



# Threat Convergence: New Pathways to Proliferation?

## Expert Series

### Motivations for Engaging in Nuclear Terrorism

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#### Introduction

Broadly speaking, there are three fundamental prerequisites for any act of violence to occur: a) the presence of a perpetrator with the intent to engage in a particular type of violence; b) the possession by said perpetrator of the means to conduct the chosen type of violence; and c) the presence of a victim or target susceptible to the planned violence. In the case of mass-casualty terrorism, and in particular nuclear terrorism, the vulnerability of civilian populations is acute. The capability of non-state terrorists to acquire and utilize nuclear weapons<sup>1</sup> is, by contrast, a far more technically demanding, nebulous and thus disputed issue. It is small wonder, then, that the lion's share of commentary on nuclear terrorism deals with the acquisition and deployment of nuclear weapons by terrorists, the so-called supply side of the equation.

Yet the focus on the supply-side sometimes occurs at the expense of an effort to thoroughly explore the demand side of the issue, that is, the sources and nature of terrorists' motivation to employ nuclear weapons in their attacks.<sup>2</sup> One all too often comes across the unquestioned assumption that any terrorist capable of employing a nuclear weapon would automatically want to do so.<sup>3</sup> The history of terrorism reveals, however, that not every terrorist group has sought to maximize its killing power; indeed, the vast majority of terrorists have purposefully curtailed the scale of their violence. Conversely, when a terrorist group's capability is lacking, the old adage of "where there's a will, there's a way" might presage an effort to acquire the requisite capability sometime in the future. This all argues for paying a significant amount of attention to the motivational dynamics behind nuclear terrorism.

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<sup>1</sup> This paper also includes under the rubric of "nuclear terrorism" the instigation of inter-state nuclear war by terrorists, either through deception or sabotage.

<sup>2</sup> Jerrold Post maintains that, "absent a clear understanding of the adversary's intentions, the strategies and tactics developed [to counter them] are based primarily on knowledge of terrorists [sic] technological capabilities and give insufficient weight to psychological motivations" – Post, J. "Prospects for Nuclear Terrorism: Psychological Motivations and Constraints" in Levanthal P. and Alexander Y. *Preventing Nuclear Terrorism* Lexington, Mass.: Lexington Books (1987), p. 91. Indeed, Cameron has even asserted that "the real driving force behind the heightened danger of nuclear terrorism lies not with the increased opportunities for micro-proliferation, but rather with the changing nature of political violence and the psychological and organizational characteristics of terrorism itself" Cameron G. *Nuclear Terrorism: A Threat Assessment for the 21st Century*. New York: St. Martin's Press, Inc. (1999).

<sup>3</sup> This stands in stark contrast to terrorism involving conventional weapons, where it is assumed that most terrorists are capable of acquiring guns and explosives and the focus falls on the intent to use these weapons.

Although there have been concerns about nuclear weapons falling into the wrong hands since almost the dawn of the atomic age,<sup>4</sup> it was mainly a motivational argument that prevented the issue of nuclear terrorism from dominating public or scholarly discourse prior to the late 1990s. This argument is exemplified in the oft-quoted dictum by Brian Jenkins of RAND in 1977 that “Terrorists want a lot of people watching, not a lot of people dead...”<sup>5</sup> It was only with the break-up of the Soviet Union in 1990 and fears of rampant proliferation, together with the emergence of new terrorist groups who were seemingly unconcerned with placing any limits on their violence, that the prospect of nuclear terrorism once again rose to the fore in both the public consciousness and scholarly discourse.

