

Antiterrorisme Sans Frontières: Using the Global Commons of Space for a Common Response to a Common Threat

Kiran KRISHNAN NAIR
Research Fellow, Centre for Airpower Studies, New Delhi, India

The sceptre of terrorism is on the rise across worldwide and affects the entire globe. The recent Paris terrorist attacks, for instance, were a dastardly act not just on Paris or France but on all of humanity, as indeed is any terrorist strike across the world. The threat is common and demands a common response by all humanity. One element common to most of the terrorist attacks worldwide are the extraordinary levels of communication, coordination and networking, in part enabled by space capabilities. The global commons of space are inherently international in character as also is terrorism. Thus domestic responses would not suffice to address them. This Perspective explores the international options for inhibiting the misuse of space capabilities under the aegis of an established international body like the United Nations.

1. Introduction

Terrorist strikes across the world are occurring with increasing regularity. Every month in the year 2015 witnessed a terrorist attack in one part of the globe or another. In fact, the previous year ended with attacks on Paris and Beirut in November, California in December. The new year began with attacks in Pathankot, Tel Aviv, Jakarta, Brussels and more incidents in other parts across the globe. The attacks contain the typical terrorist signature of ruthlessness and cowardice in targeting unsuspecting, unarmed people going about their day-to-day chores. Equally evident is the level of planning, coordination and execution in the conduct of most terrorist attacks. The state, by contrast, is caught off-guard or left in the dark about the specificities of upcoming threats – even at times of increased alertness. State responses are typically driven by shock and chaos rather than the application of precise and deliberate force to contain and control issues. The recent spate of attacks – in their planning, coordination and execution – mirror the Mumbai attacks of 2008 in India when coordinated groups of terrorists selectively targeted people.¹ Quite unfortunately,

the nightmare has just about begun unfolding and the possibility of terrorists striking elsewhere in the west, or indeed anywhere in the world at any time seems no longer remote. On the other hand, the initial shock notwithstanding, states do get together to inflict massive punishment on the perpetrators of the attack. However, the response is but a reaction to terrorist action. This paper attempts to explore pre-emptive options to stall, limit and contain terrorist acts in the future. In doing so, it specifically explores the role inadvertently played by space in offering a platform for terrorism-related activities. Additionally, an exploration of the potential role space assets can play in detecting, preventing and mitigating the damage done by terrorism is offered.

2. How Terrorists Abuse Space Capabilities

Across the world, the common theme evident in all terrorist activity ranging from planning to financing and attack is effective communications, coordination and networking. The above three factors draw on the fountain head of the cherished ideals of liberty, equality and fraternity that are the basis of good living and are promoted and provided by civilised states to their citizens. States enable a

¹ Ref Press Trust of India, “Paris Terror Attack very Similar to Mumbai’s 26/11: US Security Experts” Washington, Nov14, 2015 at <http://www.ndtv.com/world->

[news/paris-terror-attack-copycat-mumbais-26-11-us-security-experts-1243282](http://www.ndtv.com/world-news/paris-terror-attack-copycat-mumbais-26-11-us-security-experts-1243282) accessed on Nov 14, 2015.

variety of facilities for easy, cheap and effective communications, coordination and networking to enable business, transportation, welfare etc. On the other hand, terrorists abuse these facilities to kill, injure and cause destruction. Breaking the backbone of the afore-mentioned factors of communication, coordination and networking for terrorist uses specifically is likely to cripple if not altogether destroy the efficacy of their activities worldwide.

However, breaking the backbone is a complex and tough task that demands international cooperation due to the inherently international character of the prime factors involved. Space capabilities are inherently international in character and play a seminal role in enabling the communication, coordination and networking of everybody, including terrorists. For instance, the inherent ease of use and accuracy of freely available Global Navigation Satellite Systems (GNSS) provided by a variety of nations make them immensely popular to pilots, hikers, motorists, travellers and millions of others across the globe. But, unlike average people who use these systems conventionally to travel faster and communicate better, terrorists employ them for their nefarious acts. For instance, terrorists used GPS receivers to reach their location during their recent attacks in India.² A week prior to the Paris attack, German police stopped a car crammed with weapons in a secret compartment that had Paris set as the destination on the driver's satellite navigation.³ Satellite navigation was also used in the Mumbai attack when the terrorists came by sea and is regularly used by pirates on the Somali coast to perpetuate maritime terrorism. Terrorists use standard devices like GNSS receivers and free satellite imagery to infiltrate borders, to conceal and relocate their weapons and resources hidden under ground in forests, swamps, under snow, river beds etc. and to reach their destination. Once inside, GNSS enabled Geo-location, position and other Geographic Information Systems (GIS) tools enable route planning, equipment and logistics

