

## CONTROLLING BALLISTIC MISSILE DEFENSE AND ANTI-SATELLITE MISSILES: SHOULD WE LOOK ELSEWHERE OR RATHER AMEND ART. IV OST?

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### ABSTRACT

Weaponisation and arms race in the outer space is a real threat facing humanity. While the cold war has been left behind, the threats once associated with it are still palpable. It is a grim fact that in absence of a legal regime countries are sometimes forced to join avoidable arms races to protect their strategic and regional interests. It is therefore natural that there has been strong international opinion in favour of further development of international law in this matter. However, the feasibility of the same can be questioned in face of consistent US objection to any further curbs on use of space. However, all the space exploring countries are obligated to respect their obligations under the Outer Space Treaty, the article IV of which places substantial restriction on weaponisation of outer space as signatory to the same.

There are two kinds of challenges that the existing regime of international space law is facing with respect to weaponisation of outer space, and these challenges are thrown up either by development of international politics or development of newer technology. This paper shows that reasonable interpretation of Art. IV adequately meets these challenges.

### INTRODUCTION

Outer space holds unlimited possibilities for humankind. As our technology, population, imagination and attendant needs grow, it is not difficult to predict that resources available on earth itself would not be able to meet all the demands of human civilization. Once what is available on earth is harnessed optimally, or maybe even earlier, when it is economically and technologically feasible, human race will turn to the outer space – to explore, conquer and expand. Thus, outer space is a symbol of hope of prospects of the future, a dream that each of us nurture deep down.

However, outer space, which is so intricately connected to the survival and development of humanity in the coming centuries is continuously threatened today

by the prospect of extensive weaponisation of the outer space that will render it a battleground where one must tread every moment with the fear of destruction of entire humanity, or even worse – a graveyard full of debris of weapons and destroyed space objects. This threat shatters the visions of outer space as a peaceful province of the mankind,<sup>1</sup> open to scientific and peaceful exploitation,<sup>2</sup> one the mankind today wants to leave behind for the future generations as a glorious heritage.

As strategic initiatives taken by different countries with capability of developing and deploying weapons in the space force

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<sup>1</sup> Treaty On Principles Governing The Activities Of States In The Exploration And Use Of Outer Space, Including The Moon And Other Celestial Bodies, Art. I

<sup>2</sup> *Id.*, Preamble.

the international community to face the question of securing the outer space from military use that would harm long term interests of humanity, it seems the only long term solution lies in international cooperation and confidence building. This process of international cooperation must lead to development of an international legal regime governing outer space, which will be recognized through international instruments such as charters, treaties and declarations embodying a legal framework and the positive obligation of different countries in protecting outer space from weaponisation. Such development will be a judgment given by humankind in favour of peaceful enjoyment of the benefits the outer space offers as opposed to running a risk of 'assured destruction'. In the long run, international space law has to assume the prime role in limiting military activity in outer space, including possible conflicts *a la* Star Wars or an arms race.

As international space law is at present only in a nascent stage it is possible for a debate to arise over its application to specific issues which have already arisen or are likely to arise in the future, such as the use of space for *transit* of a weapon or military warship, engaging in conflict in outer space, etc. Nevertheless, it is already settled that the broad issue of weaponisation of space falls within the ambit of the subject matter of discussion in international space law.

This paper shall explore the importance of Art. IV of the Outer Space Treaty in international law and politics as it stands today. Has the understanding and context of Art. IV changed since its inception? What are the potentials of this provision today? Part I of the paper Ballistic Missile Defense ("BMD") systems and Anti-Satellite ("ASAT") Missile systems will be discussed to explore the ways and purposes, in and for which the outer space maybe weaponised. Part II briefly deals with existing law on armaments and emerging international opinion in relation to Ballistic Missile Defense and Anti-

Satellite Missiles to appreciate the real value of Art. IV of OST in prevention of weaponisation of space. Part III discusses how Art. IV of the OST may successfully cover BMDs and ASATs.

### **PART I: CONNECTING BALLISTIC MISSILE DEFENSE WITH OUTER SPACE**

For any weapon system to attract the application of Space law, it must have a connection with outer space. This part illustrates whether Ballistic Missile Defense ("BMD") and Anti-Satellite Missile ("ASAT") systems are amenable to international space law at all. If yes, whether space law applies to all BMD and ASAT systems or it excludes some of them is shown. This question is answered by reference to the definition of outer space and by resorting to several classifications based on existing weapons or those which may be used in future.

#### **The definition of Outer Space**

There are conflicting definitions on what would constitute outer space. In the 1980s, the former USSR had favoured an arbitrarily fixed distance of 110 km while the US refrained from a fixed delimitation. Some countries have suggested that the *function* of a particular object or activity should determine whether international space law *should apply* to that object or activity.<sup>3</sup> Another definition recognises that outer space begins where the atmosphere ends, and therefore an activity at exoatmospheric levels would be occurring in outer space. While there is no formal delimitation of outer space, it has been argued that state practice indicates an evolving rule of customary international law that earth orbit may be considered part of outer space.<sup>4</sup> For the purpose of this

<sup>3</sup> See UN Doc. A/AC.105/C.2/L.141/Add.6 (April 7, 1983).