It is a small (albeit perhaps growing) subset of terrorists who would seek to inflict the massive levels of violence associated with the use of nuclear weapons. It is only by exploring their myriad reasons for doing so (in addition to the mere fact that they possess the capability) that we can discover new ways to identify, deter and interdict – in other words prevent – potential terrorist users of nuclear weapons. This discussion paper will attempt a systematic dissection of the variety of factors that might induce terrorists to pursue the use of nuclear weapons.<sup>6</sup>

### **Motives for Using Nuclear Weapons**

The following list examines possible terrorist motivations that reflect strategic, operational and tactical incentives for using nuclear weapons (i.e., where nuclear weapons are used as a means to an end) as well as more esoteric motives where the use of nuclear weapons is an end in itself.<sup>7</sup>

Mass Casualties. The most obvious reason for terrorists to seek nuclear weapons is for the purpose of inflicting massive casualties upon their perceived enemies.<sup>8</sup> Indeed, while conventional (and even most unconventional) weapons will suffice to kill thousands or perhaps even tens of thousands of people, for perpetrators who seek to cause the maximum possible immediate carnage (on the order of hundreds of thousands or millions of fatalities) the most viable means is to utilize the kinetic and thermal effects of a nuclear blast.<sup>9</sup>

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<sup>4</sup> J. Robert Oppenheimer was even questioned about this possibility in congressional hearings. See Kia Bird and Martin J. Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer*, New York: Alfred A Knopf (2005), p. 349. In addition, the Lumb panel (1967) and a variety of other reports in the 1970s assessed the risk of nuclear theft and nuclear terrorism.

<sup>5</sup> Jenkins B. “International Terrorism: A New Mode of Conflict” in David Carlton and Carlo Schaerf (eds) *International Terrorism and World Security*. London: Croom Helm (1977)

<sup>6</sup> One of the few systematic efforts to explore terrorist motivational incentives and disincentives for using CBRN weapons in general can be found in Gurr, N. and Cole, B. *The New Face of Terrorism: Threats from Weapons of Mass Destruction*. London: I. B. Tauris (2002).

<sup>7</sup> It should be stated at the outset that it is not necessary for terrorists to be irrational or psychologically imbalanced for them to seek nuclear weapons (Cameron, op. cit. p, 23). Cameron further states that “If a sufficiently important end were sought by the [terrorist] group, all means, including nuclear terrorism, might be justifiable.” (Ibid., 154)

<sup>8</sup> A comprehensive discussion of the underlying reasons that would precipitate a goal of causing mass casualties will be left to Dr. Forest.

<sup>9</sup> Contagious biological agents that are used to start a large-scale epidemic could conceivably also lead to comparable casualties, although this type of attack has less reliable and less immediate consequences and it is also more difficult to fix the geographical scope of biological attacks than is the case with nuclear weapons.

Much of the concern surrounding terrorism involving WMD stems from the belief that there is a growing number of non-state actors prepared to inflict catastrophic violence.<sup>10</sup> The majority of terrorist attacks, however, are carried out for a multiplicity of motives, so one should not assume that the desire to inflict mass casualties is necessarily the sole, or even predominant, motive for resorting to a nuclear option.<sup>11</sup>

Inordinate Psychological Impact. It is a truism that one of the core elements of terrorism is the terror it evokes. For a terrorist group seeking to traumatize a targeted society and generate public and official disorientation, nuclear weapons must hold a particular allure, for there can be few images that are guaranteed to leave as indelible a mark on the collective psyche of the targeted country as that of a mushroom cloud over one of its major cities.<sup>12</sup> Anthony Cordesman asserts that it is not even necessary for a nuclear weapon to have catastrophic physical effects for it to have far-ranging psychological and political impact.<sup>13</sup>

Prestige. Historically, nuclear weapons have remained under the exclusive purview of nation-states, with one of the key motivations for state acquisition being the status which nuclear weapons are believed to bestow upon their possessors. How much more appealing then might the possession of nuclear weapons seem for non-state groups, many of whom seek international legitimization? To the extent that terrorists believe that nuclear weapons could enable them to attain quasi-state standing or redress military imbalances vis-à-vis their purported enemies, the possession of such weapons, but not necessarily their use, becomes an attractive proposition. It is even conceivable that a terrorist group might pursue nuclear weapons in the hope of deterring, blackmailing or coercing a particular state or group of states. Thomas Schelling explores the prestige and deterrence aspects for non-state terrorists.<sup>14</sup>