coordination etc. allowing them to reach their precise areas of interest, coordinate their activities and execute attacks. Apart from GNSS, satellite communication (SATCOM) phones, due to their ease of use, relative obscurity and inherent efficiency enable the requisite communication, coordination and networking essential to give effect to their nefarious designs and acts⁴. Terrorists also understand the utility and reach of modern communications, including its various facets ranging from the ubiquitous social media to space enabled satellite communications, particularly TV broadcast and communications and employ the same for their propaganda. Events of the recent past indicate that terrorists are quite adept at using the entire spectrum of modern technology to avoid state intelligence and security forces and strike unsuspecting, unarmed people going about their daily lives. Something as innocuous as Sony's PlayStation-4 is also put to use by terrorists for networking securely amongst themselves.⁵ The defining factor is a radically different thought process that seeks to abuse readily available civil facilities and put them to nefarious uses. The second defining aspect is shock; in most cases, the possibility of such misuse of civil facilities is unprecedented as also unanticipated, similarly the event is neither foreseen nor expected and hence state and society are taken unawares and are at a loss as to how to react. The media also thrives on shock and sensationalism and thus by default and design, terrorist use the reach and efficacy of modern communications, particularly satellite TV and broadcast to commit their heinous acts and also publicise them across the world in minutes. Recent reports by the German media that European satellite operators inadvertently enabled terrorists to upload propaganda, exchange information and possibly even prepare terrorist attacks⁶ also attest to the gravity of the issue.

Coupled with the international character of space capabilities is the equally international character of terrorism. For instance, terrorist groups comprise of terrorists of many hues and nationalities with little

² See Pravin Swami, "US to PM Nawaz Sharif: GPS ties Gurdaspur Strike to Pakistan" , *Indian Express*, New Delhi 27 Oct 2015 at <http://indianexpress.com/article/india/india-news-india/us-to-sharif-gps-ties-gurdaspur-strike-to-pakistan/> and news site of Live India, " Terrorists armed with AK-47s GPS" Live India, 03 Jan 2016 at <http://liveindia.in/pathankot-attack-terrorist-armed-ak-47s-gps> accessed on 02 Feb 2016.

³ See David Gilbert and Abigail Abrams, "Paris Terror Attack: Intelligence Failure is not Snowden's Fault but a breakdown of Communication and Cooperation" *International Business Times*, 15 Nov 2015 at <http://www.ibtimes.com/paris-terror-attack-intelligence-failure-not-snowdens-fault-break-down-communication-2185255> accessed on 10 Feb 2016.

⁴ For a more comprehensive appraisal of terrorist's use of satellite communication, see Kiran Krishnan Nair, "

Expanding Space Security to contain SATCOM misuse by Terrorists, Narcotraffickers, Criminals and other non-state actors" *Annals of Air and Space Law*, Mc Gill University Publications, Montreal 2015 at <https://www.bookstore.mcgill.ca/annals-of-air-and-space-law-2014>

⁵ See Wesley Yin Poole, "Sony responds to claim PS4 used for terrorist communications" *EUROGAMER.net* dated 16 Nov 2015 at <http://www.eurogamer.net/articles/2015-11-16-sony-responds-to-claim-ps4-used-for-terrorist-communications>

⁶ Ref Nicolai Kwasniewski, "European Satellites: How Islamic state takes its terror to the web", *Spiegel Online*, 04 Dec 2015 at <http://www.spiegel.de/international/world/islamic-state-uses-satellite-internet-to-spread-message-a-1066190.html> accessed on 12 Jan 16.

or no national affiliation. The planning for a terrorist strike may be done in a particular country, the logistics would be arranged in another and the attack would take place in another country. Their targets are ever-changing as are their sanctuaries. This fluid international apparatus of terrorism uses the equally fluid nature of space capabilities, particularly earth observation, GNSS and SATCOM mixed with local ingenuity to further its activities across the globe. To comprehend the complexity and potential of this mix, it would be essential to go into the issue in some more detail and the same is attempted below.