<sup>4</sup> Burrus M. Camahan, "The Legality Of A High-Technology Missile Defense System: The ABM And Outer Space Treaties," 78 Am. J. Int'l L. 418 at 423. The geostationary orbit based classification has been emphasized by the United Report of the Committee on the Peaceful Uses of Outer Space, G.A.O.R. A/61/20, Para 206. See also Boleslaw Adam Boczek, International Law: A Dictionary, Scarecrow Press, 2005, *arguing* that state consensus to overflight by satellites and space

paper, a functional definition is adopted. Missile which are stationed or at any point of their trajectory or transit, pass through exoatmospheric levels are treated as being within the domain of space law as per the functional definition.

### **Understanding Ballistic Missile Defense and Anti-Ballistic Missiles**

There is a difference in the terminology adopted in respect of missile defense in the Cold War era from that employed today. Whereas the former involved the usage of the term 'Anti-Ballistic Missile', the term 'Ballistic Missile Defense' is more frequently employed today. Therefore, the terminology requires clarification here. A Ballistic Missile Defense ("BMD") need not always employ missiles to destroy incoming intruder missiles. It may use advanced laser technology or particle-beam weapons, whether ground based, airborne, or space based. Even if such a system is missile based, an increase in the role of non-missile components in surveillance and detection of enemy missiles may have influenced the shift in terminology. Nevertheless, for convenience, a missile based BMD has been called an ABM in this paper.

### **The Classification of BMDs and ASATs: Connection with Outer Space**

The term Anti-Ballistic Missile covers a bevy of weapons and it is far from a homogenous category. They are discernible by resorting to classifications based on features, characteristics, capacity and use. Such classification serves two purposes in this paper. Firstly, it helps to know which categories of ABMs may come within the discourse of space law. Secondly, it further enables one to accommodate certain kinds of weaponry which are not in existence at present, but may be developed in *future* in the discussion so that legal discourse is not flabbergasted by at least the foreseeable developments in technology. ASATs are

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vehicles of other states over their territory has created the rule that the path of transit of such objects constitutes outer space.

functionally different from ABMs in the way that they are used against satellites as opposed to missiles. However, notwithstanding technical differences they will be amenable to most of the classification parameters such as base, range, speed, capacity and purpose. Further, the use of ASATs is *prima facie* comes within the scope of space law as they are deployed against satellites orbiting the earth and the definition of outer space is based on earth orbit. All satellites, on account of being placed in some or the other earth orbit, are within the space law.

The primary classification of Ballistic Missiles is based on the distance at which they can destroy a target. On this basis, Ballistic Missiles are classified into Intercontinental Ballistic Missiles ("ICBMs"), Intermediate Range Ballistic Missiles ("IRBMs") and Short Range Ballistic Missiles ("SRBMs"). Missiles and ABMs are also often classified into strategic, theatre and tactical depending on target range, speed and purpose. Strategic Ballistic Missiles are long-range and travel at the highest velocity.<sup>5</sup> Theater Ballistic missiles have a medium range and travel slower than strategic Ballistic Missiles.<sup>6</sup> They are aimed at destroying a limited localised area of the target territory, say, a particular defence installation. Tactical ballistic missiles are short-ranged and have the least velocity.<sup>7</sup>

ABMs, just like any other missile, may be further classified on the basis of the place they are stationed or launched from, into sea-based (submarine or otherwise), air-

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<sup>5</sup> The definition in the ABM Treaty classifies ABMs based on the nature of the Ballistic Missile they are intended to destroy. It restricts its application to *strategic* ABMs only, leaving out the other categories.

<sup>6</sup> For example, Japan has a Theater Ballistic Missile Defense System, which it has acquired with the co-operation of the US.

<sup>7</sup> It is to be noted that tactical ballistic missiles do not have an exoatmospheric phase as they are designed to hit targets within small distances. Therefore, they may not attract international space law.

based, space-based, or mobile land-based.<sup>8</sup> Space-based ABM systems and non-missile BMDs shall automatically come within the purview of space law.

BMDs may be classified based on the stage at which they strike their target, which may be at its boost, mid-course or the terminal stage. The mid-course phase of all ballistic missiles, except tactical ballistic missiles involves an *exoatmospheric* phase, implying a transit through outer space. The terminal phase is when it *re-enters* the atmosphere.

