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EDITORIAL

The development and application of aerospace technology has resulted in tremendous global impact in diversified fields including social, economic, cultural and scientific. With the increasing globalization of economies, liberalization of space policies, new technological developments in aerospace industry, privatization of some of the aerospace segments, and the growing trend in noninterventionist bilateral and multilateral agreements, there is a development of new trends that are emerging in the aerospace industries throughout the world. Privatization and intensified global competition are forcing aviation and space industries to become responsive, increasingly competitive, and efficient and committed by focusing more closely on their stake-holders.

Over the past few years in India, the attitude of the Government and the Aero-Space industry towards the regulation of aerospace activities has undergone a profound change in almost all spheres. It has been progressively looking forward to privatizing and commercializing space assets expand and develop capability in space exploration and scientific discovery, commercialize its competence to build satellites and offer launch service from its launch vehicles. All these developments are resulting in new concepts of ownership, financing, management and operation of space industry, which are the emerging trends and the hot topics of deliberation in India.

While India has accomplished international acclaim in the area of aerospace technology development and utilization, it is yet to see an integration of efforts at the national level from the standpoint of the private sector.

In this regard, I take immense pleasure in introducing the second issue of Indian Journal of Air and Space Law' at the Centre for Air and Space Law, NALSAR University of Law, Hyderabad. IJASL is a bi-annual legal publication that focuses on the evolving intersection of air and space law. This area of study draws on a number of legal specialties: each of which is undergoing doctrinal and practical changes as a result of new and emerging technologies and contemporary developments. Through the journal, we intend to examine new developments, synthesize them around larger theoretical issues, and critically examine the implications.

The journal is the outcome of relentless effort of Prof. Dr. Faizan Mustafa, Vice-Chancellor, NALSAR University of Law, Hyderabad. Prof. Mustafa's constant, unconditional and encouraging support coupled with exemplary leadership, pleasing personality and exceptional administrative skills have been a source of inspiration to us. He has always directed my academic path to evolve avenues for research, publication and achieve higher levels of excellence.

I, on behalf of my Editorial Team, profusely thank our Patron for entrusting his faith in our abilities to launch this journal. We extend our gratitude to the International and National Advisory Board whose valued suggestions and advise have guided the journal in every aspect.

The Journal is our humble attempt in contributing to the field of aviation and space law research and we hope to continue the good work with our team at Centre for Air and Space Law (CASL).

V. Balakista Reddy
Editor-in-Chief

CENTRE FOR AIR AND SPACE LAW (CASL)

The NALSAR University of Law has always endeavored to promote quality research in contemporary legal issues. One of the contemporary but neglected areas in Indian legal realm is Air and Space laws. To fill this gap and to promote further studies and research in the aerospace law, the University established the advanced Centre for Air and Space law (CASL) in 2005 with object to contribute to the development of aviation and space laws and related policies by conducting and promoting research and teaching at different levels. Since then, NALSAR-CASL has been continually promoting the study of Air and Space Law by conducting National and International Conferences, Workshops and Publishing Newsletters, Books and Articles in Aerospace law field.

The University has been teaching the subjects of air and space law for the past ten years. Till the date, there are many students with degrees in air and space law who have now been absorbed in the national mainstream and are working with the airlines, airports and the multinational corporations. Recently, NALSAR -CASL has also launched few innovative On site and Online courses which include the Two-Year Master's Degree in Aviation Law and Air Transport Management (MALATM); Two-Year Master's Degree in Space and Telecommunication Laws (MSTL); One-Year Post-Graduate Diploma in Aviation Law and Air Transport Management (PGDALATM) and One-Year Post – Graduate Diploma in GIS & Remote Sensing Laws. The objectives of these courses are to cater to the needs of unprecedented aviation growth coupled with commercialization of space and telecom industries, which calls for

thousands of skilled manpower to meet the managerial requirements of rapidly growing airports, airlines, aerospace and telecommunication sectors. CASL also undertakes collaborative research activities in areas of common concern with state governments, NGO's and other international organizations.

PROBLEM OF SPACE DEBRIS: DEVELOPING COUNTRIES POINT OF VIEW AND PROPOSAL OF GLOBAL CONVENTION

Prof. V. Balakista Reddy[1]

Rapid advance in space technology have opened up new vistas in application. These developments have a great potential to benefit all mankind. At the same time, there is serious danger of few nations monopolizing these applications, resulting in greater inequalities among the majority of nations. For instance the industrialized nations continue to dominate the field of science and technology to the extent that they have undertaken some 95 percent of the world's research and development. On the other hand, the third world countries, which represent 70 percent of the world's population, have only about 5 percent of the world's research and development capacity.

The most important challenge for space law today is the protection of outer space environment. Space debris is a small but important part of the problem of outer space pollution. Manmade objects launched into outer space made it possible to solve many problems on the Earth. However, space debris created by a handful of countries pose a hazard for their present policies and may seriously inhibit future space activities of all countries. India predicted the problem of space debris and the protection of space debris and the protection of space environment as early as in the early 1960s.

[1] Professor of International Law; Head, Centre for Air & Space Law, NALSAR University of Law, Hyderabad.

During December 1964 COPUOS[2] meeting India supported the UN endorsement on the question of harmful effects of space experiments. India urged that nations with capability of handling objects on planets should continue to use self restraint so that the possibility of detecting life in other planet was not jeopardized.

The problem of space debris gained momentum in the late 1980s and early 1990s with the expanding international co-operation as part of the international Space Year (ISY) and the International Geosphere Biosphere (IGBP) Programmes.

As of now most people including space experts and security analysts are taking for granted the safety of the new frontier of the human beings – Space, which has been physically explored and utilized only during the past 50 years. Within these fifty years, there are lots of developments which have made Space as a formidable extension of human beings including for military aspects. Up to now, a consensus is keeping Space free of nuclear weapons. But it is not yet safe from human attacks let alone other dangers such as space debris and natural space environment itself.

On 11 January 2007 a Chinese ground-based missile was used to destroy the Fengyun-1C spacecraft, an aging satellite orbiting more than 500 miles in space since May 1999.[3] Although the test was

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[2] COPUOS is organized by two subcommittees, the Scientific and Technical Subcommittee and the Legal Subcommittee. The COPUOS Legal Subcommittee has been the primary forum for discussion and negotiation of international agreements relating to outer space.

[3] China's Anti-Satellite Test: Worrisome Debris Cloud Circles Earth‖, David, Leornard. 2 February 2007, Space.com.

hugely successful from a military point of view, demonstrating China‘s ability to use very sophisticated weapons to target regions of space that are home to various satellites and space-based systems, it caused great concerns to both the military and scientific communities. Indeed, the event is a real danger in the sense it may fuel an arms race and weaponization of space, with some countries being tempted to show they can easily control space as well. From the scientific perspective, the Chinese destruction of Fengyun-1C gave a new dimension to the space debris issue. In shattering the old weather-watching satellite into hundreds of large fragments, the Chinese created a large ―debris cloud. The debris is now spreading all around the earth, the majority of them residing in very long-lived orbits. The debris cloud extends from less than 125 miles (200 kilometers) to more than 2,292 miles (3,850 kilometers), encompassing all of low Earth orbit.

As of 27 February 2007, the U.S. military‘s Space Surveillance Network had tracked and cataloged 900 debris fragments greater than 5 centimeters in size, large enough to create potentially serious collision problems. The total count of objects could go even higher based upon the mass of Fengyun-1C and the conditions of the breakup, which could have created millions of smaller pieces. The Chinese test has demonstrated that the actual system for preventing the creation of space debris is still weak—with a single test threatening to put in shamble the long-term efforts made by other countries. In particular, questions are now raised as to the extent to which the existing organizations working on space debris could take

measures to protect the orbital space from pollution. The test also shows that the various existing treaties and conventions regulating outer space activities do not play a significant role in preventing such an incident because they lack coverage on such issues or are impossible to enforce.

Space debris managing the future:-

It is time to recognize that while space may be infinite, Earth orbital space is a finite natural resource that must be managed properly. The outer space environment should be preserved to enable countries to explore outer space for peaceful purposes, without any constraints. The problem we face is complex and serious; the danger posed by the human-made debris to operational spacecraft is a growing concern. Because debris remains in orbit for long period of time, they tend to accumulate, particularly in the low earth orbit. What is certain today is that the current debris population in the Low Earth Orbit (LEO) region has reached the point where the environment is unstable and collisions will become the most dominant debris-generating mechanism in the future. The tremendous increase in the probability of collision exists in the near future (about 10 to 50 years). Some collisions will lead to breakups and will sow fragments all over the geosynchronous area, making it simply uninhabitable and unreliable for scientific and commercial purposes.

In the early years of the space era, mankind was concerned primarily with conquering space. The process of placing an aircraft in Earth‘s orbit and targeting the moon was such a challenge that little thought

was given to the consequences that might arise from these actions.[4] Space debris has thus been created at the time of the cold war, when the military and space race between the two great powers of the time was at its peak.[5] Not much can be done to change what has been done during the last decades of the 20th Century. Although space debris has been extensively studied by public and private research institutions around the world since the 1980s, its implications have only been discussed in narrow circles of specialists at international conferences.[6] The developing countries feels that there is a urgent need to encourage studies by member countries and if possible by group of member countries and if possible co-operative projects relating to the studies by member countries on the status issues and possible co-operative projects relating to the study of the space environment and space debris. Necessary international co-operation needed to be mounted for compilation of and access to data on space debris and for monitoring of the space debris environment was essential to maintain the earth's environment as well as for the conduct of space activities by all nations for peaceful and beneficial applications.

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4 According to many studies, when the rate of fragments being produced by random collisions exceeds the rate at which they are being removed by atmospheric drag, the debris population will start to grow exponentially as collision fragments cause more collisions, and so on.

5 Barrett, S. (2003). *Environment and Statecraft*, Oxford University Press: New York.

6 Ehrmann, J.R. and B.L. Stinson. 1999. ―Joint Fact-Finding and the Use of Technical Expert in The Consensus Building Handbook: A Comprehensive Guide to Reaching Agreement. Eds. Lawrence Susskind, Sarah McKearnan, and Jennifer Thomas-Larmer. The Consensus Building Institute. pp. 375-399

The Indian delegation said that the maintenance of space activities increased. On many past occasions, the Indian delegation has emphasized the need to keep outer space free of pollution. The increasing quantity of debris in outer space in certain hands in particular causes serious concern.

With the number of man-made objects increasing in outer space and posing major safety and environmental concerns, India has proposed an international arrangement on the lines of the Kyoto Protocol to limit damage to the outer space and protect satellites orbiting the earth. At present, there are more than 9,000 man-made objects of significant size in outer space of which only six per cent are operational satellites. The rest of them, either fragments of broken satellites or non-operational space objects, not only pose the risk of a possible collision but are also an environmental threat. A few incidents of collision of operational satellites with debris have already occurred, the latest being one involving a Russian communication satellite last year, which rendered the satellite unusable.

Although international conventions exist on debris mitigation in space, the guidelines have proved to be inefficient in ensuring that countries that are responsible for creating the debris also make efforts to clear them. India has now proposed to the United Nations a framework that seeks not just to force countries to clear their mess in space, but also to put a cap on the number of launches a country

can make in a year based on their contribution to space debris in the past.

> *"It is a common responsibility of all nations to clean the outer space. But not equal responsibility. Countries which have created the debris must take greater responsibility in clearing it,"*

Orbital debris has become a major problem for space-faring nations. Scientists estimate that there are tens of millions of pieces in orbit, including more than 17,000 bigger than a grapefruit. The collision of a privately owned US communication satellite with a non-operational Russian satellite in space has highlighted the increasing threat posed by space debris. Space debris, also called space junk or space waste, are the man-made objects in orbit around Earth that no longer serve any useful purpose.[7] These consist of things ranging from entire spent rocket stages and defunct satellites to explosion fragments, paint flakes, dust, and slag from solid rocket motors, coolant released by nuclear powered satellites, and other small particles. Space junk has been a growing concern for the countries pursuing space exploration, as collisions at high orbital velocities can be highly damaging to functioning satellites and can also produce even more space debris. Even a 10-gram piece of debris can

[7] http://timesofindia.indiatimes.com/Health--Science/Earth/Pollution/Space-debris---a-growing-man-made-threat/articleshow/4118573.cms

generate a collision force equalling the crash of a car running at 100 km per hour.[8]

To the naked eye on a clear night, outer space with its bright canopy of stars may look pristine and beautiful, but in fact humankind's 'final frontier' is littered with the debris of human exploration and exploitation. The frenetic pace of pace of activities since the launch of the Soviet Sputnik in 1957 has created a 'space debris belt' around the earth that resembles nothing so much as a garbage dump.[9]

Weapons tests in outer space a major hazard:-

So far about 10,000 man-made objects that can be tracked have been catalogued orbiting the earth. These objects are larger than 10-12 cm in size, and are being regularly monitored. In addition there are hundreds of thousands of bits of debris which cannot be tracked because of their minuscule size.

Many of these objects, moving at a high velocity, could seriously damage the multi-million dollar satellites in orbit around the earth. There are more than 1000 satellites and spacecraft circling the earth for various purposes. Luckily, so far the only major case of collision in outer space was the one involving the French defense satellite Cerise, which was hit by a fragment of the European Ariane space vehicle.

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8 David, L. (2 February 2007). ―China's Anti-Satellite Test: Worrisome Debris Cloud Circles Earth, Senior Space Writer, Space.com.

9 http://www.domainb.com/aero/20090120_satellites.html visted on 12-03-09.

Another important contributor to the pollution of outer space is the so-called controlled blasting carried out by some nations for reasons ranging from technological experiment to testing a destructive device. For instance, the recent Chinese anti-satellite test led to the creation of hundreds of pieces of space debris.[10]

Along with other space agencies including the European Space Agency (ESA) and the US National Aeronautics and Space Administration (NASA), ISRO has been working on devising means to mitigate the problem of space debris and strengthen satellites against the possible threat from the man-made objects in outer space.[11] The inter-agency space debris coordinating committee (IADC), part of the United Nations committee on the peaceful uses of outer space, has come up with a suggestion to boost the 'dead and inoperative' satellites into the so-called 'graveyard orbit', which would be at least 350 km above the geostationary orbit (GSO) where most communications satellites are located. The GSO is situated about 36,000 km above the equator.

Space debris takes lives on earth:-

Both, satellites gone out of control and objects moving freely in space, could hit the earth with disastrous consequences. As early as 1961, Cuban Prime Minister Fidel Castro had alleged that a re-entering chunk from a dead American satellite had killed a Cuban

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[10] European Space Agency (15 October 2005). ―Position Paper on Space Debris Mitigation, Implementing Zero Debris Creation Zones.

[11] European Space Agency (2002). ―Space Debris Mitigation Handbook.

cow. Another medium sized metallic piece of an American spacecraft landed on a street junction at Manitowa in Wisconsin in 1962. In early 1970, a German vessel in the Atlantic Ocean was hit by a fragment of the Saturn-V booster used by US Apollo 9 mission to land a man on the moon.[12]

The first case of death or injury due to the impact of descending space debris was reported from China in early 1995. As India was celebrating its Republic Day on January 26, the Chinese Long March-1 vehicle carrying Apstar-2 communications satellites crashed half-way up to its destination, and the rocket stages descending to earth killed a couple and injured several other persons. In addition, space activities are also being blamed for atmospheric pollution. For instance, environmentalists have for many years now alleged that the exhaust from the American space shuttle has been contributing to ozone depletion.

The hazards involved in space exploration caught the public consciousness in the drama of the uncontrolled descent of NASA's orbiting complex, Skylab in July 1979. But fortunately, the 77-tonne Skylab found a watery grave off the Australian coast. In the first quarter of last year, the US managed to safely de-orbit its partially crippled defense satellite that had created a scare of hitting the earth with serious consequences.

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[12] Forden, G. (April 2007). ―After China‘s Test: Time for a Limited Ban on Anti-Satellite Weapons, *Arms Control Today*.

Though far less publicized than the Skylab plunge, the violent crash of the errant Soviet ocean watch satellite Cosmos-954 in January1978 brought home the threat of nuclear radiation from the heavens. Luckily, this spy satellite burnt up over a remote part of Northern Canada, scattering radioactive debris over a wide but unpopulated area. A number of pieces of disintegrated nuclear reactors meant to power satellites on deep space missions remain in various space orbits.[13]

Overcrowding is yet another problem plaguing outer space. The geostationary orbit (GSO), described as the real estate of space, is experiencing near-total congestion. Because a satellite placed in GSO appears stationary in relation to earth, most of the communications satellites are placed in this vital orbital slot. The number of satellites in this orbit has been growing at 10 per cent annually. India's INSAT domestic satellite is located in the GSO belt.[14]

The congestion in this vital belt was highlighted by a big row that broke out in 1994 between China on one side and Japan and America on the other over the positioning of a Chinese spacecraft too close to a Japanese satellite and a privately owned American one. After

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[13] Report of the Scientific and Technical Subcommittee on its forty-fourth session, A/AC.105/890, General Assembly, 6 March 2007, Committee on the Peaceful Uses of Outer Space, Fiftieth session, Vienna, 6-15 June 2007

[14] Klinkrad, H. 2006. ―Space Debris Activities in an International Context,‖ in Space Debris, Models and Risk Analysis, Praxis Publishing Ltd, Springer-Verlag Berlin, p. 313.

much wrangling, China shifted the position of its satellite to avoid interference.

Space Pollution, a reality:-

Since the launch of Sputnik I in 1957, space activities have created an orbital environment that poses increasing risks to existing space systems, including human space flight and robotic missions. It is crucial to understand what is meant by debris in the context of space. It is true that meteoroids can also be a source of great concern, some of them being very large, with a mass of several thousand metric tons. Every day Earth‘s atmosphere is struck by millions of small meteoroids but most never reach the surface because they are vaporized by the intense heat generated when they rub against the atmosphere.[15]

Categories of Space Debris

In his article ―Space Debris: Legal and Policy Implications Howard Baker divides space debris into four classes, these categories are as follows:-

(1) Inactive payloads or inoperative objects: Inactive payloads are primarily made up of satellites that have run out of fuel for station-keeping operations or have malfunctioned and are no longer able to maneuver. However, the use of the term ―inactive payloads requires clarification. Because satellites

[15] Inter-Agency Space Debris Coordination Committee (15 October 2002). ―Space Debris Mitigation Guidelines.

can be deactivated for periods of time and then later reactivated, and because debris may include objects manufactured in outer space and not just payloads, the term ―inoperative objects may be more correct when referring to objects which entities can no longer control.

(2) Operational debris: Operational debris includes any intact object or component part that was launched or released into space during normal operations. The largest single category of this type of debris is intact rocket bodies that remain in orbit after launching a satellite.

(3) Fragmentation debris: Fragmentation debris is created when a space object breaks apart. This type of debris can be created through explosions, collisions, deterioration, or any other means. Collisions are another source of fragmentation debris.

(4) Micro particulate matter: Surface degradation is also a cause of space debris. Surfaces of spacecraft are exposed to the deleterious space environment of ultraviolet radiation, atomic oxygen, thermal cycling, micro-particulates, and micrometeoroids.[16] This can lead to degradation in the optical, thermal and structural integrity of surfaces and coatings with subsequent shedding of materials into the space environment.

[16] International Academy of Astronautics (May 2006). ―Position Paper on Space Debris Mitigation, Edited by: Christophe Bonnal and John Hussey, Published by the International Academy of Astronautics (IAA).

Efforts Made by Space-faring Countries and International Organizations

Many space-faring nations have started to realize the problem posed by space debris and have adopted various measures to mitigate it. Today, there is a wide interest in the problem from the scientific community and various initiatives and organizations have been set up to debate and promote various guidelines or codes of conduct.

Space Debris Activities in a Global Context

Space debris activities started to display momentum in the 1960s with initial interest by the U.S.A. In the mid-1970s, the problem was first raised at the international level when the IAF started to organize the Safety and Rescue Symposia congresses.[17] But we have to wait until the early 1980s to bring space debris issues to the forefront of scientific agenda. In July 1982, NASA conducted the first dedicated conference on orbital debris. In September 1985, as a response to the decays of Skylab and Cosmos 1402, ESA organized a workshop on the re-entry of space debris. In April 1993, ESA also organized the first European conference on space debris with participants from the major space-faring nations. Since the mid-1990s, space debris research has gained considerable interest.

The role of U.S.

It is worth noting that the debris problem has its origin in the space

[17] Johnson, N. and Liou, J.-C. (20 January 2006). ―Risks in Space from Orbiting Debris,Vol. 311 *Science*.

competition between the former USSR and the U.S. Since 2000, the number of in-orbit objects larger than a bowling ball has increased by nearly 10 percent, with the United States and Russia each contributing approximately 40 percent of the total debris. The following graph illustrates the origin of space debris and clearly it becomes obvious that the role of the U.S. in dealing with this problem cannot be marginal.

Although at this time the U.S. Government does not see the need or benefit for a new legal regime to address the topic of space debris, the U.S. has played a crucial role in tracking, cataloguing, and modeling space debris. NASA has been at the forefront of orbital debris mitigation efforts in the U.S. government. A NASA Orbital Debris Program Office, located at the Johnson Space Center, is recognized worldwide for its leadership in addressing orbital debris issues. The NASA Orbital Debris Program Office has taken the international lead in conducting measurements of the environment and in developing the technical consensus for adopting mitigation measures to protect users of the orbital environment. Researchers at the center develop an improved understanding of the orbital debris environment and devise measures that can be taken to control its growth.[18] The Office plays a key role within the Scientific and Technical Subcommittee of the UN Committee on the Peaceful Uses of Outer Space in promoting mitigation guidelines. Space debris has

[18] Kerrest, A. (1997). ―Remarks on the Responsibility and Liability of Damages other than Those Caused by the Fall of a Space Object. University of Western Brittany, CEDEM

been clearly identified in the new National Space Policy of the U.S. signed on 31 August 2006 by President George W. Bush. The United States shall seek to minimize the creation of orbital debris by government and non-government operations in space in order to preserve the space environment for future generations.[19]

The Role of Russia

The Federal Space Agency of Russia is active in the field of space debris problems. The Agency is mostly concerned with the safety of spacecraft and International Space Station (ISS). The activity on debris mitigation is presently being carried out within the framework of Russian National Legislation, taking into account the dynamics of similar measures and practices of other space-faring nations. A national standard called ―General Requirements to Spacecraft and Orbital Stages on Space Debris Mitigation is being developed and shall provide general space debris mitigation requirements to design and operate spacecrafts and orbital stages.[20] At this time, the implementation of requirements remains voluntary. In terms of international cooperation, and similar to the U.S. position, the Russian Federation is convinced that development of space debris mitigation guidelines of the Scientific and Technical Subcommittee of the UN Committee on the Peaceful Uses of Outer Space is the essential input in developing an internationally

[19] U.S. National Space Policy, Office of Science and Technology Policy, 31 August 2006, http://www.ostp.gov/html/US%20National%20Space%20Policy.pdf

[20] NASA‘s Meteorites and Debris database, http://www-curator.jsc.nasa.gov/seh/ldef/ldef.cfm.

approved set of measures to protect near-Earth space environment.

The Role of the European Union

ESA has a long history in tracking space debris. In 1986, the Director General of ESA created a Space Debris Working Group with the mandate to assess the various issues of space debris. The findings and conclusions are contained in ESA's Report on Space Debris, issued in 1988. In 1989, the ESA Council passed a resolution on space debris where the Agency‘s objectives were formulated as follows: 1) Minimize the creation of space debris; 2) reduce the risk for manned space flight, 3) reduce the risk on ground due to reentry of space objects, 4) reduce the risk for geostationary satellites. Following the publication of NASA mitigation guidelines for orbital debris in 1995, ESA published a Space Debris Mitigation Handbook, issued in 1999, in order to provide technical support to projects in the following areas: Description of the current space debris and meteoroid environment, risk assessment due to debris and meteoroid impacts, future evolution of the space debris population, hyper-velocity impacts and shielding, cost-efficient debris mitigation measures.[21]

The Role of the Inter-Agency Space Debris Coordination Committee (IADC)

The Inter-Agency Space Debris Coordination Committee (IADC) is one of the world‘s leading technical organizations dealing with

[21] Krepon, M., Heller, M. (May/June 2004). ―A Model Code of Conduct for Space Assurance, Disarmament Diplomacy, Issue No. 77.

space debris. ESA is a founding member of IADC, together with NASA, the Russian Aviation and Space Agency, and Japan. IADC is today an international It is composed of the following members: Italian Space Agency (ASI), British National Space Centre (BNSC), the Centre National d'Etudes Spatiales (CNES), China National Space Administration (CNSA), Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), the European Space Agency (ESA), the Indian Space Research Organisation (ISRO), Japan Aerospace Exploration Agency (JAXA), the National Aeronautics and Space Administration (NASA), the National Space Agency of the Ukraine (NSAU) and the Russian Federal Space Agency (ROSCOSMOS). The primary purpose of the IADC is to exchange information on space debris research activities between member space agencies, to facilitate opportunities for co-operation in space debris research, to review the progress of ongoing co-operative activities and to identify debris mitigation options. Generally speaking, the organizations reached a consensus of adopting the mitigation guidelines as proposed by the IADC.[22] The ―IADC Space Debris Mitigation Guidelines was drafted in 2002 as the first international document that is specialized in field of space debris mitigation and based on a consensus among the IADC members. In February 2003, at the fortieth session of the Scientific and Technical Subcommittee of the UNCOPUOS, the IADC presented the ―IADC Guidelines as its proposals on debris mitigation.

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[22] Newman, D. (2002). *Interactive Aerospace Engineering and Design*, McGrawHill

This document serves as the baseline for the debris mitigation in two directions:

1) toward a non-binding policy document, and

2) toward applicable implementation standards.

One criticism of the IADC Space Debris Mitigation Guidelines is that they remain voluntary and are not legally binding under international law. Still, IADC is an ideal forum on space debris due to its wide membership among the leading space agencies and provides a basis for further international cooperation when elaborating a space debris convention.[23] Indeed, IADC standards have facilitated the discussion on space debris mitigation guidelines and opened the door to further research related to the cost of mitigation measures. Thus, recently, various studies have been conducted on the effectiveness and the costs of debris mitigation measures. These studies examine a number of important problems: prevention of on-orbit explosions and operational debris release, reduction of slag debris ejected from solid rocket motor firings, de-orbiting of space systems in LEO with various limitations on the post-mission lifetime, and re-orbiting of space systems to above the LEO & GEO protection zones.

The Role of the United Nations

Over the past years, the United Nations On Peaceful Use of Outer

[23] ESA Spacecraft Operations, http://www.esa.int/spacecraftops/ESOC-Article-fullArticle_par-40_1092735450198.html

Space (UNCOPUOS) and its Scientific and Technical Subcommittee (STSC) have played an important role in debating space debris issues. UNCOPUOS was set up by the General Assembly in 1959 in resolution 1472 (XIV). At that time, the Committee had 24 members. Since then, it has grown to 67 members--one of the largest Committees in the United Nations. In addition to states, a number of international organizations, including both intergovernmental and non-governmental, have been granted observer status with UNCOPUOS and its Subcommittees.[24]

The Committee has the following goals:

1) review the scope of international cooperation in peaceful uses of outer space,
2) devise programs in this field to be undertaken under United Nations auspices,
3) encourage continued research and the dissemination of information on outer space matters, and
4) study legal problems arising from the exploration of outer space.

The Protocol for a Space Debris Risk and Liability Convention 50 resolution establishing UNCOPUOS also requested the UN Secretary-General to maintain a public registry of launchings based on the information supplied by states launching objects into orbit or

[24] Smirnov, N. (2002). *Space Debris: Hazard Evaluation and Mitigation*, ESI Book Series, Taylor and Francis, London.

beyond. The Committee is divided in two standing subcommittees: the Scientific and Technical Subcommittee and the Legal Subcommittee.[25] The Committee and its two Subcommittees meet annually to consider questions put before them by the General Assembly, reports and issues raised by the Member States. The agenda of the Committee is quite large.

The session covered a wide array of issues, including space debris; matters relating to remote sensing of the Earth by satellite, including monitoring of the Earth‘s environment; use of nuclear power sources in outer space; near-Earth objects; space-system-based disaster management support; physical nature and technical attributes of the geostationary orbit; etc. The Committee has also been concerned with space objects with nuclear power sources on board and problems relating to their collision with space debris. The United Nations Office for Outer Space Affairs (UNOOSA) implements the decisions of the General Assembly and of UNCOPUOS. The office has the dual objective of supporting the intergovernmental discussions in UNCOPUOS and of assisting developing countries in using space technology for development. The Office is the focus of expertise within the United Nations Secretariat. It serves as the secretariat for the intergovernmental Committee (UNCOPUSOS), and implements the recommendations

[25] The United nations General Assembly resolution A/RES/61/611 at http://daccessdds.un.org/doc/UNDOC/GEN/N06/501/09/PDF/N0650109.pdf ?OpenElement provides a summary of the different opinions voices at the 2007 Vienna meeting

of the Committee and the United Nations General Assembly.[26] The Office is also responsible for organization and implementation of the United Nations Programme on Space Applications (UNPSA). UNPSA is part of the Office for Outer Space Affairs. Its mission is stated as follows: ―Enhance the understanding and subsequent use of space technology for peaceful purposes in general, and for national development, in particular, in response to expressed needs in different geographic regions of the world. The Programme also provides technical assistance to Member States of the United Nations in organizing and developing space applications programs and projects.[27]

Failure to Recognize Space Debris in Legal Regimes:-

There is a critical weakness in the international law on space debris. Existing space law is related to the use of space and not to debris regulation. Most of existing treaties have been overtaken by technology advancement.[28] This means that commercial and government-sponsored space launches can still create more debris without limits. [29]Today, any country or corporation can launch a rocket and/or place equipment into orbit without permit.. In the end,

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[26] Porter, G., Brown, J. W., Chasek, P. S. (2000). *Global Environmental Politics*, Third Edition, Westview Press Inc. Boulder Colorado.

[27] Space Generation Advisory Council (SGAC) is a non-governmental organisation http://www.spacegeneration.

[28] International Academy of Astronautics (IAA). May 2006. Position Paper on Space Debris Mitigation, Edited by: Christophe Bonnal and John Hussey, Published by the International Academy of Astronautics (IAA), page 4.

[29] Susskind, L. and Jeffrey C. (1988). Breaking the Impasse. Consensual Approaches for Resolving Public Disputes. Basic Books.

China was free to target one of its old weather satellites with an ASAT weapon and blow the spacecraft apart because 1) it can; and 2) ASAT testing is not forbidden under international law. The arms control provisions of the Outer Space Treaty forbids the placing of nuclear weapons or any other kinds of weapons of mass destruction in orbit. The treaty also forbids establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on the Moon and other celestial bodies (Art. IV).