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<sup>10</sup> See, for example, Marlo: “the increasing willingness to engage in mass murder makes terrorists more likely to consider WMD as usable and even preferable to conventional explosives and other traditional terrorist weaponry” (Marlo F. H. “WMD Terrorism and US Intelligence Collection”. *Terrorism and Political Violence*. 11:3. (Autumn 1999), p. 55). Also see Falkenrath R. A. “Confronting Nuclear, Biological and Chemical Terrorism” *Survival* 40:3. (1998), p. 53 and Foxell, J. W. “The Debate on the Potential for Mass-Casualty Terrorism: The Challenge to US Security” *Terrorism and Political Violence* 11:1 (1999) , p. 96.

<sup>11</sup> Indeed, if causing colossal numbers of casualties is the sole reason for employing nuclear weapons then, technically speaking, the act does not constitute terrorism but mass murder, since for an act to be defined as terrorism, there must be present the intention to influence a wider audience than the immediate victims.

<sup>12</sup> For a more in-depth discussion of the issue of audience impact, see Gressang, D. “Audience and Message, Assessing Terrorist WMD Potential” *Terrorism and Political Violence*, 13, 3: 88 (2001). Also, compare for example, Falkenrath R. A., Newman R. D., and Thayer B. A. 1998. *America's Achilles' Heel: Nuclear, Biological, and Chemical Terrorism and Covert Attack*. Cambridge, Mass.: The MIT Press. (1998), pp. 206-7 and McCormick, G. H. “Terrorist Decision Making” *Annual Reviews in Political Science*, 6 (2003), pp. 479-80.

<sup>13</sup> Cordesman, A. H. *Defending America: Asymmetric and Terrorist Attacks with Radiological and Nuclear Weapons*, Center for Strategic and International Studies (2001), pp. 9, 10, 38-39.

<sup>14</sup> Schelling, T. “Thinking About Nuclear Terrorism”. *International Security*, 6, 4 (1982), pp. 61-77. Also see Cameron, op. cit, p. 134.

Incentives for Innovation and Escalation. In a milieu in which terrorist groups may have to compete with rival groups for “market share” of media attention and constituency support, terrorist decision makers may feel compelled to exceed the destruction wrought by previous attacks. For a discussion of why terrorists seek mass-casualty events that “out-do” previous attacks, see Post.<sup>15</sup> The asymptote of such escalatory pressures, especially in the wake of such attacks as those of September 11, may be the detonation of a nuclear weapon on enemy territory, which would guarantee unrivalled attention upon the terrorists and their cause. While most terrorist supporters and sympathizers would be appalled by such horrific actions, there are certain subsets of disaffected populations that could condone the use of nuclear weapons against a hated enemy, for example, brutalized communities motivated by revenge.

Mass Destruction and Area Denial. In certain cases, terrorists may desire not only mass casualties, but also to physically destroy the infrastructure of their enemies and deny them the use or functioning of vital areas, tasks to which nuclear weapons, which have both immediately destructive blast effects and persistent radiological contamination effects, are well suited.

Ideology. The worldview of a terrorist group or individual demarcates allies and enemies and forms the basis for deciding between legitimate and illegitimate targets and tactics.<sup>16</sup> As such it is likely to be one of the most important factors in any decision to resort to the use of nuclear weapons. It is often asserted that the use of a weapon as destructive and reviled as nuclear weapons would alienate the supporters and perceived constituency of any terrorist group motivated primarily by a nationalist or secular political ideology,<sup>17</sup> and therefore that such groups would mostly refrain from using nuclear weapons. Whatever the accuracy of this assertion, a corollary is widely accepted by terrorism experts, i.e., that groups motivated by religion, which are focused on cosmic as opposed to mortal concerns, are far more willing to engage in attacks involving mass casualties and hence would be more prone to use nuclear weapons or other means of mass destruction.<sup>18</sup> As one analyst observed, “to the extent that violent extremist groups are absolutely convinced that they are doing God’s bidding, virtually any action that they decide to undertake can be justified, no matter how heinous, since the ‘divine’ ends are thought to justify the means.”<sup>19</sup>

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<sup>15</sup> Post, J. “Psychological and Motivational Factors in Terrorist Decision-Making: Implications for CBW Terrorism” in J. Tucker (ed.) *Toxic Terror: Assessing Terrorist Use of Chemical and Biological Weapons*, Cambridge, Mass.: M.I.T. (2000), pp. 280-2.