To begin with, organized terrorist activity requires enormous funding and the same is normally undertaken by using a mix of *Hawala* and SATCOM. *Hawala* is an ancient eastern means of money transfer based on trust with no documentation, no physical transfers, no legal instruments, and no trail.⁷ This is mixed with SATCOM because of its global reach, relative obscurity, portability, and ease of use in addition to the absence of a need to depend on local telephone or communication service providers. The inherent properties of SATCOM and *Hawala* provide an almost impenetrable cover for money laundering and financing terrorism. It increasingly complicates efforts of intelligence and law enforcement agencies to detect and disrupt illegal money transactions, transfers and funding. Numerous instances of the efficiency of this lethal combination exist. For instance, approximately half of the US\$ 250,000 spent on the 9/11 attack in the U.S. was transferred by the above means to Al-Qaeda terrorists in the U.S.⁸ A terrorist attack of the scale of the Paris attack demands a significant amount of funding. Movement of money by conventional means could not have avoided the French intelligence and security agencies and hence it would be safe to surmise that the standard mix of *Hawala* and SATCOM was likely used.

Apart from financing, SATCOM plays a significant role in the planning, execution and aftermath of terrorist strikes as evidenced in the Mumbai attack. The inherently obscure nature of SATCOM ensured that intelligence and security agencies across the world had no inkling of the planned attack. During the conduct of the act, the ubiquitous and yet obscure nature of SATCOM ensured that it was not possible to immediately identify the service provider or the precise frequency and take corrective action like blocking the

transmissions and intercepting conversation. Consequently, throughout the act, the terrorists continued to communicate amongst themselves and also obtain uninterrupted instructions from their cross border handlers. The levels of coordination in the recent strikes across the world point to an increasing use of modern technology by terrorists to further their aims and acts. As technologies refine further and SATCOM, free imagery, navigation devices etc. become increasingly commonplace they will be put to further use by terrorists. The above underscores the need to take cognisance of the problem right now and nip the issue in the bud.

3. Exploring the Limitations that Bind States

The state on the other hand, in most such cases is burdened by the immediate fall-out of a terrorist attack. The complexities are enormous; the state has to deal with the shock effect, adversaries are indistinguishable, collateral damages inhibit force application, the resources are stretched and pressures to contain the fall-out and aftermath are high. The state looks inward to deal with the vast panoply of issues that allowed such an event to take place and, to take measures to avert the same in the future. In the process, the event gets localised; it becomes a Paris or Mumbai attack rather than a global attack. An international attack using international means becomes a domestic problem and gets a domestic response which always attempts to treat the symptom rather than the malaise. For instance, the Indian response was to kill the terrorists and ban the SATCOM service provider. Before long, the French would also bring down the perpetrators of the Paris attack. But the moot question is would it stall or contain future attacks? The answer is a simple and straightforward no. A new crop of terrorists would come up and would use the facilities provided by the state to perpetrate massacre and mayhem on unsuspecting and unarmed people living their daily life. The malaise remains untreated. To guarantee the life and liberty of citizens it would be essential for states to, in addition to expanding domestic security, also get together for an international response to terrorism.

4. Exploring Options for an International Response to Terrorism

Space capabilities are inherently international in that SATCOM beams spill over a variety of nations,

⁷ For details on *Hawala*, see Major Robert Feldman, "Funds Transfers – African Terrorists Blend Old and New: *Hawala* and Satellite Telecommunications" (2006) 17:3 *Small Wars & Insurgencies* 356- 62 available at fmso.leavenworth.army.mil/documents/hawala.pdf accessed on Nov 17, 2015.