At the UN level, some nations have expressed the view that a legally non-binding set of guidelines was not sufficient. Some delegations at the Scientific and Technical Subcommittee (UNCOPUOS) expressed the view that the Subcommittee should consider submitting the space debris mitigation guidelines as a draft resolution of the General Assembly rather than as an addendum to the report of the Committee. At the meeting of UNCOPUOS on February 2007 in Vienna, the view was also expressed that the states largely responsible for the creation of the present situation and those having the capability to take action on space debris mitigation should contribute to space debris mitigation efforts in a more significant manner than other States. This is why some countries are proposing a set of rules and calling for a legal regime to be implemented. [30]

[30] Susskind, L. (1999). ―An Alternative to Robert's Rules of Order for Groups, Organizations, and Ad Hoc Assemblies that Want to Operate By Consensus,‖ in The Consensus Building Handbook: A Comprehensive Guide to Reaching

Weakness of the Space Liability and Dispute Settlement Mechanism:-

The 1972 Convention on International Liability for Damage Caused by Space Objects, commonly known as the ―Liability Convention sets forth the rules for personal injury and property damage and for resolution of those issues at the international level. Articles I and II of the agreement, for instance, provide that a country which launches or procures the launching of a space object or from whose territory a space object is launched, and is liable for damage caused by its space object on the surface of the earth or to aircraft in flight. With respect to damage caused elsewhere than on the surface of the earth, however, the notion of liability is not clearly established.[31] The notion of direct damage is established under Article VII of the Outer Space Treaty. It says that each ―State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space, including the moon and other celestial bodies. Article III Outer Space Treaty says that parties to the treaty shall carry on activities ―in accordance with

Agreement, eds. Lawrence Susskind, Sarah McKearnan, and Jennifer Thomas-Larmer (Thousand Oaks, CA: Sage Publications).

[31] International Astronautical Federation (IAF) is an international non-governmental and non-profit organization. http://www.iafastro.com/index.php?id=65.

international law, including the Charter of the United Nations. Article 33 of the UN Charter says that parties shall first ―seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice.

In the event that such means fail to achieve a resolution of the issue, Article 36(3) indicates ―legal disputes should as a general rule is referred by the parties to the International Court of Justice. In the absence of an agreement establishing binding procedures for the field of space law, it is likely that most national governments will seek to continue to resolve their disputes through the existing diplomatic channels. Private parties to a dispute, i.e. a commercial firm, would therefore be at a disadvantage under the existing regimes. For this reason, it is advocated that an international convention set up the mechanism for resolving disputes, both public and private. [32]

Review of Existing Treaties, Conventions and Agreements Regulating Space Activities

Space Law Infancy

One of the main problems of existing space law is that it does not address issues of controlling and limiting the proliferation of space debris. Furthermore, satellite and launch-vehicle manufacturers are not presently legally bound to employ mitigation measures. It is

[32] Susskind, L. (1994). *Environmental Diplomacy*, Oxford University Press: New York

important to note that the field of the space law is still in its infancy. The inception of this field began with the launching in October of 1957 of the world's first satellite by the Union of Soviet Socialist Republic. In 1958, United States and Soviet leaders each asked the United Nations to consider the legal issues associated with space activity. The United Nations subsequently created the previously discussed UNCOPUOS. The Conventions fail to account for the rapid changes in today‘s field, where commercial space transportation is becoming widely available with substantially lower launch costs and new countries are becoming active in space exploration.[33] The market for commercial space launchers has witnessed rapid growth over the past several years. The exiting treaties and conventions fail to account for this reality.

The first key treaty, the Outer Space Treaty, was established in 1967. The Treaty has 96 state parties signed on and contains a measure to not place in orbit around the Earth, install on the Moon or any other celestial body or otherwise station in outer space, any weapons of mass destruction, nuclear or otherwise.[34] The treaties all elaborate on provisions of the Outer Space Treaty. The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (5 August 1963) is targeted to control nuclear weapon

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[33] Senechal, T. (2007). ―Orbital Debris: Drafting, Negotiating, Implementing a Convention.Master Thesis, Massachusetts Institute of Technology

[34] The National Aeronautics and Space Administration (NASA), Space Debris Environment and Policy Updates, Presentation to the 44th Session of the Scientific and Technical Subcommittee Committee on the Peaceful Uses of Outer Space, United Nations, 12-23 February 2007.

proliferation. This treaty recognizes that space can be used for undesirable military projects. It bans the carrying out of any nuclear weapon test explosion or any other nuclear explosion in the atmosphere and beyond its limits, including outer space.

The Five Main Treaties Regulating Outer Space:-

There are five international treaties negotiated and drafted under the United Nations auspice at the COPUOS and adopted by the United Nations General Assembly. However, because some space-faring nations are not signatories to all treaties, there is no fully international agreement to abide by this body of law[35]. Some governments and private sector actors are unsure of their rights and have no assurance that their efforts to go to space will be legally protected. This is why an international legal regime is proposed with new laws that would encourage a peaceful use of space for all.

Treaties, Conventions And Agreements	**Date Of Ratification And Signature**	**Main Objectives**
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 (OST))	Adopted on 19 December 1966. Entered into force on 10 October 1967 Ratified by 98 nations and signed by 27 nations.	Establish a framework for international space law; provide that space shall not be subject to national appropriation and that exploration and use of space shall be for the benefit of all countries; limits military use of space.
Agreement on the Rescue of Astronauts,	Adopted on 19 December 1967.	Call for the rendering of all possible assistance to

[35] Susskind, L., Moomaw, W., Gallagher, K., Corell, E. (2001). *Reforming the international Environmental treaty-making system*, PON Books: Cambridge

the Return of Astronauts and the Return of Objects Launched into Outer Space.(The Rescue Agreement (ARRA))	Entered into force on 3 December 1968 Ratified by 88 nations and signed by 25 nations.	astronauts in the event of accident, distress or emergency landing. Establish a procedure for returning space objects found beyond the territorial limits of the launching authority.
Convention on International Liability for Damage Caused by Space Objects(The Liability Convention (LIAB))	Adopted on 29th November 1971 Entered into force on 1 September 1971 Ratified by 82 nations and signed by 25 nations.	Provides that the launching State is liable for damage caused by its space objects on the Earth's surface or to aircraft in flight and also to space objects of another State or property onboard such objects.
Convention on Registration of Objects Launched Into Outer Space.(The Registration Convention (REG))	Adopted on 12 November 1974. Entered into force on 15 September 1976 Ratified by 45 nations and signed by 4 nations.	The Convention provides that launching States shall maintain registries of space objects and furnish specified information on each space object launched, for inclusion in a central United Nations register.

Dispute settlement mechanism:-

Administrative, operational, and logistical requirements of such a mechanism are those generally applicable to the implementation of large-scale international arbitration efforts. Experience gained in these efforts should be taken into account, while keeping in mind the specific nature, scope, and complexity of the space debris issue. The principal requirements applicable to the design of the dispute mechanism are outlined below:

(1) Effectiveness. The requirement of effectiveness means that the process produces results and achieves its goals within a reasonable

period of time. A precise temporal goal for the resolution of a claim should be established.

(2) Efficiency. Efficiency means that the international dispute settlement mechanism be designed in such a way that it achieves its goals with minimum expenditure of resources. Consequently, the procedures of the mechanism should be designed to further this goal and adjust, as appropriate and necessary, traditional rules regarding the allocation of the burden of proof and standards of evidence. This is the reason why the Space Debris Convention should develop an independent tracking and cataloguing capacity. In order to promote efficiency, it is also important to ensure that the mechanism, including its key decision-making functions, is staffed on the basis of professional and technical competency and experience.[36]

(3) Transparency. Transparency means that eligibility and other criteria, including the types of loss covered and the valuation methods available for quantifying damages, and all principal documents are made public. The policy-making body for the international mechanism should also include representatives of the parties and the international community. However, this does not mean that these parties will have a decisive role in the decision-making process; this role should in principle be preserved for the independent arbitrators adjudicating the space debris claims.

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[36] United Nations. (2005). ―Space Solutions for the World's Problems: How the United Nations family is using space technology for sustainable development.‖ Brochure produced by the UN Inter-Agency Meeting on Outer Space Activities.

Standard operating procedures should be developed to guide the operation of the claims process. Rules of procedure should be adopted for the claims process that embody and reflect applicable international legal standards. [37]

Valuation Standards for Damage Assessment

As a general principle, compensation in most cases would be calculated on the basis of internationally recognized principles of valuation found in arbitration, loss adjusting, and accounting professions. It is important that the basis of valuation for economic and non-economic losses related to space debris be based upon internationally accepted professional valuation standards. At the general level, in the sake of efficiency, the guiding valuation principles would be as follows:

- Simple and consistent, rather than subtle and arbitrary. This allows easy and transparent processing of claims, consistency and accuracy of the valuation work.
- Seek to integrate generally accepted valuation standards and procedures in order to maximize accuracy and reliability of awards.[38]
- Rely, as much as possible on independent evidence for assessing liability

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[37] U.S. National Space Policy (2006). See http://www.ostp.gov/html/US%20National%20Space%20Policy.pdf

[38] Williamson, M. (2006). *Space, the Fragile Frontier. Americam Institute of Aeronautics and Astronautics*, Reston.

Claims Process and Dispute Board Members:- Under the space debris convention, the claims process is essentially a quasi-judicial function and should be organized accordingly. As such, the design should incorporate the applicable international legal standards and the ―best practices of international claims resolution systems. The principal function of these standards and practices is to ensure that the minimum requirements of due process are respected while ensuring that the process is executed in an efficient and effective manner and without undue delay.

The members of the dispute board should be appointed by the policy-making body for the convention on the basis of a nomination by an appointing authority designated in advance. One member of the dispute board should be appointed to serve as Chairman of the Board. In line with the independent, professional nature of their function, the members of the boards should serve in their personal capacity and not as representatives of their governments.[39] The plenary of the dispute board, sitting as the claims commission, should be authorized to adopt its own rules of procedure or, alternatively, draft these rules and submit them for approval to the policy-making body. The decisions of the dispute board should be final and not subject to review by the policy-making body.

Conclusion and recommendations:-

In addition to introducing a renewed military dimension to space,

[39] White, W. (2001). The Legal Regime for Private Activities in Outer Space. Cato Institute.

the destruction of the Chinese satellite has sent a strong signal to the world that the problem of space debris has not been resolved. Today, orbital debris continues to be a growing problem for government and commercial satellite operators and manufacturers. Orbital debris will continue to grow as long as there are launches of satellites and other spacecraft. It is obvious that space corporations can take significant steps towards minimizing the amount of debris that remains in space.

However, the greatest challenge is not a technological one. Rather, the greatest obstacle comes in our ability to successfully coordinate and implement, with force, a set of measures to deal with space debris in the coming years. A global convention is thus warranted for the simple reason that the successful approval of voluntary guidelines has not been consistent over the last few decades. Furthermore, the convention would cast in stone some of the principles for dispute resolution and liability damage. The convention is to be organized around the following four objectives:

- Objective 1: Independent Tracking and Cataloguing of Space Debris. Before determining the most effective measures that should be taken to solve the space debris problem in Earth orbit, it is essential to quantify the problem not only in terms of the current orbital debris environment, but also in terms of future growth potential absent remedial action. I propose that a uniform database be maintained by UNOOSA secretariat. Specific procedures will need to be drafted and enforced to

ensure that UNOOSA collects information and data in a timely and exhaustive manner.

- Objective 2: Adoption of Enforceable Space Debris Mitigation and Disposal Standards. I advocate the need for internationally agreed standards that can enforce appropriate debris mitigation and disposal measures for spacecraft and launch services providers.
- Objective 3: The ―Space Preservation Provision. The convention must propose that some orbital regions be protected because of their scientific and economical importance: the Low Earth Orbit (LEO), ranging from 200 km to 2000 km altitude, and the Geostationary Earth Orbit (GEO) between 33000 and 36000 km altitude.
- Objective 4: Liability, Compensation and Dispute System Design. The convention must set out clearly the mechanism for resolving disputes under which a final and enforceable decision can be obtained in a cost-effective manner. I propose the creation of a Dispute Board set up at the outset of the convention. UNOOSA will ensure support to the dispute settlement mechanism.

Major mass communication exercises would need to be done to make people of the world understand that unlike their utilization of earth, the use of space has just started and the benefits are still fragile. If activities in Space are overloaded too much through fears

of Space Security then the beneficial growth will be severely hampered.

In the final analysis, human security can be ensured only through better human understanding of mutual interdependence of multiple self interests. Thus there is plenty of scope for many creative minds to work on many complex multi-disciplinary areas covering sciences, technologies, businesses, law, diplomacy and economics. The extent to which appeals from the decisions of the dispute board will be allowed should be carefully considered in view of the number of claims to be processed and the mass nature of the process. It may be efficient to use other procedures, including external audits, to monitor the appropriateness and accuracy of the decisions.

ADJUDICATION OF CIVIL AVIATION DISPUTES – THE INDIAN STORY

Ridhi Kabra[*]

Abstract

India's foray into commercial civil aviation dates back to pre-independence India. In the last decade, India has witnessed tremendous growth in civil aviation. Currently, with an estimated size of US$ 16 billion, India is the 9th largest aviation market in the world. The development and growth of the civil aviation industry in India has not been without disputes- both domestically and internationally. Internationally, India has been involved in several disputes with its neighbour, Pakistan. Domestically, India has had to deal with civil aviation disputes only after the liberalization and privatization of its economy in 1991.

This article analyses India's experiences with the adjudication of civil aviation disputes both domestically and internationally. In relation to international disputes, the article surveys India's experiences before the ICAO and the ICJ before considering the possibility of investment treaty-based arbitration against India on this

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matter. In relation to domestic disputes, this article studies – (a) the Indian government's recent proposal to appoint an ombudsman to handle consumer complaints; and (b) the manner in which disputes relating to deregistration and repossession of aircrafts have been handled by Indian courts.

I. INTRODUCTION

India's foray into commercial civil aviation dates back to pre-independence India. The first commercial civil aviation flight, between Ahmedabad and Naini, took off on 18 February 1911. This flight, meant to be a demonstration, carried 6500 mails on a Humber biplane and is considered to be the world's first airmail service.[1] Shortly afterwards, in December 1912, the first domestic air route was opened by the Indian State Air Services in collaboration with Imperial Airways, UK, between Karachi and Delhi.[2] While a number of independent domestic airlines came into existence in the pre-independence era, the period after India's independence witnessed a nationalization of the entire aviation industry. Thus, in March 1953, the Indian Parliament enacted the Air Corporations Act and merged eight independent airlines, only to be de-regulated in

1 Reports & Position Papers, "Chronology of Events of Indian Civil Aviation Sector", http://www.apaoindia.com/?page_id=185, (accessed December 28, 2015).

2 Maushumi Chakravarty, "100 Years of Civil Aviation in India-Milestones", http://pib.nic.in/newsite/efeatures.aspx?relid=69345, (accessed December 28, 2015).

1990-1991 once the liberalisation-globalisation-privatization policy was implemented by the then government of India.[3]

In the last decade, India has witnessed tremendous growth in civil aviation. Currently, with an estimated size of US$ 16 billion, India is the 9th largest aviation market in the world.[4] At its current growth rate, it is predicted to become the 3rd largest aviation market in the world by 2020.[5]

The development and growth of the civil aviation industry in India has not been without disputes- both domestically and internationally. Internationally, India holds the distinction of being party to the first civil aviation dispute with its neighbour, Pakistan, as early as in the year 1952. Domestically, dispute resolution was not a problem for India until 1991, since the entire sector was nationalized. It was only with the de-regulation of the civil aviation sector and the simultaneous introduction of private players into the sector, that domestic methods of dispute resolution started receiving attention.

Against this backdrop, this article aims to analyse India's experiences with adjudication of civil aviation disputes both at the domestic and the international level. As a caveat, in relation to disputes at the domestic level this article will not focus on disputes

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3 These were: Deccan Airways, Airways India, Bharat Airways, Himalyan Aviation, Kalinga Air Lines, Indian National Airways, Air India and Air Services of India.

4 http://www.india-aviation.in/pages/view/38/an_overview.html, (accessed December 28, 2015).

5 *Ibid.*

arising between various parties within an organization. Thus, disputes involving questions of labour law and the like are outside the ambit of this article. Rather, the scope of this article is restricted to studying mechanisms of resolving disputes between various players in the civil aviation sector.

Section II of this article discusses cases that India has been party to, at various international dispute resolution forums. The article looks at cases before the Council of the International Civil Aviation Organization (the "**ICAO**"), the ICJ and *ad-hoc* arbitration tribunals. Additionally, this section also considers the potential for investment treaty-based arbitration.

Section III discusses two pertinent issues faced by India in relation to civil aviation disputes domestically. The first relates to mechanisms of dispute resolution available to consumers. In this regard, this article attempts to analyse the Government's recent proposal to appoint an ombudsman to handle consumer complaints. The article then looks at the manner in which disputes relating to deregistration and repossession of aircrafts have been handled by the courts of India.

Finally, Section IV concludes with an analysis of the policies adopted by the Indian Government and recommends certain modifications.

II. INDIA'S EXPERIENCE WITH INTERNATIONAL CIVIL AVIATION DISPUTES

Modern international aviation law is based primarily on the Convention on International Civil Aviation, 1944 (the "**Chicago Convention**").[6] The Chicago Convention was adopted at the Chicago Conference on International Civil Aviation on 7 December 1944.[7] India became party to the Chicago Convention on 1 March 1947, much before its independence.[8] Over the years, India has also become party to several other international agreements and protocols.[9]

Under the Chicago Convention, disputes relating to its interpretation and application are to be submitted to the Council of the ICAO, in case of failure of negotiations.[10] The ICAO was set up by the Chicago Convention as a specialized agency of the United Nations to manage the administration and governance of the Chicago

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6 Convention on International Civil Aviation, 7 December 1944, (1944) 15 UNTS 295.

7 Michael Milde, *International Air Law and ICAO* (Utrecht: Eleven International Publishing, 2008), 17.

8 "Status of India with regard to international air law instruments", http://www.icao.int/secretariat/legal/Status%20of%20individual%20States/india_en.pdf (accessed January 2, 2016).

9 These include, *inter alia*: the International Air Services Transit Agreement, 1944; the International Air Transport Agreement, 1944; the Convention on the International Recognition of Rights in Aircraft Geneva, 1948; the Convention for the Unification of Certain Rules relating to International Carriage by Air, 1929. For a complete list, see: http://www.icao.int/secretariat/legal/Status%20of%20individual%20States/india_en.pdf

10 Chicago Convention, *supra* note 6, Article 84.

Convention.[11] Appeals from the decisions of the Council can be made either to an *ad-hoc* tribunal constituted with the agreement of the parties, or to the International Court of Justice (the "**ICJ"**).[12] Inter-state dispute resolution under the International Air Services Transit Agreement (the "**Transit Agreement**") and the International Air Transport Agreement follow the same procedure as laid down in the Chicago Convention.

A. Disputes before the ICAO Council

(i) India v Pakistan (1952)

As mentioned above, the first dispute to be submitted before the ICAO Council was a complaint by India against Pakistan, in 1952.[13] This dispute arose out of Pakistan's refusal to permit Indian aircrafts to and from Afghanistan to fly over its territory since it had established a prohibited area along its western border with Afghanistan. This forced Indian aircrafts to fly via Karachi onwards to Iran and then to Afghanistan, increasing the flight distance from 642 miles to 1900 miles.[14] According to India, this breached Pakistan's obligations under the Chicago Convention and the Transit Agreement.

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11 http://www.icao.int/about-icao/Pages/default.aspx (accessed January 3, 2015).
12 Chicago Convention, *supra* note 6, Article 84.
13 ICAO Doc. C-WP/1 169 (1952). See Report of the Council, ICAO Doc. 7367 (A7-P/1) 74-76 (1963).
14 Steven D Jaffe, *Airspace Closure and Civil Aviation: A Strategic Resource for Airline Managers* (Surrey, England: Ashgate, 2015), 173.

In order to resolve the dispute, the Council appointed a working group of three of its representatives to help with devising a procedure. The working group recommended that the parties negotiate further to reach an amicable resolution of the problem.[15] This recommendation was implemented, and India and Pakistan reached an amicable solution in June 1953.[16]

(ii) Pakistan v India (1971)

Once again within a span of 19 years, India and Pakistan found themselves before the ICAO Council in 1971. This time, Pakistan alleged that India's suspension of Pakistani airlines over its territory was in breach of India's obligations under the Chicago Convention and the Transit Agreement. India's suspension was prompted by the hijacking of an Indian airline from Srinagar to Jammu by Ashraf and Hashim Qureshi, members of the Kashmir National Liberation Front. The airline was hijacked to Lahore where the passengers and crew members were released while the aircraft remained in the possession of the hijackers. When the Indian government refused to meet the demands of the hijackers, the hijackers blew up the aircraft. During this time, the hijackers had received asylum from Pakistan. Furthermore, Pakistan refused to meet India's demands for compensation. As a result, India suspended Pakistan's overflight privilege over its territory.[17]

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15 ICAO Doc. 7291 C/845 at 162-65 (1952).

16 ICAO Doc. 7361 C/858 at 15-26 (1953); ICAO Doc. 7367 A7/P/1 74-76 (1953); 166 U.N.T.S. 3 (1953).

17 Paul Stephan Dempsey, "Flights of Fancy and Flights of Fury: Arbitration and Adjudication of Commercial and Political Disputes in International Aviation",

India disputed the jurisdiction of the ICAO Council to hear the dispute. This is because in the period prior to the hijacking, border disputes between India and Pakistan resulted in the signing of the Tashkent Declaration in 1966. It was India's contention that at the point of the hijacking, relations between the two countries were governed by the Tashkent Declaration and not by the Chicago Convention.[18] The ICAO Council decided in favour of its jurisdiction. As a result, pursuant to Article 84 of the Chicago Convention, India appealed to the ICJ.

B. DISPUTES BEFORE THE ICJ

As mentioned above, Pakistan's dispute with India over India's suspension of Pakistan's overflight privileges reached the ICJ when India appealed against the ICAO Council's decision to uphold its jurisdiction. The ICJ decided in favour of the jurisdiction of the ICAO Council holding *inter alia* that the Council had jurisdiction to decide over a dispute relating to any disagreement regarding the application of the Chicago Convention.[19]

C. *AD-HOC* INTER-STATE ARBITRATION

Inter-state arbitration of civil aviation disputes primarily arise from bilateral air services agreements concluded between two State

Georgia Journal of International and Comparative Law, vol. 32, no. 2 (2004): 231, 273.

[18] Memorial of India, India v. Pak., 1973 I.C.J. Pleadings, at 91.

[19] *Case Concerning the Appeal Relating to the Jurisdiction of the ICAO Council (India v Pakistan), Judgment of 18 August 1972, ICJ Rep. 1972, 46, at paras. 27-43*.

parties. Bilateral air services agreements are the most recent mechanism to regulate international civil aviation. These agreements tend to "*regulate the performance of air services*" between the territories of the contracting States and may take the form of treaties, executive agreements or diplomatic notes.[20]

Since its independence, India has been making active efforts to enter into bilateral air services agreements with other countries.[21] These agreements commonly adopt arbitration (in case of failure of negotiations) as the preferred mechanism of dispute resolution. These arbitration clauses follow the standard adopted by all countries – each party designates one arbitrator, while the third arbitrator is selected by the party-appointed arbitrators.

Despite the existence of numerous bilateral agreements, India has never been a party to an *ad-hoc* arbitration. This is unsurprising; since its inception, the world of international dispute settlement has witnessed only a handful of *ad-hoc* inter-state arbitrations pertaining to civil aviation.[22] In fact, the unpopularity of *ad-hoc* arbitration of disputes has been noted by the ICAO in its Manual on the Regulation of International Air Transport. The ICAO notes that arbitration has been "*rarely used because it is a costly and time-*

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[20] *The Use of Airspace and Outer Space for All Mankind in the 21st Century* (Chia-Jui Cheng ed, Hague: Kluwer Law International, 2005), 292.

[21] For a full list, see: http://dgca.nic.in/bilateral/Bilateral.pdf

[22] These include: Arbitration between- (a) United States of America and France (1963); (b) United States of America and Italy (1965); (c) United States of America and France (1978); (d) Belgium and Ireland (1981); (e) United States of America and United Kingdom (1992); and (f) Australia and United States of America (1993).

consuming process".[23] Instead, the ICAO prefers the use of consultation and / or mediation for the resolution of disputes. ICAO's model clause for dispute settlement recommends that in case of failure of negotiations, a party may submit the dispute to a mediator or a dispute settlement panel for mediation.[24]

Despite its seeming unpopularity and the ICAO's proposal to shift to mediation, India's policy to include arbitration clauses in its air services agreements with other countries has remained unchanged. In fact, India's policy aligns with the policies of countries with a larger share of civil aviation market.[25] The popularity of arbitration as the primary method of dispute settlement in bilateral (or multilateral) treaties arises because of several factors- *first*, contrary to adjudication by a pre-determined set of judges (as in the ICJ) arbitration allows parties to nominate arbitrators who have expertise in the field of air law, science and technology, and therefore have

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[23] ICAO, Manual on the Regulation of International Air Transport, Section 2.1, p. 2.1-8

[24] ICAO, Consolidated Conclusions, Model Clauses, Recommendations and Declaration, ATConf/5, 31 March 2003, Article X.

[25] As examples, see: (1) United States of America: Air Transport Agreement between the Government of the United States of America and the Government of the Republic of Macedonia, 2012; Air Transport Agreement between the Government of the United States of America and the Government of the United Mexican States, 2015: (2) EU: US-EU Air Transport Agreement, 2007; Agreement on Air Transport between Canada and the European Community and its Member States, 2009; (3) Australia: Agreement between the Government of Australia and the Government of the Democratic Socialist Republic of Sri Lanka relating to Air Services, 2012; Agreement between the Government of Australia and the Government of the Republic of the Philippines relating to Air Services, 2012.

more specialized experts adjudicating the dispute.[26] *Second*, as compared with conciliation or mediation that do not result in final, binding results, arbitration awards are final and binding, and consequently easier to enforce. They do not rely on voluntary enforcement by States (as is the case with conciliation and mediation) and thereby provide greater certainty. *Thirdly*, despite ICAO's comments, arbitration is a more flexible alternative to the ICJ and is more time-efficient as well.[27] *Finally*, the ICAO Council itself is seen as an unpopular forum for the adjudication of disputes. Its unpopularity is largely attributed to its composition – the ICAO Council is a political body that comprises of representatives of the contracting governments.[28] These representatives seldom have legal expertise to decide legal disputes.[29] Consequently, States prefer to

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[26] Gabrielle Kaufman-Kohler, "Arbitration and the Need for Technical or Scientific Expertise" in *Arbitration in Air, Space and Telecommunications Law: Enforcing Regulatory Measures, ed. International Bureau of the Permanent Court of Arbitration* (Hague: Kluwer Law International, 2002), 285-296; Lupin Zhang and Rita Sousa Uva, "The Role of Arbitration in International Civil Aviation Disputes", http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2705459 (accessed January 5, 2016).

[27] Peter Tomka, "The Rule of Law and the Role of the International Court of Justice in World Affairs", Inaugural Hilding EEK Memorial Lecture by H.E. Judge Peter Tomka, President of the International Court of Justice, at the Stockholm Centre for International Law and Justice, December 2, 2013, http://www.icj-cij.org/presscom/files/9/17849.pdf; Paul Larsen, "The United States-Italy Air Transport Arbitration: Problems of Treaty Interpretation and Enforcement", *American Journal International Law*, vol. 61 (1967): 496, 498-99.

[28] Ruth Mackenzie and Phillippe Sands, "International Courts and Tribunals and the Independence of the International Judge", *Harvard International Law Journal*, vol. 44 (2003): 272.

[29] Thomas Buergenthal, *Law-Making in the International Civil Aviation Organization, ed. Richard B. Lillich* (University of Virginia Press, 1969), 123-24, 194; Jon Bae, "Review of the Dispute Settlement Mechanism under the

have their dispute settled by a forum that displays independence, impartiality and neutral decision making – characteristics that one associates with judicial decision-making.[30]

D. INVESTMENT ARBITRATION

A potential area of concern going forward for India could be the rise of investment treaty-based arbitration related to investments in the civil aviation sector.[31]

Investment treaties enable foreign investors (whether natural or legal persons) to bring claims directly against the State in which they invest (the "**host State**"). The claims are adjudicated by an arbitration tribunal consisting of 3 arbitrators. Since India is not a party to the ICSID Convention,[32] investment treaty-based arbitrations against India are conducted under the UNCITRAL Rules of Arbitration.[33]

International Civil Aviation Organization: Contradiction of Political Body Adjudication", *Journal of International Dispute Settlement,* vol. 4, no. 1 (2013): 65, 71-72.

30 Michael Milde, "Dispute Settlement in the Framework of the International Civil Aviation Organization", in, *Settlement of Space Law Disputes, ed. Karl-Heinz Böcksteigel* (Berlin, 1980), 87-88; Gerald Fitzgerald, "Judgment of the International Court of Justice in the Appeal Relating to the Jurisdiction of the ICAO Council", *Canadian Yearbook of International Law*, vol. 12 (1974): 158, 169.

31 Andrew B. Steinberg and Charles T. Kotuby, Jr., "Bilateral Investment Treaties and International Air Transportation: A New Tool for Global Airlines to Redress Market Barriers", *Journal of Air Law & Commerce,* vol. 76 (2011): 457.

32 Convention on the Settlement of Investment Disputes between States and Nationals of Other States, 18 March 1965, 17 UST 1270, 575 UNTS 159.

33 BITs with India have chosen the UNCITRAL Rules of Arbitration as the applicable rules for the conduct of arbitration proceedings.

Internationally, investment-treaty based arbitrations seeking compensation for expropriation of property have already been initiated by companies involved in civil aviation.[34] Other arbitrations involve claims relating to the breach of contract with the host State[35] or claims relating to compensation for the imposition of unreasonable or discriminatory measures[36]. These claims have been brought by companies involved in the construction and development of airports or by operators of duty-free shops at airports.

India has a rich database of bilateral investment treaties ("**BITs**").[37] Under these treaties, airlines and multinational companies investing in airport development projects, would qualify as 'investors', thereby making them eligible for the investment protections offered under the BITs.[38] Furthermore, BITs with India define 'investment' very broadly. For instance: the Germany-India BIT defines 'investment' to mean 'every kind of asset invested' and includes

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[34] For instance, see: *Fraport AG Airport Services Worldwide v. Republic of Philippines, ICSID Case No. ARB/03/25; Teinver S.A., Transportes de Cercanias S.A. v. Argentine Republic, ICSID Case No. ARB/09/1; Malicorp Limited v the Arap Republic of Egypt, ICSID Case No. ARB/08/18*.

