection. Because plastic explosives do not contain metallic parts, it is difficult for security agencies to detect them.

According to Article 1 of the convention 'Detection agent' means a substance which is introduced into an explosive to render it detectable. 'Marking' means introduction of a detection agent into an

explosive. Tiny colour coded chips of plastic known as 'taggants' are included during the manufacture. These chips reveal the place and time of origin of the explosive, which helps to detect the source of these materials.

Article 2 states that each State Party shall take the necessary and effective measures to prohibit and prevent the manufacture in its territory of unmarked explosives.

Article 3 states that each State Party shall take the necessary and effective measures to prohibit and prevent the movement into or out of its territory of unmarked explosives. But this shall not apply in respect of movements of unmarked explosives under the control of a State Party for purposes not inconsistent with the objectives of this Convention, by authorities of that State Party performing military or police functions.

The convention also requires that any stockpile of plastic explosives not required for police or military purposes, must be used (for purposes not inconsistent with the convention), disabled or destroyed within three years. Even those needed for police and military purposes must be similarly disposed of within fifteen years.

6.12 International Convention for the Suppression of Terrorist Bombings

This convention was signed in 1997 and was a result of terrorist attacks by means of explosives or other lethal devices having become increasingly widespread. Besides, existing multilateral legal provisions do not adequately address these attacks. The occurrence of such acts is a matter of grave concern to the international community as a whole.

Article 2

1. Any person commits an offence within the meaning of this Convention if that person unlawfully and intentionally delivers, places, discharges or detonates an explosive or other lethal device in, into or against a place of public use, a State or government facility, a public transportation system or an infrastructure facility-

   (a) With the intent to cause death or serious bodily injury; or

   (b) With the intent to cause extensive destruction of such a place, facility or system, where such destruction results in or is likely to result in major economic loss.

2. Any person also commits an offence if that person attempts to commit an offence as set forth in paragraph 1

3. Any person also commits an offence if that person:

   (a) Participates as an accomplice in an offence as set forth in paragraph 1 or 2; or

   (b) Organizes or directs others to commit an offence as set forth in paragraph 1 or 2; or

   (c) In any other way contributes to the commission of one or more offences as set forth in paragraph 1 or 2 by a group of persons acting with a common purpose; such contribution shall be intentional and either be made with the aim of furthering the general criminal activity or purpose of the group or be made in

the knowledge of the intention of the group to commit the offence or offences concerned.

Article 7

1. Upon receiving information that a person who has committed or who is alleged to have committed an offence as set forth in Article 2 may be present in its territory, the State Party concerned shall take such measures as may be necessary under its domestic law to investigate the facts contained in the information.

2. Upon being satisfied that the circumstances so warrant, the State Party in whose territory the offender or alleged offender is present shall take the appropriate measures under its domestic law so as to ensure that person's presence for the purpose of prosecution or extradition.

3. When a State Party, pursuant to this article, has taken a person into custody, it shall immediately notify, directly or through the Secretary-General of the United Nations, the States Parties which have established jurisdiction in accordance with Article 6, paragraphs 1 and 2, and, if it considers it advisable, any other interested States Parties, of the fact that such person is in custody and of the circumstances which warrant that person's detention. The State which makes the investigation contemplated in paragraph 1 shall promptly inform the said States Parties of its findings and shall indicate whether it intends to exercise jurisdiction.

Article 8

1. The State Party in the territory of which the alleged offender is present shall, in cases to which Article 6 applies, if it does not extradite that person, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case without undue delay to its competent authorities for the purpose of prosecution, through proceedings in accordance with the laws of that State. Those authorities shall take their decision in the same manner as in the case of any other offence of a grave nature under the law of that State.

2. Whenever a State Party is permitted under its domestic law to extradite or otherwise surrender one of its nationals only upon the condition that the person will be returned to that State to serve the sentence imposed as a result of the trial or proceeding for which the extradition or surrender of the person was sought, and this State and the State seeking the extradition of the person agree with this option and other terms they may deem appropriate, such a conditional extradition or surrender shall be sufficient to discharge the obligation set forth in paragraph 1.

Article 9

The offences described in Article 2 shall be extraditable offences.

Article 12

Nothing in this Convention shall be interpreted as imposing an obligation to extradite or to afford mutual legal assistance, if the requested State Party has substantial grounds for believing that the

request for extradition for offences set forth in Article 2 or for mutual legal assistance with respect to such offences has been made for the purpose of prosecuting or punishing a person on account of that person's race, religion, nationality, ethnic origin or political opinion or that compliance with the request would cause prejudice to that person's position for any of these reasons.

Article 19

1. Nothing in this Convention shall affect the other rights, obligations and responsibilities of States and individuals under International law, in particular the purposes and principles of the Charter of the United Nations and international humanitarian law.

2. The activities of armed forces during an armed conflict, as those terms are understood under international humanitarian law, which are governed by that law, are not governed by this Convention, and the activities undertaken by military forces of a State in the exercise of their official duties, inasmuch as they are governed by other rules of international law, are not governed by this Convention.

6.13 International Convention for the Suppression of the Financing of Terrorism

In spite of having several conventions on terrorism, there were still gaps in the existing laws. Hence France recommended a convention for the suppression of terrorist financing on 23rd September 1998, at the UN General Assembly (UNGA). This convention was signed in 1999.

The Convention prohibits any person from directly or indirectly, unlawfully, and wilfully providing or collecting funds with the intention that they should be used, or with the knowledge that they are to be used, to carry out an act that constitutes an offence under one of the nine treaties listed in the annex.

It is not necessary that the funds should actually be used to carry out an offence. It also prohibits any act intended to cause death or serious bodily injury to a civilian, or to any other person not actively involved in a situation of armed conflict, when the purpose of such act is to intimidate a population, or to compel a government or an international organization to either do or to abstain from doing a specific act. Persons are prohibited from attempting, participating in, organizing, contributing to, having knowledge of, or directing others to commit such offences.

These offences cannot be justified under any circumstances whether political, philosophical, ideological, racial, ethnic, religious, or any other similar ones. The Convention requires each State Party to declare these offences as criminal offences under its national law, thus making them punishable by appropriate penalties, including prosecution or extradition.

Each State Party shall take the necessary measures to establish its jurisdiction over the offences if such offences are committed –

- in the territory of that State
- on board a vessel flying the flag of that State
- on board an aircraft registered under the laws of that State or operated by the government of that State

- by a national of that State
- in the territory of or against a national of that State
- against a government facility of that State abroad

in an attempt to compel that State to do or abstain from doing an act, by a stateless person who has his or her habitual residence in the territory of that state, or if an offender is within its territory and there are no other Parties who have claimed jurisdiction.

The parties to this convention agree that –

→ they will take steps to prohibit illegal activities of persons and organizations that knowingly encourage, instigate, organize, or engage in the commission of such offences in their territories.

→ they will require financial institutions and other professions involved in financial transactions to maintain, for at least five years, all necessary records on transactions, both domestic and international, utilizing the most efficient measures available for the identification and verification of customers' legal existence; reporting suspect or unusually large transactions; prohibiting the opening of accounts of which the holders or beneficiaries are unidentifiable; detecting and freezing, or seizing any funds used or allocated for the purpose of committing such offences, as well as proceeds and/or forfeitures derived from such offences.