<sup>16</sup> Albert Bandura has discussed various ways in which terrorist groups legitimize their violent behavior, several of which can flow from a group’s ideological outlook, including moral justification, displacement of responsibility, ignoring the actual suffering of victims, and dehumanizing victims. Bandura, A. “Mechanisms of Moral Disengagement” in W. Reich (ed.). *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind*. Washington, DC: Woodrow Wilson Center. (1998), pp. 161-91.

<sup>17</sup> Cameron, op. cit., pp. 156-7

<sup>18</sup> See Hoffman, B. *Inside Terrorism*. New York: Columbia University (1998), p. 94; Hoffman, B. 1997. “Terrorism and WMD: Some Preliminary Hypotheses” *Nonproliferation Review*, 4:3: (1997), pp. 45-50; Cameron, G. “WMD Terrorism in the United States: The Threat and Possible Countermeasures”. *Nonproliferation Review*, 7:1 (2000), pp. 169-70; Gurr and Cole, op. cit.; and Campbell, J. K. “On Not Understanding the Problem”, in Roberts, B. (ed.) *Hype or Reality?: The “New Terrorism” and Mass Casualty Attacks*. Alexandria, Va.: Chemical and Biological Arms Control Institute (2000).

<sup>19</sup> Bale, J. “Islamism” in Pilch, R. F. and Zilinskas, R (eds). *Encyclopedia of Bioterrorism Defense*, New York: Wiley (2005), p. 298; compare to Hoffman, B. “Terrorist Targeting: Tactics, Trends, and Potentialities.” *Terrorism and Political Violence* 5:2 (1993), p. 12.

The resurgence in religiously-inspired terrorism in recent decades could imply that there is now a greater possibility of terrorists seeking to use weapons of mass destruction.<sup>20</sup> The situation, however, is more complex. First, not all religious terrorists are equally likely to pursue mass destruction—many religiously motivated terrorist organizations have political components, represent constituencies that are well-defined geographically (and thus are subject to retribution), or depend for financial or logistical support on parties whose views may not be quite as radical as their own. Moreover, it is the theological and cultural content of the particular strand of religious belief that is argued to be of greatest significance,<sup>21</sup> rather than the mere fact that a group has a religious bent.

It has been asserted that the ideologies most conducive to the pursuit of catastrophic violence are those that simultaneously reflect an apocalyptic millenarian character, in which an irremediably corrupt world must be purged to make way for a utopian future, and emphasize the capacity for purification from sins through sacrificial acts of violence.<sup>22</sup> Such ideologies are often, though not exclusively, found amongst unorthodox religious cults, such as Aum Shinrikyo, the Covenant, the Sword, and the Arm of the Lord, and R.I.S.E.<sup>23</sup> One can conceive of an affinity between the “the relentless impulse toward world-rejecting purification”<sup>24</sup> displayed by such groups and the levels of “cathartic” destruction only achievable using nuclear weapons. Moreover, Jessica Stern has suggested that religious terrorists might embrace weapons of mass destruction, including nuclear weapons, as a means of “emulat[ing] God”<sup>25</sup>. One must bear in mind, however, that possessing an ideology with a religious character may at most be a contributing factor to any desire to engage in nuclear terrorism, and is certainly not determinative, an assertion which has been validated empirically for CBRN weapons *en toto*.<sup>26</sup>