[35] For instance, see: *Austrian Airlines v Slovak Republic, UNCITRAL Arbitration, 9 October 2009*.

[36] For instance, see: *EDF Services Ltd. v Romania, ICSID Case No. ARB/05/13*.

[37] According to the website of the Ministry of Finance, India has entered into bilateral investment treaties with 72 countries. For a full list, see: http://finmin.nic.in/bipa/bipa_index.asp?pageid=1.

[38] These guarantees include, *inter alia*, fair and equitable treatment, protection from expropriation, full protection and security, national treatment and most favoured nation treatment.

shares, business concessions, right to money or to any performance under contract, etc.[39]

The current Indian government has liberalized the foreign direct investment ("**FDI**") policy for civil aviation. Under the current policy, 100% FDI is permitted in airport projects,[40] 49% FDI is permitted in scheduled air transport services / domestic scheduled passenger airlines,[41] and 74% FDI is permitted in non-scheduled air transport services[42].[43] At present, a number of foreign airlines have either entered into joint venture agreements with their Indian counterparts to invest in India or purchased shareholdings in an existing Indian airline. These include: Singapore Airlines (in a joint venture with Tata Sons), Etihad airways (holding a minority stake in Jet Airways), and Air Asia.[44] Similarly, a number of foreign companies have made investments to develop airports in India. At present, 5 airports have been developed under a public-private partnership with significant investment by foreign companies.[45]

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[39] Agreement between the Republic of India and the Federal Republic of Germany for the Promotion and Protection of Investments, 1995, Article 1(b). The definition of 'investment' in other BITs is similar.

[40] For greenfield projects, 100% FDI is allowed under the automatic route. For existing projects, up to 74% FDI is allowed under the automatic route, beyond which government approval is required.

[41] This investment can be made under the automatic route.

[42] Upto 49% FDI is permitted under the automatic route, beyond which government approval is required.

[43] Consolidated FDI Policy, Department of Industry Policy and Promotion, Ministry of Commerce and Industry, Government of India, 12 May 2015.

[44] Sairtha Rai, "Foreign Airlines Jostle for a Piece of India's Airline Market", *Forbes*, September 20, 2013, http://www.forbes.com/sites/saritharai/2013/09/20/foreign-airlines-jostle-for-a-piece-of-indias-airline-market/

[45] These airports include:

Before undertaking future state action that is potentially detrimental to foreign investors, India must bear in mind the possibility that such investors may initiate arbitration under the relevant BIT against India. India is already reeling under the pressure of several investor-treaty based arbitrations at the moment – arising out of demands relating to payment of income tax,[46] cancellation of telecom

(1) Kempegowda International Airport, Bengaluru- The airport is owned by Bangalore International Airport Limited, in which Siemens Projects GmbH and Zurich airport hold 26% and 5% stake respectively.
(2) Rajiv Gandhi International Airport, Hyderabad- This airport is owned by a joint venture between GMR Group, Malaysia Airports Holdings Berhad (MAHB), the Government of Telangana and Airports Authority of India (AAI). GMR Group holds 63% of the equity, MAHB holds 11%, while the Government of Telangana and AAI each hold 13%.
(3) Indira Gandhi International Airport, New Delhi- The airport is owned by Delhi International Airport Limited (DIAL), a consortium of the GMR Group, Fraport and Malaysia Airports and the Airports Authority of India. GMR group holds 54%, Fraport holds 10% and Malaysia Airports holds 10% of the stake in DIAL.
(4) Chhatrapati Shivaji International Airport, Mumbai- The airport is owned by Mumbai International Airport Limited, a consortium of GVK Industries Ltd, Airports Company South Africa and Bidvest and the Airports Authority of India. The consortium has a 74% stake in the joint venture.
(5) Cochin International Airport- The airport is owned by Cochin International Airport Limited. Abu Dhabi based Emke Group, the Oman-based Galfar Group and UAE based Majeed Bukatara Trading holds 5.42% stake in the company. The company is partly owned by 10,000 personal investors of Indian and foreign origin who fold a 38.03% stake in the company.

[46] Vodafone, Cairn and Nokia have initiated arbitration against India – Gireesh Chandra Prasad, "After Vodafone, Cairn invokes treaty to dodge India's tax demand", *The Financial Express*, March 12, 2015, http://www.financialexpress.com/article/economy/after-vodafone-cairn-invokes-treaty-to-dodge-tax-demand/52667/; R. Jai Krishna, "Nokia seeks International Arbitration in India Tax Dispute", *The Wall Street Journal*, May 14, 2014, http://www.wsj.com/articles/SB10001424052702304908304579561554186804812

licenses,[47] delays in the adjudication of disputes by Indian courts,[48] and operation of ports.[49] Therefore, future state policies on civil aviation must balance the interests of the State and the foreign investors effectively to avoid investment disputes.

III. INDIA'S EXPERIENCE WITH DOMESTIC CIVIL AVIATION DISPUTES

A. CONSUMER DISPUTES – CONSUMER DISPUTE REDRESSAL FORUMS, DGCA AND OMBUDSMAN

One of the biggest innovations in the adjudication of civil aviation disputes in recent times is the Indian government's proposal to set up an ombudsman to look into complaints against organs of the Ministry of Civil Aviation such as the Airports Authority of India ("**AAI**"), the Directorate General of Civil Aviation ("**DGCA**") and

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[47] Telenor, Sistema and Khaitan Holdings (Mauritius) Limited are among the many telecom companies that have initiated arbitration against India- "2G Scam: Loop investor files intl arbitration against Centre", *The Hindu*, October 1, 2013, http://www.thehindu.com/business/Industry/2g-scam-loop-investor-files-intl-arbitration-against-centre/article5189682.ece; "Sistema threatens arbitration in 2G case", *The Times of India*, February 28, 2012, http://timesofindia.indiatimes.com/business/india-business/Sistema-threatens-arbitration-in-2G-case/articleshow/12070637.cms; Siddharth, "Telenor seeks arbitration, claims damages of $14bn from govt in 2G case", *The Times of India*, March 27, 2012, http://timesofindia.indiatimes.com/business/india-business/Telenor-seeks-arbitration-claims-damages-of-14bn-from-govt-in-2G-case/articleshow/12420404.cms.

[48] *White Industries Australia Limited v the Republic of India, UNCITRAL Arbitration, 30 November 2011*.

[49] *Louis Dreyfus Armateurs Limited SAS v the Republic of India, UNCITRAL Arbitration* (pending).

Air India.[50] While this proposal has been in the pipeline for several years,[51] it has only started gaining traction in the last 3 years.

Until 2014, the only mechanism for grievance redressal available to civil aviation consumers in India was the Consumer Disputes Redressal Forums (at the district, state and national levels) established under the Consumer Protection Act, 1986.[52] The provisions of the Aircraft Act, 1934 and the Aircraft Rules, read with the Civil Aviation Requirements ("**CARs**"), did not permit the DGCA to hear consumer complaints. This changed in 2014 with the issuance of two new CARs and a circular by the DGCA. Under these new CARs and circulars, both airlines and airport operators are required to appoint a nodal officer and an appellate authority to address consumer complaints.[53] If the airlines / airport operators fail

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[50] "Aviation Ministry Starts Process to Have Ombudsman for Consumer Grievances", *Business Standard*, November 11, 2014, http://www.business-standard.com/article/companies/aviation-ministry-starts-process-to-have-ombudsman-for-consumer-grievances-114111101138_1.html

[51] The proposal to appoint an ombudsman for the aviation industry was first made by the Congress government in 2011. See: Tarun Shukla, "DGCA to tighten rules on airfares, refunds", *Live Mint*, September 26, 2011, http://www.livemint.com/Companies/ruJggrONlLOjtXxpXMgatN/DGCA-to-tighten-rules-on-airfares-refunds.html

[52] For instance, the following disputes with airlines or airports were submitted before consumer disputes redressal forums: *Air India v Dr. Mary Ramasamy, II (2012) CPJ 421 (NC)*; *Kingfisher Airlines Limited v Lata Sikri, 11 October 2012* (citation unavailable); *Saroj Diksha v International Airport Authority of India, I (2013) CPJ 626 (NC)*.

[53] Civil Aviation Requirements, Section 3- Air Transport, Series 'M' Part I, Issue III, Carriage by Air – Persons with disability and / or persons with reduced mobility, Government of India, Office of the Director General of Civil Aviation, 28 February 2014, Clause 4.5; Civil Aviation Requirements, Section 3- Air Transport, Series 'M' Part IV, Issue I, Facilities to be provided to passengers by airlines due to denied boarding, cancellation of flights and delays in flights, Government of India, Office of the Director General of Civil

to address the matter within the stipulated time period of one month, consumers now have the option to approach the DGCA directly to have their grievance resolved.[54]

The government's proposal to appoint an aviation ombudsman is loosely modelled on ombudsmen present in other sectors such as banking, electricity, income tax and insurance. Under the Banking Ombudsman Scheme of 2006, a banking Ombudsman is an officer of the Reserve Bank of India.[55] Similarly, under the Redress of Public Grievance Rules, 1998, an insurance ombudsman is appointed by a governing body consisting of a member of the Central government, chairman of the insurance regulatory authority and two representatives of the insurance council. The ombudsman may be anyone who has expertise in insurance, civil services, administrative services and judicial services.[56] It is likely, therefore, that the civil aviation regulators would have control over the office of the ombudsman in some manner.[57] The powers of an ombudsman are also likely to be modelled on the powers of the banking ombudsman and will include, *inter alia*, the power to – investigate consumer complaints, settle consumer complaints through

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Aviation, 15 August 2010, Clause 3.7; Air Transport Circular 01 of 2014, Facilities / Courtesies to esteemed travelling public at airports, File No. 23-05/2010-AED Vol.XI, Government of India, Office of the Director General of Civil Aviation, 26 May 2014.

54 *Ibid.*

55 Banking Ombudsman Scheme, 2006, Reserve Bank of India, Clause 4.

56 Redress of Public Grievances Rules, 1998, Clause 6.

57 Note: The Consultation Paper released by the Ministry of Civil Aviation is not available online. The Aviation minister has mentioned in the press that a retired judge will be appointed as an ombudsman.

mediation and conciliation, award compensation, and impose penalties.[58]

The possibility that a government-appointed ombudsman may not adhere to the same standard of independence and impartiality as is expected of a judge has not gone unnoticed by private airlines. The proposal for an ombudsman has been stonewalled by private airlines, because they fear that such an ombudsman would provide a gateway to the government to interfere in the day-to-day functioning of private airlines.[59] It seems that the government has reached a dead-end in its negotiations with private airlines and has therefore now proposed that the scope of an ombudsman's authority should be restricted to public institutions operating in civil aviation- the AAI, DGCA and Air India Limited.[60] According to the aviation minister, this proposal is "*a major step forward in timely redressal of grievances and for bringing about better standards by public institutions and organizations*".[61] The government now intends to grant the ombudsman the power to resolve any dispute that any party

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[58] Report of the Asok Kumar Committee for the Review of the Civil Aviation Requirements for Persons with Disabilities, Ministry of Civil Aviation, October, 2012, Section 4.3.3.

[59] Sindhu Bhattacharya, "Why Airlines are Stonewalling Govt's Ombudsman Proposal", *FirstPost*, May 17, 2013, http://www.firstpost.com/business/why-are-airlines-stonewalling-govts-ombudsman-proposal-791393.html

[60] Tarun Shukla, "Govt Plans Ombudsman for Aviation Organization", *Live Mint*, November 12, 2014, http://www.livemint.com/Companies/B1xpM8wBHoHV48o0Sc4exN/Govt-plans-ombudsman-for-aviation-organizations.html

[61] *Ibid.*

involved in the sector (not just consumers) may have with these public institutions.[62]

B. AIRCRAFT DEREGISTRATION AND REPOSSESSION- DGCA

Another area of dispute in recent times relates to deregistration and repossession of aircrafts following an airline company's bankruptcy. This issue was brought to the forefront when Kingfisher Airlines ceased operations in 2012, because of its failure to meet its debt repayments. At the time when Kingfisher Airlines ceased operations, they were the third largest operator in the country.[63] The financer of Kingfisher's aircrafts (DVB Bank) sought to deregister and gain possession of two of Kingfisher's aircrafts.[64] One of the biggest hurdles for Kingfisher's financers was that while India had ratified the Convention on International Interests in Mobile Equipment (the "**Cape Town Convention**"),[65] it had not passed a local legislation to give effect to the Cape Town Convention. The Cape Town Convention provides lessors and financers the remedy to take possession of aircrafts following an airline's default on debt repayment.[66] Therefore, DVB Bank had to rely upon local laws to

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[62] The trigger for the renewal of the proposal was a collision between a SpiceJet Boeing and a buffalo in Surat, Gujarat and complaints by pilots relating to the renewal of their licenses by the DGCA.

[63] Nithya Narayanan, "Aircraft Repossession in India- Turbulence Ahead, Buckle Up", *Annals of Air and Space Law*, vol. 38 (2013): 445.

[64] DVB Bank succeeded in gaining possession of one aircraft since it was parked outside India.

[65] Convention on International Interests in Mobile Equipment, 1 April 2004, 2307 UNTS 285. Read with the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment, 1 March 2006, 2367 UNTS 517.

[66] Cape Town Convention, *Ibid.,* Articles 8, 10.

gain repossession of the second aircraft. The DGCA, in the first instance, refused to deregister the aircraft. As a result, DVB Bank had to resort to litigation against DGCA and Kingfisher Airlines.[67] The Delhi High Court, in *DVB Aviation Finance Asia PTE Ltd. v. Directorate General of Civil Aviation*, issued a writ of mandamus ordering the DGCA to deregister the aircraft, since DVB Bank had the deregistration power of attorney.[68] Similarly, another of Kingfisher's financers, International Lease Finance Corporation (ILFC), also struggled for a period of six months before it could take possession of six of Kingfisher's aircrafts – partly because some aircrafts were impounded by tax authorities[69] and partly because the Delhi and Mumbai airports refused to release the aircrafts[70].

Airline companies in India work on a lease system, where the actual / constructive possession of the aircraft remains with the lessor. Lenders who provide the financing for the lease create a security interest by way of a charge over the financed aircraft.[71] The

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[67] Katten Muchin Rosenman LLP, "Aircraft Deregistration and Repossession in India: Lessons from Kingfisher and SpiceJet", May 21, 2015, https://www.kattenlaw.com/Aircraft_Deregistration_and_Repossession_in_India_Lessons_from_Kingfisher_and_SpiceJet#_ftnref2

[68] *DVB Aviation Finance Asia PTE Ltd. v. Directorate General of Civil Aviation, WP (C) 7661/2012 and CM No.4208/2013 (8 April2013)*.

[69] Disha Kanwar, "ILFC Wants Aircraft Returned", *Business Standard*, December 21, 2012, http://www.business-standard.com/article/companies/ilfc-wantsaircraft-returned-112122100120_1.html

[70] "Kingfisher Aircraft Leasing Dispute could Impact all Indian Airlines", *Reuters*, April 20, 2013, http://skift.com/2013/04/20/saturday-kingfisher-aircraft-leasing-dispute-could-impact-all-indian-airlines/

[71] Nithya Narayanan, "Unwinding the Vicious Loop of Aircraft Finance Leases", *Issues in Aviation Law and Policy*, vol. 13 (2013): 55.

difficulties faced by Kingfisher's financers had a negative impact on the leasing of aircrafts. Lessors began demanding additional protections in their lease contract. For instance: lessors began demanding premiums such as one-year security deposits to cover risk in leasing aircraft to Indian airlines. Other demands included a commitment to hire the aircraft for as long as nine years, guarantee by the government, etc.[72] Private airlines are already feeling the increase in cost of leasing aircrafts; in the immediate aftermath of the Kingfisher saga, Jet Airways reported an increase of 31% in aircraft-leasing costs for the June 2013 quarter, while SpiceJet reported an increase of 16%.[73]

In the absence of a local legislation implanting the Cape Town Convention, lessors and financers are left at the mercy of the extant local laws to gain repossession of the aircrafts. This is particularly problematic in India because of the complex web of insolvency, tax and other legislations. For instance: if an insolvency proceeding is initiated against an airline company, an aircraft lessor would potentially face a lien risk, i.e. a risk that a tax authority / airport authorities / repairers of the aircraft have a lien over the aircraft.[74] Even though courts have been willing to decide in favour of lessors

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[72] Karthikeyan Sundaram, "*Kingfisher Default Said to Raise Airline Costs: Corporate India*", *Bloomberg* September 20, 2013, http://www.bloomberg.com/news/articles/2013-09-19/kingfisher-default-said-to-raise-airline-costs-corporate-india

[73] *Ibid.*

[74] For full details of insolvency risk, see: *supra*, note 71.

and financers, the process is often cumbersome and time-consuming.

Realizing the gravity of the problem, the Ministry of Civil Aviation has taken measures to rectify the situation. The Aircraft Rules were amended in 2015 to give effect to India's obligations under the Cape Town Convention.[75] Accordingly, Rule 30(7) now requires the DGCA to cancel the registration of aircrafts in accordance with the provisions of the Cape Town Convention if an application is received from a lessor or a financer.[76] The amendment however continues to gives priority to the Government of India in respect of arresting / detaining / attaching / selling an aircraft for payments owed to it.[77] The importance of this proviso is yet to be tested by Indian courts.

The scope of the 2015 amendments were put to test in the same year when SpiceJet came under financial pressure, causing its lessors to terminate their lease agreements and to apply to the DGCA for deregistration of six aircrafts.[78] Yet again, the DGCA failed to deregister the aircrafts within the stipulated time period. As a result, the lessors approached the Delhi High Court. Deciding in favour of the lessors, the Delhi High Court issued a writ of *mandamus*

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75 Aircraft (Third Amendment) Rules, 2015.
76 Aircraft (Third Amendment) Rules, 2015, Rule 30 (7).
77 Aircraft (Third Amendment) Rules, 2015, Rule 30 (7), proviso.
78 "Delhi HC directs DGCA to deregister six SpiceJet aircraft", *Live Mint*, March 20, 2015, http://www.livemint.com/Companies/Nd6flaEkG29eQTBZoMjp6M/Delhi-HC-directs-DGCA-to-deregister-six-SpiceJet-aircraft.html

ordering the DGCA to deregister the aircrafts.[79] On the basis of a careful perusal of the provisions of the Cape Town Convention, the court held that the DGCA had no discretion in matters relating to deregistration of aircrafts under Rule 30(7) of the Aircraft Rules, 1937.[80] In a subsequent order, based on an appeal by SpiceJet, a division bench of the Delhi High Court stayed the deregistration of the aircrafts and asked the DGCA not to take any coercive steps since SpiceJet was in talks with its lessors to settle the dispute.[81] The appeal was subsequently withdrawn after a settlement agreement was reached between SpiceJet and one of its lessors, Wilmington Trust SP Services (Dublin) Ltd.[82]

IV. CONCLUSION

This article has attempted to serve various purposes. *First*, this article has aimed to provide a detailed overview of the available dispute resolution mechanisms for resolution of civil aviation disputes at the domestic and international level. *Second*, this article has tried to draw a comparative analysis of the available dispute resolution mechanisms to assess whether India's policies need to be adapted to the demands of the sector.

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79 *Awas 39423 Ireland Ltd. v. Directorate General of Civil Aviation, W.P.(C) 871 and 747/2015, 19 March 2015*.

80 *Ibid.*, para. 22.4.

81 "DGCA not to deregister 3 SpiceJet aircraft till 8 April", *Live Mint*, March 25, 2015, http://www.livemint.com/Politics/ 93zN6CLCdNZGUQxVSz32AK/ DGCA-not-to-deregister-3-SpiceJet-aircraft-till-8-April.html

82 "SpiceJet withdraws appeal against Delhi HC ruling in planes deregistration case", *Live Mint*, April 7, 2015, http://www.livemint.com/Companies/H8vZhm1iq8GTzORmVxw9cO/SpiceJet-withdraws-appeal-regarding-deregistration-of-planes.html

In relation to international disputes at an inter-State level, it is not surprising that India's disputes are restricted to its neighbour, Pakistan and during a period that involved intense hostilities between the two nations. It reflects the political state of affairs between the two nations at the time. In fact, after the 1970s, only one other dispute between the two countries reached the ICJ, relating to India's shooting of a Pakistani military aircraft.[83] Apart from the obvious lack of civil aviation conflicts, that India has never had to resort to formal methods of dispute settlement beyond this period can be attributed to several reasons- *first,* the ICJ has never played a particularly strong role in matters relating to civil aviation. Of the twelve case submitted to it, all but one were dismissed on grounds of lack of jurisdiction. As a result, bilateral agreements between nations increasingly rely upon conciliation / arbitration as the preferred methods of dispute resolution. *Secondly*, resort to formal methods of dispute settlement is becoming increasingly rare. Countries spend a large amount of their resources to resolve disputes through diplomatic channels or through more formal consultation.[84] In fact, the ICAO suggests that "*consultation is virtually the only means of dispute resolution used between parties*".[85] Nevertheless, despite this assessment, India is wise to stick to the inclusion of both conciliation and arbitration as methods of dispute resolution in its agreements with other nations, even in disregard of the recent trend

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[83] *Case Concerning the Aerial Incident of 10 August 1999 (Pakistan v India), Judgment of 21 June 2000, ICJ Rep. 2000, p. 12*.

[84] ICAO, Manual, Chapter 2.0, p, 2.0-1

[85] ICAO, Manual, Chapter 2.1, p. 2.1-7.

to include arbitration as the sole method of dispute resolution in bilateral air services agreement.[86] This ensures that India has the option to reach a fair settlement of disputes in a cost and time-efficient fashion and yet also has the option of resorting to arbitration if it believes that it is getting a raw deal from settlement of disputes through diplomatic methods or more formal processes of consultation (possibly because it has lesser bargaining power).

In relation to domestic disputes – this article has picked two areas of concern for policymakers in India. The growth of the civil aviation sector has resulted in a simultaneous growth in consumer complaints against airlines and airport operators. Data available with the DGCA shows that in 2012, prior to the reforms introduced by the Indian government, a total of 9,440 complaints were received.[87] The number of complaints continues to remain the same after the introduction of the reforms as well,[88] indicating to the fact that developing effective means for consumer grievance redressal must be a top priority for the civil aviation regulators.

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[86] Arbitration is the only method of dispute settlement in the 2007 US-EU Air Transport Agreement.

[87] 47% of these complaints related to deficient services provided at airports while 19% related to deficiency in service by airline companies. Source: "Aviation Ministry Starts Process to Have Ombudsman for Consumer Grievances", *Business Standard*, November 11, 2014, http://www.business-standard.com/article/companies/aviation-ministry-starts-process-to-have-ombudsman-for-consumer-grievances-114111101138_1.html

[88] Ankur Sharma, "DGCA Red-Flags Airlines with 1,500 Passenger Complaints of Very Poor Service", *India Today*, August 27, 2014, http://indiatoday.intoday.in/story/domestic-airlines-passenger-complaints-dgca-air-india-spicejet-indigo-spicejet/1/379223.html

As it currently stands, consumers have various options to have their grievance redressed, none of which have proved to be particularly effective. The government's move to order airlines / airport operators to appoint internal officer as the first point of contact for seeking redress has also backfired; instead of cooperating with consumers, airlines / airport operators have often been found to be unresponsive to complaints. To add to the problem, the DGCA's attempt to take over responsibility to settle consumer disputes has not met with much success either, due to a shortage of manpower to deal with the complaints. Appointing an ombudsman whose adjudicatory powers are restricted to public civil aviation institutions would, in such a scenario, only add to the confusion of having multiple (inefficient) avenues of resolving disputes and would not serve much purpose given that Air India (the only airline under the ombudsman's scope) now merely holds 18% share in the domestic market.[89]

One possible solution for the problem would be to refine the proposal for an ombudsman to make it acceptable to private airlines / airport operators. India is not the only country that has discussed the possibility of appointing an ombudsman. The UK civil aviation regulator, the Civil Aviation Authority ("**CAA**"), has recently confirmed plans to create an aviation ombudsman.[90] This system of

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89 *Supra*, note 60.

90 "CAA Confirms Plans for Creation of Aviation Ombudsman", April 15, 2014, https://www.caa.co.uk/News/CAA-confirms-plans-for-creation-of-aviation-ombudsman/

alternative dispute resolution is set to replace the CAA's own internal mechanism of handling consumer grievances. The UK's ombudsman scheme is fully independent, with powers to make airlines pay compensation. Currently, the CAA has approved several alternative dispute resolution services.[91] This includes Ombudsman Services, an independent ombudsman service that provides dispute resolution services across various sectors.[92] The organization is funded by those whose complaints it handles.[93] The CAA's ombudsman scheme has received widespread industry support.[94] India could model its ombudsman scheme along similar lines. Having an independent organization that is funded collectively by all the airlines / airport operators, could dispel the fear of unwarranted government intrusion and satisfy standards of independence and impartiality in resolution of consumer disputes.

In relation to deregistration and repossession of aircrafts, disputes over the aircrafts leased by Kingfisher airlines brought to fore the problems with India's laws, resulting in a hostile environment for foreign participants in the aviation industry. Courts have been unwilling to give a definitive pronouncement, sometimes adhering to the strict text of the law and on other occasions taking into account

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91 https://www.caa.co.uk/Passengers/Resolving-travel-problems/How-the-CAA-can-help/Alternative-dispute-resolution/ (accessed March 7, 2017).

92 http://www.ombudsman-services.org/approved-to-operate-aviation-redress-scheme.html (accessed January 12, 2016).

93 http://www.ombudsman-services.org/about-ombudsman-services-os.html (accessed January 12, 2016).

94 *Supra*, note 90.

the practical realities of business dealings.[95] While the government's amendment of the Aircraft Rules, 1937 to finally give effect to its obligations under the Cape Town Convention is a step in the right direction, its applicability in conjunction with insolvency laws is still untested.

Given that India's civil aviation sector is relatively young, the Indian Government has shown that it has the right ideas in promoting the sector. It is hoped that the problems faced in the way are merely teething problems that will settle down as the sector matures.

[95] For instance: the single judge in the Delhi High Court decided the matter in favour of SpiceJet's lessors, whereas the division bench granted a stay on deregistration to accommodate business negotiations.

AVIATION AND CLIMATE CHANGE: WHAT CAN BE LEARNED FROM THE EU MODEL?

Arun Krishnan K[*]

Abstract

This paper explores the interface between aviation and climate change in the wake of European Union's decision to include aviation in emissions trading scheme which was hotly contested by countries like India, Russia, United States and China among many others. This paper explores the causes of the discontent despite the fact that it was a much necessary climate change measure. The article argues that the concerns about competitiveness and illegality motivated the normative discord more than the rightness or necessity of the measure for which, the linkage between trade and climate change is re-explored as relevant to aviation sector.

INTRODUCTION

Climate change is an undeniable fact. Global average temperatures are on the rise. We already have an average of 0.8 degree Celsius increase globally and an expected 3-5 degree increase by the end of the century which will have profound impacts on human life on the planet which may stretch from food security and drinking water to

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economic growth and societal changes. We have been, in efforts to combat climate change, struggling to bring global warming under 2 degree Celsius[1] for the past few decades. Aviation, while is only one of the contributors to it – being not only the one that is the most carbon intensive and the fastest growing[2] is but also an important one for the future.[3] On anticipating this as early as in 1997, the United Nations Framework Convention on Climate Change (UNFCCC) requested International Civil aviation Organisation (ICAO) to follow measures to reduce greenhouse gas emissions. However it took another 16 years for ICAO to respond positively, only to react to action by the European Union; and agreed to begin developing a market based strategy. However inadequacy is on the face of it as instead of seeking ways to reduce emissions the focus is rather on limiting emissions growth five years out which may result in little or no benefit in the future.[4] One way is to have

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1 Brigitte Knopf , Martin Kowarsch , Christian Flachsland Ottmar Edenhofer(2012): The 2°C Target Reconsidered. In: O.Edenhofer et al. (eds.): Climate Change, Justice and Sustainability: Linking Climate and Development Policy, Springler: 121.The warming limit agreed in the UN Framework Convention on Climate Change negotiations. Although the 50 Least Developed Countries and 39 members of AOSIS support a 1.5ºC limit, reflecting their vulnerability to climate impacts.

2 The International Air Transport Association (IATA) estimates that commercial flights will carry 7.3 billion passengers per year by 2030, compared to 3.3 billion in 2014. Over the next two decades, air traffic will grow by more than 4% each year.

3 Current CO2 emissions are predicted to grow by up to 270% between 2010 and 2050. This would increase the risk of severe, pervasive and in some cases irreversible climate change impacts. Available at: http://ec.europa.eu/clima/policies/transport/aviation/index_en.htm

4 A recent study by the International Council on Clean Transport has found that energy efficiency in aviation is improving too slowly and that the sector is set to miss its climate objectives.

rigorous technical and operational measures alongside market-based strategies. Wherever a global approach has failed to produce notable results for lack of consensus, except on major necessities arising out of imminent threats, regional efforts have proved to be successful in achieving the desired results.

European Union pioneered the regional efforts and extended its Emissions Trading Scheme (ETS) to include aviation in 2012 in spite of the opposition from major countries and private players. From 2012 the European Union decided that all airlines, irrespective of their nationality, or origin or destination, if they happen to land or take off in the EU airports, will be responsible for their greenhouse gas (GHG).[5] China was the first nation to protest and argued that this will jeopardize the international efforts to climate change.[6] This kick started a movement of nations against EU including Brazil, Russia, China and South Africa on the one hand (BRICS) and the United States on the other. Soon afterwards, the EU began increasingly getting isolated. The United States showed

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5 Directive 2008/101/EC of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community. the foreign pressure sponsored by the US, forced a temporary climb-down and the system now only covers flights between EU airports, roughly 27 per cent of EU aviation emissions.

6 India, China attacks EU on airline carbon tax. February 14, 2012. Available at http://www.eubusiness.com/news-eu/india-basic-climate.f75, http://www.europolitics.info/externa-policies/ecj-aviation-emissions-ruling-sharply-divides-stakeholders-art321934-44.html.

the greatest opposition[7] and insisted on the EU to "re-engage with the world" and stated that "absent such willingness on the part of the EU, United States will be compelled to take appropriate action."[8] whereas the former made it clear that the US airlines will have to respect the EU law as much they respect the US laws.[9] The EU measure, however pungently condemned, gained a certain amount of support from the international community as well.