They may be classified based on the mode in which they destroy the target, that is, whether they rely on the kinetic energy generated by impact, or whether they carry payloads (which may be explosive, biological or chemical). Further, they may be distinguished on the basis of the *number of warheads* that they possess, so that they may destroy single or multiple targets.<sup>9</sup>

The above criteria of classification may be illustrated by examples. The Ground Based Mid-Course Defence of the US is an example which is an *exoatmospheric* missile, striking the target at its mid-course stage and relies on its *kinetic energy* to destroy its target by *impact only*.<sup>10</sup> The Airborne Laser is a non-missile BMD which is air-based (not space based) and strikes at a missile at its boost phase.<sup>11</sup>

From the above discussion, the deployment of ABMs may attract the application of Outer Space Treaty in one of several ways. Firstly, the ABM system itself may be space-based, in which case the ABM may be stationed and launched from outer space. Secondly, ABMs may involve the use of outer space in the course

of transit. If they attack a ballistic missile in the boost phase, at least a portion of their trajectory would be through outer space. Thirdly, it may target an object in the outer space, as in the case of a strike during the mid-course phase of a ballistic missile. The kinetic impact or explosion, in such cases, may also result in space debris, which shall however, not be considered here.

### **Ballistic Missile Defense: Is It Only Defensive?**

A preliminary argument that may pre-empt any further investigation as to the legality of BMDs is based on the notion that they are merely defensive in nature. In fact, this was the argument used to market BMDs. Arms control through BMD was equated with nuclear disarmament.<sup>12</sup> Thus BMDs were proclaimed as not in any way being antagonistic to the discourses on disarmament or peaceful uses of space. However, these statements belie the truth and have been condemned for 'stealing the language and cause' of the peace process.<sup>13</sup> A defense-based justification of a BMD system is fallacious. Firstly, an ABM system has been defined as, "[A] system to counter *strategic ballistic missiles* or their elements in *flight trajectory*... (emphasis added)"<sup>14</sup> This is clearly a purpose-based definition as there is nothing in the weapons system which makes it inherently defensive. Such justification is merely based on the *expected* use of the missile, and *not* on its capability. Depending on the necessity and will it can be very well used for offense. Unless there is an in-built check that prevents it from being so used, it is misleading to identify such a weapons system as purely defensive and ignore its

<sup>8</sup> See Treaty Between The United States Of America And The Union Of Soviet Socialist Republics On The Limitation Of Anti-Ballistic Missile Systems ("ABM Treaty") 1972, Art. V. The treaty is not in force now.

<sup>9</sup> These features are very important in determining WMD capability of such missiles. Refer to Part IV for more elaborate discussion.

<sup>10</sup> Missile Defense- Worldwide, 5<sup>th</sup> Edn., p. 27, available at <http://www.mda.mil/mdalink/pdf/bmdsbook.pdf> accessed 20/07/2008.

<sup>11</sup> *Id.*, at 19.

<sup>12</sup> *Id.*

<sup>13</sup> Gordon R. Mitchell, Japan-U.S. Missile Defense Collaboration: Rhetorically Delicious, Deceptively Dangerous 25-WTR Fletcher F. World Aff. 85 at 90.

<sup>14</sup> Treaty Between The United States Of America And The Union Of Soviet Socialist Republics On The Limitation Of Anti-Ballistic Missile Systems (hereinafter "ABM Treaty"), Art. II.1.

possible offensive use.<sup>15</sup> In fact, the same ABM technology may nevertheless be adapted for offensive purposes. Secondly, ABM systems, that is, missile based BMDs, are materially no different from other kinds of ballistic missile systems as they generally comprise of similar or the same components- interceptor missiles, launchers, radars and satellite sensors.<sup>16</sup>

## **PART II: LEGAL FRAMEWORK OUTSIDE THE OST: APPLICABILITY OF SPECIFIC ARMS CONTROL INSTRUMENTS**

The ABM Treaty of 1972 between the US and the former USSR restricted the deployment, development and testing of ABMs in the Cold War era. Although the treaty was a bilateral measure, it was to a large extent sufficient in controlling the proliferation of ABMs and preventing an arms race at that time. It expressly prohibited the parties from testing, developing or testing *space-based* systems or components.<sup>17</sup> Following the break-up of the former USSR there had been argument as to whether the treaty still survived between the US and the successor states of the USSR. Such speculation as to the status of the ABM Treaty was laid to rest when the US formally withdrew in 2001, thereby indicating that it treated the treaty as being in force even after the break up.<sup>18</sup>

<sup>15</sup> In fact, seemingly harmless civilian space-launch programs can be used to disguise potentially dangerous ballistic missile programs. See Paul Kerr, 'Code of Conduct Aims to Stop Ballistic Missile Proliferation', available at [http://www.armscontrol.org/act/2003\\_01-02/icoc\\_janfeb03](http://www.armscontrol.org/act/2003_01-02/icoc_janfeb03) accessed 01/08/08.

<sup>16</sup> Art. II.1 of the ABM Treaty identified only interceptor missiles, launchers and radars as components of an ABM system at that time. Now, such a system may include satellite-based sensors and guiding devices. E.g., Ballistic Missile Defense Space Sensors mounted on low earth orbit ("LEO") satellites. See Missile Defense-Worldwide, 5<sup>th</sup> Edn., p. 23, available at <http://www.mda.mil/mdalink/pdf/bmdsbook.pdf> accessed 20/07/2008.