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<sup>20</sup> Several authors have questioned the link between a desire on the part of religious terrorists to cause mass casualties and the potential use of WMD, as well as the extent to which religious actors are oblivious to political concerns. They have also pointed to the large number of CBRN plots on the part of ethno-nationalist terrorists. See, for example, Rapoport, D. C. “Terrorism and Weapons of the Apocalypse.” *Nonproliferation Review*, 6:3 (1999), pp. 49-67 and Dolnik, A. “All God’s Poisons: Re-evaluating the Threat of Religious Terrorism with Respect to Non-conventional Weapons” in Howard, R. D. and Sawyer, R. L. (eds.) *Terrorism and Counterterrorism: Understanding the New Security Environment*. Guilford, Conn.: McGraw-Hill (2004). To the first of these objections, one can refer to the discussion above relating to the desire to cause mass casualties and note that for actors seeking to cause a genuinely catastrophic scale of injury and death, conventional weapons will not suffice. The other objections are addressed in following sections.

<sup>21</sup> Gressang, *op. cit.*

<sup>22</sup> Ackerman G. and Bale, J. M. *How Serious is the “WMD Terrorism” Threat?: Terrorist Motivations and Capabilities for Using Chemical, Biological, Radiological, and Nuclear (CBRN) Weapons*. Report prepared for Los Alamos National Laboratory. (2004), pp. 29-30; Cameron (1999), *op. cit.* pp. 80-3.

<sup>23</sup> For more on these three groups, see chapters by Kaplan, Stern and Carus in Tucker *op. cit.*

<sup>24</sup> Lifton, R. J. *Destroying the World to Save It: Aum Shinrikyō, Apocalyptic Violence, and the New Global Terrorism*. New York: Metropolitan Books. (1999), p. 204.

<sup>25</sup> Stern, J. E. *The Ultimate Terrorists*. Cambridge, Mass.: Harvard University Press. (1999), p. 70.

<sup>26</sup> Asal, V. and Ackerman, G. “Size Matters: Terrorist Organizational Factors and the Pursuit and Use of CBRN Terrorism”. Submitted for publication (2006).

Atomic Fetishism. A terrorist group whose ideology or key decision makers display a peculiar fascination for things nuclear or radiological might be more likely to consider pursuing a nuclear weapons capability. It is not hard to imagine that a group whose ideology is based for instance, upon a nuclear holocaust motif, or whose leader is obsessed with the science-fiction genre, could be drawn towards nuclear weapons as their preferred instruments of destruction. The archetype amongst known terrorist groups is Aum Shinrikyo, whose leader, Shoko Asahara, behaved almost fetishistically towards several types of unconventional weapons, including the nuclear variety.

Revenge and Other “Expressive” Motives. It is believed that individuals from heavily brutalized and traumatized communities (such as those who fall victim to genocide) might be capable of unrestrained levels of violence in the pursuit of revenge against their perceived persecutors,<sup>27</sup> and thus might consider a retributive act as devastating as a nuclear detonation. Other expressive motives might also come into play, for example, an extreme form of defensive aggression wherein a group perceives its own imminent destruction (or that of those it purports to represent) and thus resorts to the most violent measures imaginable as a “swan song”.<sup>28</sup>

In addition to the possible set of instrumental, ideological or psychological motives already described, opportunity and organizational dynamics may influence indirectly a terrorist group’s pursuit of a nuclear capability. Turning first to opportunity, a terrorist group manifesting one or more of the above-described motives may be propelled to consider the nuclear option more seriously by happenstance. For example, governmental collapse in a nuclear weapons state could provide increased scope for the terrorists’ procurement of intact nuclear weapons and thus might precipitate for the first time the consideration of using a nuclear device.

Looking next at organizational dynamics, groups exhibiting certain structural characteristics might be more likely to engage in acts of violence as extreme as nuclear terrorism. Some of these allegedly pernicious traits include: control by megalomaniacal or sadistic, but nonetheless charismatic and authoritarian leaders; isolation from their broader society, with little display of concern for outgroups; an intentional focus on recruiting technical or scientifically skilled members; a record of innovation and excessive risk-taking; and the possession of sufficient resources, whether financial, human or logistical, to enable long-term research and development into multiple advanced weapons systems.<sup>29</sup>

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<sup>27</sup> See, for example, the discussion of the group Avenging Israel’s Blood in Sprinzak, E. and Zertal, I. “Avenging Israel’s Blood (1946)” in Tucker op. cit. pp. 17-42.