One of the reasons why the vehement opposition gained momentum can be argued to be the inconsistency it had with the laws of the World Trade Organisation. In addition, the EU measure was seen as an imposed solution (though a good one where there isn't a global divergence) on the rest of the world creating a normative divide. When the matter reached the ICAO for resolution, it has agreed upon a global offsetting to be agreed in 2016 and enforced in 2020 which will be for emissions growth above 2020 levels. An analysis of the available data suggests that the measure shall be inefficient. Though a lot of research has gone into it, the technology bar for a standard to begin in 2020 has been set at 2016 levels. An aircraft following this standard is going to take its first flight in about 2023 which means certain new variants of the already existing aircrafts may not

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7 One example is a letter which was signed by Hillary Clinton and Ray Lahood, the then Transportatin Secretary disagreeing that the international airlines follow the EU requirement

8 The letter written by Hilary Clinton is made available to the public by the Department of State, United States available at: https://www.nbaa.org/ops/environment/eu-ets/20111216-eu-ets-us-state-department-clinton.pdf

9 Id.

be regulated at all[10]. It is estimate that the regulation will be limited in application to less than 5 percent of the aircrafts by 2030. The efficacy of standard flat line standard to regulate the most dynamic industry standards would certainly be below minimal. Additionally, given the low regulatory pressure and with aviation emissions growing fast the case for a regional measure has never been stronger.

THE EUROPEAN UNION'S CLIMATE CHANGE STRATEGY

All debates about aviation and climate change are essentially about trade and climate change. The regional approach adopted by EU which in the first place included non-European flights under their measure is not the only one dealing with trade and climate change. Many countries are taking strong measures to internalize the costs of carbon which force some players to move to other countries with less stringent standards. Both the EU and the US have tried the dual approach; one being 'free allocation of emissions allowances' and the second being 'border measures'.[11] The term 'border adjustment' has multiple interpretations,[12] but to the most important of its interpretation means to balance the costs between those who those

[10] With new aircraft designs requiring enormous investments and a long lead-in time, and with aircraft themselves having a lifespan of 25-30 years, the failure to put in place a standard that has a real environmental effect on reducing emissions beyond business-as-usual will risk locking in decades of wasteful and environmentally dangerous fossil fuel consumption.

[11] Nicole de Paula Domingos (2012): Fighting climate change in the air: lessons from the EU directive on global aviation. Rev. bras. polít. int. vol.55 no.spe Brazil.

[12] For example: carbon border measures, border tax, carbon equalization and border carbon adjustment. See Nicole de Paula Domingos (2012) Id.

nations that take abatement measures and those who doesn't. In aviation, regardless of nationality, inclusion of all airlines is because of the fears posed predominantly by carbon leakage and of course to avoid unfair competition. Despite the many talks going on under the Durban platform, there are concerns of unequal costs of emission reductions. This is one of the main obstacles to the United Nations Framework Convention on Climate Change (UNFCCC) negotiations. Not only of the EU, the carbon tax regime of US as well increased tensions between the developed and the developing world. Some of the developing countries like India, Brazil, South Africa and China have been critical of linking trade into post-Kyoto agreement.[13]They argue that the inclusion of aviation into the emissions trading system has to be analysed on the supposition that the common but differentiated responsibilities have to be universally respected.[14] Against European Union's unilateral movement, the protest was so strong to the extent that many countries began adopting and propagating measures against it. For example, China came up with a directive which banned all its airlines from complying with the ETS. Soon afterwards, major powers like India, Russia and the United States expressed their readiness to adopt such similar measures. In Delhi the bitterness became evident when in the parallel meeting between the European Union and the ICAO council

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[13] De Paula Domingos, Nicole (2011): The interface between climate change and trade through the eyes of Brazil. Florida A&M University Law Review. Vol. 6(2).

[14] MULLER, Benito (2012): From Confrontantion to Collaboration? CBDR and the EU ETS Aviation dispute with developing countries. Oxford Energy and Environment Brief.

in December 2011, 26 nations came up to oppose and plan to retaliate against, which later came to be known as the 'Delhi Declaration.

When we look at a historical approach to regulate the aviation industry, even though the responsibility to deal with it has been assigned on the ICAO even by the Kyoto Protocol, very little has been done by ICAO in the last two decades or more.[15] The ICAO uses technical information and recommendations regarding standards as tool to limit aviation GHG emissions. This was not regarded by EU to be an effective way to regulate emissions and had warned that in the absence of better alternatives, they would resort to including aviation in the ETS. Hence, EU's measure is not out of a reflex.[16]

The Emissions Trading System of the European Union is called a cap-and trade system. The amount of GHG emissions that each sector can emit is preset to certain limits. It is only when the emissions are within this cap that the companies can receive allowances which can be traded among them. The sense in the limits is that it allocates a value to the transaction and at the same time

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[15] Leggett, Jane (2011): A U.S. Centric Chronology of the International Climate Change Negotiations. CRS Report R40001

[16] For example, the matter was invoked during the time, when in December 2005, the Council of Environment Ministers identified the inclusion of the aviation sector in the Community Scheme was necessary, being an adequate answer, to deal with the environmental concerns over aviation emissions. The Council insisted that the commission put forward a proposal by December 2006. The European Parliament later on welcomed it and passed a resolution to recognize the importance of such measures in aviation sector and identified emissions trading as an appropriate solution to the issue.

guarantees that the emissions are progressively reduced. The allowances are also minimized progressively.[17]

Apart from the directive to combat aviation emissions, the EU also plans to address the climate change through the 2020 strategy. The EU has set the target to reduce the GHG emissions in developed countries by 30 percentage through multilateral negotiations by 2020. Regardless of the success of these negotiations the EU in any case will reduce the emissions at least by 20 percentage by 2020. In addition the EU is committed to:[18] improving their energy efficiency, increasing the share of renewable energy by 20% by 2020 and developing an environmentally-safe carbon geological storage policy. In climate change efforts EU sees itself positively as a frontrunner.

Though the debate is an unending one, the uncertainty and scientific complexity of the issue remains a major drawback of existing arguments. Given the lack of consensus, we will have to take uncertainties about the issues into serious account. More than scientific questions, so far, it has been politics determining the questions. All the multilateral negotiations are divided between some developed countries that favour more stringent policies and the developing world that argues that they are being compelled to specific targets which are inherently problematic.

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[17] European Climate Policy available at: http://ec.europa.eu/clima/policies/ets/index_en.htm

[18] Legislative summaries of the European Energy Policy. Available at: http://europa.eu/legislation_summaries/energy/european_energy_policy/l28188_en.htm

We cannot let nation states be hostage of global inaction. The fundamental lack of progress of such measures at the ICAO exemplifies and invites more concrete action at workable level. This in a way justifies EU's decision to act unilaterally when it was proved that the consensus based principles of public international law of the global institutions only reached a consensus over global inaction on technical and normative grounds.

LEGAL, ECONOMIC AND POLITICAL ANALYSIS OF EU'S REGIONAL APPROACH

On a general ground of concern regarding the regional measure as always the first argument is that of compatibility with international commitments. EU essentially will here be questioned further on territoriality of its measure – that the domestic regulations are now applied extraterritorially. Additionally, the EU is not expressly disregarding its own prior multilateral and bilateral commitments. Further, the EU's measure undoubtedly violates the World Trade Organization's mandates.

The disagreement with respect to non-compliance of the bilateral and multilateral commitments is rooted in the argument that it is violative of the Kyoto Protocol, the Chicago Convention and the Open Skies Agreement. Those who claim this argue that the illegal tax/charge on the aircraft operators imposed by the EU will be violative of Article 15 of the Chicago Convention. The Kyoto Protocol, which EU has ratified, says that the GHG emissions should be dealt under the authority of the ICAO. Further, regarding the

Open Skies Agreement, EU's emissions trading measure outside ICAO mandates would be against the agreed standards. The argument goes that the EU has violated its obligations under customary international law by acting extraterritorially.

For the first time the issue of illegality was brought to the London High Court of Justice by the Air Transport Association of America. The matter was then transferred by the London court to the European Court of Justice (ECJ).[19] Almost all the criticisms were gathered and addressed before the ECJ. Despite this, the ECJ concluded in December 2011 that EU's measure cannot be regarded as tax because it was not designed to generate revenue. It tax collected was also not intended for the public authorities and had no pre-established value. The charge imposed only reflected free market forces. It was held further that the measure did not violate the Open Skies Agreement. In spite of the decision and the measure implemented with some adjustments, many arguments against it still persist. The most important being the one pertaining to EU's WTO commitments. The questions of consistency of EU's measure is analyzed in three ways. The first is the simple question about violations of the Most Favoured Nation Treatment. The second, and a more complex one, is whether the EU's measure once adopted would be able to be used at a WTO panel during a dispute as an

[19] The Guardian (December 21 2011): International airlines will be charged for carbon emissions: EU court rules. Available at: http://www.guardian.co.uk/environment/2011/dec/21/international-airlines-carbon-emissions

environmental exception. As WTO is not a rule making body with respect to many such standards, the adopted measure would remain a good tool of defense for EU to prevent trade from effectively happening, additionally making it a very effective non-tariff barrier. The third concern is that the EU measure if considered as a 'Border Carbon Adjustment' could be regarded as a form of a border tax.[20]

Here, it may also be noted that the ECJ had ruled earlier that the measure does not constitute a tax being non-fiscal. In that light, it may also be argued that the measure could not be considered as a border tax under the provisions of the GATT. Even though the revenue earned through the measure flows to the State, it is actually unimportant. It can be compared to a regulatory measure requiring motorcycle riders to buy helmets – it is just that in our case the state sells the helmets. As the buyer retains the value of the helmet bought, the value of the new standards achieved by aircrafts increases in the global market. Hence the EU measure wouldn't qualify for a border tax.

It may also be argued that the EU's Emissions Trading System is not violative of the Chicago Convention as it doesn't amount to an illegal charge. Article 24 of the Chicago convention and the Open Skies Agreement provide that fuel is exempt from duties. Emissions are related to

[20] Bartels, Lorand (2012): The inclusion of aviation in the EU ETS: WTO law considerations. Trade and Sustainable Energy Series International Centre for Trade and Sustainable Development, Geneva (6)

A further argument can be that a selective favourable treatment for a few countries or airlines while most certainly be violative of the MFN obligation, however, will get an exemption under Article XX on environmental grounds, in the light of the broader climate change measures.[21] Nevertheless, compliance will also need to be tested in the light of the chapeau of Article XX. Besides the exemption under Article XX, it needs to be proved that the adopted measure is nor arbitrary or unjustified discrimination. During litigation, even the fact that the products from a non-regulated member state will face higher costs due to distance and complexity in logistics to arrive in Europe may lead it to be considered discriminatory. Additionally, to circumvent the burden of the EU measure, if the different airlines to Europe avoid direct flights, it may finally result in a net higher carbon emission.

Regarding the economic aspects of the measure, the EU estimates that the carries will be prompted to add between 4 to 24 Euros for long round trip flights. The impact of this was negligent on the European Commission. Some however argue that the now manageable costs is just the start; it may get worse. The prices may also depend on the future prices of carbon, which possibly may increase on market demand. Some others have concerns that the discriminatory rules made under the banner of environmental

[21] Vesperman, Jan Wald, Andreas (2011): Much Ado about Nothing? – An Analysis of Economic Impacts and Ecologic Effects of the EU-Emission Trading Scheme in the Aviation Industry. Transportation Research Part A 45:1066–1076.

protection may spill over to other sectors and create instability in trade and political relationships. The suspected sectors are Energy Efficiency and Climate Change Program, Restriction of Hazardous substances Directive etc. to which the EU discriminatory policy has good potential to spill over.

This is not just a doctrinal concern of airline industries. In fact in Brazil, while the airline industries remained opposed of the EU measure, it was the government of Brazil which was more upset. While India and china were very loud about it, Brazil, remained less vocal but took equal interest and initiative in retaliating the European Union by signing both the Delhi and Moscow declarations. EU was also not very transparent about the EU-Brazil summit in 2011. EU had conveniently kept the air services agreement unsigned in the last moment. The reason cited was that the EU wanted the domestic measure s related to civil aircrafts be unquestioned. The primary cause of discontent is basically not related to the economic impacts of the EU measure and the most loudly vocal were not the ones greatly affected.

REASONS FOR THE NORMATIVE DISCONTENT

In this article, I have so far explored the EU measure on aviation on both legal and economic aspects. This alone is not sufficient to understand the model fully and to propose how a regional measure can be evaluated and what can be learned from it by SAARC. While it is imminent that climate change be resisted with adequate measures, the global disagreement over how it can be done makes

one reasonably look forward to a regional strategy. As the EU measure I mentioned before in this paper remained highly opposed the diplomatic persuasions and clever coalition building has helped EU to address it fairly successfully. The political implications and the diplomatic meddling by EU is where a regional organization like SAARC can learn from.

It was Lufthansa that for the first time came with an open press statement regarding the problems of the air transport situation in EU after the measure. European airlines were in a loss of around 1.1 billion US dollars by mid-2012.[22] The Air Transport Association cited the euro debt crisis and recession in many EU member states as the reasons. Aviation according to many critics in Europe is troubled by burdensome taxes, restrictions on operating hours, emissions trading etc.

Given the discontent within EU of the measure, it is also important to see how problematic such regional measures can turn out to be problematic when strong economies turn against. For example, as a pressure tactic Russia decided that it will suspend the over flight rights of the EU aircrafts. India decided that it will suspend landing rights of EU aircrafts. China was no different. It also threatened EU of imposing sanctions and punitive tariffs on their aircrafts. The measures adopted by United States were more severe. They

[22] Annual Analyses of the EU Air Transport Market 2012, December 2013, European Commission. Available at: http://ec.europa.eu/transport/modes/air/internal_market/observatory_market/doc/annual-2012-summary.pdf

threatened to pass a law that would prohibit US airlines from complying with the EU's Emissions Trading System. Even after the Copenhagen ordeal, the EU position remained unchanged. They wanted a working legal agreement under the United Nations Framework Convention on Climate Change. EU soon afterwards started gathering support from various partners to bolster multilateral negotiations, bringing other to its side.

By 2015, through many negations of the ICAO, the world governments agreed that all airlines regardless of the non-agreement would join a global scheme to reduce carbon emissions. The details of the agreement will be negotiated towards the second half of 2016. The pressure on the European Union to delay imposing the ETS is still ongoing.

The industry has long cultivated the notion of exceptionalism, which now ended with the agreement by the ICAO member states. A market based mechanism will be negotiated in 2016 including taxes, carbon offsets and tradable permits. The deal tough will be negotiated in 2016 but will be in place only in 2020 when the UN climate deal will start.

Now the European ETS for aviation will be only applicable to flights operated within the European Economic Area (which includes 28 members and Iceland, Norway and Lichtenstein) until the end of 2016.[23] This was also a very tactical agreement that EU managed to

[23] Detailed explanation available at: http://ec.europa.eu/clima/policies/transport/aviation/index_en.htm

arrive at without yielding much to the global pressure. This also gives the ICAO enough time to devise a global mechanism to address aviation emissions.

But Europe's airlines are not ecstatic about the deal, which for now is still informal, asserting that limiting the European Union ETS to intra-European flights results in competitive distortions. They also question why they have to pay for offsetting their emissions, thereby enriching governments' treasuries, while the same governments are blocking the implementation of the Single European Sky (SES), which could save up to 18 million metric tons of carbon-dioxide emissions per year

The 2015 Paris Agreement was a very ambitious one. However, the US, China and the Gulf States blocked the EU's plan of extending its ETC to aviation. The Paris Agreement failed in tackling emissions from aviation. The measure taken by EU could very well have created a deadlock. If many countries would have taken unilateral measures following EU, it would have fragmented the global efforts for environmental protection. However, the measure adopted by EU was backed up by substantial maturity in handling the problems that followed. The conservative players like the United States couldn't do much but to postpone EU's measure.

WHAT CAN BE A VIABLE SOLUTION?

I would rather assemble a possible solution for the problem, in this part of the paper, than being critical about the steps taken by the European Union. An all acceptable solution would undoubtedly be

to reach a resolution at the ICAO. However, as evidence proves surprisingly enough how difficult it was for the nations to reach a consensus at ICAO level even after a decade. Aviation is certainly an area on which regional negotiations and consensus would bring an inadequate change. Unlike trade, aviation certainly demands a global consensus and regulation. I do not believe this perspective is much different from that of the EU. In fact the EU resolved to revise its resolution if a global consensus can be reached. The EU decision was rather motivated by necessity of such a decision that political hegemony or disharmony. Nevertheless, EU's approach has probematized the possibilities of further bigger forms of co-operation on two respects. Firstly, other (non-EU) countries feel now that they are now being compelled to reach an agreement and avoid penalties. "The problem is that countries feel that they are negotiating with a gun in the head."[24] This is a reasoning adopted by many against EU. Certainly, it is true that the pressure on EU, to withdraw the decision, which partly they complied with, also created substantial unpleasantness for them as well. EU was reluctant to a certain extent as the demand was to bring down a law that it approved and passed – which would question the strength of EU as a political unit.

It would be absolutely right in saying that the ICAO had to speed up its negotiations manly due to the pressure created by EU's decision. There were four solutions before the ICAO; mandatory offsetting,

[24] Personal interview. European diplomat EU Delegation. Washington 2012. As cited by Paula Domingos, Nicole (2011) Supra Note. 13

offsetting complemented by a revenue making mechanism, a cap-and-trade scheme and a mechanism of emissions trading baseline and credit system. Market based global system in the 2013 general assembly was thought to be procedurally constrained and was expected to be established in 2015, which nevertheless happened. The failure to establish such a provision certainly proves that it may not happen in the near future. The biggest problem is the difference in interests of the UNFCCC and the ICAO. Whereas the ICO believes in equality among members and equality of responsibility, the UNFCCC believes in 'common but differentiated responsibilities (CBDT) which was included in the United Nations Framework convention on Climate change 1992. It even divided nations into 'those who have historical responsibility' and those who don't. The Kyoto Protocol was based on the principles of CBDT and 'historical responsibilities'. In the conflict, UNFCCC finally won and in the Paris Agreement of 2015, though there was a shift away from 'historical responsibilities', which was not to be found, CBDT finds a good place. The greatest challenge for any global policy decision would be to strike a balance between both the principles depending on circumstances. The conflict mentioned above is by no means a non-evident one. In spite of the fact that many countries agreed at the Delhi and Moscow declarations, the position of different airlines differ greatly. For eg., the position of US airlines would differ greatly from those of developing nations. For United States, it is more important that everyone be accorded an equal treatment, and developing countries disagree.

On a practical note, if nothing very ambitious and successful happen at the ICAO, the airlines can at the most be concerned on achieving best possible way of compliance with minimal friction with laws to avoid penalties. However, an alternative would be that the airlines persuade their own states to frame policies so that to the convenience of the industry and the stakeholders, gain exemptions. Any real solution to this problem would lead us to no other answer than negotiations; there has any way not been a better answer to any similar question at global level anyway. What can be sensibly worked on is a removal of any such, already mentioned, predicaments that prevent nations from reaching a multilateral consensus. Neither environment nor Europe is indifferent to the intensification of the conflict. EU obviously had to concede. However, there is a lot that a regional organization like SAARC can learn from this. On certain areas when at the global level, a solution may not be possible but a sustainable future for everybody requires to do so, there is nothing theoretically wrong for it to adopt EU's model at least in a diluted form. One cannot say that EU's decision was defeated here but only postponed until the next multilateral failure.

CONCLUSION: WHAT ARE THE LESSONS FOR FUTURE REGIONAL EFFORTS?

This article has so far explored the European Union's aviation directive and reasons for its global discontent; legal, economic and political arguments were put forward.

The no receptiveness of the directive is one thing; the unilateral action's impact on EU's trading partners is another. Through the discontent of the trading partners creating a strong normative divide, EU's possibility of persuading any of those nations to undertake future measures for climate change is basically lost. Any sustainable solution to climate change lies in multilateral negotiations. Such multilateral negotiations are getting all the more difficult with more economic and political differences in global relations. So the test for any unilateral action for a regional organization like SAARC can be if it may render future multilateral efforts impossible. As long as the unilateral measure is in the interest of protecting environment, it will be theoretically correct, whereas, it should not render multilateral non cooperation guaranteed.

EU had all the right intentions to come up with the measure but wrong methodically. EU for sure sent a bad message to its trading partners. Instead, EU could have positively involved its partners in arriving at the directive. At the end, when we do a cost benefit analysis of EU's unilateral policy, neither did it pass the right message with which it was made, nor did it achieve its right objectives. This signifies one of the major relationships between trade and climate change negotiations. One cannot separate trade from any political negotiations let alone climate change.

Climate change being such an important issue, perhaps the most important one for the century, the perception is that the perceptions about climate change has the capacity to affect all aspects of life of

individuals and international organizations like the World Trade Organization. It had built momentum at Copenhagen in 2010 but soon afterwards lost its strength. As of now, though the arguments for climate change seems to have lost its momentum, let us remind ourselves that there are a lot many decades of serious environmental challenges coming up. The momentum of the issue is paused only to start again with all its strength. And that would be the right time to take a politically right decision for a regional organization like SAARC or ASEAN, ofcourse by learning from EU's mistakes.

Finally, the nations once again have a chance to address the climate change concerns at Doha at the 18th conference. The deeply interconnected and disputed problems can be once again placed on the table with the expectation of a solution based on consensus. If one is overly optimistic, there is nothing wrong in hoping that the city wouldn't remind and inspire the parties of the morbidity of the Doha Development Rounds.

CARTELISATION AMONGST AIRLINES – AN INDIAN PERSPECTIVE

Harikrishnan K[*]

Abstract

Competition is a driving force in today's globalised world, and the transport industry plays a huge role in the global economy. An illegal transport cartel will affect free competition in the market and consumers to a very large extent. Various anti-trust laws are in place to restrict and punish cartel formation and other anti-competitive activities. The Competition Act, 2002, regulates competition in India, through the Competition Commission of India. The Competition Commission of India has taken strict views on cartel formation, and has, for the first time, passed an order against erring airlines. Though the order has been stayed for procedural lapses, it is interesting to note the change in the approach of the Competition Commission of India in cases of alleged cartelisation.

INTRODUCTION

Competition plays a crucial role in an economic set up. It fuels economic growth and contributes to the overall efficiency of the economy. Competition is a great leveller among different players in the particular market. Effective competition also invariably results

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in lowering prices and enhancing the quality of goods and services, and also aides in developing consumer oriented development of products and services

Competition among different entities is a necessary component for growth and expansion of any industry. However, certain vested interest groups, large monopolistic firms and other stakeholders try to deprive the free markets of its functionality i.e. freedom and choice. Such activities primarily revolve around the effective distortion of competition in the market. The direct effect of such distortion of competition is on the consumers who are affected by factors such as high prices and lower quality of goods and services. Hence, there is an ever increasing necessity for putting in place a proactive regulatory body, supported by strong laws to protect and nurture the competitive process.

The basic purpose of competition law is to promote competition through the control of restrictive business practices[1]. It is assumed that competition between firms will enhance the overall efficiency of the economy, first, by encouraging price competition, resulting in lower prices for consumers, and second by forcing firms to produce more efficiently so as to compete on price with their rivals[2]. Ultimately competition law aims to improve the efficiency of the market, by removing restrictive and anti-consumer practices and ensuring consumer choice and satisfaction.

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1 Vijay Kumar Singh, "Competition Law and Policy in India: The Journey in a Decade", *NUJS L. Rev.*, Vol. 4 (2011), 523, 524

2 Peter T Muchlinski, *Multinational Enterprises & The Law*, (Oxford University Press, 2nd ed., 2007) 385-396

Indian law under for regulating competition can be said to have begun with the Monopoly and Restrictive Trade Practices Act, 1969 ("MRTP Act"). The MRTP Act was directed at primarily prohibiting monopolistic and restrictive trade practices which are prejudicial to public interest, rather than to ensure free entry and exit into the market.

With the advent of globalisation and the movement of the Indian economy away from socialist tendencies, the provisions of the MRTP Act became obsolete. This lead to the enactment of the Competition Act, 2002, which drew heavily on modern statutes around the world, to modernise Indian competition law and bring it up to speed with recent developments. The objects of the new Act are[3] "to provide, keeping in view of the economic development of the country, for the establishment of a Commission –

- to prevent practices having adverse effect on competition;
- to promote and sustain competition in markets;
- to protect the interests of consumers and to ensure freedom of trade carried on by other participants in markets, in India; and,
- for matters connected therewith or incidental thereto."

The focus here is only on the formation of cartels as an anticompetitive practice under the Competition Act with a special reference to the airlines operating in the Indian aviation industry.

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3 Competition Act, 2002, Preamble

CARTELS GENERALLY

Cartels have been in existence from ancient times. They have taken different forms and structures, but have always had one thing in common – to distort the market so as to make it profitable to the members of the cartel. Formal recognition came about only after the industrial revolution, when the number of producers of goods reduced and larger entities capable of controlling the market came into existence. These large business entities organised together and formed understandings to hurt the public at large.

It was observed in the case of *Northern Pacific Railway v. United States*[4], "*There are certain agreements or practices which, because of their pernicious effects on competition and lack of redeeming virtue, are conclusively presumed to be unreasonable, and therefore illegal without any elaborate inquiry as to the precise harm they have caused or the business excuse for their use.*"

A cartel is basically an economic or market-based arrangement between the vendor-participants or producers to limit competition among themselves such that their returns are maximised. Cartels can be expected to work best when the members dominate the production of a commodity in a particular market, when prices are high, and when the market is fairly stable and then only as long as each is content with his share of the market[5].

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4 *[1958] 356 US 1*

5 Steven J Baker, "Monopoly or Cartel?", *Foreign Policy*, No. 23 (Summer, 1976), 202-220, 212

Rudolf Callmann has defined a cartel agreement[6] as an agreement that "*adjusts the business activities of its member or merchants of a particular field or industry or trade to a given market. In particular it adjusts productive capacity in a given industry to the demands of the market, tying to correct the usual tendency of output capacity to outrun these demands. Such an adjustment among competitors limits or eliminates competitor freedom.*"

The Organisation for Economic Cooperation and Development ("OECD") has defined[7] 'hard-core cartels' as – "*an anti-competitive arrangement by competitors to fix prices, make rigged bids, collusive tenders, establish output restrictions or quotas, or share or divide markets by allocating customers, suppliers, territories, or lines of commerce.*"

As may be seen from the definitions above, a cartel is an arrangement or agreement, whether secret or not, between participating members of an industry or sector, or between competitors, to fix prices or production to ensure timely and high returns to such participants. It may further be seen that while cartels may exist in any market, it would thrive in an oligopolistic market where the number of competitors are less. It is essential to note here that not all arrangements amount to a cartel. There may be arrangements for pure feasibility of business and efficiency of markets. Hence every arrangement has to be looked at individually

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6 Heinrich Kronstein & Gertrude Leighton, "Cartel Control: A Record of Failure", 55 *Yale L. J.* 297

7 OECD, *Recommendation of the Council Concerning Effective Action against Hard-Core Cartels*, C(98)35/Final, May 1998.

on its merits to ascertain whether such behaviour would amount to a cartel.

Cartel formation has come to be abhorred in modern day markets. Countries around the world have undertaken stringent measures to ensure that competitors do not have any incentive to organise themselves into cartels. The pioneers against the anti-competitive agreements are the legal systems of United States and the European Union, in particular Germany. However, other countries have also realised the disadvantages and impact of allowing cartels to grow unabated in the economy, and have followed in the footsteps of the United States and the European Union to strengthen their competition law regimes, particularly against anti-competitive agreements like cartels.

CARTELS UNDER THE INDIAN LAW

Though the term 'cartel' was not defined under the MRTP Act, cartel-like behaviour was ascertained on a case by case basis. However, the Competition Act has defined the term cartel in Section 2(c), as including "*an association of producers, sellers, distributors, traders or service providers who, by agreement amongst themselves, limit, control or attempt to control the production, distribution, sale or price of, or, trade in goods or provision of services.*"

The definition is an inclusive definition of wide ambit bringing under its purview various kinds of agreements and arrangements. It is important to consider the definition of an agreement under the Competition Act, which extends beyond the conventional meaning

of an agreement. According to Section 2(b) "*an agreement includes any arrangement, understanding or action in concert*" irrespective of whether it is in writing or is intended to be enforced by legal proceedings. Acting in concert has to be considered having regard to their relation, conduct, common interest and evidence in this behalf. Evidence of actual concert is generally difficult to secure and is not to be insisted upon[8].

Section 3 of the Competition Act contains provisions that deal with prohibition of anti-competitive agreements. Subsection (1) contains a general prohibition on agreements or arrangements that may cause an appreciable adverse effect on competition, while subsection (2) declares such agreements void. Subsections (3) and (4) specifically prohibit horizontal and vertical agreements.

Section 3(3) prohibition on horizontal agreements, i.e. agreements amongst enterprises or persons at a similar stages or levels of the production chain in similar markets engaged in identical or similar trade of goods or provision of services, extends to cartels. According to Section 3(3) presumption of appreciable adverse effect on competition is applicable on agreements "*which* –

(a) directly or indirectly determines purchase or sale prices;

(b) limits or controls production, supply, markets, technical development, investment or provision of services;

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8 *CIT v. East Coast Commercial Co. Ltd., AIR 1967 SC 765*

(c) shares the market or source of production or provision of services by way of allocation of geographical area of market, or type of goods or services, or number of customers in the market or any other similar way; or,

(d) directly or indirectly results in bid rigging or collusive bidding."

Each clause of this subsection (3) is discussed below –

i. Clause (a) deals different types of collective agreements which are collusive in nature and seeks to fix prices or allocation of markets. This clause is applicable for most cartel arrangements. The parties to such an arrangement, with a common goal, act according to a predetermined scheme or plan.

ii. Clause (b) combines direct and indirect elimination of competition, i.e. by colluding to directly regulate the flow of supply of goods and services, and by colluding to reduce the availability of technical knowledge and sufficient investment in the relevant industry.

iii. Clause (c) refers to allocation of markets, either on the basis of geography or consumer base or types of goods supplied or services provided. Such allocation reduces consumer choice. Though such market allocation is common, especially in joint ventures and franchise arrangements, it is closely monitored to ensure it justifiable and for better

efficiency and does not run afoul of the provisions of the Competition Act.

iv. Clause (d) deals with bid rigging and collusive bidding which has been defined [9]as an agreement which has the effect of eliminating or reducing competition for bids or adversely affecting or manipulating the process for bidding.

It is vital to note that the first three types of agreements covered may include all firms in a market, or a majority of them, coordinating their business, whether *vis-à-vis* price, geographical market, or output, to effectively act like a monopoly and share 'monopoly profits' accrued form their collusion. The fourth type of cartelised behaviour may involve competitors collaborating in some way to restrict competition in response to a tender invitation and might be a combination of all practices[10].

The subsection, however, exempts joint venture agreements that may be entered into between parties to increase efficiency in production, supply, distribution, storage, acquisition or control of goods or provision of services[11].