→ they will supervise the licensing of all money-transmission agencies and monitor the physical cross-border transportation of cash and bearer negotiable instruments.

→ they will take whatever measures are necessary under its national laws to investigate the facts regarding an offence, and will ensure that the person(s) who committed the offence are taken into custody to be prosecuted or extradited.

The Convention states that such offences should be treated as extraditable offences. If a Party does not extradite the offender, it is obliged, without exception whatsoever, to prosecute him or her.

6.14 Environment Protection

Today, Europe is in the forefront of international aviation. Not only is it a major centre of aerospace manufacturing expertise and capability, but also because Europe is one of the most powerful trading blocks in the world economy. Additionally it is home to a number of the world's major air carriers that serve the world's second largest air transport market. Besides, the scope and geographical reach of some elements of European legislation means that no part of the world aviation industry is beyond its grasp. For these reasons, reference has been made here to one aspect of European Union (European Community) legislation with reference to environmental protection.

It has introduced legislation designed to reduce the number of noisy aircraft operating at community airports. The first step was taken in 1979 with the introduction of Directive 80/51/EEC of 20th December, 1979 on limitation of noise emissions from subsonic aircraft. This

prohibited the addition of non-noise certified aircraft to the aircraft registers of member states and also required the removal of such aircraft from the registers by the end of 1986. The next directive that came in 1983 prohibited the operation of non-noise certified aircraft irrespective of their registration.

6.15 International Civil Aviation Organization

International Civil Aviation Organization (ICAO) is an intergovernmental specialized agency associated with the United Nations (UN). It was established in 1947 by the Convention on International Civil Aviation (1944), which had been signed by 52 states three years earlier in Chicago. It is dedicated to developing safe and efficient international air transport for peaceful purposes and ensuring a reasonable opportunity for every state to operate.

It aims at studying the problems of international civil aviation, establishing international standards and regulations for civil aviation, and fostering the development and planning of international air transport to ensure safe and orderly growth. It codifies the principles and techniques of international air navigation. Its headquarters are located at Montreal, Canada. It consists of an Assembly, a Council and other bodies.

The ICAO Council adopts standards and recommended practices concerning air navigation, prevention of unlawful interference, and facilitation of border-crossing procedures for international civil aviation. In addition, the ICAO defines the protocols for air accident investigation followed by transport safety authorities in countries signatory to the Chicago Convention.

The 9th edition of the Convention on International Civil Aviation includes modifications from 1948 up to the year 2006. The ICAO refers to its current edition of the Convention as the statute.

The aims and objectives of ICAO are to develop the principles and techniques of international air navigation and to foster the planning and development of international air transport so as to –

a) ensure the safe and orderly growth of international civil aviation throughout the world
b) encourage the arts of aircraft design and operation for peaceful purpose
c) encourage the development of airways, airports and air navigation facilities for international civil aviation
d) meet the needs of the people of the world for safe, regular, efficient and economical air transport
e) prevent economic waste caused by unreasonable competition
f) ensure that the rights of contracting states are fully respected and that every contracting state has a fair opportunity to operate international airlines
g) avoid discrimination between contracting states
h) promote safety of flight in international air navigation, and
i) promote generally the development of all aspects on international civil aeronautics.

The ICAO standardizes certain functions for use in the airline industry, such as the Aeronautical Message Handling System (AMHS). The ICAO also defines an International Standard Atmosphere (also known as ICAO Standard Atmosphere), a model of the standard variation of pressure, temperature, density, and viscosity with altitude

in the Earth's atmosphere. This is useful in calibrating instruments and designing aircraft.

The ICAO standardizes machine-readable passports worldwide. Such passports have an area where some of the information otherwise written in textual form is written as strings of alphanumeric characters, printed in a manner suitable for optical character recognition. This enables border controllers and other law enforcement agents to process such passports quickly, without having to input the information manually into a computer. ICAO publishes Doc 9303, Machine Readable Travel Documents, the technical standard for machine-readable passports. A more recent standard is for biometric passports. These contain biometrics to authenticate the identity of travellers. The passport's critical information is stored on a tiny RFID computer chip, much like information stored on smartcards. Like some smartcards, the passport book design calls for an embedded contactless chip that is able to hold digital signature data to ensure the integrity of the passport and the biometric data.

The ICAO has had several achievements to its credit during its life of about 60 years. It has also simplified procedures and regulations applicable to customs, immigration, public health, international carriage by air, etc.

6.16 Space Laws

Since the beginning of the 21st century the development of society as well as of international law has been characterized by globalization. Traditional patterns of international relations as well as of international law are increasingly varying due to impressive changes in

technology and science (e.g. internet, telecommunications) and due to changes in global politics. A very important feature of the new era of globalization is a certain marginalization of the function of states as well as an increase of the importance of actors in the international society, i.e. non-state actors such as non-governmental organisations, multi-national enterprises and individuals. In more recent times, privatisation and commercialization are taking place more frequently in the area of space activities. It is therefore more than appropriate to study in detail whether and in how far space law either reflects those fundamental changes or needs to be reshaped in order to meet the challenges of the 21st century.

Space law is the law meant to regulate relations between states to 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.[4] There is also a definition of aerospace law, which is an attempt to merge the two branches into one chapter of law – 'the earth's envelope of air and the space above it, the two considered as a single realm for activity in the flight of air vehicles and in the launching, guidance and control of ballistic missiles, earth satellites, dirigible space vehicles and the like.

Space law can be described as the body of law applicable to and governing space-related activities. The inception of the field of space law began with the launch in October 1957 of the world's first artificial satellite, the Union of Soviet Socialist Republics' *Sputnik*. It was launched as a part of the International Geophysical Year. Since then, space law has evolved and assumed more importance as humankind

[4] *M. Lachs, 'The International Law of Outer Space', 113 Recueil des Cours, 1964-III*

has increasingly come to use and rely on space-based resources. The term "space law" is most often associated with the rules, principles and standards of international law appearing in the five international treaties and five sets of principles governing outer space which have been elaborated under the auspices of the United Nations Organization. However, space law also includes international agreements, treaties, conventions, rules and regulations of international organizations (eg. the International Telecommunications Union), national laws, rules and regulations, executive and administrative orders, and judicial decisions.

States which have national law and legislation governing space-related activities include, among others, Argentina, Australia, Canada, Finland, France, Germany, Hungary, Indonesia, Japan, New Zealand, Philippines, Republic of Korea, Russian Federation, Slovakia, Sweden, South Africa, Tunisia, Ukraine, the United Kingdom of Great Britain and Northern Ireland, and the United States of America.

Outer space is an exciting and highly important region, which because of its unique nature holds the potential for both significant benefits and dangers. The primary goals of space law are to ensure a rational, responsible approach to the exploration and use of outer space for the benefit and in the interests of all humankind. To this end, space law addresses a variety of diverse matters, such as military activities in outer space, preservation of the space and Earth environment, liability for damages caused by space objects, settlement of disputes, protection of national interests, rescue of astronauts, sharing of information about potential dangers in outer space, use of space-related technologies, and international cooperation.