<sup>17</sup> ABM Treaty, Art.V.

<sup>18</sup> In fact, a concern had been raised whether the US had actually withdrawn in terms of Art. XV of the ABM Treaty which permitted withdrawal in the event that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests, thereby recognising the principle of *rebus sic stantibus* as embodied in Art.62.1 of the Vienna Convention on the

The Strategic Offensive Reductions Treaty, 2002 (also known as the Moscow Treaty) signed between the USSR and the US after the latter's withdrawal from the ABM Treaty seeks to control *strategic nuclear warheads* of the state parties.<sup>19</sup> Therefore, it brings within its ambit those ballistic missiles (and ABMs) which use nuclear warheads. Unfortunately, the Moscow treaty is also a bilateral instrument. Its application is more limited as it shall last only till 2012, unless extended by further agreement by either parties<sup>20</sup> and can be terminated by either party after giving a three month notice, without requirement of any specific reasons, whether or not they are related to a fundamental change in circumstances or otherwise.<sup>21</sup> The application of the Strategic Arms Reductions Treaty ("START I"), which extensively deals with ballistic missiles, including those deployed from space-launch facilities,<sup>22</sup> is another bilateral treaty between the US and Russia. A space-launch facility is defined as a specified facility from which objects are delivered into the upper atmosphere or space using ICBMs or SLBMs ("Submarine Launched Ballistic Missiles"),<sup>23</sup> and may not necessarily be space-based. The treaty shall remain in force until 2009 unless superseded by a *subsequent agreement or extended*.<sup>24</sup> By virtue of the Thirtieth Agreed Statement to the Treaty, the parties have *not foreclosed* the possibility of launching ICBMs and SLBMs *for delivering objects into the upper atmosphere or space* from waterborne vehicles other than submarines

Law of Treaties, 1969. See Frederic L. Kirgis, 'Proposed Missile Defenses and the ABM Treaty' available at <http://www.asil.org/insights/insigh70.htm> accessed 23/07/08.

<sup>19</sup> Strategic Offensive Reductions Treaty, 2002, Art.I.

<sup>20</sup> *Id.*, Art.IV.2.

<sup>21</sup> *Id.*, Art.IV.3.

<sup>22</sup> See The Treaty on Limitation of Strategic Offensive Arms, Arts. II, III, IV and V.

<sup>23</sup> START I Treaty, Definitions Annex, 104. (43) at <http://www.fas.org/nuke/control/start1/text/defini.htm#104> accessed 20/07/08.

<sup>24</sup> The Treaty on Limitation of Strategic Offensive Arms, Art. XVII(2).

or from airplanes other than heavy bombers or former heavy bombers, although such use would be in after the party states reach an agreement.<sup>25</sup> ASATs are not regulated under the above regime, unless they are clothed with nuclear warheads or are designed to impact their targets only with the help of ICBMs and SLBMs from earth.

The Start I Treaty states that the parties shall not use ICBMs or SLBMs for delivering objects into the upper atmosphere or *space* for purposes inconsistent with existing international obligations undertaken by the Parties,<sup>26</sup> thereby referring to obligations of parties under international space law.

### **Beyond Law: the changed geo-political challenges**

It is to be noted here that control of arms race and weaponisation of outer space through bilateral treaties were effective and justified in the cold war era, when the only countries with adequate technology or the capability of developing such capability were USSR and US. The end of cold war has markedly changed the face of geo-politics and diplomacy. Naturally the question that comes to one's mind is whether the same bilateral mechanism to contain arms race as well as weaponisation will work today.

Earlier, the dark threat of Mutually Assured Destruction was sufficient for both the sides to not engage in further weaponisation as new weapons would have given minimal strategic advantage if at all. United States tried to change the situation by inventing ABMs, but USSR responded with Multiple Independent Re-entry Vehicle and thus the threat of MAD prevailed. This mutual tension also forced both the countries to recognise the interest in not weaponising the outer space which would have augmented the threat under which they lived. This also influenced both

US and USSR to bring about international control mechanisms such as the ABM treaty at that time. MAD was a dead end for arms race; when both the countries could destroy the other in retaliation to any attack, developing or deploying new weapons, be it in the outer space, didn't have much incentive compared to the augmentation of threat it would have brought along.

However, with the end of Cold War era, things took a different turn. Firstly, the relationship between USA and Russia is no more of the same tension as it was, and the threat of MAD has been left behind, having lost its relevance.<sup>27</sup> Even if any threat existed, both the countries have agreed to reduce their weaponry through the Moscow Treaty and other confidence building measures. The arms race is no more between Russia and USA.

However, this does not mean that arms race has become a non-existent threat in the 21<sup>st</sup> century. Rather now it is regional interests that propel arms race. Competing strategic powers such as India-Pakistan (both the countries having nuclear capability have been testing ballistic missiles and India is pursuing its own ABM development programme) have been engaged in a de facto arms race for the past decades.<sup>28</sup> So has been the case with

<sup>25</sup> See START I, Annex, Agreed Statements available at <http://www.fas.org/nuke/control/start1/text/agreed.htm#30> accessed 22/07/08.