⁸ US, National Commission on Terrorist Attacks Upon the United States, The 9/11 Commission Report (Washington, DC: United States Government Printing

Office, 2004), Appendix A, online: National Commission on Terrorist Attacks Upon the United States <<http://www.9-11commission.gov/report/911Report.pdf>>; ; see also "Dubai: A Financial Hub for Terror Funds", The Times of India (18 January 2004), online: Free Republic <<http://www.freerepublic.com/focus/news/1060292/posts>>.

the canvas covered by satellite imagery spans many nations and the envelope of GNSS covers the entire world. Terrorism is also inherently international and hence the response would have to be international. Such a response demands international cooperation. The above response option finds great support in the Outer Space Treaty of 1967 (OST) that pays particular emphasis on promoting International cooperation in the use and exploitation of outer space. The principle of international cooperation in outer space is liberally interspersed across the OST. It is found in the preamble that expresses a desire to use space for international cooperation as also in the mandatory language of specific clauses like Article 3 of the OST that states “*State Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding*”. Further, Article 6 of the OST establishes that State Parties bear “*international responsibility for national activities in outer space*”.⁹ Furthermore, space “*activities [...] shall require authorization and continuing supervision by the appropriate State Party*”.¹⁰ Implicit in the above is the common desire to promote international cooperation in the use of outer space and also that space misuse, particularly that inimical to international peace and security needs to be curtailed and that states need to be precautionary and may consider stronger supervision and control to prevent misuse of space capabilities. Since states are ultimately responsible for all action related to space, they may consider taking the lead in enabling an inter-linking of states and space agencies across the world that provide space capabilities like SATCOM, GNSS and free imagery etc. to inhibit terrorist activity. This could be undertaken under the auspices of an internationally recognised body like the United Nations.

Space capabilities are provided in the first place to promote the quality of life and a duty of reasonable care to prevent its misuse does exist. As of now, SATCOM activity is free and can be beamed onto any state with or without its permission. The kind of usage undertaken is also unregulated. Consequently, state agencies and commercial SATCOM operators have no or little inkling of who is using what communications to undertake what activity. In the overall interests of peace and security, there exists a need for states to cooperate in exploring options that could, if considered desirable and necessary, enable security and intelligence agencies across the world to selectively monitor suspicious communications

and take pre-emptive actions to forestall terrorist activities. A variety of checks and balances could be incorporated to ensure purposeful and reasonable monitoring and sharing of information amongst states.

Selectively denying SATCOM, GNSS and other space services may be extreme measures and are likely to face resistance since limitations on free speech and expression are abhorrent in civil societies. However, based on the circumstances, such selective measures for temporary durations may be considered by the state to ensure the life and dignity of citizens. Consequently, these actions would need to be undertaken with great caution, consultation and on a case to case basis. For instance, in the case of ISIS controlled territories wherein free speech and expression are altogether suspended or exercised under extreme duress, the imposition of such measures could be straightaway effective but the same cannot be so in the context of Europe. Selective denial or suspension of services would be strictly contextual and dependent on the typical circumstances. The above aspect is extremely contentious and complex. It may also have the opposite effect of actually furthering the terrorist’s aim of creating an atmosphere of fear and tension that paralyzes society and interferes with day-to-day life. The cost-benefit effect analyses and democratic debate would hence need to be an essential part of any such action. Selectively denying SATCOM, GNSS and other space services may be an extreme measure, but that apart a variety of benign measures to stall and limit misuse of space capabilities for nefarious activities could be undertaken if the service providers get together under a common institutional apparatus. On one hand, SATCOM service providers could coordinate to selectively stall or limit SATCOM misuse during times of terrorist attacks. On the other hand service providers could pool together resources to provide more bandwidth capacity, enhance signal quality and enable better communication, coordination and networking for disaster mitigation and rescue – as already happens in some occasions. The possibilities are manifold, but a beginning has to be made. On similar lines, selective degradation or altogether denial of GNSS services could be introduced into specific areas to inhibit terrorist use of location, position and timing etc. States do possess the capability to do so and the same could be gainfully employed to defeat the designs of terrorists or at least increase their levels of difficulty. For instance, the U.S. has demonstrated the capability to selectively deny its GPS signals on a regional basis when U.S. national security is

⁹ *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, 27 January 1967, 610

UNTS 205, Can TS 1967 No 19 (entered into force 10 October 1967) [*Outer Space Treaty*].