The first engine-powered flight of the Wright Brothers in 1903 triggered important developments in air laws. A series of consultations culminated in an international conference in Paris in 1910, which eventually led to the Paris Convention in 1919. This was the first international agreement in aviation history. Its main aim was to establish sovereign rights for states in the air space above their territories up to an altitude where effective control could be exercised, and to create rules regulating the use of that air space. Beginning in 1957, nations began discussing systems to ensure the peaceful use of outer space. Bilateral discussions between the United States and USSR in 1958 resulted in the presentation of issues to the UN for debate. On 18th December 1958, the United Nations General Assembly recognized the need for international cooperation and for conventions establishing the common interest of mankind in outer space that could be used for peaceful purposes only. On 12th December 1959, the Committee on the Peaceful Uses of Outer Space (UN COPUOS) was established, which is a permanent body. COPUOS in turn created two subcommittees, the Scientific and Technical Subcommittee and the Legal Subcommittee. The COPUOS Legal Subcommittee has been a primary forum for discussion and negotiation of international agreements relating to outer space. In 1961 the United Nations adopted a resolution which recognized that the exploration and use of outer space should be only for the betterment of mankind and for the benefit of states, and it should be irrespective of the stage of their economic or scientific development. Two fundamental principles were commended to the states for their guidance in the exploration and use of outer space, namely that international law including the charter of the UN applies to outer space and celestial bodies; and that outer space and celestial bodies are free for exploration and use by all states in conformity with international law and are not subject to national appropriation. These

principles formed the basic element of the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space in 1963 and the Outer Space Treaty of 1967.

Outer space means the space lying beyond the atmosphere surrounding the earth (commonly called air space and governed by the rules of air law). Spacecraft do not meet the requirements of the definition of 'aircraft' as laid down in air law. Hence the Chicago Convention of 1944, which is the cornerstone of air law, cannot be applied to outer space matters. Hence special rules and laws for outer space are inevitable. Besides, in air law, the state has complete and exclusive sovereignty over the airspace above its territory, whereas this degree of sovereignty does not exist in space law. In air law every state is allowed to apply all the restrictions and conditions it deems necessary. In space law, however, the fact is that the freedom of exploration and use of outer space falls within the sphere of relations between equally sovereign states. According to the Outer Space Treaty of 1967 space activities may only be carried out in accordance with the charter of the UN and the general principles of international law. Such conditions would obviously imply severe restrictions of state sovereignty. The effects of sovereignty concern the launching of spacecraft, because on their journey to outer space they have to travel through airspace; similar is the case when a spacecraft or parts of it return to the earth's atmosphere. Hence it becomes obvious that a satisfactory delimitation between airspace and outer space is required.

Besides the need for separate space laws as mentioned earlier, there is also the question of laws relating to space tourism. A major problem is to decide which legal regime will be applicable to space tourists – that of air laws or space laws. The situation differs from that in aviation in the sense that space activities are regulated by inter-

governmental treaties and aviation by a framework of national and international commercial law. The trend is towards considering that the most appropriate regulatory framework for space tourism would be to treat is as an extension of aviation. The development and successful flight in 2004 of the first privately funded, designed and operated craft reaching an altitude of more than 100 km has given further impetus to this trend. Though it is not suitable for making orbital flights around the earth at present, it is a step in the direction of future commercial spaceflights. Under current US law, any company proposing to launch paying passengers from American soil on a suborbital rocket must receive a license from the Federal Aviation Administration's Office of Commercial Space Transportation (FAA/AST). The licensing process focuses on public safety and safety of property. The US has enacted the Commercial Space Launch Amendment Act in 2004 to cover the legal aspects of this new type of flights. This Act provides that mutual waivers of liability for the crew and space flight participants are required. Thus the situation regarding liability relations between crew and participants and the operators of the flight is not regulated. In this regard, it is opposed to the Warsaw/Montreal system of non-waivable liability for the protection of the passengers in aviation. But since passenger protection is of extreme importance for the positive development of the emerging industry of commercial space flights, a liability regime modelled on the lines of the Warsaw system would be recommended. The above mentioned private entrepreneurial ingress into the realm of space activities will necessitate a new approach to the applicable air and space laws.

6.17 Space Policies and Developments in India

International law in the field of space incorporates some unique features, embodying the principles of freedom of access and use of outer space, as a common resource of all human kind. As the space activities expanded, spreading their impact in various dimensions including commercial, social, security, environmental and cultural dimensions involving both government and private actors, the development of law has become complex and slow, with many outstanding issues yet to be resolved. Against this backdrop, the policy developments in India, which have implemented a vibrant and growing space programme, are traced in this article, bringing out the need and scope for national space legislation.

India is a party to all space treaties developed by the United Nations. However, in the case of the Moon Agreement, India has signed it, but not ratified it. Being a party to all international treaties, the policies regarding space activities in India reflected compliance to the principles enshrined in those international treaties. It is noteworthy that objectives driving space endeavours in India are highly focused on its needs for social and economic development. Space is envisaged as a tool to accelerate the process of national development. The strategy is centred on the creation of an autonomous capability to develop and to apply this technology to meet its specific needs. The space policies were given effect through a well-integrated national space programme with public funding support and an organizational system, which was evolved over the past four decades, addressing diverse aspects such as R&D, system development and applications. A distinguishing feature of this organizational system as compared to many founded elsewhere is the effective linkage among national space centres, industries, academic institutions and international community. The setting up of

Space Commission and the apex bodies, involving user ministries in the government, such as INSAT Coordination Committee and Planning Committee of National Natural Resources Management reflected an innovative approach to policies that balanced the needs of a high technology multidisciplinary organization with an overall bureaucratic government system. This approach ensured necessary autonomy, quick decision making process, and nurturing of a culture, suitable for a mission-oriented space agency that set high standards for its multidimensional contributions. An approach to developing industries involved the institution of technology transfer policies, which resulted in the participation of national industries owned by both the government and the private sector – which provided goods and services, expanded and serviced the markets related to space applications, and realized spin-off impacts. Policies for linking academic institutions were given effect through setting up of space technology centres at institutions of higher learning in the field of technology and through sponsorship of research in universities.

Another important dimension of policy development was the international cooperation – which manifested in several forms, including contributions to legal and policy developments in international fora [such as the United Nations Committee on Peaceful Uses of Outer Space (UNCOPUOS), International Telecommunications Union (ITU), International Civil Aviation Organisation (ICAO), Committee on Earth Observation Satellite (CEOS), International Astronautical Federation (IAF), International Academy of Astronautics (IAA), Committee On Space Research (COSPAR), Space Frequency Coordination Group (SFCG), Inter Agency Department Coordination Committee (IADC), International Institute of Space Law (IISL) and so on], and bilateral agreements with other space agencies for joint missions, data sharing and exchange of scientists.

An institution of excellence was established for capacity building in space science and technology education for the benefit of countries in Asia and the Pacific under affiliation with the United Nations. Prior to the liberalization measures in the Indian economy, the government was the major user of space systems meant for telecommunications, broadcasting and remote sensing, but the early 1990s have seen an increasing role of the private sector in the use of space systems. Telecommunication and broadcasting are the twin services where the private sector has been playing an active role in their growth.