<sup>26</sup> START I, Art.V.15.

<sup>27</sup> One reason given by the US for withdrawing from the ABM Treaty was that it was no longer required as from 1991 its relationship with Russia had been co-operative rather than adversarial. See Richard Boucher, U.S. Department of State, Text of Diplomatic Notes Sent to Russia, Belarus, Kazakhstan, Ukraine (Dec. 14, 2001) at <http://www.usembassy.org.uk/acda283.htm>. Secondly, the US succeeded in quelling the anxiety of Russia and China at the time of its withdrawal from the ABM Treaty in 2001 by simply stating that its withdrawal and missile defense buildup was not directed at them. See Kerry M. Kartchner, 'Missile Defenses And New Approaches To Deterrence', US Foreign Policy Agenda, available at <http://www.iranwatch.org/government/US/DOS/us-dos-foreignpolicyjournal-0702.pdf> accessed 21/07/08.

<sup>28</sup> India plans to have a BMD system at the latest by the middle of the next decade. See 'India Developing Ballistic Missiles To Destroy IRBMs, ICBMs' available at <http://www.india-defence.com/reports-3683> accessed 20/07/08. Another site states the date to be 2015. See Neha Kumar, 'India Ballistic Missile Defense Capabilities & Future Threats', at

countries such as Israel and the Arab nations and North Korea and Japan.<sup>29</sup> These countries having strategic ambitions fuelled by their regional interest as well as security concerns due to hostile neighbours have developed advanced weaponry including ballistic missiles and have proceeded to either develop or acquire BMD systems. ASAT capability also has expanded beyond the two superpowers with China testing an ASAT missile in 2007.<sup>30</sup> It is a matter of fact that similar strategic interests will propel and at times compel nations to engage in an arms race, in order to maintain a balance of power. The possibility that such an arms race may extend to outer space cannot be ruled out. Therefore, it is at this juncture that the requirement of international law to ensure that there is no necessity of an arms race is felt. Binding obligations of nations to one another arising from an international law regime can successfully thwart the extension and amplification of such moves of one-upmanship to weaponise or strike targets in space. Lastly, the risk of proliferation of weapon systems including that of missile technology and nuclear weapons is much higher today and many more countries hold keys to the technology.<sup>31</sup> This leads

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<http://www.indiapost.com/article/perspective/1625/>  
accessed 20/07/08.

<sup>29</sup> Japan has built a Theater Ballistic Missile Defense system with the aid of the US. See Gordon R. Mitchell, Japan-U.S. Missile Defense Collaboration: Rhetorically Delicious, Deceptively Dangerous, 25 Fletcher F. World Aff. 85, 89 (2001). US also plans to provide a BMD to Poland. See 'US delegation to woo Czechs at missile shield seminar', at

[http://www.spacewar.com/reports/US\\_delegation\\_to\\_woo\\_Czechs\\_at\\_missile\\_shield\\_seminar\\_999.html](http://www.spacewar.com/reports/US_delegation_to_woo_Czechs_at_missile_shield_seminar_999.html) accessed 21/07/08.

<sup>30</sup> 'Chinese Anti-Satellite Capabilities' available at <http://www.globalsecurity.org/space/world/china/asat.htm> accessed 21/07/08.

<sup>31</sup> Although a legal framework to control proliferation of Ballistic Missile Technologies exists in the form of two instruments- the Missile Technology Control Regime ("MTCR") and the Hague Code of Conduct on Ballistic Missiles, it is incomplete in its coverage. The MTCR, in its attempt to restrict proliferation of missiles is limited in its application to export control measures only, and has only 33 members. On the other hand, the Hague Code of

to a higher danger of misuse or irresponsible use of dangerous weapons or deploying of the same in the space.

### **A new legal framework: feasible?**

The Herculean task facing the international community now is to come up with a legal framework to meet these challenges. International opinion to this effect is considered below.

### **The Prevailing Opinion of Nations**

Since 1981, the General Assembly has consistently adopted every year, a resolution on the prevention of an arms race in outer space (PAROS).<sup>32</sup> The resolution reaffirms the belief of states that the legal regime applicable to outer space does not of itself guarantee the prevention of an arms race in that environment, and that there is a need to *consolidate, reinforce* and *enhance* the effectiveness of the existing regime.<sup>33</sup> It states that further measures are required to prevent an arms race in outer space<sup>34</sup> and calls upon states, especially to those with major space capabilities to proactively contribute to such an objective to refrain from actions against this objective.<sup>35</sup>

### **New Space Treaty proposed jointly by China and Russia**

China and Russia had jointly drafted a new Treaty on the Prevention of the Deployment of Weapons in Outer Space, the Threat or Use of Force Against Outer

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Conduct for Ballistic Missile Proliferation of 2002 restricts proliferation by requiring states to show *restraint* in their *own missile programs* and has a membership of over 120 states as per UNGA Res. A/RES/60/62. However, the Hague Code is only politically binding but does not provide for recourse to any legal mechanism in the event of violation of any of its requirements. See generally Paul Kerr, 'Code of Conduct Aims to Stop Ballistic Missile Proliferation', available at [http://www.armscontrol.org/act/2003\\_01-02/icoc\\_janfeb03](http://www.armscontrol.org/act/2003_01-02/icoc_janfeb03) accessed 01/08/08.