CARTELS AND THE AVIATION INDUSTRY

The transport industry forms the backbone of any economy around the world. After the Second World War, the aviation transport industry has rapidly grown and developed into one of the most major

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9 Competition Act, Explanation to Section 3(3)

10 Abir Roy & Jayant Kumar, *Competition Law in India* (Eastern Law House, 2nd ed., 2014) 56

11 Competition Act, 2002, Proviso to Section 3 (3)

transporters, gaining prominence over other forms of transport. This rapid growth, backed by technological advances and globalisation, has seen varied changes in business models and global outreach of the industry.

The global aviation industry is governed both domestically – by intense regulation internal regulation setting out entry barriers, experience requirements, airport slots etc., and internationally – through treaties and agreements between countries laying down security norms, flight route guidelines etc. In India, aviation regulation is through regulatory agencies, such as the Directorate General Civil Aviation, the Airports Authority of India, the Bureau of Civil Aviation Security and the Airports Economic Regulatory Authority; and, legislations pertinently the Aircraft Act, 1934, the Aircraft Rules, 1937 and the Civil Aviation Requirements.

The aviation sector is very susceptible to anti-competitive practice because of its oligopolistic nature. It is a capital intensive industry and it is very financial demanding to participate in it. The return on investment is fraught with perils ranging from economic downturns to natural disasters. Hence, the participants in the sector are highly incentivised to collude to increase returns and profits. Also, the strict regulation of the aviation industry by domestic regulators on aspects such as minimum fleet size requirements, minimum equity requirements, route dispersal guidelines, and fleet & experience requirements for international operations enabling in creating a situation wherein the participants struggle to capture the market.

Further, the large geographical scope and varied strata of customer to which the industry caters to, makes it a unique industry. This global nature of the industry leads to a new issue of discovering and regulating anti-competitive practices. It is practically impossible to ascertain anti-competitive practices among competitors in the aviation industry, as the absence of a competitor in a particular market or similar increase of prices among competitors etc., are all dependant on global market forces, availability of capital and the need to raise more capital.

In an oligopolistic industry like the air transport industry, competition regulators have their work cut out for them to uncover anti-competitive practices amongst airlines. This is particularly true with regard to aviation cartels, as there is natural price parallelism among the different participants. Each participant is bound by similar limitations restricting their ability to offer overly competitive prices or services to the consumers. However, competition regulators all over the world have successfully uncovered aviation cartels, especially amongst passenger or cargo airlines.

Aviation cartels that have been discovered have primarily revolved around the issue of price-fixation and market-sharing. One of the earliest market-sharing cases was the SAS-Maersk market sharing case[12], decided in 2001 by the European Commission, wherein the European Commission held both SAS and Maersk Air guilty of

[12] *Sun Air v SAS & Maersk Air, Case COMP.D.2 37.444 & Case COMP.D.2 37.386*, Official Journal of the European Union, 2001/716/EC *available at* http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX: 32001D0716 &from=EN

entering into market sharing agreement. This decision took into account the relevant markets including destinations, routes and other third party players in that market.

Cartelisation in the aviation industry is not restricted to Europe alone. Price-fixing and market-sharing cartels have been discovered and punished in South Africa[13] and Malaysia[14] as well. In South Africa, even the national carrier was found guilty of engaging in cartelisation and fixing prices to ensure maximum profitability among different airlines.

The most famous and possibly the largest airline cartel unearthed by competition authorities and regulators, is the air cargo cartel. This cartel extended across multiple jurisdictions and was in existence from 2000-2006, making it a global cartel involving multiple airline operators. The detection of this cartel was based on the success of the leniency program offered by both the Anti-trust Division of the United States Department of Justice ("DoJ") and the Directorate General for Competition of the European Commission ("EC"). Lufthansa and its subsidiary Swiss International Air were the recipients of the leniency program.

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[13] OECD – Directorate for Financial and Enterprise Affairs Competition Committee, *Airline Competition – Note by South Africa*, DAF/COMP/WD(2014)65, June 5, 2014 http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/WD(2014)65&docLanguage=En

[14] My CC's Decision Against the Malaysian Airline System Berhad, AirAsia Berhad and AirAsia X Sdn. Bhd., March 31, 2014 (No. MyCC.0001.2012) *available at* http://mycc.gov.my/wp-content/uploads/2014/05/FINAL-DECISION-ON-MAS-AIRASIA-PDF.pdf

In this cartel many airlines, to combat increasing Aviation Turbine Fuel costs, resorted to the introduction of a fuel surcharge ("FSC") on air freight or air cargo costs. Though on paper this FSC was to offset increase in Aviation Turbine Fuel costs, in reality the FSC was based on the weight of cargo and not the distance of transportation required. Further, the FSC portion of the air freight bill was not subject to any commission to agents or discounts to customers. The FSC was at a flat rate imposed by multiple airlines sectors and routes.

The cartel came to light after the leniency recipients, Lufthansa and Swiss International Air approached the competition regulators with information pertaining to the cartel. Based on the information provided and subsequent investigations into it, the DoJ and the EC raided the offices of various airlines in USA and Europe Union simultaneously.

It is important to note certain observations of the EC and DoJ while finding the existence of a cartel and impose penalties on the parties involved. The EC observed that the participants in the cartel contacted one another regularly on "the application of the FSC mechanism, the introduction of new trigger points raising the level of FSC and regarding anticipated increases (or decreases) in FSC levels"[15], to ensure that the rate of FSC moved simultaneously and

[15] European Commission, *Summary of Commission Decision of 9 November 2010 (Case C.39258 – Air Freight)*, ¶ 9, Official Journal of the European Union, 2014/C 371/09 (Apr 28, 2015, 12:00) *available at* http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XC1018(03)&from=EN

in tandem among the participants. The DoJ observed that the participants "entered into and engaged in a combination and conspiracy to suppress and eliminate competition by fixing the cargo rates charged to customers for international air shipments"[16]. The participants exchanged information in meetings, through phone calls and conference calls, vide emails and even using airline association and statutory meetings to discuss FSC.

Following the commencement of proceedings against the participants of the cartel by EC and DoJ, other regulators such as the Australian Competition and Consumer Commission (Australia), Fair Trade Commission (South Korea) and Administrative Council for Economic Defence (Brazil) started investigations have found a number of participating airlines, ranging from 10 to 20 (based on the jurisdiction) guilty of participating in the global air cargo FSC cartel. Even today there are multiple on-going proceedings in various jurisdictions on the global air cargo FSC, based on complaints by consumers.

AVIATION CARTELS IN INDIA

There have been many allegations of cartelisation against airlines and the aviation sector in India. Though CCI looked into each allegation, there has been only three occasions where the CCI found a *prima facie* case of aviation cartels and directed an investigation

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[16] Scott Campbell & Tristan Feunteun, *The Air Cargo Cartel: Counting the Cost of Conspiracy*, COMPETITION LAW INSIGHT, Sep 18, 2012 (Apr 28, 2015, 14:30) *available at* http://www.stewartslaw.com/Core/DownloadDoc.aspx?documentID=7682

by the Director General ("DG") and in two of the cases, the allegation was not proved. This was prior to the recent decision of the Competition Commission of India ("CCI") wherein some airlines were found to be part of a cartel. The two cases where evidence of cartelisation was not proved are discussed in brief here and before the recent decision of the CCI are discussed.

The first allegation of cartelisation by airline was made by newspapers who alleged that airfares were hiked simultaneously by all airline operators in February 2009. The DG was directed to investigate and prepare a report. The DG's report did not find any cartel like behaviour amongst the airlines. The DG opined that due to sudden economic slowdown, the airlines were forced to hike airfares after failing to stimulate demand through offers, to maintain economic viability. The DG did not find any pre-meditated or concerted action between the airlines[17], and apart from near simultaneous withdrawal of offers, the change in airfares was not uniform across airlines, sectors and class of tickets.

The majority decision of the CCI agreed with the views expressed by the DG in the report. However, there was a dissenting opinion by one of the members in which he found that there was sufficient evidence of cartelisation and collusion among airlines. Further, the dissenting opinion observed and held that price parallelism is either

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[17] *In Re: Domestic Airlines, Ref Case No. RTPE 05/2009, Suo motu Case No. 02/2010,* Decided on Jan 10, 2012, CCI, ¶ 3.2.5 *available at* http://www.cci.gov.in/sites/default/files/SuomotoDomesticMain10jan2012_0.pdf

proof of concerted behaviour or creates a presumption of collusion[18].

The second allegation of cartelisation between airlines in India was on the basis of a reference by the Ministry of Corporate Affairs, after sudden and exponential increase in airfares all over India as an immediate aftermath of a strike by the pilots of Air India in April 2011[19]. Additionally there were allegations of blocking sales of air tickets online and denying opportunity to book flight tickets early. Due to this blocking it was alleged that the airlines managed to sell these tickets for higher prices on a later date.

Due to the nature of the reference and after considering the various aspects of the case, the CCI arrived at a conclusion that there existed a *prima facie* case and directed the DG to conduct an investigation into the matter. Though a 7% to 10% increase in ticket was evident observed across all airline, the airlines put forth the argument that the increase in prices were normal due to the sudden booking of tickets in their flights due to the strike coupled with the usual increase in demand during the last week of April and first two weeks of may due to the holiday season, and a sudden spurt in aviation fuel prices. Further the airlines argued that they had no control over the

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[18] *In Re: Domestic Airlines (Dissenting), Ref Case No. RTPE 05/2009, Suo motu Case No. 02/2010*, CCI, ¶ 55 *available at* http://www.cci.gov.in/sites/default/files/SuomotoDomesticdissenting10jan2012_0.pdf

[19] *In Re: Domestic Airlines, Ref Case No. 01/2011, Decided on Jan 11, 2012*, CCI *available at* http://www.cci.gov.in/sites/default/files/Domesticairlinesorder11jan2012_0.pdf

shifting of lower priced tickets into higher price buckets due to the software used for airline ticket booking.

The DG observed that there was a sudden and simultaneous increase in the prices across all airlines. During the relevant time frame, tickets in the higher price bucket were increased in number and thereby pushed up the ticket prices. The DG further debunked the argument that airlines had no control over the number of tickets in a particular price bucket by noticing that most airlines, apart from the full service airlines, had their own internal software to determine and allocate the number of tickets in each price bucket[20]. The DG also observed that the airlines all appeared to move in tandem increasing the number of tickets allocated in a particular price band indicating the adoption of a practice of upward movement of prices by all airlines simultaneously. The DG further observed that the entire system of pricing of airline tickets was non-transparent and opaque[21]. The DG concluded that the airlines though there was no explicit agreement among the airlines, "*the action in tandem to increase the fares by shifting buckets by taking cue from others by the airlines during the period under consideration was nothing but a practice to limit and control the inventory of seats for undue maximisation of profits and hence was violative of Section 3(3)*"[22].

The CCI however disagreed with the DG. The CCI accepted the existence of a practice as observed by the DG but concluded that

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[20] *Ibid.*, ¶ 7.5, 7.6, 7.7 & 7.10
[21] *Ibid.*, ¶ 7.15
[22] *Ibid.*, ¶ 7.18

such practice was not the result of any agreement between the airlines. Further the allocation of tickets in different price buckets was on the basis of the business model followed by the airline in question and there was no agreement among the airlines to increase prices in tandem. Therefore, the CCI concluded that a case of cartelisation could not be proved and hence the case was dismissed.

It is to be noted that in this case as well there was a dissenting order by one of the members[23]. In the view of the dissenting member after the report of the DG found the airlines in violation of Section 3(3), the CCI should have carried out further investigation[24]. Further, once the existence of price parallelism and an identifiable practice (of concerted action) were established, the onus of disproving cartelisation or price-fixing is shifted upon the airlines[25]. The member also observed that Indian competition law is different from western competition law and it is not necessary for practice to have a meeting of minds under the Indian law[26].

Both the above orders of the CCI have been criticised by consumer rights groups, and led to calls for better training of the members of the CCI especially with regard to appreciation of the available evidence. The overall standpoint of the CCI was seen as lenient, especially when it came to the aviation sector. It is also interesting

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[23] In Re: Domestic Airlines (Dissenting), Ref Case No. 01/2011, Decided on Jan 11, 2012, CCI *available at* http://www.cci.gov.in/sites/default/files/Domesticairlinesorderdissenting11jan2012_0.pdf

[24] *Ibid.*, ¶ 4

[25] *Ibid.*, ¶ 6 & 9

[26] *Ibid.*, ¶ 11

to note that the leniency provisions under the Competition Act have not sufficiently incentivised parties to come forward with evidence.

INDIAN FSC CASE

Though it may be seen that in the first few instances the CCI has failed to find the airlines guilty of cartelisation or price-fixing, in a recent order[27] the CCI has held Jet Airways, Indigo Airlines and SpiceJet guilty of cartelisation, while acquitting Air India and Go Airlines of allegations of cartelisation. This order of the CCI is path breaking, and is the first instance of a proven airline cartel in India, though it is in the cargo transportation sector and not in the passenger sector. It essential to discuss this case in depth to understand the change in the approach of the CCI while dealing with airline cartels, and also to understand the procedure of functioning of the CCI.

Facts

In this case, the informant Express Industry Council of India which is non-profit company having the object of securing the welfare of the express industry and had many international express service providers as members. The informant alleged that in the opposite parties simultaneously introduced a Rs. 5 Fuel Surcharge ("FSC") in May 2008. The informant averred that the introduction of the FSC was in itself patently illegal, and the rate of FSC has been uniform across airlines. Further the FSC was increased irrespective of the

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[27] *Express Industry Council of India v. Jet Airways (India) Ltd. & Others, Case No. 30/2013*, Decided on Nov 17, 2015, CCI *available at* http://www.cci.gov.in/sites/default/files/302013.pdf

actual fuel prices and had in fact when fuel prices decreased substantially the FSC rates were increased. The informant also produced certain evidence that seemed to show uniform increase in the FSC prices by the airlines in concert with one another. The CCI directed the DG to conduct an investigation into the matter and submit a report.

Report of the DG

The DG submitted her report on 2nd February 2015 after seeking multiple extensions. The DG concluded that the evidence available did not suggest any anti-competitive practice or collusive practice by the airlines as alleged by the informant. However, the DG did observe that the "*imposition of FSC was not in conformity with the market conditions*" and "*bore little correlation with the changes in ATF price*"[28].

Replies by the Parties

The CCI then notified all the parties involved of the Report of the DG and sought responses. The informant observed that the observations of the DG and the conclusion arrived at by the DG were on different tangents. The informant pointed out that the DG had reached a clear finding of concerted action. Further the correlations between the FSC prices charged by each of the different airlines going by the absolute change criteria were very close to +1 i.e. it was close to perfect positive correlation, and going by the percentage change the coefficients were mostly positive. The

[28] *Ibid.*, ¶ 14

informant also criticised the procedure adopted by the DG while collecting evidence.

Each of the airlines, namely Jet Airways, Indigo Airlines, SpiceJet, Air India and Go Airlines, argued similar points as reply to the report of the DG, which have been summarised here.

(i) Nature of the Industry: The airlines contended that the aviation industry being oligopolistic in nature, each player in the industry was bound to follow the others to keep up with the competition. Mere price parallelism did not suggest a concerted action practice to increase or charge certain prices.

(ii) Meetings among Airlines: The airlines put forth that the mere existence of associations like the International Air Transport Association and Air Cargo Forum India, in which the airlines met frequently or the simple fact that they shared common space and work in close proximity in airports did not show any actual collusion between the airlines.

(iii) Basis of FSC: The airlines stated that the Aviation Turbine Fuel costs were not the only basis for charging FSC. The strength of the Indian Rupee against the United States Dollar also played an important role in determination of FSC rates. Further the FSC rates were based on the market operating requirements including raising sufficient capital to stay afloat in the competitive air transport sector.

(iv) Lack of Market Share: The airlines also argued that they did not hold a dominant market position so as to affect the market. They were minor players who let out hull cargo space in passenger planes, unlike exclusive cargo services like Blue Dart who had a market share of over 24%.

(v) Portion of Total Revenue: The airlines further stated that the cargo services formed a miniscule part of their revenue, rarely exceeding 5% in the case of any of the airlines. This made it impractical and dangerous to collude and involve in cartelisation for extremely small gains.

In addition to the above grounds, Air India also advanced that they had reduced the FSC rates based on the fluctuations of Aviation Turbine Fuel cost and the United States Dollars exchange rates, and that FSC was withdrawn in its entirety in April 2015. Go Air also stated that they had no control over the cargo space in their aircrafts as the cargo space was let out a service provider who decided and set the prices for the service and that Go Air only received a fixed fee for renting out the cargo space.

Analysis by the CCI

The CCI conducted its analysis in an organised manner. First, it tried to ascertain the basis of levying FSC and overall pricing for cargo transportation by the airlines. In this regard, the CCI observed that the apart from FSC, airlines take into account various other factors while arriving at air cargo prices. Further, FSC is a significant component of overall cargo pricing and is predictable in nature.

Additionally, the CCI considered the submissions of the parties involved to ascertain the method of arriving at FSC rates. The CCI observed that "*No Airline has been able to give any systematic break-up of weight attached to any parameter claimed to be important in determination of FSC*".[29] The CCI found that there was no rationale for the changes in the rate of FSC levied and the contention of the parties that it was related to the Aviation Turbine Fuel costs and United States Dollar exchange rates volatility was set aside. Further, the CCI noted that the parties claimed that they had held internal meetings to determine FSC rates, but were unable to provide any proof that such meetings were held. Hence, the CCI concluded that there was no clear methodology adopted to arrive at the FSC rates.

Next, the CCI addressed the issue of whether the airlines have acted in a concerted manner in fixing the FSC. The CCI observed that the definition of agreement in the Competition Act, 2002 is a wide definition, and that[30] "*The understanding may be tacit and the definition covers situations where the parties act on the basis of a nod or wink. There is rarely a direct evidence of action in concert*".

The CCI also came to the conclusion that there was clear price parallelism among the airlines as seen from the available data. It is to be noted that price parallelism alone is not sufficient evidence of the existence of any anti-competitive practice, particularly in an

[29] *Ibid.*, ¶ 97
[30] *Ibid.*, ¶ 111

oligopoly market wherein the competitors engage in intelligent pricing based on the actions of other competitors.

The CCI while observing the standard examining evidence in cases of cartelisation, held that[31] "*In most cases, the existence of an anti-competitive practice or agreement must be inferred from a number of coincidences and indicia which, taken together, may, in the absence of any other plausible explanation, constitute evidence of the existence of an agreement*".

Based on the CCI's appreciation of the evidence, data available, conduct of the parties and the surrounding circumstances, the CCI observed that the DG's conclusion that there was no collusive practice amongst the airlines regarding revision of FSC was incorrect. The Dg's finding that there was no communication between the airlines with respect to FSC was also disregarded by the CCI. The CCI observed that the airlines have stated that the information regarding FSC was available with third parties too. This involvement of common third parties amongst the airlines reduced any uncertainty between the airlines on the actions of their competitors. The airlines were aware of any possible change in FSC by the other airlines, and also had a way to express their intentions to the others.

The CCI held that the conduct of the parties was sufficient to establish anti-competitive agreement under Section 3 of the Competition Act, 2002. Further, the according to Section 3(3) (a) to

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[31] *Ibid.*, ¶ 112

(d), once the existence of an agreement is established, there is a presumption of appreciable adverse effect on competition in the market, and the burden shifts to the opposite parties to rebut the existence of an anti-competitive agreement. The airlines in this case were unable to rebuke this.

It is pertinent to note that the CCI made an important observation differentiating price parallelism and collusive behaviour in the following terms[32] –

> "*It may be noted that a parallel conduct is legal only when the adaptation to the market conditions was done independently and not on the basis of information exchanged between the competitors, the object of which is to influence the market. One of the elements that indicate concerted action is the exchange of information between the enterprises directly or indirectly. Price competition in a market encourages an efficient supply of output/services by companies. Any company is free to change/ revise its prices taking into consideration the foreseeable conduct of its competitors. That however is not suggestive of the fact that it cooperates with the competitors. Such coordinated course of action relating to a change of prices ensures its success by prior elimination of all uncertainty as to each other's conduct*

[32] *Ibid.*, ¶ 120

> *regarding the essential elements of that action, such as the amount, subject-matter, date, etc.*"

Order

The CCI found that this is a fit case for imposition of penalty. It acquitted Go Air on the basis that Go Air only let out space in the cargo belly to a third party service provider and had no control over the prices. Further the CCI held that Air India was able to establish a direct correlation between Aviation Turbine Fuel prices and United States Dollars exchange rates, and hence was not guilty of any collusive behaviour.

Indigo Airlines, SpiceJet and Jet Airways were fined 63.74, 42.48 and 151.69 Crore Rupees, respectively. While arriving at the penalty, the CCI noted that[33] the object of imposition of penalties is "*(a) to impose penalties on infringing undertakings which reflect the seriousness of the infringement; and (b) to ensure that the threat of penalties will deter the infringing undertakings. Therefore, the quantum of penalties imposed must correspond with the gravity of the offence and the same must be determined after having due regard to the mitigating and aggravating circumstances of the case.*"

Appeal

Indigo Airlines, SpiceJet and Jet Airways preferred separate appeals before the Competition Appellate Tribunal ("COMPAT") against

[33] *Ibid.*, ¶ 130

the order of the CCI, contending violation of principles of natural justice. The appeals were heard together by COMPAT, which passed its joint order on April 18, 2016[34].

The primary contention of the appellants was that they were not given an opportunity to put forth their case once the CCI disagreed with the DG's findings. This was argued to be a violation of the rule of *audi alteram partem*. It was contended that though the CCI was not obliged to give reasons in the event it disagreed with the findings of the DG, it was required that the parties be given an opportunity to objections to the same.

After hearing all the parties involved at length, and after referring to multiple judgments and decisions pertaining to violation of principles of natural justice, including COMPAT's decision in *Board of Cricket Control in India v. Competition Commission of India*[35], COMPAT set aside the order of CCI. COMPAT observed that by not providing any indication of disagreement with the report of the DG by the CCI and not giving notice to the parties indicating reasons for the disagreement was a violation of the principles of natural justice and caused serious prejudice to the appellants.

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[34] *Interglobe Aviation Ltd. (Indigo Airlines) v. CCI & Others, Appeal No. 7/2013*; *SpiceJet Ltd. v. CCI & Another, Appeal No. 8/2013*; and *Jet Airways (India) Ltd. v. CCI & Another, Appeal No. 11/2013*, Decided on Apr 10, 2016, COMPAT *available at* http://compat.nic.in/compat-old-site/CAT-07-2013/upload/PDFs/judgement-orders-2016/FINAL%2018.04.2016%20Interglobe%20A.%20No.%207%20of%202016.pdf

[35] *Board of Cricket Control in India v. CCI, Appeal No. 17/2013*, Decided on Feb 23, 2015, COMPAT

While permitting the appeals, COMPAT remanded the matter to CCI with the following directions[36]:

"*(I) The Commission shall re-consider the report of the Jt. DG and take appropriate decision under Section 26(8) of the Act. If the Commission disagrees with the findings and conclusions recorded by the Jt. DG, then it shall indicate the reasons for such disagreement and issue notice to the parties incorporating the reasons of disagreement and give them opportunity to file their replies/ objections.*

(II) After receiving the replies/ objections of the parties, the Commission shall hear them and pass appropriate order in accordance with law."

CONCLUSION

Competition law and its enforcement in India are slowly making up ground on the best competition regimes across the world. The enactment of the Competition Act, 2002 was only the first step in a long journey to ensure free and fair markets to the benefit of the consumers. The competition authorities, primarily the CCI has to constantly endeavour to improve itself as a regulator. The aviation sector, as mentioned earlier, is highly susceptible to cartelisation and other anti-competitive behaviour. With the ever changing economical outlooks and technological developments it is essential that the CCI evolve and redevelop itself on a regular basis.

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[36] *Supra.,* footnote no. 34, ¶ 37

The recent decision on the FSC cartel shows a marked improvement in the CCI, especially with regard to the aviation sector. The willingness of the CCI to depart from traditional forms of interpreting evidence to a more robust appreciation of the material at hand has helped continue the development of India's competition regime. Looking back at the older decisions of the CCI dealing with airline cartels, one can easily notice that the mode of appreciation of evidence by the dissenting member in both cases is very similar to the mode advocated here.

However, while there has been better appreciation of evidence by the CCI, the trend of its decisions being overturned or stayed by COMPAT has continued. The order of the COMPAT did not deal with the matter on merits, but only directed the CCI to give reasons for disagreeing with the report of the DG and give the parties an opportunity to record their objections. It will be interesting to see the CCI's approach to this new tactic by appellant of alleging violation of principles of natural justice to get CCI's orders overturned on appeal or use it to delay enforcement of orders of CCI. Perhaps it is time that CCI should clarify the procedure to be followed during and after investigation, so that such issues do not crop up in future appeals.

HURDLES TO CIVIL AVIATION DEVELOPMENT IN INDIA AND CHINA: A NARRATIVE

Surabhi Shivpuri[1*] *& Ann Thania Alex*[**]

Abstract

In the recent times, aviation sector has become a crucial determinant of economic growth and sustenance for developing nations. With increasing mobility of global population and hike in tourism, aviation industry can make a very significant contribution towards infrastructural development, deployment of human resources and revenue generation. However, the hurdles to maximising the objective of the industry are specific for nations; hence the non application of a one size fits for all propositions. In this regard, the authors delve into the challenges faced by the Indian and Chinese aviation industry. Whilst, the study of the Indian aviation sector revolves around the regulators, particularly Airports Economic Regulatory Authority; the Chinese scenario vary owing to the political will that predominates the sector. Whilst India focuses on grabbing the world market in aviation, China operates on a completely different paradigm by emphasising on the domestic aviation requirements. India benefits and suffers at the

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same time from the availability of the voice of democracy whereas China reserves centralised authority over its aviation activities. Owing to the aforementioned reasons, a comparison of the aviation sectors of the country is not possible, as both faces unique set of situational handicaps. Both nations call for fair regulation of the sector to maximise the customer satisfaction and profits.

This paper attempts to narrate the major deliberations happening on both national fronts in this regard and exhorts the need to balance the state interests as against the consumers' interests for ensuring progress of the aviation industry.

I. INTRODUCTION

Civil aviation development is fundamental to the economic development of any country. The phenomenal growth of aviation sector is directly incidental to the LPG policies (Liberalisation, Privatisation and Globalisation). Credit also goes to the *Open Skies Policy*, which significantly facilitated international air transport of both cargo, and passengers, amidst criticisms. Path breaking initiatives in infrastructure and governmental policies favouring investments have been responsible for the spectacular revisiting of the bureaucracy's approach towards the aviation sector. The new forays in industry include *inter alia*, privatisation of airlines, privatisation of airports, setting up of private public partnerships,

improving regional and domestic connectivity, setting up of low cost carriers, generating of non-aeronautical revenues, regulation of the airports and airside investment, tourist promotional schemes etc. However, set backs are inevitable in every system and their assuaging can certainly improve the efficiency of the sector manifold.

In this paper, the authors have endeavoured on a narrative of the challenges faced by India and China in its civil aviation milieu. Interestingly the study reveals that the frame of reference for aviation sector in India and China are completely different. While we focus on the improvement of the aviation sector through the lens of the Airport Economic Regulatory Authority in India, as far as China is concerned the lack of flexibility, heavy militarisation of the regions etc are some of the lurking problems.

II. REGULATION OF THE INDIAN CIVIL AVIATION SECTOR: A BRIEF OVERVIEW

In the early fifties, most of the operating airlines were merged into Indian Airlines or Air India and this monopoly under the Air Corporations Act continued till about the 1990s[2]. The winds of change started blowing after the introduction of liberalisation policies in the country during Rajiv Gandhi Government in 1991. The increased external participation through Foreign Direct

[2] Aseem Rastogi, *Indian Aviation Sector: 20 years of the Open Skies Policy*, TRANSITION OF THOUGHTS, (February 28, 2010) https://transitionofthoughts.com/2010/02/28/indian-aviation-sector-20-years-of-the-open-skies-policy/

Investment, thereby generating demand for excellent standards, prompted the concerned authorities to make up their mind in favour of private airlines and airports. The economic improvement obtained by the European and other developed Asian countries, through improvements in the aviation sector inspired the Indian policies.

In India, the *Open Skies Policy* was experimented first with cargo services and chartered flights for domestic and foreign carriers. After introducing the policy in 1991, the growth of Indian aviation industry has never been the same. In relation to the *Open Skies Policy*, nowadays India is negotiating new bilateral agreements and reviewing existing ones that would provide it with economic leverage. There are over 104 bilateral agreements concerning air travel to which India has been a party.[3]

There used to be a lot of scepticism regarding the maintenance of 5/20 rule which mandates that Indian air carriers cannot fly abroad without five years of domestic service in India and the need to have a fleet having twenty aircrafts.[4] The further discussions on the *Open Skies Policy* were also sufficiently marred by these regulations.[5] The recent move of the government of abandoning the 5/20 policies and

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3 MINISTRY OF CIVIL AVIATION, *Strategic Plan 2010 - 2015*, http://civilaviation.gov.in/sites/default/files/mocaplan.pdf at 2.

4 Sindhu Bhattacharya, *Easing Norms: Will India Extend Open Skies Policy Beyond SAARC Nations?*, (July 23, 2015) http://www.firstpost.com/business/easing-norms-will-india-extend-open-skies-policy-beyond-saarc-nations-2359022.html.

5 *Id.*

the further opening of the civil aviation sector is definitely an impetus for the promotion of the civil aviation in the country. The 5/20 norm has been scrapped and now domestic airlines are now permitted to fly overseas by deploying 20% of its total capacity for its domestic operation.[6] Likewise, the Indian skies have also been opened for European and SAARC nations.[7] Further open skies policy will also be exercised for countries beyond 5000 km radius from Delhi on a reciprocal basis.[8] The recent changes will definitely aid the escalation of tourism and employment prospects also.

Legal Framework

The civil aviation industry is regulated by the Ministry of Civil Aviation. The Directorate General of Civil Aviation (DGCA) under the Ministry of Civil Aviation regulates the air worthiness standards, safety operations and crew training in India.[9] There were proposals to replace DGCA with Civil Aviation Authority (CAA) in line with better aviation security and passenger interests;[10] a regulator with more teeth and greater financial autonomy.[11] The same was schemed

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6 Somesh Jha, *Government Clears Civil Aviation Policy, Makes Flying Cheaper*, THE HINDU, (June 16, 2016), http://www.thehindu.com/news/national/Govt.-clears-civil-aviation-policy-makes-flying-cheaper/article14425847.ece

7 *Id*.

8 *Id*.