A number of new policies and regulations were initiated and brought to implementation by the Ministry of Communications and Ministry of Information and Broadcasting, such as the National Telecom Policy, 1994 (NTP 1994), The Prasar Bharati Act, 1990, etc. The Telecom Regulatory Authority of India (TRAI) was established to regulate both the services relating to telecommunications and broadcasting. The Cable Television Network (Regulation) Act of 1995 and amended in 2002 provided the framework for television services by the private sector using cable networks fed by satellites. Satellites find applications in both these services. While the service aspects for both these services are governed by the regulations of the above ministries, the policies relating to development of satellite infrastructure and its access for the services are implemented through Department of Space and through mechanisms participated by ministries responsible for services. Another major initiative taken up by the Government in this era was the establishment of Antrix Corporation, which marketed the capacity from Indian satellites and launch vehicles in the overseas markets and also started working with the Indian industry to expand commercial markets for space products and services.

6.18 Satellite Communication Policy and Implementation Guidelines

The Union Cabinet on 12th January, 2000 approved the implementation details for SatCom policy in India. The policy recognized the steep growth in the satellite-based communication services, as well as newly emerging services in this field, which require substantial private sector participation. The norms, guidelines and procedures essentially enabled-

(i) provision of capacity from INSAT satellites to non-governmental users by the Department of Space (DOS) on a commercial basis;

(ii) provisions for the establishment and operation of Indian satellites by private sector, wherein Indian registered companies with a foreign investment not exceeding 74% were allowed to establish and operate satellite systems. Wireless Planning Committee (WPC), under the Ministry of Communications, was mandated to allocate the orbit-spectrum requirements of the private Indian satellites in international fora;

(iii) the norms also included provisions on the use of foreign satellites by Indian users.[5]

[5] *Indian Space Research Organisation, Norms, guidelines and procedures for implementation of policy framework for satellite communications for India, 2000, www.isro.gov.in*

6.19 The Indian Remote Sensing Data Policy

This policy has been adopted for the acquisition and distribution of satellite remote sensing data from Indian and foreign satellites for civilian users in India. The policy comprehensively covers guidelines for satellite data acquisition and distribution in the country and also for licensing the IRS capacities to other countries. The policy streamlines the distribution of high-resolution data to Government users; private users involved in developmental activities with government and other private/academic/foreign users.[6]

6.20 National Spatial Data Infrastructure Policy

This policy aims to bring about harmonious and early development of a national spatial data infrastructure. The nation has, over the past years, produced a rich 'base' of information through systematic topographic surveys, geological surveys, soil surveys and cadastral surveys and by use of remotely sensed images in a variety of thematic maps. Access and availability of such information to the citizens, society, private enterprises and government are important. As a part of this vision, a National Spatial Data Infrastructure (NSDI) is being evolved through a partnership approach among various agencies, who maintain databases in the field of their speciality adopting specified standards and protocols to facilitate access, integration and networking of databases. The NSDI has been conceived as national system that synergistically combines the resources and infrastructure of various players, with the power of information technology and enabling information support for decision making in government,

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[6] *Indian Space Research Organisation, Remote sensing data policy, www.nrsa.gov.in/policy.html*

industry, academia and other organizations besides serving the public needs.

6.21 Space Laws in the International Arena

Space law is a relatively new branch of International law, which emerged as a consequence of humankind's entry into the space era. The first launch of a manmade object into space in 1957 by the then Soviet Union and immediate follow-on launches by both the USA and the then USSR, gave birth to rights of freedom of access to space, freedom of exploration and freedom of passage of a rocket over territories of other countries, without prior consent. These established a state practice, which became the basis for a customary rule of law. After the initial excitement of launching Sputnik in 1957 had died down, it was realized that international co-operation was essential to avoid uncontrolled activities and chaotic developments in this field. The initial phase of the space race between these super powers, which was dominated by display of their technical and military supremacy, also led to the prospect of space becoming an arena for military activities, resulting in these major powers to come to the negotiating table and formulate a set of fundamental principles and rules for conduct of space activities. Development of such regulations and overall framework of law was taken up in 1958 through an ad-hoc Committee on Peaceful Uses of Outer Space, under the aegis of the United Nations. This was later replaced by a permanent committee for the Peaceful Uses of Outer Space by the UN General Assembly in 1959. This resulted in a fundamental agreement on outer space called 'Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies', in 1967.

At the moment, only a few States (U.S., Russia, U.K., Sweden, South Africa and Australia) have adopted specific legislations relating to outer space activities. International cooperation in outer-space market supports the adoption of a specific national legislation by the States; national legislations could facilitate international relations in contracts and the application of an appropriate quality control of production-cycles. The promotion of particular texts to harmonise internal private law and the developments in public international customary and treaty law, both could ameliorate the inevitable disputes flowing from divergences in laws and standards among sovereign States.

6.22 Treaties and Conventions

One of the salient characteristics of space law, as it stands today, is that it consists mostly of conventional law or rules laid down in international treaties, conventions and accords. In air law, purely domestic laws and regulations are very much in evidence; in space law they have just begun to develop in line with the rapidly increasing commercial activities in outer space. Hence there is the predominance of multilateral treaties, especially where basic rules and principles are concerned.

Five international treaties have been negotiated and drafted in the COPUOS:

- The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (the "Outer Space Treaty").

- The 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (the "Rescue Agreement").

- The 1972 Convention on International Liability for Damage Caused by Space Objects (the "Liability Convention").

- The 1975 Convention on Registration of Objects Launched Into Outer Space (the "Registration Convention").

- The 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (the "Moon Treaty").

The international legal principles in these five treaties provide for non-appropriation of outer space by any one country, arms control, the freedom of exploration, liability for damage caused by space objects, the safety and rescue of spacecraft and astronauts, the prevention of harmful interference with space activities and the environment, the notification and registration of space activities, scientific investigation and the exploitation of natural resources in outer space and the settlement of disputes. Each of the treaties lays great stress on the notion that the domain of outer space, the activities carried out therein and whatever benefits might accrue therefrom should be devoted to enhancing the well-being of all countries and humankind, and each includes elements elaborating the common idea of promoting international cooperation in outer space activities.

The five sets of legal principles adopted by the United Nations General Assembly provide for the application of international law and promotion of international cooperation and understanding in space

activities, the dissemination and exchange of information through trans-national direct television broadcasting via satellites and remote satellite observations of Earth and general standards regulating the safe use of nuclear power sources necessary for the exploration and use of outer space.

The Outer Space Treaty is the most widely-adopted treaty, with 98 parties. The Rescue Agreement, the Liability Convention and the Registration Convention all elaborate on provisions of the Outer Space Treaty. U.N. delegates apparently intended that the Moon Treaty serve as a new comprehensive treaty which would supersede or supplement the Outer Space Treaty, most notably by elaborating upon the Outer Space Treaty's provisions regarding resource appropriation and prohibition of territorial sovereignty. The Moon Treaty has only 12 parties, and many consider it to be a failed treaty due to its limited acceptance. In addition, the Nuclear Test Ban Treaty of 1963 banned the testing of nuclear weapons in outer space.