<sup>32</sup> Li Daoyu, Prevention of the 'Weaponization of and an Arms Race in Outer Space: An Urgent Task With No Time to Delay' available at [http://www.fmprc.gov.cn/eng/wjbj/zjzg/jks/kjfywj/t18956\\_9.htm](http://www.fmprc.gov.cn/eng/wjbj/zjzg/jks/kjfywj/t18956_9.htm) accessed 03/08/08. See

<http://disarmament.un.org/vote.nsf> for a list of the sessions where the PAROS resolution has been passed.

<sup>33</sup> 'Prevention of an Arms Race in Outer Space', Para 2, UNGA A/RES/62/20,

<sup>34</sup> *Id.*, Para 3

<sup>35</sup> *Id.*, Para 4.

Space Objects before the Conference Disarmament ("CD") in a Working Paper.<sup>36</sup> The same has been presented to the CD in February 2008.<sup>37</sup> They noted the absence of any legal impediments to the deployment of anti-satellite weapons.<sup>38</sup> The parties to the new treaty would be under the obligation not to place in orbit around the Earth any objects carrying *any kinds of weapons*, install such weapons on celestial bodies, or *station* such weapons in outer space *in any other manner*.<sup>39</sup> This is in contrast to the OST which merely prohibits placing in orbit *weapons of mass destruction* only.<sup>40</sup> Parties to the new treaty would not to resort to the threat or *use of force against outer space objects*. This provision is palpably aimed at regulating the use of ASATs. The draft treaty, unlike some other arms control treaties already discussed, is to be of permanent duration and shall permit withdrawal, like the ABM Treaty, only if extraordinary events, related to the subject matter of this Treaty, jeopardize the supreme national interests of a party state.<sup>41</sup>

### **The stance of the United States**

The US withdrew from the ABM Treaty in 2001 and actively started pursuing a National Missile Defense program. The US National Space Policy of 2006 stated that the United States should "preserve its rights, capabilities, and *freedom of action* in space" and "*oppose* the development of *new legal regimes or other restrictions that seek to prohibit or limit U.S. access to*

*or use of space*."<sup>42</sup> The reason for rejecting any such regulation as given by US administration was that there was no need to do so in the absence of an arms race.<sup>43</sup> The US has also been consistently voting against the PAROS resolution in the General Assembly from 2005 to 2007.<sup>44</sup> The US has remarkably increased its expenditure on its National Missile Defense Program to \$12 billion in the year 2008, which is three times its expenditure on ABM systems in any year during the Cold War,<sup>45</sup> justified by the US as being based on a perceived threat of a missile attack from Iran.<sup>46</sup>

In light of the above discussion, it is again emphasised that the legal and political mechanism as existing is not sufficient to deal with the global crisis that the threat of weaponisation of outer space poses. While a majority of countries including 2 major space superpowers, that is Russia and China would like to see a new legal regime for controlling military activity in space to come into being, the US is not agreeable to put any further restrictions on its potential military use of space rendering all efforts to develop any new international legal framework unviable and illusory. Unless the United States subscribes to such a treaty, the other space exploring nations would also not want to foreclose their options. Thus, at the moment it seems that further development of international law with respect to weaponisation towards prevention of weaponisation of outer space or arms race for that matter, has ended up in a blind alley. While the way forward is blocked, in such a situation, one must fortify the existing limitations on weaponisation and arms race. Many find

<sup>36</sup> 'Russia-China CD Working Paper on New Space Treaty', June 2002, available at <http://www.acronym.org.uk/docs/0206/doc10.htm> accessed 02/08/08.

<sup>37</sup> Prevention of an Arms Race in Outer Space, available at <http://www.fmprc.gov.cn/eng/wjbj/zjzg/jks/kjlc/wkdd/t410757.htm> accessed 02/08/08.

<sup>38</sup> 'Russia China Working Paper', *supra*.

<sup>39</sup> Draft Treaty on the Prevention of the Deployment of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects, Art.III.

<sup>40</sup> Outer Space Treaty, Art.IV.

<sup>41</sup> *Id.*

<sup>42</sup> U.S. Office of Sci. & Tech. Council, United States National Space Policy 1-2 (2006), available at <http://www.ostp.gov/html/us%20National%20Space%20Policy.pdf>.

<sup>43</sup> *Id.*

<sup>44</sup> Developing a new outer space treaty, available at <http://www.reachingcriticalwill.org/legal/paros/ostreaty.htm> accessed 01/08/08.

<sup>45</sup> Joseph Cirincione, 'Incredibly Shrinking Missile Threat', Business & Economy, 26 June 2008 at p.70.