9 DIRECTORATE GENERAL OF CIVIL AVIATION, GOVERNMENT OF INDIA, www.dgca.nic.in/

10 BUSINESS STANDARD, *Civil Aviation Authority to Replace DGCA,* (July 11, 2013) http://www.business-standard.com/article/economy-policy/civil-aviation-authority-to-replace-dgca-113071100295_1.html

11 THE INDIAN EXPRESS, *Government Rules Out Proposal for Civil Aviation Authority to Replace DGCA*, (June 10, 2016)

into a legislative bill in 2013 by the UPA government.[12] However, the current government has ruled out the same, calling for increased transparency in the working of DGCA without renaming the instrumentality.[13]In the Civil Aviation Wing, Air Corporations (Transfer of Undertakings and Repeal) Act, 1994 replaced the repealed Air Corporations Act, 1953. The Act had its own significance as it ended the 40 years long state monopoly,[14] which paved way for the operation of large number of private airlines in the Indian domestic industry. Further, the enactment of Airports Authority of India (AAI) Act, in 1994, resulted in merging of the International Airport Authority of India and National Airports Authority (NAA) envisaging the integrated development of airports, and ensuring safety standards. AAI has been duteous towards the management and regulation of entire Indian airspace and air traffic services over the Indian and adjoining airspaces since 1994.

The civil aviation industry in India manifests an accelerated level of expansion that has as its hallmarks low-cost carriers (LCCs), modern airports, Foreign Direct Investment (FDI) in domestic airlines, advanced information technology (IT) interventions and

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http://indianexpress.com/article/india/india-news-india/govt-rules-out-proposal-for-civil-aviation-authority-to-replace-dgca-2845317/

12 *Id.*

13 *Id.*

14 ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC, *Transport and Communications Bulletin for Asia and the Pacific,No.73, Private Sector Participation in the Transport Sector: Policy Measures and Experiences in Selected Countries*, http://www.unescap.org/sites/default/files/bulletin73_Fulltext.pdf at 32.

growing emphasis on regional connectivity.[15] The strategic plan of the Ministry of Civil Aviation refers to the estimates of International Civil Aviation Organisation (ICAO) that *$100 spent on air transport produce benefits worth $325 for the economy and 100 additional jobs in air transport result in 610 new economy wide jobs*.[16] A strong civil aviation sector is fundamental for the development of tourism also. In the time period of 2005-2015, India has emerged as the 9th largest civil aviation market in the world.[17] There has been a tremendous growth in air traffic throughout India, specifically in 2009-10, where it grew to 123.75 million from 40 million, during 2000-01.[18]The changes witnessed by the Indian civil aviation sector during the aforesaid time period can be qualified by the added features of public private partnership, airport infrastructure, passenger handling capacity, airport models, regulatory authorities etc.

The Draft National Civil Aviation Policy 2015 (which has been approved by the Government during June 2016) hopes to accentuate the leverage points of the Indian aviation sector. Through the policy, the government has proposed to promote the growth of Indian

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15 INDIA IN BUSINESS, MINISTRY OF EXTERNAL AFFAIRS, ECONOMIC DIPLOMACY DIVISION, *Civil Aviation*, http://indiainbusiness.nic.in/newdesign/index.php?param=industryservices_landing/355/2 (October 2016).

16 *Supra* note 4.

17 *Supra* note 4.

18 *Economic Regulation of Airports in India* (ICAO Working Paper No. A37-WP/171, EC/10, 8/9/10) *http://www.icao.int/meetings/amc/assembly37/working%20papers%20by%20number/wp171_en.pdf* at 2.

aviation sector in a significant manner as the development of this sector has a multiplier effect on the economy[19]. The mission of the Civil Aviation Policy of India is to provide safe, secure, affordable and sustainable air travel with access to various parts of India and the world. It aims to fulfil its objectives through use of technology and effective monitoring; to enhance regional connectivity through fiscal support and infrastructure development, and ease of doing business through deregulation, simplified procedures and e-governance and to promote the entire aviation sector chain: cargo, MRO (maintenance, repair and operations), general aviation, aerospace manufacturing and skill development.[20]

Airport Economic Regulatory Authority (AERA)

Economic regulation of any sector is key to its planned progression. The case of the civil aviation sector is no different. This makes the position of the Airports Economic Regulatory Authority (AERA) in India unique and contestable. AERA which governs the economic facets of the civil aviation sector was constituted by the relevant act in 2008. The Act deliberates upon the regulation of tariff and other charges for aeronautical services rendered at airports, monitoring performance standards of airports and establishment of an appellate

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[19] MINISTRY OF CIVIL AVIATION, *Draft National Civil Aviation Policy 2015*, http://www.civilaviation.gov.in/sites/default/files/revised_draft_ncap%202015_30oct2015_1.pdf

[20] LAKSHMIKUMARAN & SREEDHARAN ATTORNEYS, *Aviation/ Aerospace Update*, (March 2016) http://www.lakshmisri.com/Uploads/MediaTypes/Documents/Aviation-Update-March-2016.pdf at 4,

tribunal to adjudicate disputes and to dispose of appeals, to matters connected therewith or incidental thereto. AERA was established in May 2009 and its regulatory functions were notified with effect from September 1, 2009. It has brought in an open and transparent process, involving extensive stakeholder consultation, to establish its regulatory philosophy and approach. It also works towards evolving of detailed procedures and systems for determination of tariff and monitoring of performance standards regarding the same. AERA also proposes to use the interests of passengers and cargo facility users as the touchstone for discharge of its regulatory functions.

Democratic systems permit criticisms that allow a better and constructive engagement with the laws of the land. A critical view of any legislation can subsequently result in requisite amendments or creation of subordinate legislation to bridge the gap between ideologies and pragmatism. AERA, because of its prominent role has also been subjected to closer reviews in terms of its functioning and philosophy. If the Indian government is to implement its aspirations for its civil aviation sector, certain criticisms pertaining to AERA requires a closer look and deeper understanding.

With this view, the authors in this paper have looked into the constraints suffered by AERA in India. In order to draw a relational paradigm, we also touch upon the challenges faced by the Chinese aviation sector. The paper is not doing any comparative study between India and China primarily owing to the reason that two

independent and unrelated paradigms have been chosen from India and China.

CRITICISMS TO AERA

The criticisms faced by Airport Economic Regulatory Authority in India multifarious; firstly a norm based approach needs to be adopted for tariff determination at various airports[21]. Secondly it is important to develop norms with respect to the below mentioned which the government has indicated. This will certainly aid in bringing awareness to the stake holders about the boundaries within which they have to operate. The points mentioned below have been adopted from the conclave on *Normative Approach to Building Blocks in Economic Regulation of Major Airports* conducted by AERA in June 2014.

(a) Debt-equity Ratio Benchmarking: The debt to equity ratio is a financial, liquidity ratio that compares a company's total debt to total equity[22]. Thus the ratio reflects upon the financing for the company that comes from the creditors and its shareholders[23]. The ratio is effective in analysing the financial picture associated with the company and hence gives a fair opportunity to the investors and creditors to assuage their investment in the enterprise, if needed.

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[21] AIRPORTS ECONOMIC REGULATORY AUTHORITY OF INDIA, *In the matter of Normative Approach to Building Blocks in Economic Regulation of Major Airports*, F. No. T-14012/1/2012-Tariff Consultation Paper No.05/2014-15 (June 12, 2014) http://aera.gov.in/upload/cp/544245e9c787b594.pdf at 1.

[22] MY ACCOUNTING COURSE, *Debt to Equity Ratio*, http://www.myaccountingcourse.com/financial-ratios/debt-to-equity-ratio

[23] *Id.*

A steady debt equity ratio is indicative of the credibility of the company and it infuses faith in the policies, programmes and opportunities that it offers. An unstable debt equity ratio can have long term impacts which may demand debt restructuring or external infusion of funds to ensure that the liquidity stays unaffected. Debt equity ratio benchmarking is necessary to measure the quality of the policies, programs, strategies etc. in comparison with the standard measurements in order to determine as to where improvements has to be made. The benchmarking also helps in the calculation of the weighted average cost of the capital, [*i.e* the rate which a company is expected to pay on average to all its security holders to finance its assets] which helps in the determination of the aeronautical tariffs.[24]

Comments of the Federation of Indian Chamber of Commerce and Industry (FICCI) shows that the present deliberations of fixing the debt to equity ratio at 70:30 can be detrimental to the existing agreements as changes could not be infused into a working project in retrospective manner. Hence the same may affect the legality of the existing agreements[25].

(b) Rate of Return:

Rate of return is the annual income from an investment expressed as a proportion (usually a percentage) of the original investment on equity. It is often indicated by the Capital Asset Pricing Model

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[24] *Supra* note 22.

[25] COMMENTS OF FICCI, *Industry Comments on AERA's Consultation Paper on Normative Approach to Building Blocks in Economic Regulation of Major Airports*, http://aera.gov.in/documents/pdf/12pb13-14-15.pdf

(CAPM). Rate of return determines the relationship between risk and expected return, generally used in the pricing of risky securities[26].

There have been significant efforts from the side of the Indian government to improve the rate of return for the aviation sector. Increasing number of public private partnerships, efforts to garner investments into the Indian soil through airport improving infrastructure and setting up of Maintenance and Repair Organisations (MROs) are positive steps in this regard. However, in order to achieve the targeted milestone of being the third largest aviation industry by 2020[27] and becoming the global largest by 2030[28] needs more systematic synergy between the governments and the stake holders.

At present, the rate of return envisaged by AERA is at par with that in the power sector and stands at 16%[29]. However, an interesting observation made by the FICCI comments show that the rate of return on equity has to be higher considering that airports are more vulnerable to threats and risks which includes terrorist attacks,

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[26] MC GRAW HILL HIGHER EDUCATION, *Risk and Return*, highered.mheducation.com/.../Peirson11e_Ch07.pdf

[27] Sreehari Marar, *Tailwinds Elevate Growth in Indian Aviation*, http://siteselection.com/issues/2016/nov/india-tailwinds-elevate-growth-in-indian-aviation.cfm

[28] Manu Balachandran, India all set to become the world's third largest aviation market by 2020, says new study, QUARTZ INDIA, (March 22, 2016) https://qz.com/641745/india-all-set-to-become-the-worlds-third-largest-aviation-market-by-2020-says-new-study/

[29] *Supra* note 22 at 8-12.

epidemics etc[30]. Given the available circumstances the return of equity should be at with the risks associated with the respective airports so that it appears to be more rewarding for the private investors who are engaged in the projects[31]. Further, it will be a reason for hike in investments in the airport industry of the country.

(c) Rate of Depreciation:

It has been taken into consideration that different airport operators have adopted different rates of depreciation over different elements that go into the Regulatory Assets Base (RAB). RAB refers to the measure of the net value of the company's regulated assets[32] used in price regulation; mostly used to calculate two important elements of the revenue requirements, i.e. depreciation allowance and return on capital.

Depreciation is calculated on useful life assets that are crucial in airport infrastructure such as apron, runway etc. However, currently in India there exists wide variation in the rate of depreciation applied at various airports thereby making some investment friendly and the others hostile. [33] To do away with this difficulty, AERA is adopting common depreciation rates. However, the industry comments air the view that specific assets and their rates of depreciation may be

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30 *Id.*

31 *Id.*

32 ERRA, *Determination of the Regulatory Asset Base After Revaluation of License Holder's Assets*, http://erranet.org/wp-content/uploads/2016/03/ERRA_Regulatory_Asset_Base_final_report_STC.pdf

33 *Supra* note 22 at 14.

affected by various factors such as change in climate, maintenance procedures and contractual obligations[34]. In such situations, it is suggested that specific rates of depreciation may have to be applied[35].

(d) Operating and Maintenance Cost:

An operating expenditure is an ongoing cost for running a product, expenditure, business or system.[36] Depending upon the industry, these expenses can range from the ink used to print documents to the wages paid to the employees. *In the case of airports, they are fixed cost businesses, having longer planning horizons than airlines and requiring major investments in runways, terminals and equipment. As a result, airports have limited flexibility to adjust these costs when traffic fluctuates which creates a major problem with the regulation of the same*.[37] The O & M costs vary between airports depending upon the services run directly by the airports and those outsourced, the infrastructural advances created resulting in a higher rate per *sq.m* etc. Thus a true assessment of the expenditure as per the reports would depend upon balancing the interests of the

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34 *Supra* note 26 at 2.

35 *Id*.

36 *Operating Expenses, Non Operating Expenses and Net Income*, https://www.boundless.com/accounting/textbooks/boundless-accounting-textbook/detailed-review-of-the-income-statement-13/understanding-the-income-statement-84/operating-expenses-non-operating-expenses-and-net-income-383-4871/

37 *Supra* note 14 at 17: Steer Davies Gleave (2012) *Review of Operating Expenditure and Investment*, http://www.caa.co.Uk/docs/5/SDGStanstedReport.pdf (quoted by Prof. Anne Graham, in Managing Airports, 4th edition).

passengers and that of the airport operators. Thus the authority has proposed to true up O&M expenditure with respect to major airports in the process of tariff determinations.[38] FICCI deliberations are in complete agreement with the aforementioned.[39]

(e) Procedure and Norms for Incurring Additional Capital Expenditure and Norms for Stabilisation of Capital Costs

The discussion over additional capital expenditure is generally expressed under two approaches; the design of the terminal building as well as air side developments like design of runways, scope of capital works in the terminal building, airside works (runway, taxiway and apron) and roads and other civil or electrical works.

Capital costs are incurred once at the time of procurement of land or during construction or purchase of buildings. As regards the scope of capital costs on terminal buildings, the authority has stipulated a ceiling of Rs. 65,000 to Rs. 70,000 per sq.m[40] and the experiences of AAI indicates that air side works such as runway, taxiway, apron etc may turn up to Rs. 7,000 per sq. m (civil costs)[41]. As for roads and other civil or electrical works, it does not mandate any ceiling as this may differ from airports to airports, looking into the requirements in the respective cases.[42] It requires the airport

38 *Supra* note 22 at 19.
39 *Supra* note 26 at 3.
40 *Supra* note 22 at 24.
41 *Supra* note 22 at 25.
42 *Id.*

operators to prepare detailed engineering and cost estimates as per CPWD methodology. [43]

This, however, has been brought to stringent criticisms before FICCI. Depending upon the quality and service demands, concession agreements is created and respective concession agreements have a substantial role to play in determining the capital costs of the airports.[44] Further, the average development of public and private airports in India during the earlier decades was in excess of Rs. 1,20,000.[45] The present determination at a slab between Rs. 65,000 – Rs. 70,000 hence sounds unrealistic.[46] In this regard, a review of the same is warranted.

(f) Asset Allocation Norm between Aeronautical and Non Aeronautical Services

Aeronautical and non aeronautical services are crucial in revenue generation. However, going by the pattern that exists in India, where most of the non aeronautical services are being outsourced, FICCI observes that giving a maximum point estimate to non aeronautical services of 20% (at 8-20% as prescribed by IMG) in the prevailing conditions in India disincentivise the airports. [47] The comments of FICCI also suggests a relook into the till operating in the various airports and views that while single till may be effective for smaller

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43 *Id.*
44 *Supra* note 26 at 3.
45 *Id.*
46 *Id.*
47 *Id.*

airports, it goes against the incentivisation approach as regards private airports[48] and those which reflects public private partnerships.

The civil aviation sector in India hovers around the regulatory aspects that detail the intricacies that sought to be addressed in order to make the aviation industry more vibrant and successful in terms of its economic survival. As a nation, with immense manpower and also being a favoured ground by investors, trimming of the regulations and developing a legal framework that strikes the right balance between flexibility and stringency can result in the booming of the sector thereby enabling us to reach the world quality rating and provide state of the art facilities that we aspire for.

CIVIL AVIATION SECTOR IN THE PEOPLE'S REPUBLIC OF CHINA

China travelled a long way in terms of its civil aviation sector ever since the adoption of the decentralisation policy by the government in 1978.[49] From 37th position ranked by revenue passenger kilometres (RPK), China went on to become the second largest aviation market by 2005.[50] In 2010, the combined profit of all Chinese airlines was more than half of the global total.[51]

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48 *Id.*

49 Zheng Lei, John F. O'Connell, *Aviation Policy in China: An Analysis of Recent Developments*, IATA ECONOMICS, (October 2011) http://www.iata.org/whatwedo/documents/economics/lei-oconnell-aviation-policy-in-china.pdf.

50 *Id.*

51 *Id.*

Three important policy decisions of the Chinese government regarding the aviation sector reshaped the economic growth of the country. This includes airline consolidation, opening up of the domestic aviation market and the adoption of the liberal international aviation policy.[52] Airline consolidation in 2002 created three equally sized and spatially balanced airline groups; Air China, China Southern and China Eastern.[53] The consolidation was intended to strengthen the airline industry to make it capable of facing extraneous competition. In lines of opening the domestic aviation market CAAC, in 2008, approved 14 new scheduled passenger carriers of which majority of them were controlled by domestic private investors.[54] However, many of these operators were prohibited from serving the east coast region which was dominated by the three big airline groups.

China offers a unique opportunity to explore the active role played by the state in shaping the airline industry in a fast transforming economy. The government directed airline consolidation has substantially increased the operating performance of the major Chinese carriers. Their sizes are now comparable to world's top airlines. Their high profitability, however, is mainly a consequence of the buoyant domestic market, while Chinese airlines' international competitiveness is still weak. For policy makers,

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52 *Id.*
53 *Id.*
54 *Id.*

strategic use of aviation policy to build a strong and profitable airline industry is still a formidable task lying ahead.[55]

Challenges to the Chinese Aviation Sector

The problems faced by the civil aviation department of China are manifold and largely political. The primary challenge is about striking the right balance between economic development and national security needs within China's skies. Further the existence of the strained relationship between local governments, which prioritize urban growth, and the PLANAF (People's Liberation Army Naval Air Force), which occupies valuable land for airbases near urban centers is an admitted setback.

The military domination over China's airspace is yet another problem. Only twenty percent of the Chinese airspace is devoted to civilian use and the rest is used for military purposes.[56] This reduces the flexibility of Chinese skies towards civil aviation operations, which in turn affects the major trunk routes resulting in an adverse impact over the growth of civil aviation. China hopes to increase its

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[55] *Supra* note 50.

[56] Kimberly Hsu, *China's Air Space Management Challenges*, US CHINA ECONOMIC AND SECURITY REVIEW COMMISSION STAFF REPORT, (November 12, 2014), http://origin.www.uscc.gov/sites/default/files/research/china's%20airspace%20management%20challenge.pdf at 1; CENTER FOR ASIA PACIFIC AVIATION, *China's Airlines Renew the Call for Airspace Reform*, (March 30, 2010), http://centreforaviation.com/analysis/chinas-airlines-renew-the-call-for-airspace-reform-23844; Jasmine Wang, *China Air Traffic Congestion Worsened by Military Control*, BLOOMBERG, (May 17, 2013), *http://www.bloomberg.com/news/articles/2013-05-16/china-air-traffic-congestion-worsened-by-military-control*.

general aviation multiple times by seeking to obtain more flexibility in the air space.[57] Further examining the takeoffs and landing permissions given to the Civil Aviation Administration of China (CAAC) reveals that the CAAC officials are subjected to extensive and sudden airspace restrictions because of the military domination in the air traffic control scheme.[58] Often the People's Liberation Army [PLA - Air Force and General Staff] is at loggerheads with the CAAC.[59] The PLA air bases that are located in various parts of the country also make it difficult towards improving the airport infrastructure. [60] This curtails the civil aviation ambitions of China which is not adequate in terms of its infrastructure serving the largest population in the world. The reports indicate that even the established airports in China are in need of infrastructure expansion to hold its traffic.[61]

The rapid expansion of the high speed rail network across China which provides fast connectivity among almost all of the major cities also substantially reduces the domestic aviation market. This may force the Chinese carriers to expand their presence much further into the international market which is also suggested by

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57 *Supra* note 57. CAAC 12th Five Year Plan, 2010 – 2015 hoped to double the number of general aviation aircrafts in China.

58 *Supra* note 57.

59 *Id*.

60 *Supra* note 57 at 2.

61 *Supra* note 57 at 2; CENTRE FOR ASIA PACIFIC AVIATION, *China Continues to Invest in Aviation Infrastructure*, (June 17, 2011), http://centreforaviation.com/analysis/china-continues-to-invest-in-aviation-infrastructure-53677; Liang Dongmei, Lu Yanzheng, and Zhang Tao, *What's Clogging China's Air Traffic Pipeline?* CIAXIN ONLINE (October 13, 2010),http://english.caixin.com/2010-10-13/100188152.html.

many scholars.[62] However, this might take time because international operations of Chinese carriers remain weak as only 7% of passengers at Shanghai Pudong Airport are transferring, while only 4% are doing so at Beijing Capital Airport. [63] It has to be stated that problems of airport congestion and inflexible visa policies are hampering Chinese carriers' hub building efforts, which need to be sorted out.

CONCLUSION

Hurdles to development and policy are subject to the scenario prevailing in every particular country. Civil aviation requires different remedies depending upon the jurisdictions. As far as India is concerned, the solution lies at improvising the legal regime thereby attracting the best of investments, tourism and cargo transportation through its aviation sector. Whilst the government needs to maintain uniformity in the framework, sufficient space shall also be afforded to makes the private investors feel at ease without taking wrong advantage of the situation. Multiplicity of voices and authorities is an ever prevailing handicap in our country and the aviation sector is not completely free from the discourse. Sufficient deregulation and channelling of voices are critical for any economic venture to progress in a timely manner. It is for the government and the instrumentalities concerned to strike the right

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62 *Supra* note 50.

63 Tracy Samuelson, *What Happens When 1 Billion Chinese Fly?* (September 23, 2015), http://www.marketplace.org/2015/09/23/world/what-happens-when-1-billion-chinese-start-fly

balance between the customers' interests and economic interests of the state. A timely action would assist the nation to gear up to the world rankings that we aspire for; along with better employment prospects and revenue generation.

As regards China, the government needs to change their focus from solely national security to ensure the buoyancy of the aviation market. Being a nation, endowed with manpower, akin to India, the challenge seems to be one of focus. Sufficient thrust has to be given towards capturing the world market and maintaining a prim balance between national security interests (leading to heavy militarisation) and economic prospects. With its strong political will, China can surpass the hurdles with much ease, if sufficient attention is given to them.

INDIA'S DEFENCE PROCUREMENT PROCEDURE AND ITS NUANCES

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Abstract

Sometimes when fighter pilots have the leeway to make multiple passes over the target , they let loose a string of fire, called the "sighter burst" to size up the enemy and assess ranges, This is exactly what the abstract will do here. The first Part of the paper gives us a general introduction to the Indian Military Industrial Complex and the problems it is current grappling with, the most important of them being modernisation and defence procurement. India's Defence procurement carried out under the policy set out in the Defence Procurement Procedure 2016 has been assessed by taking into consideration some of the changes introduced. These are namely the new procurement category, the changing offset policy, stringent Service Quality Requirements and the debate on defence middlemen. While these characteristic features have been analysed and looks into it must be said that there are more nuances, the choice of these features to appraise the DPP 2016 is to just understand the features that stand out. This paper also attempts to understand the role of defence middlemen in procurements and as a consequence have

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gone into some of the major defence procurement scandals that has plagues out combat capabilities.

THE INQUEST

The Pokhran-II Nuclear test of May 1998, carried out under the aegis of Prime Minister A.B Vajpayee and the celebrated Head of the Defence Research and Development Organization (DRDO), Dr. APJ Abdul Kalam, solidified India's stature as a high technology state. High technology was a euphemism for Nuclear technology, but also referred to space, defence and advance computer technology. This dealt a heavy blow to India's adversaries including Pakistan and China, albeit a fresh round of sanctions from countries like the United States of America and Japan followed, over and above those imposed after the *Smiling Buddha* test of 1974. Inspite these moves, that India would later dub as a nuclear 'apartheid', this had led to a boom in the Indian Defence market, with India emerging as the largest arms importer between between 2007 and 2011, accounting for 10% of the global arms trade[1]. This set arms manufacturers all over the world in a desperate race to grab a share of the pie, the Indian arms market. Besides, with a strength of over 1.4 million active personnel, India boasts of the world's 3rd largest standing military force and has the world's largest volunteer army, thus adding to the reasons for the increased defence requirements. Considering this conducive environment, why is India's Defence procurement in the cross hairs for being laggard?

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[1] Stockholm International Peace Research Institute, Arms Transfer Database, <armstrade.sipri.org>

One of the prime concerns plaguing the Indian Defence procurement is the dilemma over indigenous production versus imports of equipment. While as a government policy the primary goal of defence procurement remains self reliance, import of defence equipment has been invariably resorted to over the years owing to myriad reasons such as lack of indigenous Research and Development in the aforesaid field, cost effectiveness, criticality of time and security/strategic considerations2. Owing to such policy and structural challenges, the military industrial complex in India is grappling with issues of modernisation over the past couple of decades. Even though Government initiatives like the 'Make in India' campaign is a welcome move to enhance indigenous defence capabilities, its shortcomings are glaring in wake of the recent rejection of Tejas, the indigenously developed Light Combat Aircraft(LAC), by the Navy. Observing that the current weight of the Naval LCA with the underpowered engine does not allow it to fly from a carrier, Admiral Sunil Lanba said that the Navy needs a carrier-based aircraft in the timeline of the induction of the aircraft carrier3. Interestingly, India's defence procurement is governed by the Defence Procurement Procedure (DPP), which has been revised six times prior to the latest one in June 2016.

2 Gp Capt V.N Srinivas, 'Budgeting for Indian Defence - Issues of Contemporary Relevance' in association with Centre for Air Power Studies (CAPS), 2008, PP. 148

3 Dinakar Peri, 'Navy says no to Tejas variant', December 03 2016, The Hindu, New Delhi edition, <thehindu.com>

DEFENCE PROCUREMENT PROCEDURE (DPP) 2016 AND IT'S NUANCES

The Defence Procurement Procedure came into effect from December 2002, after a Group of Ministers(GoM) constituted in April 2000, to review our country's national security system, submitted its report. The report contained various observations and recommendations with regard to internal security, Intelligence apparatus, Border Management and Management of Defence.As mentioned earlier the Defence Procurement Procedure has undergone a sea of changes ever since its inception in 2002, evident from the six revisions, eventually culminating in the Defence Procurement Procedure (DPP) 2016. The principal aim of the DPP 2016, as envisioned in its Preamble can be summed up to include;

- Maintaining high standards of transparency, probity and public accountability in Defence acquisition, which is incongruent with a standard open market form of procurement, in order to strike a balance between competing considerations including timely procurement, affordability and quality considerations

- Ensuring self reliance in indigenous defence capability, cementing the objectives of the 'Make in India' initiative in the Defence sector, thus underlining the need to institute provisions to utilise and consolidate the manufacturing infrastructure available in India.This also entails identifying strategic partners in defence production in the Indian private sector

- Institutionalising, streamlining and simplifying defence procurement, to do away with the rather long gestation periods and delays which tend to impact the preparedness of the Indian armed forces. The need for increased flexibility in the procurement process has also been reiterated

Buy(Indian-IDDM) -The New Procurement Category

Under the DPP 2016 the capital acquisition schemes have been broadly classified into five major categories, listed hereunder in the decreasing order of priority;

1. Buy (Indian - IDDM)
2. Buy (Indian)
3. Buy and Make (Indian)
4. Buy and Make
5. Buy (Global)

The Defence Procurement Procedure promulgated consequent to the GoM report, dealt only with capital acquisitions involving 'Buy' decisions. The scope of our Defence procurement was widened to include 'Buy and Make' decisions in 2003 to bring in transfer of imported technology under the ambit of the DPP. Further the the revised Procedure of 2006, took a significant step ahead to include the 'Make' category. This category envisioned development of systems based on indigenous research and development and aimed

at providing the requisite framework to rope in the domestic Defence industry in India4.

However the most notable feature of the our Defence procurement had to wait for another 10 years, namely the Buy(Indian - IDDM), in the revised Defence Procurement Procedure of 2016. IDDM stands for Indian Designed, Developed and Manufactured and is included in Chapter I of the new procurement procedure, it envisages procurement from Indian vendors satisfying either of the two conditions viz;

a) Products that are indigenously designed, developed and manufactured and have at least 40 per cent indigenous content.

b) Products, if not designed and developed indigenously, will have to have 60 per cent indigenous content.5

However, considering that the DPP 2016 has very recently been promulgated, we are yet to practically appraise the new revision and can only hope that the new category of Buy (IDDM) with 'Make in India' underpinnings can bridge the critical gap between the requirements of the Indian Armed Forces and what is actually acquired or commissioned into the forces.

Stepping up the SQR regime

The Service Quality Requirement (SQR) lays down the fundamental user requirement that is expected from a particular equipment or product. The SQR must be detailed, achievable, realistic and need

4 Ibid, Note 2, PP . 150-151
5 DPP 2016, Chapter I, PP 2

to be devoid of ambiguities6. The SQR is the basic building block on which the complete edifice of defence procurement is based. Deviations to the SQR can only be accorded by the Defence Minister on the recommendations of the Defence Procurement Board (DPB), and this is a highly complex and time consuming process.7 The DPP 2016 clearly stipulates that the SQRs should be broad based and should not be tailor made for a particular product or to favour any particular vendor.

Any discourse on SQR would not be complete without reference to the infamous AugustaWestland chopper deal. It all began with the Defence Ministry putting out a tender way back in 2005 to replace the existing soviet Mi-8 Helicopters to transport VVIPs, as it had completed its technical life. The Service Quality Requirement of the first tender distinctly included a service ceiling (maximum height at which a helicopter can fly) of 6000 metres. This was reduced by the Defence Ministry in its second tender in 2006 to 4500 metres, citing that VVIPs including the Prime Minister and the President, rarely visited places at altitudes above 4,500 metres. This was in fact a veiled attempt at the behest of defence major Finmeccanica (Parent company of Augusta Westland) to edge out the American chopper maker Sikorsky's S-92 Superhawk helicopters and bag the contract. This eventually culminated in Augusta Westland signing a Rs 3,546

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6 Ibid, Note 5, PP. 11

7 Maj Gen Mrinal Suman (Retd), 'Qualitative Requirements of Military Equipment', Indian Defence Review, Oct-Dec 2004, PP. 47

crore contract to supply 12 AW-101 helicopters to the IAF8. Even though India paid 45% of the contract amount i.e 1,620 crore, the deal eventually went south following the arrest of Finmeccanica CEO Giuseppe Orsi following an Italian Probe. The CBI enquiry on this issue would also eventually lead to the arrest of Retired Air Chief Marshal S.P Tyagi. Faced with scathing indictment for its lack of transparency and accountability in Defence procurement, the Defence Ministry has made certain changes with regard to the SQR.