The Outer Space Treaty prohibits States Parties from placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space in any other manner. The Treaty also states that the Moon and other celestial bodies shall be used exclusively for peaceful purposes and prohibits the establishment of military bases, installations and fortifications, the testing of any types of weapons and the conduct of military manoeuvres on such celestial bodies. However the use of military personnel for scientific research or for any other peaceful purposes is not prohibited.

The Moon Agreement expands upon the provisions of the Outer Space Treaty by also prohibiting any threat or use of force, any other hostile act or threat of hostile act on the Moon (or other celestial bodies in the solar system) and any use of the Moon (or other celestial bodies in the solar system) in order to commit such acts or threats in relation to the Earth, the Moon, spacecraft, personnel of spacecraft or man-made space objects.

Crash-landing in a foreign territory

In terms of the Outer Space Treaty, States on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Therefore, except where agreed otherwise by States (for example, in the case of joint projects) personnel of spacecraft in outer space are subject to the laws of the State of registry. In addition, the Outer Space Treaty and the Rescue Agreement provide that astronauts shall be regarded as the "envoys of mankind in space" and shall be rendered all possible assistance in the event of accident, distress or emergency landing. It is also required that astronauts landing or being found in a foreign territory or on the high seas be safely and promptly returned to representatives of their launching authority or state of registry.

6.23 The Outer Space Treaty, 1967

(Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including The Moon and Other Celestial Bodies – 27th January, 1967)

Space has always been regarded as an arena open to all nations and reserved for peaceful use. In fact, the United States has traditionally been a leading proponent of this view. At the outset of the space age, the United States insisted on unimpeded access to space and rejected the notion that nations could interfere with – forcibly or otherwise – satellite operations of any kind. Its original motive was to guarantee the right for its satellites to fly over countries at will so that it could conduct reconnaissance over the Soviet Union. The Soviets naturally objected, but they had already undercut their own argument by orbiting Sputnik over the United States and other countries without asking anybody's permission. Indeed, the laws of physics make it impossible to operate satellites in low Earth orbit without flying over the territories of many different nations.

To give legal substance to the realities of orbital mechanics, the Americans seized upon an analogy from maritime law. In their view, outer space was similar to the high seas. Just as naval and commercial vessels were free to move across the open oceans, they argued, satellites should be free to move through space. The Soviets initially countered with a legal analogy of their own, contending that space objects ought to be subject to the same degree of regulation and control as aircraft when they passed over a nation's territory. The Soviets' objection was relatively short-lived as they too began to rely more heavily on satellites to gather intelligence.

The principles of unimpeded access and non-interference were ultimately enshrined in a series of U.N. resolutions that culminated in the 1967 Outer Space Treaty. The treaty, which has been ratified by 91 nations, provides the basic framework for the field of international space law. Its preamble captured the prevailing sentiment that the "use of outer space for peaceful purposes" is in the "common interest

of all mankind". The treaty's specific provisions likewise affirmed the principle of unimpeded access to space by declaring that outer space, including the Moon and other celestial bodies, "shall be free for exploration and use by all states". Furthermore, outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by other means. Thus, nations cannot impose restrictions or exert control over any part of outer space in the same way that they do over the airspace above their national territory. The treaty also endorsed the principle of non-interference by requiring nations to engage in international consultation if any of their activities in space would cause "potentially harmful interference" with the activities of other nations in the peaceful exploration or use of outer space.

There are certain guiding principles and thoughts underlying this treaty –

(a) The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries.

(b) Outer space shall be free for exploration and use by all states on a basis of equality.

(c) Outer space shall not be subject to appropriation by claim of sovereignty, by means of use or occupation, or by any other means.

(d) Activities in the exploration and use of outer space must be carried out in accordance with international law, including

the charter of the United Nations, in the interest of maintaining international peace and security.

(e) No nuclear weapons or any other kinds of weapons of mass destruction shall be allowed to be placed in orbit around the earth.

(f) No military bases shall be established or weapons testing conducted on a celestial body.

(g) The moon and other celestial bodies shall be used by all states parties to the treaty exclusively for peaceful purposes.

(h) International cooperation and understanding are to be promoted.

(i) All astronauts shall be considered as envoys of mankind while in space and all parties shall provide all possible assistance to them in the case of accident, distress, or emergency landing.

(j) All parties shall immediately inform all other parties of any phenomena they discover concerning space or the celestial bodies which could be a threat to astronauts.

(k) State parties bear international responsibility for national activities in outer space, whether carried out by government or non-governmental entities.

(l) Control and ownership of objects shall be retained by the launching party and will not be affected by their presence in

space. Upon return to Earth, any objects found shall be returned to the owning party.

(m) All exploration and space activities shall be conducted as to avoid contamination of the earth by extraterrestrial matter.

(n) Parties shall be allowed to observe the space object launches of other parties.

(o) The nature, conduct, locations and results of space activities shall be reported to the UN Secretary-General and disseminated to all parties.

(p) Any party may propose amendments to this treaty which will be accepted upon a majority vote.

(q) Any party may withdraw from the treaty by providing one year of notice.

Regarding the liability of states for damage, the treaty regulates international responsibility of states and international organizations, and provides that when outer space activities are carried out by an international organization, responsibility for compliance with the Treaty must be borne by that organization and by the states which participate in such organization, being also parties to the treaty.

Regarding environment, Article I recognises the right of states and other entities to explore and use outer space. But this right is subject to two restrictions – the benefit and interest of all countries must be considered, and secondly, outer space is the province of all mankind. Article IX is specially aimed at preventing the violation of the natural

equilibrium of the outer space environment. Harmful contamination is to be avoided and also adverse changes in the environment of the earth resulting from the introduction of extraterrestrial matter. In case of violation, states shall undertake appropriate measures for this purpose, though the 'appropriate measures' that shall be undertaken have not been specified.

Space law also encompasses national laws, and many countries have passed national space legislation in recent years. The Outer Space Treaty requires parties to authorize and supervise national space activities, including the activities of non-governmental entities such as commercial and non-profit organizations. The Outer Space Treaty 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 (the custom and practice of states).

Despite the Outer Space Treaty's emphasis on peaceful use and the specific provisions on unimpeded access and non-interference, the existing legal regime does not categorically rule out the use of space for military purposes as is often supposed. It is true that there are limits on the use or operation of certain weapons. Prior to the conclusion of the Outer Space Treaty, the 1963 Limited Test Ban Treaty prohibited nuclear weapon test explosions in space.

The Outer Space Treaty itself forbids the placing of nuclear weapons and other weapons of mass destruction in orbit, on celestial bodies, or anywhere else in space. It also rules out military bases, weapons tests, and manoeuvres on the Moon and other celestial bodies. And the 1972 Anti-Ballistic Missile (ABM) Treaty prohibits the development, testing, or deployment of space-based ABM systems or components.

But in the final analysis, international space law imposes few restrictions on the use of space for military activities or the deployment of space weapons. Whatever merits the Outer Space Treaty and other agreements may have in establishing the ground rules for national activities in space, they alone do not preclude the possibility that nations could engage in military action to interfere with access to space or the safe operation of satellites. In the absence of a well-established and widely accepted legal regime in space, the historical analogy of the need to protect lines of communication in the traditional sense may not be all that farfetched.