¹⁰ *Ibid.*

threatened.¹¹ In keeping with the fluid nature of terrorism as also the global coverage of GPS, the overall concept could be expanded so that other nations can also draw upon selective denial when faced with extreme threats to their national security. These actions imposed in isolation would have but little impact and hence perforce would need to be a subset of a larger matrix of international cooperation amongst states to fight terrorism. The prime repositories of space assets rest with states as also the responsibility of use, consequently interlinking capabilities in outer space could provide the pathway for greater international cooperation in fighting the scourge of international terrorism.

With regards to Earth observation, of the 400 odd Earth observation satellites of various agencies and numerous swarms of microsatellite constellations scanning the Earth, some imagery or signals intelligence satellite would certainly be passing over the affected area. In order to counter the common threat of terrorism, space agencies could coordinate during and after the event to provide critical intelligence and information. A variety of tactics and procedures to defeat the nefarious design and execution of terrorist attacks could be undertaken if space agencies worldwide get together and consolidate their capabilities and competencies to fight the scourge of terrorism. However, space agencies could get together and pool in resources only if the political will of nations to cooperate in maintaining international peace and security is manifest and also if a governance mechanism for international action is available. There is but little to lose and a lot to gain by consolidating outer space resources of the world for a collective response. After all, an international threat by deranged beings demands an international response by human beings.

5 Harnessing UN Institutions to Prevent Misuse of Space Capabilities & Sustain Peaceful Use of Space

The international character of terrorism as also of outer space demands an international response. This would need to be facilitated by an established international institution that has the governance mechanism, experience, organisation and infrastructure etc. It would also need to be the kind most nations repose their faith in. The options lie between creating new international institutions or using existing ones. The former is a luxury present circumstances ill-afford. The obvious choice hence falls on established international institutions that

deal with space activity like the United Nations Committee on Peaceful Uses of Outer Space (UNCOPUOS) and the United Nations platform for Space based Information for Disaster Management and Emergency Response (SPIDER).¹² The UN, in keeping with its prime mandate of maintaining international peace, already has a variety of institutions that attempt to deal and mitigate some of the underlying problems that cause and perpetuate terrorism like the Counter Terrorism Committee, the Counter Terrorism Implementation Task Force that deal directly with the issue as also other institutions like the World Health Organisation that deal indirectly by addressing bio-terrorism as also organisations that address the root causes of poverty, inequality, food security etc. Put together, the UN umbrella hosts a variety of organisations tasked to counter terrorism in its wide manifestations. The resolve of the UN to tackle the issue is apparent as much in the above organisations and also in resolutions like 1368, 1373, 1377 that deal specifically with threats to international peace and security caused by terrorist acts.¹³ The time is now right for existing UN space organisations to consider joining hands with other UN organisation dealing directly and indirectly with terrorism in promoting measures to inhibit terrorism. The organisation and resolve exist and hence it would be in order to use the common platform as a launch pad for mulling, initiating and incorporating measures to inhibit misuse of space capabilities by terrorists. It is essential that the relevant space bodies go beyond their usual scope and discuss the topic in all its myriad manifestations more comprehensively and address the new challenges. It would be imperative for the concerned space agencies to not only take cognisance of these new challenges but also to express their commitment against terrorism and provide a platform to the world for exchanging know-how, information and ideas to deal with this new common threat to all humanity. Outer space is global commons and since UN bodies like the UNCOUOS exist that specifically deal with the issue of maintaining space for peaceful use, it is essential that the world taps into this resource for the common good of all. These internationally recognised bodies are the creation of no single nation but of the people of the world. Ample evidence of the same exists in law and practice. The clearest indication that the UN is an institution that people of the world have given unto themselves is evident in the UN charter that starts off with the proclamation, "*We the People of United Nations....*" instead of "*We the States of the United*

¹¹ Ref Gibbons Media & Research LLC, "Selective Availability: Completely Dead", *Inside GNSS News* dated 19 Sep 2007 at <http://www.insidegnss.com/node/200> accessed on 02 Feb 2016.