<sup>46</sup> *Id.*



the obvious ray of hope in Article IV of the Outer Space Treaty.

**PART III: IMPLICATION OF ART. IV OF  
OST ON BMD, ABMS, AND ASAT:  
LEGAL ISSUES**

Drafted by the United Nations Committee on Peaceful Uses of Outer Space (COPUOS), the *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies* (Outer Space Treaty) is the most comprehensive treaty governing use of the outer space.<sup>47</sup> It covers all aspects of exploration and use of outer space. The treaty has been signed by one hundred seven nations, including all of those with active space programs. It entered into effect on October 10, 1967. Art. IV of the Outer Space Treaty is a crucial legal instrument that envisages peaceful use of the outer space and aims at curbing international arms race in outer space. In fact it has been has been praised as the most important arms control document after CTBT.<sup>48</sup>

**Analysis of the text of art. IV**

Art. IV has two paragraphs. The first one is written in a negative language- it deals with nuclear weapon or *any other kind of weapons of mass destruction* and expressly prohibits

a) placing of such weapons on orbit around earth, b) installing such weapons on celestial bodies and c) stationing such weapons in any manner on the outer space. The 2<sup>nd</sup> paragraph of the article, a) confers positive obligations on the signatories to use the moon and other celestial bodies exclusively for peaceful purposes and b) forbids establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies. The remainder of the paragraph excludes

<sup>47</sup> Jonathan N. Halpern, *Anti-Satellite Weaponry: The High Road to Destruction*, 3 B.U. Int'l L. J. 167, 180 (1985)

<sup>48</sup> Gorove, *Arms Control Provisions in the Outer Space Treaty: A Scrutinizing Reappraisal*, 3 Ga. J. Int'l & Comp. L. 114 (1973).

the use of military personnel for scientific research or for any other peaceful purposes and of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies from the prohibition. It is only the first paragraph that is relevant to us for it places a bar on certain kind of weapons and this may, if at all, be applicable to BMD, ABMs, and ASATs.

**Deploying BMD/ASAT in a space station, on the orbit around earth or other celestial bodies, or on a celestial body**

Art. IV expressly prohibits such deployment *only if* BMD or ASAT carries nuclear weapons or if they will fall within the category of weapons of mass destruction. It is easy to identify BMD or ASAT involving nuclear weaponry as banned by this provision; however, the issue of what consists of weapon of mass destruction can be contentious and maybe interpreted in different ways as the definition is not provided in the document itself. If it is to be understood that conventional weapons are permissible, would all non-nuclear weapons be allowed on outer space? It is clear from the text of the provision that the intention of the parties is to ban more than just nuclear weapons. Therefore, one must look for a definition of weapons of mass destruction elsewhere.

According to a resolution adopted by the U.N. Commission for Conventional Armaments, weapons of mass destruction include lethal chemical and biological weapons having characteristics comparable in destructive effect to those of the atomic bomb.<sup>49</sup> Thus, it is clear that any missile that carries nuclear, biological or chemical warhead will come under the prohibition of Art. IV. However, it is not reasonable to restrict the definition to these three kinds of weapons only as other kinds of weapons which may cause mass destruction can be developed. The ideal of Art. IV was not to only prevent existing

<sup>49</sup> Resolution Adopted by the Commission for Conventional Armaments, U.N. Doc. S/C.3/32 (1948)

kind of weapons from finding their way into space, but also preventing future weapons of mass destruction, and that is the reason it does not provide a list of weapons that are prohibited. For instance, if a nation deploys a weapon in the space that destroys thousands of lives by the use of radiological means or a weapon based on nanotechnology which causes similar levels of destruction, it would certainly defeat the purpose of Art. IV.

Several UN General Assembly Resolutions<sup>50</sup> and reports adopted by it<sup>51</sup> acknowledge that there can be new types of weapons of mass destruction other than these three types. Such weapons will be identified by the criterion that they would have similar effects in terms of destruction. Thus, the real parameter that decides whether a weapon is a weapon of mass destruction is the level of damage it causes. No one has defined the exact threshold of destruction that would qualify a weapon as WMD. However, some scholars take an inclusive approach towards defining WMD. One such scholar states: "While there is no indication in the Treaty as to how many people must be affected to constitute a weapon of mass destruction, a group of 20 to 30 people or less probably would not constitute such a mass. If on the other hand, bacteriological and chemical weapons were used, even against a small group, then these weapons would seem to fall under the category of weapons of mass destruction."<sup>52</sup>

This actually emphasises it is the *capability of destruction* of a weapon that determines whether it is WMD or not. Therefore, any BDM or ABM that can be used in such a way to cause wide spread

<sup>50</sup> See, e.g. General Assembly Resolution on Prohibition on the Development and Manufacture of New Weapons of Mass Destruction and New Systems of Such Weapons, UN Doc. A/RES/51/37.