The advent of commercial space activities beyond the scope of the satellite communications industry, and the development of many commercial spaceports, is leading many countries to consider how to regulate private space activities. The challenge is to regulate these activities in a manner that does not hinder or preclude investment, while still ensuring that commercial activities comply with international law. The developing nations are concerned that the space faring nations will monopolize space resources.

6.24 The Rescue Agreement, 1968

(The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space)

This contains a residual element of the principle of sovereignty banned elsewhere in space law. It proclaims that the state on whose registry an object launched into outer space has been entered retains jurisdiction and control over that object and all its personnel while they are in outer space or on a celestial body. This agreement

contains provisions regarding obligations of states parties concerning assistance to astronauts, measures aimed at rescuing and helping the crew in case of an accident, etc.

A significant shortcoming of this agreement is the lack of any provision regarding the expenditure incurred for the rescue and return of astronauts. The expenses incurred from operations that are carried out for the recovery and return of space objects shall be borne by the launching authority alone. In spite of its shortcomings, this agreement is an important step in the development of space law.

6.25 The Liability Convention, 1972

(The Convention on International Liability for Damage Caused by Space Objects)

On 5th June 1969, a Japanese cargo ship had been damaged off the coast of Siberia by fragments of a device launched into outer space, injuring five sailors. This convention is a result of the issues raised by the problem of liability for the damage that is caused by space objects. In its preamble the states recognize the need to elaborate effective international rules and procedures concerning the liability for damage caused by space objects and to ensure the prompt payment of full and equitable measure of compensation to victims of such damage.

Here, the term 'damage' means loss of life, personal injury or other impairment of health; or loss of or damage to property of states or of persons, natural or juridical or property of international intergovernmental organizations.

The term 'launching' includes attempted launching. Hence when we talk of a launching state, it could mean any of the following four states –

(i) the state that launches
(ii) the state that procures the launching
(iii) the state whose territory has been used for the launching and
(iv) the state from whose facility a space object is launched.

The implication of this is that potential victims of damage have the option of holding any one of these states liable for the total amount of the damage that has been incurred. But this can lead to problems in identifying and deciding which state will be responsible for the activities of private companies. A recent development highlights this problem more clearly, i.e. satellite launches from floating platforms on the High Seas. The first such launch took place on 27th March, 1999 by the conglomerate Sea Launch, with the US firm Boeing being the main contractor. Ukrainian rockets were used, while the platform was managed by the Norwegian company Kvaerner. Due to the location of the platform on the equator (1400 km south of Hawaii) less fuel is needed to place satellites into orbit, thus making this type of launching cost-effective and highly competitive. But here problems can occur with the apportionment of liability for the launching, as this does not take place from the territory of any specific state. So far as collisions between spacecraft are concerned, parties here are in a position of equality, hence the example of air law can be followed and liability can be based on fault. The principle of joint liability applies when two or more states launch a space object in a joint effort.

Exception to the rule of absolute liability

If the launching state acts in conformity with international law, including the UN charter and the Outer Space Treaty of 1967, the convention provides one exception to the rule of absolute liability of states. The launching state is exempted when it can prove that the damage has resulted either wholly or partially from gross negligence or from an act or omission done with the intent to cause damage on the part of a claimant state or of natural or juridical persons it represents. But one shortcoming of this convention is that it contemplates only direct damage, not indirect damage. Besides, it does not contain any provision for determining damage that does not become apparent until long after the event.

Exception to the principle of total compensation

The convention provides for compensation for all the damage sustained and there is no limit to the amount of compensation that can be paid. But it also contains one exception by which two categories of persons who run the highest risk are barred from benefiting from the convention as they cannot claim compensation. The provisions of this convention do not apply to damage caused by a space object of a launching state to –

(a) nationals of that launching state

(b) foreign nationals, during such time as they are participating in the operation of that space object from the time of its launching or at any stage thereafter until its descent, or during such time as they are in the immediate vicinity of a planned launching or

recovery areas as the result of an invitation by that launching state.

6.26 The Registration Convention, 1975

(The Convention on Registration of Objects Launched into Outer Space)

It is not possible to identify a spacecraft that has caused damage without there being a system of registration in place. Besides this, a well-ordered, complete and informative system of registration would minimize the likelihood and even the suspicion of weapons of mass destruction being surreptitiously put into orbit. These are the essential functions of registration of objects launched into outer space. In 1961, the UN General Assembly had requested states launching objects into outer space to furnish information to UCOPUOS for the purpose of registering those launchings. But this was not a mandatory requirement and it was left to the discretion of the respective states. In 1975 the Registration Convention made it a legal obligation to furnish all the information detailed in the convention. The information concerning each space object carried on its registry must be furnished by each state of registry to the UN secretary-general as soon as possible in order to be recorded in the UN register. The main problem with this requirement is the unwillingness of the states to disclose that they have launched satellites for military purposes, or the real missions of such satellites even in other cases. Another point to be noted in this regard is that once the information has been recorded, all states can have access to this information. This naturally makes the states even more reluctant to give details of their launches.

The Registration Convention assumes that all space objects will be registered. This perhaps could be the reason for the lack of rules clarifying which state has the jurisdiction and control over any unregistered space objects. Neither does it clarify whether registration by a state automatically confers its nationality on a space object.

6.27 The Moon Treaty, 1979

(Agreement Governing the Activities of States on the Moon and Other Celestial Bodies 5th December, 1979)

The preamble clearly states that the agreement recognizes that the moon, being a natural satellite of the earth, has an important role to play in the exploration of outer space. It claims to promote the further development of cooperation among states in the exploration and use of the moon and other celestial bodies on the basis of equality. It further expresses the desire to prevent the moon from becoming an area of international conflict, bearing in mind the potential benefits which may be derived from the exploitation of natural resources of the moon and other celestial bodies.

Some of the features of this agreement are as follows –

(a) References to the moon include orbits around the moon and trajectories to reach the moon. The agreement applies not only to the moon but also to other celestial bodies within the solar system, other than the earth. Though the term 'celestial bodies' has not been defined, the agreement declares that it does not apply to extraterrestrial material reaching the surface of the earth by natural means.

(b) States parties have the right to collect and remove from the moon samples of its minerals and other substances. Such samples shall remain at the disposal of the states parties who collected them for scientific research. But a portion of such samples should be made available to other states and the international scientific community.

(c) Use of the moon shall be limited to exclusively peaceful purposes.

(d) No weapons of mass destruction shall be placed on the moon or in the orbit of the moon.

(e) The establishment of military installations on the moon is prohibited.

(f) State Parties shall inform the UN Secretary-General, the public, and the international scientific community of their activities involving the exploration and the use of the moon. In the case of missions lasting longer than sixty days, reports shall be made every thirty days.

(g) If any phenomena that could endanger human life or human health, or any indication of organic life is discovered in outer space or on the moon, the UN Secretary-General, the public and the international scientific community shall be promptly informed about it.