¹² For details, see site of UNCOUOS at www.unoosa.org/oosa/COPUOS/copus.html and

UNSPIDER at www.unoosa.org/oosa/en/ourwork/un-spider/index.html accessed on Nov 24, 2015.

¹³ Ref United Nations Security Council Resolutions- at <http://www.un.org/Docs/scres/2001/sc2001.htm> accessed on 20 April 2016.

Nations..."¹⁴ or any other indication to the contrary. Quite clearly, the UN and its organs are institutions of choice that have not been forced upon anybody. Of the 195 nations on earth, 193 are UN members, who by consent agree to be bound by UN decisions and actions. Thus, an international platform already exists that has the potential to substantially deal with the issue. In order to sustain and promote the peaceful use of outer space, the institute needs to evolve to possess the means to inhibit the misuse of outer space capabilities. In keeping with the new and harsh realities, it would be imperative that these institutes assert their inherent dynamism and rise to the occasion. As a matter of fact, Article-1 of the UN charter makes the scope amply clear by stating that the purpose of the UN is "*to maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace...*"¹⁵

Apart from the UN Charter, the Magna-Carta of outer space, the Outer Space Treaty - 1967 (OST-67) clearly prescribes that the use and exploration of space has to be "*for the benefit of all mankind*" and in the "*interest of all states*" (Article I OST-67).¹⁶ This is in addition to the principle of common interest of mankind found in the preamble of OST,

the desire to use space for international cooperation, to develop mutual understanding and strengthen friendly relations amongst States, etc., that are liberally interspersed in the space treaties. All of these principles indicate an implication, in fact an obligation on states to embrace the notion of "*common*" security in outer space to ensure the peaceful use of outer space. As of now, terrorism is a concern shared by most nations across the world. At least, no nation would like to be perceived as a supporter of terrorism. Consequently, the time is now right for nations to pool in their outer space resources for a common stance to international terrorism. International law places an obligation on nations to cooperate in -ensuring the peaceful uses of outer space. More importantly, an established international platform already exists that could be gainfully leveraged by nations across the world to defeat the scourge of terrorism. A single step in the right direction may yield to greater international cooperation on many other aspects and make the world more harmonious and humane in character. The recent spate of terror attacks are a challenge to humanity and it is essential that the international community reacts as one. An international challenge demands an international response and the response could be spear headed from the global commons of outer space.

¹⁴ See Charter of the United Nations available at www.un-documents.net/ch-ppp.htm

¹⁵ Ref Article-1, Charter of the United Nations at <https://treaties.un.org/doc/publication/ctc/uncharter.pdf> accessed on Nov 22, 2015.

¹⁶ Ref Article-1, *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, 27 January 1967, 610 UNTS 205, Can TS 1967 No 19 (entered into force 10 October 1967) [*Outer Space Treaty*].



Mission Statement of ESPI

The European Space Policy Institute (ESPI) provides decision-makers with an informed view on mid- to long-term issues relevant to Europe's space activities. In this context, ESPI acts as an independent platform for developing positions and strategies.

Available for download from the ESPI website www.espi.or.at

Short title: ESPI Perspectives 76
Published in March 2016
ISSN 2218-3922

Editor and publisher:
European Space Policy Institute, ESPI
Schwarzenbergplatz 6 • A-1030 Vienna • Austria
<http://www.espi.or.at>
Tel: +43 1 7181118-0 / Fax: -99
Email: office@espi.or.at

Rights reserved – No part of this report may be reproduced or transmitted in any form or for any purpose without permission from ESPI. Citations and extracts to be published by other means are subject to mentioning "Source: ESPI Perspectives 77, May 2016. All rights reserved" and sample transmission to ESPI before publishing.

ESPI Perspectives are short and concise thought or position papers prepared by ESPI staff as well as external researchers.

Any opinion expressed in this ESPI Perspective belongs to its author and not to ESPI.
The author takes full responsibility for the information presented herein.