<sup>51</sup> General Assembly resolution on Prohibition of the Development and Manufacture of New Types of Weapons of Mass Destruction and New Systems of such Weapons, A/C.1/45/L.27/Rev.1.

<sup>52</sup> Gorove, Arms Control Provisions in the Outer Space Treaty: A Scrutinizing Reappraisal, 3 Ga. J. Int'l & Comp. L. 114 (1973).

damage can be argued to be covered under this article.

At the first impression, most BMD systems, ASAT or ABMs are to be directed towards a missile or satellite and not towards masses of people. However, in reality such missiles are quite capable of being used like conventional missiles if needed; and thus, many of them have capability of inflicting damage that would qualify them as WMD.

Payload based missiles that depends on an explosion caused at time of impact to destroy the target will more easily fit into the category of WMDs if the explosion is big enough to kill a large number of people. However, there are still other non-payload missiles that use the thrust of its impact<sup>53</sup> and weapons that depend on laser or particle beams to destroy missile or satellites.<sup>54</sup> Are such weapons permitted by Art. IV to be deployed in the space?

In reality, such weapons also can be used upon strategic targets such as nuclear reactors, gas stations, skyscrapers with hundreds of floors to cause death of multitudes of civilians. If used in such a way, all these weapons have WMD capability and thus Art. IV should be applicable to them prohibiting deployment of such weapons in outer space.

Another pertinent question is whether the moon is covered by the first paragraph of art. IV. One may argue that while in every other places in the article the moon has been separately mentioned along with other celestial bodies, only in this part moon is not mentioned. Is the intention to leave out moon from the application of this part? Such a proposition would not be consistent with the objectives and purpose of the article which is manifest from its general language and objectives of the

<sup>53</sup> E.g. The Kinetic Energy Interceptor of the Multiple Kill Vehicle of the United States. See Missile Defense Agency, Missile Defense- Worldwide, 5<sup>th</sup> Edn., p. 29, available at <http://www.mda.mil/mdalink/pdf/bmdsbook.pdf> accessed 20/07/2008.

<sup>54</sup> E.g. The Airborne Laser. See Missile Defense Agency, supra, p.19.

treaty itself. If one is allowed to deploy weapons no where in the space but only on the moon, which is mandated to be used in the second paragraph itself for exclusively peaceful purposes, then the whole purpose of the article fails.

### **Whether these weapons are allowed to travel through the space**

While no Nuclear Weapons or WMD can be stationed in the outer space, there is no express bar on travelling of such weapons in outer space. Many ICBM and strategic ballistic missiles have an exo-atmospheric phase in their journey and at that time they can be said to travel through space. Apart from that, are nuclear weapons and WMDs allowed to travel through space to hit a target deep in the outer space?

It is to be noted that no nuclear weapon or WMD can be placed in an orbit around earth. This provision may potentially bar use of any weapon that has to be placed into a fractional orbit around the earth to hit the target as long as the usage of the word 'orbit' covers fractional orbits as well.

On the other hand, understanding the word 'stationed' may prove tricky. In reality, nothing in space is ordinarily fixed, any object in deep space is perpetually travelling. The phrase 'station in outer space in any manner' is wide<sup>55</sup> and is meant to cover all objects moving in a way or the other in outer space. In that case, the provision will naturally cover all the weapons in outer space even if they are travelling through the space.

Thus it is shown that reasonable interpretations of Art. IV will lead to a prohibition on sending any nuclear weapon or weapon of mass destruction, which includes ABMs carrying nuclear arsenal or BMDs and ASAT having WMD capability, into outer space even if they are travelling momentarily through it.

### **CONCLUSION**

Ballistic Missile Defenses and Anti-Satellite Missiles in most cases attract the application of space law. Although there have been no legal instruments to control ASATs, BMDs have been controlled through specific arms control treaties. These treaties are bilateral and may have only sufficed in the Cold War era. Post the Cold War era, geopolitical realities are different and require multilateral efforts to prevent an arms race in space. Also, except for the ABM Treaty and the draft treaty proposed by China and Russia, the arms control treaties automatically terminate after a certain period of time and permit a nation to withdraw from its obligations *merely* by giving a notice, without any reference to a *fundamental* change in circumstances. While there is evidence of a desire of nations to create additional legislation to prevent weaponisation of space the vehement opposition of the US, a major space power, to any further regulation of arms control in space leaves one with no other resort except Art. IV of the OST. These observations and concerns hold true for BMDs and ASATs notwithstanding the terminology of defense or non-human target is used by the developers of these systems. It is time that international legal discourse on disarmament takes notice of the simple fact and acts upon it. The deployment of such kind of weapons in outer space is not justified by the argument that they are not violative of peace or aggressive. The question is of preserving sanctity of outer space as a peaceful province of humankind and any military use of the same which may in any way compromise future interests of humanity is totally unacceptable.

<sup>55</sup> The meaning of the phrase would have been narrower had a point of reference been mentioned in the provision. In absence of such a reference, it is reasonable to assume that the intention of the parties to the treaty was not to narrow down the provision in such a way.