<sup>28</sup> Cameron (1999), op. cit. p. 135.

<sup>29</sup> These factors are drawn from a combination of Tucker op. cit., pp. 255-63, Campbell op. cit. pp. 35-39, and Jackson, B. A. “Technology Acquisition by Terrorist Groups: Threat Assessment Informed by Lessons from Private Sector Technology Adoption” *Studies in Conflict and Terrorism*, 24:3. (2001), p. 203. Many of these factors are related to a group’s capabilities for engaging in nuclear terrorism (discussed in the following section), leading to the obvious observation that, in addition to motives driving capabilities, on occasion capabilities can reciprocally influence a terrorist’s intentions.

While none of the above motives will necessarily lead to a decision to use nuclear weapons, the existence of such a broad array of potential motives provides a *prima facie* theoretical case that the most extreme and violent of terrorists might find the destructive power of nuclear weapons strategically, tactically, or emotionally advantageous. Any group possessing several of the abovementioned attributes deserves close scrutiny in this regard. Moreover, many (though not all) of the motives listed could also be realized by lower-scale attacks, including using radioactive dispersal devices (RDDs) or attacking nuclear facilities. For instance, RDDs would likely result in a disproportionate psychological impact and area denial, but would not satisfy terrorists seeking mass fatalities.

### **Past Non-Use Of Nuclear Weapons By Terrorists – Is This Breaking Down?**

Thankfully, there have been no instances when non-state actors have used nuclear weapons. The historical record of pursuit by terrorists of nuclear weapons is also very sparse, with only two cases in which there is credible evidence that terrorists actually attempted to acquire nuclear devices.<sup>30</sup> The most commonly cited reasons for this absence of interest include the technical and material difficulties associated with developing and executing a nuclear detonation attack, together with the alleged technological and operational “conservatism”<sup>31</sup> of most terrorists, fears of reprisal, and the moral and political constraints on employing such frightful forms of violence.

These propositions are then combined and cast in a relative manner to conclude that the overwhelming majority of terrorists have thus far steered clear of nuclear weapons because they have found other weapon types to be: a) easier to develop and use, and b) more reliable and politically acceptable, yet c) nonetheless eminently suitable of accomplishing their various political and strategic goals. In short, the basic argument is that interest has been lacking because large-scale unconventional weapons, especially of the nuclear variety, were seen to be neither necessary nor sufficient<sup>32</sup> for success from the terrorists’ point of view.

Although the past non-use of nuclear weapons may *ab initio* be a poor indicator of future developments<sup>33</sup>, it appears that some prior restraints on terrorist pursuit and use of nuclear weapons (and other large scale unconventional weapons systems) may be breaking down. For example, one can point to an increase in the number of terrorist-inclined individuals and groups who subscribe to beliefs and goals that are concordant with several of the motivational factors described earlier.

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<sup>30</sup> Empirically speaking, the record of non-use should not be compared over the long history of terrorism, but only over the period since it became feasible for non-state actors to acquire or use nuclear weapons, circa 1950.

<sup>31</sup> See, e.g., Ferguson, C. D. and Potter, W. C. *The Four Faces of Nuclear Terrorism*. New York: Routledge. (2004), p. 40, Jenkins, B. “Defense Against Terrorism” *Political Science Quarterly*, 101 (1986), p. 777, Hoffman (1993) op. cit., 16-17, and Clutterbuck, R. “Trends in Terrorist Weaponry” *Terrorism Political Violence* 5 (1993), pp. 130-9.

<sup>32</sup> Since these weapons were too difficult to acquire and use reliably.

<sup>33</sup> There is always the possibility of the sudden appearance of an outlier event or novel development, what some refer to as “wild cards” (Petersen, J. L. *Out of the Blue*. Lanham, Maryland: Madison Books (2000)) or “Black Swans,” (Taleb, N. N. “The Black Swan: Why Don’t We Learn that We Don’t Learn?” in United States Department of Defense Highlands Forum papers (2004)) that leads to a radical departure from previous behavior and experience.