(h) The establishment of manned or unmanned stations on the moon, subject to certain restrictions, is allowed.

(i) Measures shall be taken to prevent the disruption of the moon environment through contamination.

(j) The UN Secretary-General must be informed of the location of any radioactive material placed on the moon in advance.

(k) Allows free exploration of the surface and below the surface of the entire moon.

(l) Shelter must be offered in any stations, installations, vehicles or other facilities to persons in distress on the moon.

(m) Agreeing with the Outer Space Treaty, the Moon Agreement also declares that the moon shall not be subject to national appropriation by claims of sovereignty by means of use or occupation or by any other means. Thus the surface, subsurface or any part of the natural resources of the moon cannot become the property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person.

(n) The placement of facilities on the surface of the moon does not establish ownership over that area of the surface or subsurface of the moon.

(o) Any benefit derived from the natural resources of the moon shall be equitably shared by all State Parties.

(p) If a human life is threatened, State Parties may use the facilities, installations vehicles or supplies of other State Parties present on the moon.

(q) The agreement gives the right to exploration and use of the moon without discrimination of any kind, on the basis of equality and in accordance with international law including the Charter of the United Nations and the terms of the agreement. The moon and its natural resources are declared as the common heritage of mankind.

(r) An international regime will be established to govern the exploitation of the natural resources. The interest and needs of the developing countries as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the moon are to be given special consideration. But the exact manner in which equitable sharing would be worked out cannot be determined in detail until an international regime is actually established.

There are provisions regarding the environment in the Moon agreement of 1979. Article 7, section 1 says that in exploring and using the moon, states parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or in any other manner.

It is obvious from the above mentioned points that there is no clear prohibition on activities such as placing or testing of weapons other than nuclear weapons and weapons of mass destruction, threat or use

of force or hostile acts, establishment of military bases, fortifications, and installations, or the conduct of any other military activity. The moon agreement has also encountered a great deal of controversy, largely due to the conflicting positions of the leading space technology nations, the USA and the then USSR (now the Russian Federation). Both these countries have failed to become parties to the agreement, and this has affected adversely the ambitious objectives of the agreement.

The basic purpose of the Moon Treaty was to establish the ground rules for extracting resources from the Moon and other celestial bodies (such as near-Earth asteroids). Paradoxically, though 12 American astronauts had landed on the Moon between July 1969 and December 1972, neither the United States nor any other party was in any near-term position to begin mining there. In this sense, the treaty was an extraordinary attempt to create international law governing activities that had not yet even come into existence. Lacking any customary practice to draw from, it borrowed heavily from the notion of the "common heritage of mankind" associated with Antarctica and the Law of the Sea Convention during the 1970s.

The treaty itself calls for the establishment of an international regime for licensing and regulating mining on the Moon. Nations are prohibited from laying claim to resources "in place". Moreover, the benefits derived from resource extraction on the Moon are to be shared in part with the entire international community.
Unlike the 1967 Outer Space Treaty, the Moon Treaty garnered little support. The agreement was adopted by the U.N. General Assembly in 1979, but it took five years to obtain the ratifications needed for it to enter into force. To date, only eight countries have actually ratified the treaty. None of the major space powers have done so; the United

States has not even signed it. A major objection to the Moon Treaty is that it actually discourages any development of resources on the Moon and other celestial bodies, and thus removes a compelling reason for humans to eventually return there or to journey even farther into space. Since the costs and risks of mounting expeditions to these forbidding locations would be so enormous, no public or private entity would be willing to assume them if it was subsequently forced to share any returns with other nations that had absolutely nothing to do with the venture.

Moreover, the treaty had almost no natural constituency. Mining on the Moon is generally considered to be a distant prospect and not an issue that generates much enthusiasm even among interest groups that routinely deal with resource development issues. (However, recent discoveries that suggest substantial quantities of frozen water may exist on the Moon have rekindled interest in returning there.)

6.28 Miscellaneous Laws

Besides the treaties discussed above, there are some other treaties and conventions that are mentioned here as they have a bearing on the environment of space. They are as follows –

→ The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, signed on 5th August, 1963 - Article I says that parties agree to prohibit, to prevent and not carry out any nuclear weapons test explosion, or any other nuclear explosion, at any place under their control in the three identified areas. The purpose of this provision was to prevent the wide-ranging distribution of radioactive debris.

→ The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction of 1972.

→ The Convention on the Prohibition of Military and Other Hostile Uses of Environment Modification, signed at Geneva on 18th May, 1977. This convention is applicable to outer space, to the moon and other celestial bodies, as it does not restrict its application to the surface of the earth and to the airspace above it.

→ The rules laid down by the International Telecommunication Union, Intelsat and Intersputnik – these are organizations charged with surveying the damage telecommunications could suffer in space.

6.29 Consensus on Space Treaties

The COPUOS operates on the basis of consensus, i.e. all committee and subcommittee delegates must agree on treaty language before it can be included in the final version of a treaty, and the committees cannot place new items on their agendas unless all member nations agree. One reason that the U.N. space treaties lack definitions and are unclear in other respects, is because it is easier to achieve consensus when the language and the terms are vague. In recent years, the COPUOS Legal Subcommittee has been unable to achieve consensus on the discussion of a new comprehensive space agreement, and it is also unlikely that the Subcommittee will be able to agree to amend the Outer Space Treaty in the foreseeable future. Many space faring nations seem to believe that discussing a new space agreement or

amendment of the Outer Space Treaty would be futile and time consuming, because entrenched differences regarding resource appropriation, property rights and other issues relating to commercial activity make consensus unlikely.

In addition to the international treaties that have been negotiated at the United Nations, the nations participating in the International Space Station have entered into the 1998 Agreement among the governments of Canada, Member States of the European Space Agency, Japan, Russian Federation, and the United States of America concerning cooperation on the Civil International Space Station (the "Space Station Agreement"). This Agreement provides, among other things, that NASA is the lead agency in coordinating the member states' contributions to and activities on the space station, and that each nation has jurisdiction over its own module(s). The Agreement also provides for the protection of the intellectual property and the procedures for criminal prosecution. This Agreement may very well serve as a model for future agreements regarding international cooperation in facilities on the Moon and Mars, where the first off-world colonies and scientific/industrial bases are likely to be established.

6.30 Exclusivity and Rights in the Exploration of Outer Space

There is a general debate whether space should belong to all mankind or belong to those who have the resources to explore space. Some of the specific issues underlying this theme are discussed here.

❖ *Right to Explore Particular Areas of Space*

Article I of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Outer Space Treaty) states that outer space is open and free for exploration and use by all states. State sovereignty does not extend to outer space. But while this article enunciates the highest ideals of exploration for several decades, the practical reality is that few countries have the economic means to undertake the massive expenses involved in space exploration. Further, many developed countries argue that incentives to invest in exploration cannot exist unless parties have exclusive exploration rights over particular areas of space. Without those exclusive rights, parties would have no assurance that their investments in space exploration would be rewarded with sufficient profits.