In order to tide over the aspersions that have cast a gloom over the Service Quality Requirements of the defence procurement process, the DPP 2016 has included stringent measures to ensure that the vendors adhere to them. This is evident from the inclusion of Essential Parameters- A and Essential Parameters -B as part of the SQR. Parameters that are generally a part of the contemporary equipment available in the market and form the core of the SQRs, form a part of Essential Parameters -A . These are tested and validated at the FET(Field Evaluation Trial) stage. Whereas, those parameters that are not available originally in the equipment fielded for the FET, but can be developed and achieved by the vendors using available tech`nologies, form part of the Essential Parameters -B9. These are not generally tested during the FET stage, but can be developed by the vendor after entering into the contract. To ensure that the vendor does not go back on this promise, they are required to furnish a bank guarantee, between five to ten percent of the

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8 Sushant Singh, "The VVIP chopper row that rocked the Parliament", December 9, 2016, The Times of India

9 Ibid, Note 5, PP 11

contract value. Reneging this promise would lead to forfeiture of the above said bank guarantees and attract other penal provisions as determined by the Central Government. This move is laudable considering it envisages strict adherence to the SQR provisions.

Diluting the Offsets Policy

Offset clause in a defence procurement deal refers to an obligation, requiring the vendor to invest in the importer country's defence industry. Simply put, offsets are benefits that accrue to a buyer from a foreign vendor in terms of technological know-how and defence capabilities. An offset clause was included in India's DPP for the first time after the revision in 2005, in lieu of which all defence contracts exceeding a threshold of 300 crore included an offset clause amounting to 30 per cent of the indicative cost. These offsets could be in the form of direct purchase or providing market access for products or services of the designated industries of the buyer or they could be in the form of Foreign Direct Investment (FDI) in the Defence Public Sector Undertakings(DPSU)10. A DPSU or ordnance factory board will be tasked to monitor the implementation of the offset clause, failure of which would attract penalties.

It is widely felt that India's offset threshold of 300 crores is too high, as contracts worth less than that are free from offset obligations. Also countries like Britain for example, have laid down that all defence contracts over 10 million pounds (Rs. 84 crores roughly)

[10] Ibid, Note 2, PP 158

shall entail 100% offsets11. It is also a matter of International practice that, countries generally lower the offset threshold over a span of time according to the country's experience regarding the same12. Ironically, India in its Defence Procurement Procedure of 2016 raised the offset threshold to 2000 crores from 300 crores, as stipulated in DPP 2005. This hike is untenable not only from the point of view of the practices followed by other countries, but also in view of the 'Make in India' initiative13. Hon'ble Defence Minister Manohar Parikkar has defended the move by citing that India has spent around 14-18% more on Defence contracts due to offset obligations. However this has dealt a telling blow to India's ambitious 'Make in India' Initiative, as the local industry will undoubtedly suffer a setback as many manufacturers, especially the manufacturers of components and parts, rely on these offset clauses to boost their exports.

The Rafale fighter jet deal between India and France, has turned out to be an epitome of procurement delays by the Ministry of Defence. The prime reasons for the untenable delay happens to be price considerations and failure to reach an agreement with regard to the offset obligations. While the original RFP(Request for Proposal), was for 126 Rafale, medium multi-role combat aircrafts(MMCRA), the Defence Ministry altered the RFP and brought down the

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11 Maj Gen Mrinal Suman (Retd), 'India's Offsets Policy', Indian Defence Review, Jul-Sep 2005, PP. 85

12 Laxman K Behera, "DPP 2016: An Analytical Overview", Institute for Defence Studies and Analyses, April 12, 2016, <http://www.idsa.in/specialfeature/dpp-2016_lkbehera_120416>

13 Ibid

requirement to 36 fighter jets, citing exorbitant prices of the $220 million (price per unit) jets. However even this reduction in the number of units has failed to quell the price considerations of the MoD, with the Ministry doggedly seeking a price reduction of 150 million euros for the 36 fourth generation fighter jets.

The Rafale deal however does not fall under the purview of the DPP 2016, since the RFP was issued way back in 2012. This entails that the offset obligations to be met by Dassault Aviation, manufacturers of the Rafale jets, would be 30% of the contract amount since it crosses the 300 crore threshold as stipulated. However, the defence Ministry had fixed the offset at 50%, irking the French manufacturer. This comes amidst pressing needs to modernise India's ageing Soviet MiG fleet and Pakistan's desperate bid to acquire the American F-16 fighter jets. The current production rate by Dassault systems is 11 aircrafts per year and with orders, already secured from Egypt and Qatar for 24 jets each, which needs to be fulfilled beforehand, have tolled the death knell for India's attempts to sign the contract in a two-year time frame. This can seen as a direct consequence of the inherent flaw in our offset clause, fixing it as low as 30 per cent of the contract amount in the DPP and then desperately trying to hike it up to 50 per cent, citing the huge contract amount.With this having been said, one can only wonder what repercussions would follow, the raising of the offset threshold from 300 crores to 2000 crores in the DPP 2016. As alluded earlier, the local Defence manufacturers, who had taken advantage of such offsets to sell their products abroad would, bear the brunt of the

brunt of this threshold hike. With many defence critics, referring to the offset clause as the 'Achilles heel' of India's DPP 2016, we are yet to witness what the future holds for India's defence procurement.

Accountability, Transparency and the debate over middlemen

The two main impediments in the Indian acquisition system are bureaucratic delays in decision making and accountability14. Since defence acquisition is a complex procedure involving various echelons within the Ministry of Defence, Service Headquarters and finance ministry, it becomes extremely difficult to troubleshoot issues of bureaucratic delays. However the 3 C's of the government namely, the Comptroller and Auditor general(C&AG), Central Vigilance Commission(CVC) and the Central Bureau of Investigation (CBI), are instrumental in overseeing and preventing fraudulent practices in the procurement process. Additionally, maintaining high standards of transparency, probity and public accountability in Defence acquisition has been stated as one of the principle aims of the DPP 2016. To this end, certain measures to ensure transparency and probity have been included in Appendix M to Schedule I to Chapter II. This include signing of 'Undue Influence' and an 'Integrity Pact' by the vendors. While the Integrity pact was required to be signed by bidders and the MoD, for all contracts worth over Rs. 100 crores, in the DPP 2006, this threshold was brought down to Rs. 20 crore in the DPP 2016. This is a

[14] Gp Capt V.N Srinivas, 'Budgeting for Indian Defence - Issues of Contemporary Relevance' in association with Centre for Air Power Studies (CAPS), 2008, PP. 154

welcome move considering the various controversies that the Ministry of Defence has been embroiled in, in the recent years.

Another major issue would be the status of defence middlemen in procurement deals. Legally middlemen do not exist in the defence sector, in India . However, it is noteworthy that no procurement deal is complete without the their presence.They help foreign vendors move through the rather complex web of bureaucratic requirements of our procurement procedure. It is irrational to assume that foreign vendors would know how to navigate through the complex acquisition process our Defence Procurement Procedure has heralded, hence they need middlemen to keep them informed of the opportunities that arise in the domestic market. Even though a method to step up transparency by according these, Defence agents, a legal standing, by means of registration, was mooted by the Central Vigilance Commission in 2002, it failed to come through as registration required them to table their bank details, particulars of financial transactions and tax returns going back several years, all of which served as a major deterrent. Even though our defence procurement history is smeared with instances of middlemen flouting the Official Secrets Act, and other laws to secure contracts for their principals, yet many defence analysts suggest, according them a legal standing as the best option to improve transparency rather than disregarding their presence completely. However, the image of Defence agents, as harbingers of corruption, had caught popular imagination in India, thus making any move to accord them a legal status, a rather uphill task.

FLOUTING THE DPP

As hinted earlier India's defence procurement has come under scathing indictment, owing to the myriad controversies that the Ministry of Defence has been mired in. Most of these relate to defence middlemen and kickbacks paid to Indian Officials. Many of them have been brought to the books by the application of various legislations like the Official Secrets Act, 1923, Prevention of Corruption Act, 1988, the Foreign Exchange Regulation Act and Foreign Exchange Management Act. As a result Indian masses are no stranger to defence middlemen like Ottavio Quattrochi or Abhishek Verma.

Among the documents seized from arms dealer Abhishek Verma and his company, seven can be classified as "secret" under the Official Secrets Act, 1923, the defence ministry has informed the CBI after the latter sent the bunch to the ministry15. The Ministry of Defence was in touch with a company, namely Atlas Defence Systems for the procurement of two MB PCM MUC multiplexing equipment for simultaneous transmission of subject, telegraph messages and data over point to point communication, Subscriber End Secrecy Device (SESD) and Terrestrial Trunk Radio (TETRA) and Aerostat. The respondent, in the case C.B.I. New Delhi vs Abhishek Verma16, was found to be closely associated with Atlas Group of Companies and had using his contacts came to be in

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15 Express News Service, "Verma faces case under Official Secrets Act", August 10, 2012, New Delhi

16 C.B.I.New Delhi vs Abhishek Verma 6 May 2009, Criminal Appeal Nos. 935-936

possession of the documents pertaining to the procurement. As a result Abhishek Verma was booked by the CBI under section 3(1)(c) and section 5 of the Official Secrets Act, 1923 pertaining to obtaining, collecting or communicating any official code or document, which could be of consequence to the state's enemies, in contravention to national security.

The Augusta Westland Chopper scam takes the front seat in any discourse on the controversies pinning down India's Defence Procurement. The facts have already been mentioned when discussing how the Service Quality Requirement was altered to favour Finmeccanica over their American rivals. The enquiry that follows culminated in the case Gautam Khaitan vs Union Of India17. In this case it was found that Kickbacks were paid to Italians, namely, Mr. Guido Ralph Haschke and Mr. Carlo Gerosa, by employing a charade of consultancy contracts. it was also found that money was also paid via Mr. Haschke and Mr.Gerosa to three Indians, namely Mr. Sanjeev Tyagi, Mr. Rajeev Tyagi and Mr. Sandeep Tyagi. It is the allegation of the respondents that the aforementioned persons were used to make in roads in the I.A.F. via the then Air Chief Marshal, Mr. S.P. Tyagi, who was recently taken into custody by the CBI for questioning. It is not surprising why the Indian Military establishment refuses to accept the role of middlemen, keeping in mind the various controversies that they have implicated the Ministry of Defence in.

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[17] Gautam Khaitan & Anr. vs Union Of India & Anr 4 February, 2015

The recent scorpene submarine document leaks, have also dealt a telling blow to India's Defence procurement accountability. More than 22,000 pages list the combat capabilities and other information on the Scorpene submarine and excerpts have been released by The Australian newspaper. The Scorpenes, being built for 3.5 billion dollars at the state-run Mazagon shipyard, are considered some of the most advanced of their class in the world. However the documents contained sensitive information about their combat capabilities including their transmission frequency, pulse length and their sound level. It is saddening to note that the scorpene project had come under the scanner earlier for unauthorised involvement of middlemen and commission agents18. It is also no secret how the Bofors scandal had frozen India's efforts to procure guns for over three decades until the recent agreement by the Ministry to procure US made Howitzers. Incidents like these have marred the India's Defence Procurement regime, and have an adverse impact on the countries defence capabilities.

CONCLUSION

Successful navigation of the Indian defence sector requires adapting to the local environment. This includes developing a nuanced understanding of Indian decision-making in conjunction with the ability to constrain the activities of competitors through local institutions. The Indian defense market is potentially conducive to corruption, but companies need not sit back and allow less ethically constrained competitors to capitalize as seen in Augusta Westland.

[18] Centre For Public Interest Litigation vs UOI And Anr 13 January, 2016

When there are grounds for concern, companies can petition Indian regulatory and investigative bodies, including the Central Vigilance Committee (CVC) and the Central Bureau of Investigation (CBI), to examine suspicious proceedings. Partnering with capable and trustworthy Indian companies can reduce international defence suppliers' reliance on potentially problematic local agents while also facilitating the task of meeting offset requirements. Allowing Indian partners to take a leading role in tender bids naturally strengthens their competitiveness and appeal to Indian authorities.The DPP 2016 having very recently been brought out, we are yet to appraise it practically. However some pitfalls have already been noticed. We can only hope that certain measures taken would only improve our country's defence procurement policy.

INDIA'S ENTRY INTO MISSILE TECHNOLOGY CONTROL REGIME: AN INTROSPECTION

Dr. Sanu Rani Paul[*]

Abstract

India's entry into MTCR will have greater impact in terms of non-proliferation and export of defense equipment's and transfer of technology to friendly nations. India have a responsibility to contain non-proliferation vertically as well as horizontally, but as MTCR does not prohibit transfer of defense equipment to non-member countries India can benefit through export of defense equipment and technology transfer without fearing the sanctions imposed by the laws of other MTCR countries. As of now, India is a leading importer of defense equipment. Government and Ministry of Defense has come up with various strategies in the recent years to ease defense exports laws in India. In this context the paper analyses the importance of MTCR, the opportunities it guarantees and the challenges which it poses to the Indian defense export regime.

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INTRODUCTION

On June 09, 2016 India became a member to MTCR which marked the beginning of India's entry into the group of elites in terms of military power. This historic event was preceded by China's attempt to bloc India's entry into Nuclear Supplies Group (NSG).[1] The membership was the result of India's long term 'unilateral adherence' to MTCR adherence from 2008 onwards. Not only that, it was materialized also because of the power backing by United States (US) right from the time of George W. Bush, US former President. India's entry is also0 a stepping stone for the entry into NSG and is testimony of the recognition of India as a country which can contribute to the existing technology and as capable of preventing proliferation of weapons and arms race by major world powers. In order to acquire this status India made its efforts to make our export laws in compliance with MTCR and to some extent in compliance with other groups like NSG, Australia Group (AG),[2] Wassenar Arrangement (WA).[3]

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1 NSG which came into being in the year 1994 is a group of nuclear supplier countries that seeks to contribute to the non-proliferation of nuclear weapons through its guidelines for nuclear exports and nuclear –related exports. http://www.nuclearsuppliersgroup.org/en/about-us (last visited on January 11, 2017)

2 WA, established in 1985 is an informal multilateral regime on Export Controls for Conventional Arms and Dual-Use Goods and Technology aimed at promoting international security and stability. http://www.wassenaar.org/about-us/ (last visited on January 11, 2017)

3 AG formed in the year 1985 is an informal forum of countries which seeks to ensure that exports do not contribute to the development of chemical and biological weapons through the harmonization of export controls. http://www.australiagroup.net/en/ (last visited on January 11, 2017)

Membership to MTCR has serious implications in India's responsibility towards non-proliferation of missile systems, subsystems and dual-use items for delivery of Weapons of Mass Destruction (WMD). At the same time, India has the opportunity of emerging as a major military power through increased exports and imports. In this context the paper discusses the importance of MTCR and the compliance of the same in the Indian laws. Besides, the paper focusses on the recent changes in the Indian export regime of defense items and also gives an insight into the opportunities which MTCR guarantees to India's defense sector.

WHAT IS MTCR?

MTCR was evolved in April 16, 1987 as a voluntary organization to limit the spread of ballistic missiles[4] and other unmanned delivery systems that could be used for chemical, biological and nuclear attacks. The history of MTCR dated back to 1970's with US Government becoming wary of the dangers posed by missile programs of developing nations like India and South Korea.[5] Until

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[4] A ballistic missile is a missile that has a ballistic trajectory over most of its flight path, regardless of whether or not it is a weapon delivery vehicle. Ballistic missiles are categorized according to their range, maximum distance measured along the surface of the earth's ellipsoid from the point of launch to the point of impact of the last element of payload. The missile carry huge payload. The carriage of a deadly warhead is justified by the distance the missile travels. It can be shipped from ships and land based facilities. E.g. Prithvi I, Prithvi II, Agni I, Agni II and Dhanush missiles are currently operational in the Indian Defense Forces. http://www.brahmos.com/content.php?id=10&sid=9 (last visited on January 11, 2017)

[5] It includes the South Korea's ballistic missile test and India's SLV—3 test conducted in July 1980. Thus the concept of missile proliferation was first conceived and implemented unilaterally by the US. Until then weapons of

that time WMD and its delivery means were issues confined to arms control and disarmament negotiations between US and Russia. The concerns of the US were thus translated into an informal, non-treaty-association of seven states (G-7) having an established policy or interest in limiting the speed of missiles and technology during the time of Ronald Reagan.[6] The rudiments of the MTCR were enunciated in the National Security Decision Directive 70[7] (NSDD) which mandated the immediate implementation of stringent unilateral export controls on missile related military and dual –use equipment and technology[8] and also to simultaneously multilateralize this effort among key western supplier countries which the regime had accomplished by 1987. In 1987, in its first meeting itself the character of the organization was believed by the

mass destruction (WMD) and delivery means were issues confined to arms control and disarmament negotiations between the United States and the United Kingdom. DANIEL JOYNER, NON-PROLIFERATION EXPORT CONTROLS: ORIGIN, CHALLENGES AND PROPOSALS FOR STRENGTHENING 75-100 (2006).

6 The original participants in the regime were the G-7 countries, viz; Canada, France, West Germany, Italy, Japan, the United Kingdom and the United States http://www.state.gov/t/isn/rls/fs/120017.htm (last visited on January 11, 2017)

7 NSDD-70 of November 1982. It instructed the US Executive agencies to implement appropriate methods to restrain the spread of nuclear-capable ballistic and cruise missiles. https://fas.org/irp/offdocs/nsdd/nsdd-070.htm (last visited on January 11, 2017)

8 Goods, software and technology that can be used for both military applications and/or can contribute to the proliferation of Weapons of Mass Destruction (WMD), they are subject to controls that derive from international obligations in particular UN Security Council Resolutions 1540, the Chemical Weapons Convention, 1998 and Biological Weapon Convention, 1972. http://ec.europa.eu/trade/import-and-export-rules/export-from-eu/dual-use-controls/index _en.htm (last visited on January 11, 2017)

delegates to be inhibitory and not as a comprehensive solution to missile proliferation.[9]

MTCR MEMBERSHIP

The criteria for membership in MTCR are like-mindedness, effective export control laws, enforcement, track record, motivation, through sponsorship and approval through member consensus. Each MTCR member is supposed to establish national export control policies for ballistic missiles, cruise missiles, unmanned aerial vehicles (UAV), space launch vehicles, drones, remotely piloted vehicles, sounding rockets, underlying technologies and components that appear in MTCR Annex.[10]

YEAR	TOTAL MEMBERS	MEMBERS
1987	7	Canada, France, West Germany, Italy, Japan, the United Kingdom and the United States
1990	13	Spain, Belgium, Luxemburg, Netherlands, Australia, Denmark
1991	18	Norway, New Zealand, Austria, Sweden, Finland
1992	22	Portugal, Switzerland, Ireland, Greece
1993	25	Iceland, Argentina, Hungary
1995	28	Russia, South Africa, Brazil
1997	29	Turkey
1998	32	Check Republic, Poland, Ukraine
2001	33	South Korea
2004	34	Bulgaria
2016	**35**	**India**

[9] Scott Jones, Emptying the Haunted Air: The Current and Future Missile Control Regime in DANIEL JOYNER, NON-PROLIFERATION EXPORT CONTROLS: ORIGIN, CHALLENGES AND PROPOSALS FOR STRENGTHENING 75-100 (2006).p.77

[10] Kelsey Davenport, The Missile Technology Control Regime at a Glance, DIRECTOR FOR NON-PROLIFERATION POLICY 463-8270, (August 15 2016) https://www.armscontrol.org/factsheets/mtcr

In addition to formal members, there are 'unilateral adherents' to the regime.[11]

MTCR GUIDELINES

The MTCR guidelines establish the basis of coordination of export control policies and appropriate procedures in the field of transfers and equipment. The Guidelines and the Annex form the basis for controlling transfers to any destination beyond the member –state government's jurisdiction or control of all delivery systems (other than manned aircraft) capable of delivering weapons of mass destruction, and of equipment and technology relevant to missile whose performance in terms of payload and range exceeds certain parameters.[12] The Guidelines are implemented in accordance with the national legislations of each member state.[13] The Annex consists of two categories of items. Category I item Category II items.

Category I

Category I item include complete rocket and unmanned aerial vehicle systems including ballistic missiles, space launch vehicles,

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[11] Unilateral Adherent' to the MTCR means that a country makes a unilateral political commitment to abide by the Guidelines and Annex of the MTCR. In particular, an MTCR unilateral adherent commits to control exports of missile related equipment and technology according to MTCR Guidelines and Annex including subsequent changes to it which, *inter alia* means that MTCR unilateral countries need to have in place laws and regulations that permit them to control the export of MTCR Annex equipment and technology consistent with the MTCR Guidelines. CONGRESSIONAL RECORD- HOUSE, Vol. 152, Pt. 18, 22876 (2006)

[12] https://fas.org/nuke/control/mtcr/text/mtcr_handbook_guide-annex.pdf (last visited on January 11, 2017)

[13] *Id*.

sounding rockets, cruise missiles, target drones, and reconnaissance drones capable of delivering a payload of at least 500 kg to a range of at least 300 km, their major complete subsystems such as rocket stages, engines, guidance sets and re-entry vehicles and related software technology, as well as specially designed production facilities for these items.[14]

There are several levels of rules applicable to these items, which makes it clear that MTCR works in a different level. The rules applicable are absolute prohibition on transfer of complete production facility or technology used in the production facility, strong presumption to deny transfers of Category I item to be used for delivery of chemical, nuclear or biological payloads, case by case review of export application of all controlled items, no undercut provision according to which MTCR partners will respect each other's export denials or consult before undercutting a denial,[15] information exchanges to enforce these rules and also catch-all provisions,[16] which is observed by most partner governments, under

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[14] *Id.*

[15] It was in October 1994, MTCR announced the policy in public. Under this multilateral arrangement, the denial notifications received from the member countries of MTCR are honored by other members for similar export license applications. BUREAU OF INDUSTRY AND SECURITY, USDOC, http://www.bis.doc.gov/

[16] Catch all provisions were included in a meeting in September 2003 by the member countries. It furnishes a legal basis to control items that are not identified in the MTCR annex or national control list. Such a circumstance would occur if the member state believes an item is bound for a restricted missile program specifically a Category I. MTCR, BUREAU OF INTERNATIONAL SECURITY AND NON-PROLIFERATION, March 4, 2009 https://www.state.gov/t/isn/rls/fs/120017.htm

which export reviews will be required for missile-related transfers, whether or not in the MTCR control list to any destination engaged in Category I programs.[17]

Category II

Category II items include other less-sensitive and dual missile related components, as well as other complete missile systems capable of a range of at least 300km, regardless of payload. Their export is subject to licensing requirements taking into account the non-proliferation factors specified in MTCR Guidelines.

In the evaluation of export of controlled items, the following factors will be taken into account;

i. Concerns about proliferation of weapons of mass destruction.

ii. The capabilities and objectives of the missile and space programs of the recipient state.

iii. The significance of the transfer in terms of the potential development of the military system or WMD.

iv. The assessment of the end use of the transfers, including the relevant assurances of the recipient states referred in Para 5 a and b.[18]

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[17] *Id.*

[18] Para 5:- Where the transfer could contribute to a delivery system for weapons of mass destruction, the Government will authorize transfers of items in the Annex only on receipt of appropriate assurances from the government of the recipient state that: A. The items will be used only for the purpose stated and that such use will not be modified nor the items modified or replicated without the prior consent of the Government; B. Neither the items nor replicas nor

v. The applicability of relevant multi-lateral agreements.

MTCR AND INDIA

India committed to unilateral adherence to MTCR Guidelines since 2008 and had signed Hague Code of Conduct against Ballistic Missile Proliferation (HCOC)[19] which was considered to be complementary to MTCR. India does not have a specialized law facilitating and regulating the export of defense services, goods, technology, design, production facilities etc., and the law relating to MTCR is the Foreign Trade (Regulations & Development) Act, 1992 (FTDR Act, 1992). The Act contains three lists viz; export list, import list and SCOMET list. The SCOMET list deals with the export of strategic items like defense goods, services, technology etc.

THE SCOMET LIST

The list was introduced in the year 1995, as SMET,[20] subsequently with the addition of some more items in the year 2007, the list was

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derivatives thereof will be retransferred without the consent of the Government. https://fas.org/nuke/control/mtcr/text/mtcr_handbook_guide-annex.pdf (last visited on January 11, 2017)

[19] HCOC is the only multilateral transparency and confidence building instrument concerning the spread of ballistic missiles. By subscribing to it, the subscribing states voluntarily commit themselves to politically provide pre-launch notifications 9PLN)'s on ballistic missiles and space launch vehicles launches (SLA)'s and test flights. Subscribing States also commit themselves to submit an annual declaration (AD) of their countries polices on ballistic missiles and space launch vehicles. http://www.hcoc.at/ (last visited on January 11, 2017)

[20] A "Small Group on Strategic Export Controls" constituted by Government of India initiated the process of institutionalizing a system of controls over strategic exports from India and it finalized a list of item whose export has to

modified and came to be called as SCOMET, "Special Chemicals, Organisms, Materials, Equipment Technologies," the export of which is regulated. The list is divided into seven categories. Major additions were made to the list during 2011, 2013 in order to make the list in conformity with MTCR and NSG. Apart from that a detailed guidelines were also added for the export of SCOMET items for procuring license for the export of SCOMET Items. All the items in the Category I and II of MTCR Annex was added to the SCOMET list through 2011 notification in Category 3 and 5.[21] The items mentioned below in the SCOMET List are the defense services and goods mentioned under Annex I and II of MTCR.

The export of the Category 3, 5 of SCOMET list[22] requires approval by Director General of Foreign Trade (DGFT) and the application will be subjected to evaluation by Inter Ministerial Working Group (IMWG), on the basis of the criteria given in the SCOMET Guidelines i.e. credentials of the end-user, credibility of the stated end-use, risk-assessment taking into account the possibility of the use of item for the development and manufacture of WMD and the use of the item by non-state actors terrorist groups etc., purchase

be made subject to license. The list was described as "Special Materials, Equipment, Technology" (SMET) and was notified in the Export Import Policy, 1995. http://mea.gov.in/in-focus-article.htm?18843/Indias+System+of+Controls+over+Exports+of+Strategic+Goods+and+Technology, Ministry of External Affairs, Government of India, August 01, 2004

[21] http://dgft.gov.in/exim/2000/scomet/appendix3.pdf (last visited on January 11, 2017)

[22] *Id.*

order from all parties involved. The exporter is required to exercise 'due-diligence' in his dealings with buyer/importer/end user.[23]

Category 3	Materials, Materials Processing Equipment and related technologies
3A	Materials
3A1	Special Materials
3A2	Structural Materials
3A3	Rocket Propellants and constituent chemicals
3A4	High Explosives
3A5	Stealth Materials
3B	Materials Processing and production equipment, related technology and specially designed components and accessories therefor
3D	Chemical and biomaterial manufacturing and handling equipment and facilities
Category 5	Aerospace systems, equipment including production and test equipment, related technology and specially designed components and accessories therefor.
5A	Rocket Systems
5AI	Systems
5A2	Production and Test Equipment
5A3	Technology
5B	Unmanned Aerial Vehicles
5C	Avionics and Navigation System*
5E	Micro-light aircraft and powered 'hand-gliders'

The violation of the mandates of SCOMET guidelines in export may lead to suspension or cancellation of (Importer Exporter) IE code, penalty up to five times the value of goods exported and criminal prosecution under Foreign Trade Act, 1992. It will also attract the

[23] http://dgft.gov.in/exim/2000/scomet/scomet2011.pdf (last visited on January 11, 2017)

provisions of Customs Act, 1962 and civil and criminal prosecution under WMD Act, 2005.[24]

EXPORT REGIME IN INDIA

The export of MTCR items are regulated under FTDR Act, 1992 and the SCOMET guidelines. Category 3 and 5 items are to be licensed by Director General of Foreign Trade.[25] Applications for export of SCOMET items are done on a case to case basis, but, besides there are some general criteria for export, provided in the MTCR Guidelines which includes of the credentials of end-user, credibility of end-use, assessment of risk, export control measures by recipient state etc. The most important requirement for export is End-User Certificate.[26] Even in the presence of "strong presumption of denial" on Category I items of MTCR, there are exemptions under which Category 1 item can be exported but only by providing end-use certificate which has to state a binding assurance that the item will not be used for the purposes stated.

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[24] WMD Act, 2005 prohibits manufacture, possession, acquisition of WMD, export or brokering of material or technology which can be used for WMD and transfers to non-state actors and terrorists. The punishment for the same are imprisonment which may range from five years to life imprisonment and penalty up to twenty five lakhs for export. https://www.mea.gov.in/Uploads/PublicationDocs/148_The-Weapons-Mass-destruction-And-Delivery-Systems-Act-2005.pdf (last visited on January 11, 2017)

[25] An application can be submitted online but after filing application hard copy along with other documents has to be sent to the DGFT, Head Quarters, Udyog Bhavan, New Delhi by post.

[26] http://dgft.gov.in/exim/2000/download/Appe&ANF/36.pdf. (last visited on January 11, 2017)

Apart from FTDR Act, 1992, another restriction on defense exports has been made under Weapons of Mass Destruction and their Delivery Systems, Act, 2005. The Act restricted the export of WMD which may be used by non-state actors. The Indian legislations sets out international standards like end-user certificate, catch-all controls, prohibition on brokering, transshipment and transit control in WMD Act, 2005 as well as in SCOMET Guidelines. This has been done keeping in view India's' responsibility as a country handling sensitive weapons of proliferation.

INDIA'S' EXPORT POLICY 2015-2020: STRATEGY FOR DEFENSE EXPORTS (SDE)

In India there is no separate Defense Export Policy[27] and the export import policy for defense item is given under the Foreign Trade Policy of India. India is now eying at a defense export $ 2 billion in a couple of years.[28] In the year 2014, Ministry of Defense (MoD) under the Department of Defense Production (DPP) has formulated and released Strategy for Defense Export (SDE) in order to develop procedures and mechanisms for export of defense products and services. The policy has come up with enviable mandates for the development of Indian exports to foreign countries and aims at indigenization in defense sector, keeping in view the 'Make in India'

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[27] http://pib.nic.in/newsite/PrintRelease.aspx?relid=93081 (last visited on January 11, 2017)

[28] Saurav Jha, The Future of India's Defense Exports, THE DIPLOMAT, July 20, 2016 http://thediplomat.com/2016/07/the-future-of-indias-defense-exports/

policy.[29] SDE created under the rubric of Ministry of Commerce (MoC) is in addition to the overall export policy in Foreign Trade Policy (FTP) and unlike FTP, SDE gives emphasis to specific strategic measures for encouraging defense exports so as to improve the economic base of defense industry which will promote thrust for indigenous production in India.