In terms of mass casualties, for instance, there are now groups who have expressed the desire to inflict violence on the order of magnitude that would result from the use of a nuclear weapon. Illustrative of this perspective was the claim in 2002 by Sulaiman Abu Ghaith, Usama bin Laden's former official press spokesman, of the right for jihadists "to kill four million Americans".<sup>34</sup> One also can point to groups displaying an incipient techno-fetishism, who are simultaneously less interested in global, or sometimes any external, opinion, such as Aum Shinrikyo. It might be of little surprise, then, that it is these very two groups which have manifested more than a passing interest in nuclear weapons.

If a *bona fide* act of nuclear terrorism were to occur, this could further affect the motivational equation. Such an attack might have precedent-setting and learning effects, establishing proof-of-concept and spurring more terrorists to follow suit, which would increase the overall risk. Similarly, the use of nuclear weapons by some states (such as the United States or Israel against a Muslim country) might redouble the efforts of some terrorists to acquire and use these weapons or significantly increase the readiness of some state actors to provide assistance to terrorists. Moreover, one must consider the possibility of discontinuous adoption practices. This is rooted in the idea that certain technologies (perhaps including nuclear weapons) possess inherently "disruptive" traits and that the transition to the use of such technologies need not be incremental, but could be rapid, wholesale and permanent once a tipping point is reached in the technology's maturation.<sup>35</sup>

On the other hand, the acquisition of a nuclear weapons capability by states with which a terrorist group feels an ideological affinity might partially satiate their perceived need for nuclear weapons. At the same time, the advent of improved detection and/or remediation technologies might make terrorists less inclined to expend the effort of acquiring nuclear weapons. As a counterargument to the above assertions regarding the adoption of new weapons technologies, it is possible that following the initial use by terrorists of a nuclear weapon, the international community may act swiftly to stem the availability of nuclear materials and initiate a severe crackdown on any terrorist group suspected of interest in causing mass casualties.

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<sup>34</sup> The Middle East Media Research Institute. "Why we fight America": Al-Qa'ida Spokesman Explains September 11 and Declares Intentions to Kill 4 Million Americans with Weapons of Mass Destruction. 2002. The Middle East Media Research Institute. Special Dispatch Series No. 388. 12 June 2002, accessed at [<http://memri.org/bin/articles.cgi?Page=archives&Area=sd&ID=SP38802>] on 8-20-2006.

<sup>35</sup> For more information on the topic of disruptive technologies and their singular adoption behavior, see Bower, J. L. and Christensen, C. M. "Disruptive Technologies: Catching the Wave". *Harvard Business Review*, 73 (1995), pp. 43-53.



## Who Are Nuclear Terrorists?

Prior to Aum Shinrikyo, most would-be nuclear terrorists were more kooks than capable, but Aum made genuine efforts to acquire a nuclear capability. During the early 1990s, Aum repeatedly attempted to purchase, produce, or otherwise acquire a nuclear weapon. Aum's combination of apocalyptic ideology, vast financial and technical resources, and the non-interference by authorities in its activities enabled it to undertake a generous, if unsuccessful, effort to acquire nuclear weapons. Although some analysts at the time sought to portray Aum as a one-off nexus of factors that were unlikely to ever be repeated, this idea was short-lived as a far larger transnational movement emerged shortly thereafter with a similar eye on the nuclear prize.

Al Qaeda, the diffuse jihadist network responsible for many of the deadliest terrorist attacks in the past decade, has not been shy about its nuclear ambitions. As early as 1998, its self-styled emir, Usama bin Ladin, declared that "To seek to possess the weapons [of mass destruction] that could counter those of the infidels is a religious duty... It would be a sin for Muslims not to seek possession of the weapons that would prevent the infidels from inflicting harm on Muslims".<sup>36</sup>

As noted previously, the group has asserted "the right to kill 4 million Americans—2 million of them children," in retaliation for the casualties it believes the United States and Israel have inflicted on Muslims. Bin Laden also sought and was granted a religious edict or fatwa from a Saudi cleric in 2003, authorizing such action.<sup>37</sup> In addition to their potential use as a mass-casualty weapon for punitive purposes,<sup>38</sup> al Qaeda ostensibly also sees strategic political advantage in the possession of nuclear weapons, perhaps to accomplish such tasks as coercing the "Crusaders" to leave Muslim territory. When combined with millenarian impulses among certain quarters of global jihadis and a demonstrated orientation towards martyrdom, it is apparent that many (if not most) of the motivational factors associated with nuclear terrorism apply to the current violent jihadist movement.