❖ *Sovereignty and Property Rights Over Explored Areas*

Article II of the Outer Space Treaty provides that outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use, or by any other means. Because no nation has sovereignty over any area of space, there is no legal basis for private parties to assert property claims over tangible goods found in outer space. Typically, property rights do not exist unless sovereignty is also present. But there is historical precedent for property claims to resources even without any country claiming sovereignty over the region where those resources are found. In the 1920s, many countries mined the Spitzbergen Archipelago in the Arctic Sea without alleging sovereignty over the islands.

The Outer Space Treaty was drafted during the Cold War when assertion of sovereignty was a more relevant issue than the assertion of property rights for the purpose of economic exploitation. Some commentators have argued that the Outer Space Treaty cannot be interpreted to preclude assertion of exclusive economic rights in space.

While the Outer Space Treaty is sufficiently vague so that it can be interpreted to allow exclusive economic rights over particular areas of space, the Moon Treaty of 1979 clearly prohibits private ownership of areas of the moon: "Neither the surfaces nor sub-surfaces of the moon, nor any part thereof or natural resources in place, shall become property of any State, international, intergovernmental or non-governmental organization, national organization, or non-governmental entity, or natural person." Article 5 of the treaty contemplates an international regime to govern exploitation of the Moon's resources. While the treaty's language is strong, the treaty is of limited force because only eight countries (Australia, Austria, Chile, Mexico, the Netherlands, Pakistan, the Philippines, and Uruguay) have signed it, and none of them have a significant space program or the resources to develop such a program.

❖ ***Sharing Economic Wealth Flowing From Exploration***

Do wealthy nations who explore space have an obligation to share the fruits of those explorations with all mankind, and in particular, developing countries that cannot afford the costs of exploring space without help from the developed countries? Article I(1) of the Outer Space Treaty states that "use of outer

space shall be carried out ... for the benefit and in the interests of all countries." But wealthy countries argue that an obligation to share the fruits of exploration, the most obvious examples being mineral and energy wealth destroys their incentive to invest in space exploration.

❖ ***Analogous Areas of International Law on Earth***

1. ***Law of the Sea***

United Nations discussions relating to the law of the sea have developed the notion that the seabed and ocean floor are a "common heritage of mankind". The common heritage principle consisted of five essential elements:

(a) the area under consideration cannot be subject to appropriation

(b) all countries must share in its management;

(c) there must be an active sharing of the benefits reaped from the exploitation of resources;

(d) the area must be dedicated to exclusively peaceful purposes; and

(e) the area must be preserved for future generations.

The Common Heritage concept from the law of the sea can be applied to the law of space.

2. *Law Relating to Exploration of Antarctica*

In trying to enact a regime to govern lunar mining, legal proposals to govern mining in Antarctica can be considered. Under the Antarctic Treaty, activities are only governed by Consultative Parties, i.e., parties undertaking substantial scientific research in Antarctica.

Geostationary Orbit Allocation

Satellites in geostationary orbit must all occupy a single ring above the equator, approximately 35,800 km into space. The requirement to keep these satellites apart from each other means that there are a limited number of orbital "slots" available, thus only a limited number of satellites can be placed in geostationary orbit. This has led to conflict between different countries wishing access to the same orbital slots (countries at the same longitude but differing latitudes). These disputes are addressed through the ITU allocation mechanism. Countries located at the Earth's equator have also asserted their legal claim to control the use of space above their territory.

6.31 The United Nations and Space

The United Nations is involved in many areas related to the peaceful uses of outer space. The intergovernmental Committee on the Peaceful Uses of Outer Space and its subsidiary bodies serve as a forum for discussion of relevant issues among Member States; the Office for Outer Space Affairs disseminates a broad range of information on space activities and applications and assists developing countries in gaining access to space technology and applications through the Programme on Space Applications; many of the

specialized agencies and other entities within the United Nations system also utilize space technology, particularly data from remote sensing and Earth observation systems, in specific programmes relative to their respective mandates.

The United Nations does not possess any space hardware of its own. It does utilize the satellite communications system of the International Telecommunications Satellite Organization (INTELSAT) for some of its communications needs. Member States of the United Nations also provide imagery from their satellites for the many UN projects that use remote sensing data. The Office for Outer Space Affairs is the focus of expertise within the United Nations Secretariat. The Office is based in Vienna.

The Office for Outer Space Affairs is the focus of expertise within the United Nations Secretariat. It serves as the secretariat for the intergovernmental Committee on the Peaceful Uses of Outer Space, and implements the recommendations of the Committee and the United Nations General Assembly. The Office is also responsible for organization and implementation of the United Nations Programme on Space Applications.

On behalf of the Secretary-General, the Office also maintains the Register of Objects Launched into Outer Space and disseminates information transmitted by Member States and other parties to the Registration Convention.

The United Nations Programme on Space Applications is a part of the Office for Outer Space Affairs. Its primary function is the organization of a series of eight to ten annual seminars, workshops and conferences on particular aspects of space technology and applications. These

activities are organized primarily for the benefit of the developing countries and emphasize the use of space technology and applications for economic and social development. The programme also provides technical assistance to Member States of the United Nations in organizing and developing space applications programmes and projects.

The Committee on the Peaceful Uses of Outer Space is an intergovernmental body of the United Nations General Assembly. It has 67 members and a wide range of non-governmental and other international organizations active in various fields related to the peaceful uses of outer space are accredited observers of the Committee.

The Committee is comprised of two subcommittees: the Scientific and Technical Subcommittee and the Legal Subcommittee. Each body meets annually to discuss the current items on their respective agendas.

The Conference on Disarmament, based in Geneva, considers matters related to the militarization of outer space. Many other parts of the United Nations system are actively involved in the application of space technology for the benefit of Member States. They include the United Nations Environment Programme (UNEP), the United Nations Regional, Economic and Social Commissions in Africa and Asia and the Pacific, as well as specialized agencies and other organizations in the United Nations system, including the Food and Agriculture Organization (FAO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), International Civil Aviation Organization (ICAO), International Telecommunication Union (ITU), World

Meteorological Organization (WMO) and International Atomic Energy Agency (IAEA).

Coordination of space activities within the United Nations system is conducted through the annual Inter-Agency Meeting on Outer Space Activities which is attended by all United Nations entities that are active in the field of space activities and applications. The Meeting reviews all on-going and planned activities to ensure that they are complementary to each other and to avoid duplication of effort. The Secretary-General issues an annual report on Coordination of Outer Space Activities within the United Nations System which is considered at the Inter-Agency Meeting.

6.32 The Future of Space Law

While this field of the law is still in its infancy, it is in an era of rapid change and development. Arguably the resources of space are infinite, and limited only by our ability to use them in a manner that is fair and equitable to all nations and which is environmentally ethical. If commercial space transportation becomes widely available, with substantially lower launch costs, then all countries will be able to directly reap the benefits of space resources. In that situation, it seems likely that consensus will be much easier to achieve with respect to commercial development and human settlement of outer space. High costs are not the only factor preventing the economic exploitation of space. It is argued that space should be considered as an immaculate environment worthy of protection and conservation, and that the legal regime for space should further protect it from being used as a resource for the Earth's needs. Debate is also focused on whether space should continue to be legally defined as a part of the

"common heritage of man," and therefore unavailable for national claims, or whether its legal definition should be changed to allow private property in space.