The strategy was formulated to include measures required for promotion and facilitation of defense exports. For facilitation and promotion of defense exports the report suggested for the creation of a body which would render advice to the government on various export related issues, besides coordinating all export facilitation schemes of the government, also it has to identify suitable export markets. The strategy report suggested for the creation of a Defense Export Steering Committee (DESC) for taking decision in case of export permissions especially of indigenously developed sensitive defense equipment,[30] monitor the progress in defense exports and suggest strategy to boost exports on a case to case basis. There shall also be a 'Buyer's credit' facility to render financial assistance to weaker countries, "specific incentives and promotion schemes' to promote experts under SDE. The Government also intends to

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[29] Strategy for Defense Exports, GoI, MoD, http://www.makeinindiadefence.com/STRATEGYFORDEFENCEEXPORT1.pdf (last visited on January 11, 2017)

[30] *Id*. The Defence export steering committee shall take decision on the exportability of indigenously developed strategic and sensitive weapons and platforms, without modification or degradation, the clearance of which will be granted on case to case basis with NOC given with the approval of Defence Minister on the recommendation of Defence Export Steering Committee.

associate Indian missions and embassies abroad in making targeted efforts for the promotion of defense exports. The SDE also suggested for the creation of a negative list of countries to which export is prohibited.

INDIA'S DEFENSE EXPORTS AND MTCR: OPPORTUNITIES AHEAD

As mentioned earlier, India does not have any Export Policy what we have is the SDE formulated by Ministry of Defense under the aegis of Department of Defense Production (DDP) as part of the Make in India initiative. Taking into account the research and Development in the Indian defense sector especially by organizations like Hindustan Aeronautical Limited (HAL), Ordnance Factories of India, Goa Shipyard Limited (GSL), Bharat Electricals (BEL), Bharat Dynamics Limited (BDL), BRAHMOS Aerospace ltd. etc. there is a bright future for India in defense exports, India's entry into MTCR is a testimony to the fact that India is now a leading country in defense research and technology. But if we look at the export – import scenario of defense sector, it can be seen that India is a leading importer of defense equipment, despite India having one of the largest defense industries of the world.

The reason was the stringent norms for export, the norms were liberalized in 2015[31] through SDE which has introduced Standard Operating Procedure (SOP) for the issue of NOC from the DDP.

[31] http://mod.nic.in/writereaddata/DPP2013.pdf (last visited on January 11, 2017)

SDE also introduced online system for issuance of NOC's.[32] Besides, MoD has also notified military stores and also put different conditions for items falling under different categories of defense exports, thereby relaxing the norms of export of certain categories of defense items which are not for revenue making purposes.[33]

Though the main aim of MTCR is to have a controlled regime for export of unmanned delivery systems capable of delivering WMD, this aim remained as an objective only in spirit. MTCR opens great opportunities for the member countries for defense co-operation through technology transfers. With MTCR now India can export, India can change its image from a marginal exporter to a significant exporter of defense items. As MTCR does not differentiate between exports to partners and non-partners,[34] India can also export freely dual-use technologies without the fear of control regime provided India complies with the end-user agreement. There are also talks going on between India and Vietnam over the export of BRAHMOS supersonic cruise missile, which is a joint venture of India and

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[32] http://164.100.154.157/myauth/ddp_noc/myauth/users/login.php (last visited on January 11, 2017)

[33] Those categories include export of military stores for exhibitions, testing and import and for participation in tenders. http://ddpmod.gov.in/sites/default/files/Standard%20Operating%20Procedure.pdf. Also see PIB, Export of Defense Items, GoI, MoD, December 11, 2015, http://pib.nic.in/newsite/PrintRelease.aspx?relid=133053.

[34] MTCR: Mapping Nuclear Security and Proliferation Efforts, ARMS CONTROL ASSOCIATION, https://www.armscontrol.org/taxonomy/term/49 (last visited on January 11, 2017)

Russia[35] and Akash surface-to-air missile systems.[36] Keeping this in view both countries have approved to extend range of the missile up to 600 kilometers, paving opportunities to India for foreign collaboration in missile technology.[37] Besides, MTCR membership will also open doors for India to get 'license exemptions' from other MTCR countries for import of defense goods and services.

SOME OBSERVATIONS

On December 2016, India was declared by US as a 'Major Defense Partner.'[38] India's export regime is having a bright future in the light of the given opportunities. Indian defense export laws have undergone a paradigm shift in the recent past and it is in the process of becoming an export friendly nation. Indian law always try to strike a balance between two important aspects i.e. non-proliferation and export. India's nonproliferation stand is an outstanding feature and is non-partisan unlike other countries.[39] But despite that there

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[35] South Africa in talks with India-Russia over sale of BRAHMOS missile, DEFENCE UPDATE, June 04, 2016, http://defenceupdate.in/south-africa-talks-india-russia-sale-brahmos-missile/

[36] India offers Akash Missile to Vietnam: The surface-to-air missile that can neutralize multiple air targets, INDIA TODAY, January 9, 2017 http://defenceaviationpost.com/india-offers-akash-missile-vietnam/

[37] Vivek Raghuvanshi, India to Double Brahmos Cruise Missile Range, DEFENCE NEWS, October 27, 2016, http://www.defensenews.com/articles/with-mtcr-entry-india-to-increase-brahmos-cruise-missile-range

[38] Sushant Singh, India-US signs major defense Partner agreement, INDIAN EXPRESS, December 9, 2016 http://indianexpress.com/article/india/india-us-major-defence-partner-agreement-manohar-parrikar-ashton-carter-4418019/

[39] http://www.mea.gov.in/Speeches-Statements.htm?dtl/19341/Keynote+Address+by+Foreign+Secretary+Shri+Ranjan+Mathai+at+the+Ministry+of+External+Affairs++Institute+for+Defe

are certain things which is worth deliberating. First and foremost, the necessity of having a defense export policy taking into account India's' emergence as a major power in the same lines of US Arms Export Control Act, 1978. Secondly, rearranging the SCOMET List of defense items. It is no be noted that India's SCOMET list of restricted dense items are harmonized in par with EU standards on dual-use control list, but in India no attempt had been made to identify and place items that are overlapping in the WA and MTCR Annex. Now that India is a member to MTCR it is high time to make such an amendment in the existing list. Thirdly, India's policy on allowing brokerage in arms export has to be formulated lastly, classification of defense export items on the basis of its sensitivity to ease and simplify the export regime has to be done. The present export regime does not have such a classification.

nce+Studies+and+Analyses+IDSA+National+Export+Control+Seminar, MINISTRY OF EXTERNAL AFFAIRS, April 18, 2012

BOOK REVIEW

of

LEGAL REGULATION OF PRIVATE ACTORS IN OUTER SPACE: INDIA'S ROLE (2017)

by Mr. Malay Adhikari,

Published by KW Publishers Pvt. Ltd., New Delhi;
ISBN 978-93-86288-20-2

Dr. G.S. Sachdeva[*]

In the beginning space activities were undertaken by state agencies fully financed from the state exchequer and fully controlled by the government. At that time, technology to undertake space activities existed only with the two super powers and their motivation was prodded by defence and security considerations with a covert intent of upmanship and promiscuous display of military prowess. This was the era of cold war confrontation and state funding for secret space activities of strategic military importance was the obvious and natural option.

Today, space activities have deflected towards ameliorative and peaceful uses like broadcasting or communications; developmental aspects like social and economic uplift of the masses through literacy and population control; humanitarian purposes like weather forecasting and disaster management, etc. Alongside some commercial applications like remote sensing, space travel and tourism and mining of celestial natural resources have also shown

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technical viability with visible profit potential. These options seem fit for exploitation and are pregnant with commercial content for private enterprise. No wonder, with tightening economies and shrinking budgets, state entities are gradually withdrawing from space activities with commercial hues as well as outsourcing non-critical activities and hardware.

Initially, it was believed that space technology is highly advanced and complex, it involves systems integration and software applications of high quality assurance, it mandates colossal investments in capital outlays for infrastructure and recurring expenditure; and that space activities require long gestation period to fruition with attendant risks of failure and liability. All these parameters normally do not attract private enterprise but today, corporate sector has harnessed all these factors and have literally plunged into the domain of commercial space activities with full gusto and complete awareness of concomitant risks: technological, commercial and international. Their business acumen has spotted an opportunity brimming with economic potential and prospect of future growth.

Outer Space Treaty, under Article VI, visualized and postulated possibility of activities in outer space by "non-governmental entities" in the future and mandated that these be "carried out in conformity with the provisions set forth in the present Treaty." Therefore, despite being a state-centric instrument, it permitted space activities by private enterprise. However, "the activities of

non-governmental entities in outer space…shall require authorization and continuing supervision by the appropriate State Party to the Treaty." And it is here that this book finds its appropriate niche, incumbent utility and continued relevance. This book thus is topical in content, contemporary in context and futuristic in nuances.

The book then proceeds to establish single-point responsibility entailed on the state for space activities carried out by its nationals, legal and juridical. This is in accordance with the well established doctrine of state responsibility for wrongful international acts by its nationals. The book also alludes to the Treaty being state-centric and its bearing on international liability of the state even for *injuria* caused by the non-governmental entity and its obligatory consequences. This highlights another vital aspect that has not yet been formally attended to by many states including India.

Considering that private enterprise is literally galloping towards space activities like commercialization of space applications, exploitation of natural resources discovered on celestial bodies, space transportation and tourism, colonization of the Moon and Mars, to name just a few; there arises an urgent need to effectively address legal challenges and handle liability exigencies. The solutions proffered in this book focus on the role of the UN to evolve a suitable framework for the purpose and nationally evolve and legislate national space regulations to fill the gaps and chinks in the Outer Space Treaty. This advice is aimed at India also and deserves to be heeded urgently.

The body of the book has been divided into five major chapters which constitute logical separation of topics and well-linked evolution of the content. First Chapter on "History of Space Regulations" is highly informative and educative and builds a threshold for the following chapters. The second chapter on "Private Actors in Outer Space" wades through the multitude of private actors already in action in different capacity, at different stages of technology and with varying supervisory controls and thus sums up the necessity for regulatory measures through national legislation.

The third chapter deals with "Legal Issues", in particular, national sovereignty, strategic security, state liability and environment protection as per the OST provisions with case details like that of Canada-USSR settlement. Chapter IV discusses "Space Regulations outside India" in a comparative study of various domestic laws to figure out selected legal issues and arrive at the need for institutional regulatory mechanisms. The fifth Chapter forms the nucleus and relates to "Space Regulations in India" making a composite treatment of policy statement, regulatory aspects and making an emphatic recommendation for *specialis* space legislation for India.

The publication is timely and topical when the Government as well as ISRO is engaged in drafting of national space legislation. Thus this book will be useful in presentation of analogous laws and for its pragmatic recommendations and futuristic nuances. Apart from above, policy makers, bureaucrats, scientists, scholars and

researchers may find this book of much use. It is also recommended as a good reading for general information.

Mapping Drone Operations:
A Treatise on the Techno-governance in Transition

Debasis Poddar[*]

No literature generated in the domain of social science research is pervasive enough to cover both sides of time. Either the same is meant to explore past issues of concern; or to put impression for future issues of concern. The present piece of work belongs to second array with its research foci on those yet to loom large for law professional but possess potential to raise eyebrow of the international community in time ahead. The treatise is divided into eleven chapters; all of them speaking for themselves. Even excluding prologue as beginning and epilogue as concluding remarks respectively, a series of chapters deals with the strategic areas of concern, e.g. regulatory provisions for national air space under domestic statutes, drone operations in international air space in peace time, drone operations in hostilities, appraisal under the UN Charter, differing perceptions on legality, drone strikes in war, ethicality and accountability, etc. being few among them. In Chapter 2, the author has drawn an overview of drone operations in course of resort to technocracy in modern civilization; in particular, the way sophisticated technology has rapidly transformed into multi-purpose platform supplanting manned aircraft that used to perform earlier. Indeed, the author

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mentioned that drones cannot necessarily cause the human agency redundant. What he has indicated, however, appears writing of the wall- prognostic in its essence- and thereby ought to occur in time ahead. While dealing with the matter, he has scribbled thus:

> *"despite their stated handicaps, UAVs have arrived, and are bound to stay, for good or bad; they shall proliferate in numbers, expand their peaceful civilian roles, increase their commercial applications, defensive and offensive military operations, and progressively improve in all-round capabilities". (page 31)*

Also, the author deserves credit in course of his pursuit for elimination of peripheral issues and identification of core ones in lucid language:

> *" ... drones used for military and intelligence purposes have become remarkably dependent, mechanically and electronically, on avionics. Therefore, the primary problems today do not relate typically to navigation (as was without the Global Positioning System-GPS), reliability of systems, combat capability or safety standards. The fundamental problem at the core is beset with the ongoing debate over the shrouded policies of the government regarding the use of drones in the combat and intelligence roles. Added to this is the controversy on the possibility of their use for*

> *espionage, and invasion of individual privacy which is guaranteed under the Constitution". (page 32)*

On civil and commercial sides, the author calls for three pointers to cope with: (i) air vehicle autonomy for the ability to make decisions without human intervention at all; (ii) integration in air space as progressive permission and parallel induction; and (iii) endurance of the UAVs; all three but being futuristic development concerns.

Thus, after such background information is set for the book, the author grapples with the mapping of drone operations in details including means and methods for the same. In Chapter 3, great deal of drone operations is centred on peaceful civilian purposes, followed by identification of specific area studies vis-à-vis use of drone operations across the world.

Chapter 4 is dedicated to discussion on regulatory (read statutory) regime on national air space. After deliberation on best practices worldwide, the author undertook India as case study. With citation from relevant provisions of the Indian Airships Act, 1911, the author demonstrated coverage of drones by the same. Chapter 5 orbits around the international air space in peace time and drone operations involved therein. With reference to Article 8 of the Chicago Convention, 1944, drone is proved 'aircraft without a pilot'- as contemplated by the ICAO regime way back since mid-1940s- and, therefore, remains well within the international aviation regime. With relevant international legal

instruments and case laws in favour of hot pursuit, the author advocates the same to get effective in specific perspective of recent drone operations by USA in course of its hostility against non-state actors at their hide-outs in rogue states in course of its global war on terrorism (GWOT). His drone advocacy, however, is followed along with a caveat because, according to him:

> " … blanket permission is prone to misuse and abuse both by states and non-state entities. Such risk is not acceptable and needs to be circumscribed by reasonable restrictions and even sanctions, if necessary". (page 124)

The author initiated Chapter 6 identifying four counts behind contemporary polemics on drone operations: first, whether international law permits or prohibits the use of this weapon system in hostile conditions; (ii) whether the circumstantial use of this weapon system complies with parameters of necessity and proportionality to achieve requisite military effectiveness in a conflict zone; (iii) who controls the operation of the weapon system for lethal deliveries for target achievement and is held responsible for collateral killings of non-combatants; (iv) these operations violate sovereign rights of targeted state which may bear the tacit acceptance of strikes or exercise explicit remonstrations for infringement of sovereignty. Thus, he set context of the chapter and by and large roamed around the same. Relatively small in its size, yet causing big bang in the book, is Chapter 7 that explores drone

operations from mainstream global governance discourse under the UN Charter, 1945. With relevant provisions of the Charter, the author has set legal underpinnings behind drone operations in context of international peace and security as these constitute cardinal concerns of the international community under the Charter. Chapter 8 centres around poles apart perceptions on the question of legality vis-à-vis drone operations across the world. On one side, as a major user during armed conflicts, USA defends its position as a technological innovation to reduce casualty in conflicts while victim states plead against the same as caricature of state sovereignty to reduce the essence of mainstream international regime to nullity. Besides, the author engages a comparative study between official position of states and public opinion concerned to demonstrate discursive vacuum, if not void, between people in the street and those in the seat of power. The author has thereby characterized the state governmentality as locomotive behind drone operations, along with illegitimate ends of the same to attain through the technology of armed conflict in transition.

International humanitarian jurisprudence is set at the centre stage of Chapter 9 to push the presence of human rights even in course of drone operations during armed conflict. Thus, a range of issues- from circuited roadmap of command structure for imposition of individual criminal responsibility to inbuilt limits of traditional- sometimes archaic- international humanitarian law (IHL) related to aerial conflict- all these are identified with precision; precise enough for the book to get the same elevated to a

drone in itself and thereby hit clandestine characteristics of the conflict law regime involved therein. Chapter 10 is engaged in penultimate attempt to work upon output of the book at hand. The author hereby introduces the readership with a set of dicey issues raising concern for ethicality and accountability. These are unsettled questions of law, yet invoke global public conscience vis-à-vis humanity the modern international law is meant for. Thus, major cleavages between law and morality, followed by those between accountability and transparency, attract attention of the readership and thereby facilitate them unfold independent thought process to carry forward the debate. All these academic agenda being served, the author deserves credit for accomplishment of the treatise to this end. Through concluding remarks, in Chapter 11, the author continues drawing a desired end for the book through summary treatment of his original proposition in favour of long-felt need for remodelling the international legal framework vis-à-vis aerial operations and more so in the context of hostility and armed conflict.

In given combination of author, introducer and publisher respectively, the book serves academic purpose of the readership specialized in public international law. However, by courtesy lucid language of the book, the same ought to have sense for those laymen who put effort to this end. Keeping hyper-technicality of his subject matter in mind, of both law and technology, the author introduces and concludes the book in simplified- yet not simplistic- treatment for understanding the subject matter with better

ease and thereby further the cause of his book toward dissemination of knowledge to grassroots. A combination of the history of drone operations by USA since its conflict with Vietnam during late twentieth century, followed by prospects and consequences of lethal drone operations on state sovereignty across the world in time ahead, this book has arrived like drone and is bound to stay as evidence of scholarship in international law in general and in the domain of air law in particular.

LEGISLATION REVIEW of
Spurring Private Commercialisation Act, 2015

Mohit Sharma[*]

Abstract

Spurring Private Commercialisation Act, 2015 hereinafter as (Space Act, 2015[1]) Commercial Space Launch Competitiveness Act, 2015[2] was passed by on and was brought into law on after being assented by President Barack Obama. Space Act, 2015[3] is divided into parts with one being the most important. Part IV gives the rights to American citizens to possess, own, transport, use and sell resources from asteroids Moon or other celestial bodies it has been claimed not to follow the Outer Space treaty of 1967[4] in which it was agreed between the countries that outer space including the moon and other celestial bodies is not subject to national appropriation by claims of sovereignty, by means of use or occupation, or by any other means. Space Act, 2015[5] calls for President to facilitate the commercial exploration and utilization of space resources to meet national needs. Facilitation of utilization of space resources to meet national needs by the President and conferring US

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1 Space Act, 2015 51 USC $ 50914 https://wwwcongress.gov/bill/114-/house-bill/2262/text) Accessed at 30th December 2016

2 supra note 1,p.1

3 ibid,p.1

4 Treaty on Principles Governing the Activities of Sates in the exploration and Use of Outer Space, Including the Moon and other celestial bodies, 18 UST 2410, 610 UNTS 205

5 supra note 1,p.1

> *jurisdiction upon it has been claimed to be a form of national appropriation by other means. Section 107 states that it would be subject to federal laws for any claim of negligence by a third party. no prevailing federal tort laws are applicable to private companies in the United States, Section 108 provides for parties to waive cross liability claims immunes the space corporations from liability claims of passengers for personal injury. Cross waiving of claims is prevalent among companies with equal bargaining power but when two parties do not have the equal power to negotiate. The benefits of mining asteroids, Moon or other celestial bodies cannot be condoned. The resources on Earth are not infinite Earth will certainly run short of resources one day. Thus, alternatives for extracting minerals from asteroids need to be searched for and mining asteroids, Moon or other celestial bodies can fulfil these needs.*

Space Act, 2015[6] was brought into law by President Barack Obama. Space Act, 2015[7] empowers the private American commercial space corporations to exploit and trade minerals from the extra-terrestrial bodies as long as they extract the minerals outside the Earth either on that body itself or anywhere outside the Earth. The other thing is that it ain't ensures the adherence of the international community to the Outer Space treaty of 1967[8] in which it was agreed that no country has a claim over any extra-terrestrial body. The decision has

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6 ibid,p.1
7 ibid,p.1
8 supra note 4,p.1

come to raise exuberance among the commercial space corporations as they have been waiting long for this decision. This may lead to provide for the deficit minerals which are needed for medicines or are regarded as raw materials for scientific equipment. However, it doesn't allow the American commercial space corporations to trade or deal in "life" which could be found over there. This means that if alien or a microbe is found by an American corporation, they can't claim him as their property. It has been subject to dismal number of regulations for the time and thus, is expected to lure corporations. However, Section 107 and Section 108 have led to be a bone of contention for the Congress and the committee on Science and technology of the Capitol Hill.

It has been criticised for the Section 107 which states that it would be subject to federal laws for any claim of negligence by a third party. Since there are no federal tort laws applicable to private companies prevailing in the United States, it means the space corporations can intentionally harm anyone, whether a passenger or a bystander, since, they do not have any recourse. This, in no way can boost or encourage the space industry with regard to anything, whether it is space tourism or investment in commercial space industry. Section 108 provides for parties to waive cross liability claims which once again immunes the space corporations from liability claims of passengers for personal injury. Cross waiving of claims is prevalent among companies with equal **bargaining power** but when two parties do not have the equal power to negotiate.[9]

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[9] http://democrats.science.house.gov/commitee-democrats-oppose.html Accessed http://democrats.science.house.gov/commitee-democrats-oppose.html

Moreover, it has been claimed not to follow the Outer Space treaty of 1967[10] in which it was agreed between the countries that outer space including the moon and other celestial bodies is not subject to national appropriation by claims of sovereignty, by means of use or occupation, or by any other means. The act gives the rights to American citizens to possess, own, transport, use and sell resources from asteroids and at the same time, grants these rights to meet the national needs, which means that it is protecting and giving them exclusive jurisdiction to mine asteroids.

Professor Joanne Gabrynowicz, current director of International Institute of Space Law and former Editor-in-Chief of Journal of Space Law, in his letter to the speaker has pointed out the failure in providing a licensing regime for space launchers.[11] The Outer Space Treaty of 1967[12] states that the US government, as a state party, will be held strictly liable for any US organisation action's whether private or governmental, in the outer space. This means that by granting a license to an irresponsible or technically unsound, the US government would be taking up the responsibility for that company's action in the outer space. The US government has a licensing mechanism and authorized licensing agency for every commercial space activity. For instance, 1992 Land Remote Policy Act provides for US Department of Commerce to license commercial remote sensing systems.

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[10] supra note 3,p.1

[11] http://democrats.science.house.gov/commitee-democrats-oppose.html Accessed http://democrats.science.house.gov/commitee-democrats-oppose.html

[12] supra note 3,p.1

The US House Committee on Science and Technology has addressed these contentions through FAQ's.[13] On a question on Section 7 which states that whether injury claims would be subject to Federal tort laws and would come under the jurisdiction of federal courts solely, it answered that the US government has international liability for space launch and reentry accidents under the Launch Liability Convention.[14] The federal government is obliged by this treaty and not the states and therefore, it should come under the jurisdiction of federal courts and not the state courts. However, the committee stated that the federal courts should apply state substantive laws to resolve injury claims and further stated that the committee had filed a manager's amendment to ensure that the federal courts apply state substantive laws and not the state torts laws.

The US House Committee on Science and Technology on the question of whether Section 8 calls for the passengers to waive their claims to gain injury claims from the wilful misconducts and gross negligence of the commercial space companies answered that the US Court of Appeals for the Fourth Circuit had stated that gross negligence cannot be waived under 1988 Amendments to the Commercial Space Launch Act.[15] It further stated that Section 440

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[13] http://democrats.science.house.gov/commitee-democrats-oppose.html Accessed http://democrats.science.house.gov/commitee-democrats-oppose.html

[14] http://democrats.science.house.gov/commitee-democrats-oppose.html Accessed http://democrats.science.house.gov/commitee-democrats-oppose.html

[15] CommercialSpaceLaunchAct,198451USC$ 50901(http://uscode.house.gov/view.xhtml?path=/prelim@itle51/subtitle5/chapter509&edition=prelim) Accessed at 30th December 2016

of the FAA's regulations explicitly recognizes that Congress never intended to call for claims against gross negligence to be waived.

However, Part 4 of the Act[16] has caught everyone's attention because it allows the private commercial space companies to mine asteroids , moon and other celestial bodies any to shall be entitled to possess, own, transport, use and sell it according to applicable law, including international obligations. The Act, after an amendment, defines space resource as an abiotic resource in situ in outer space. The first provision of the Outer Space Treaty of 1967[17] states that space exploration and use shall be carried out for the benefits and interests of all of the countries. It rules out the mining and exploration of celestial bodies for profit. Thus, mining of asteroids for profit by commercial space companies allowed by the act violates Outer Space Treaty of 1967.[18] It further states that outer space including the moon and other celestial bodies is not subject to national appropriation by claims of sovereignty, by means of use or occupation, or **by any other means**. The Bill[19] calls for President to facilitate the commercial exploration and utilization of space resources to meet national needs. It further requires President to submit a report regarding the job assigned to different federal agencies to promote commercial exploration and utilization of space resources by the US citizens. The Act mentions that the US commercial space companies would enjoy these rights in accordance with the US international obligations. Thus, facilitation

[16] supra note 1,p.1
[17] supra note 4,p.1
[18] supra note 4,p.1
[19] supra note 1,p.1

of utilization of space resources to meet national needs by the President and conferring US jurisdiction upon it is a form of **national appropriation by other means**.[20] On answering a FAQ[21], the US House Committee on Science and Technology stated that the right to mine asteroids is affirmed by the State practice and by the US department in Congressional testimony and written correspondence. It nowhere mentions whether it is violating the Outer Space Treaty of 1967[22] or not.

The proponents of Space Act, 2015[23] have expressed the need for having a relaxed licensing regime in order to encourage space exploration and space mining by the commercial space industry. It has been argued that by compromising the safety of the passengers in space launch and re-entry accidents, the pace at which the industry is growing will be stagnated instead of benefitting from it. Surprisingly, the commercial space industry has grown over the past few years without putting up the passenger's safety at stake. However, while answering a FAQ,[24] it stated that the FAAhas been protecting the safety of the passengers, bystanders, property by commercial human spaceflight and would continue to do so. It further stated that FAA's right to regulate the passenger safety and crew or in case of an accident or unplanned event has been preserved.

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[20] Professor Joanne Gabrynowicz

[21] http://democrats.science.house.gov/commitee-democrats-oppose.html Accessed http://democrats.science.house.gov/commitee-democrats-oppose.html

[22] supra note 3,p.1

[23] supra note 1,p.1

[24] http://democrats.science.house.gov/commitee-democrats-oppose.html Accessed http://democrats.science.house.gov/commitee-democrats-oppose.html

Part 3 and Part 4 of the Space Act, 2015[25] have given the title to two of US offices i.e. Commercial Remote Sensing and Office of Space Commerce respectively. On answering a FAQ[26] regarding the purpose of the title the US House Committee on Science and Technology stated that due to the growth of the US private based Commercial Remote Sensing industry in the past recent years, the need to address some new and unanswered issues has occurred. This can be done by strengthening the congressional oversight and by reinforcing that US federal government should meet the increasing demands of the Commercial Remote Sensing industry. On a question[27] in regard to the purpose of changing the name of the office from Office of Space Commercialisation to Office of Space Commerce, it stated that the changed name reflects the responsibility more accurately and this act amends the office's functions to reflect the present requirements and status of the commercial space industry.

In 2016, Luxembourg passed a space act allowing the commercial space companies to mine asteroid, Moon or other celestial bodies for profit. The act is titled as Luxembourg Space Act, 2016 and the Luxembourg government has termed it as resembling the US Space Act, 2015[28] in every sense other than one. Unlike US Space Act, 2015[29] the Luxembourg Space Act, 2016 does not restrict the non-native investors to invest in companies located in Luxembourg due

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25 supra note 1,p.1

26 http://democrats.science.house.gov/commitee-democrats-oppose.html Accessed http://democrats.science.house.gov/commitee-democrats-oppose.html

27 Luxembourg Space Act, 2016

28 supra note 1,p.1

29 supra note 1,p.1

to which The Luxembourg government expects investors to prefer Luxembourg over US despite the know-how and infrastructure available in US. Part of Outer Space Treaty of 1967[30] held the nations responsible for any action done by the private companies or citizens of that state. Thus if a nation is not allowed to mine asteroids, Moon or other celestial bodies, it cannot authorize private companies or citizens of that state. Moreover, it means that the Luxembourg government would be taking up responsibility for the actions of a commercial space company having non-native capital invested in it. The Luxembourg government has invested 200 million euros in Research and Development associated with space mining and would also invest in purchasing equity of commercial space companies to get long term benefits from it. However, it would be interesting to see if Luxembourg will be able to attract the investors without the required infrastructure and technical know-how. In a seminar on "Technology Thrusts on Material and Manufacturing Sector in India" at the Central Glass and Ceramic Research Institute, a part of Council of Scientific and Industrial Research (CISR), Prabhat Ranjan Executive Director of Technology Information, Forecasting and Assessment Council (TIFAC) said that India needs to start asteroid mining to keep up with world. Anil Kakodkar, a nuclear scientist, former director of Bhabha Atomic Research Centre and former chairman of Atomic Energy Commission of India said that earth resources are finite and to

[30] supra note 3,p.1

become independent in minerals, India should start mining in the asteroid belt.[31]

The benefits of mining asteroids, Moon or other celestial bodies cannot be condoned. The resources on Earth are not infinite and at the rate which the resources are being depleting, Earth will certainly run short of resources one day. Thus, alternatives for extracting minerals from asteroids need to be searched for and mining asteroids, Moon or other celestial bodies can fulfil these needs. It will save a lot of money and time especially in supplying water and minerals to the ISS. Water extracted from asteroids Moon or other celestial bodies can be broken down into oxygen and hydrogen which can increase the time spent by the astronauts for scientific exploration on the ISS by giving them oxygen and by usage of hydrogen as rocket fuel. It will lead to decrease in the number of reentry accidents and reduction in the cost required for space launching and for fuel. The purpose of Outer Space Treaty of 1967[32] was to shirk war between the nations in the outer space and to maintain peace around the world. If it violates as claimed may lead to countries fighting against each other and using nuclear weapons which will harm the asteroids, Moon or other celestial bodies. It will rather destroy the purpose for which the space act has been passed by different countries. Thus, anything which violates the fundamental principle of space law should not be allowed as it would destroy the entire system of space laws.

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[31] http://www.ecoti.in/xOmsFau/html (Accessed 30th December 2016) http://www.ecoti.in/xOmsFau/html

[32] supra note4,p.1

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Websites (not online journals):

http://www.uga.edu/profile/pride.html (accessed October 21, 2009).
http://www.uga.edu/profile/pride.html.

Immediate reference: where a source is quoted again immediately after the first quote: *Ibid;* p.26

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