At present, the universe of non-state actors seeking to acquire and use nuclear weapons appears to be confined to violent jihadhists, a movement that is growing in size and scope and spawning a host of ever more radical offshoots and followers. Although in the short-term at least, the most likely perpetrators of nuclear violence will stem from operationally sophisticated members of this milieu, in the longer-term, they may be joined by radical right-wing groups (especially those components espousing extremist Christian beliefs),<sup>39</sup> an as-yet-unidentified religious cult, or some other group of extremists who limn the ideological and structural arcs associated with nuclear terrorism.

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<sup>36</sup> Scheuer, M. *Through Our Enemies' Eyes: Osama bin Laden, Radical Islam, and the Future of America*. Washington, D.C.:Potomac Books, Inc. (2002), p. 72.

<sup>37</sup> Bunn, M. *The Demand for Black Market Fissile Material*. NTI Website, accessed at [http://www.nti.org/e\\_research/cnwm/threat/demand.asp?print=true](http://www.nti.org/e_research/cnwm/threat/demand.asp?print=true) on August 20, 2006.

<sup>38</sup> Indeed, the former head of the CIA's Bin Laden Unit has explained that, "What al-Qaeda wants is a high body count as soon as possible, and it will use whatever CBRN [chemical, biological, radiological, nuclear] materials it gets in ways that will ensure the most corpses" – Scheuer, op. cit. p. 198.

<sup>39</sup> For instance, *The Turner Diaries*, a novel written by the former leader of the National Alliance, William Pierce, described and which has had considerable influence on many right-wingers, describes racist "patriots" destroying cities and other targets with nuclear weapons (Macdonald, A. [pseudonym for Pierce]. *The Turner Diaries: A Novel*. Hillsboro, W.V.: National Vanguard. 1999; originally published 1980).

Within any society, there will always be some people dissatisfied with the status quo. A very small subset of these angry and alienated individuals may embark on violent, terroristic campaigns for change, in some cases aiming globally. An even tinier subset of these non-state actors with specific ideological, structural, and operational attributes may seek nuclear weapons. Perhaps the most frightening possibility would be the development of technology or the dissolution of state power in a region to the point where a single disgruntled individual would be able to produce or acquire a working nuclear weapon. Because far more hateful, delusional and solipsistic individuals outnumber organized groups,<sup>40</sup> this situation would indeed be deserving of the label of a nuclear nightmare.

### **What Can We Do?**

There are a host of specific measures that can and should be implemented on the supply side, as several of the discussion papers of my colleagues will no doubt describe in detail. However, countermeasures on the demand side are mostly of a more general nature, related to identification and location of potential assailants. The most effective measures in the near term involve improved law enforcement and intelligence. As only a small proportion of non-state actors is likely to possess both the motivation and capability necessary for high consequence nuclear terrorism, it should be at least possible to identify potential nuclear perpetrators in advance and concentrate counterterrorism efforts – including surveillance and prosecution – against these groups and individuals.<sup>41</sup>

Counterterrorism agencies have traditionally proven to be less proficient at terrorist threat preemption than response after an attack. Given the likely horrific consequences of nuclear terrorism, it is crucial to invest more resources wisely in apprehending terrorists known to harbor nuclear ambitions and to be more vigilant and savvy in anticipating the emergence of new and evolving non-state sectors who may be predisposed to seek a nuclear terrorist option. Successful efforts in this regard will require much greater international collaboration in intelligence sharing, law enforcement, and prosecution – developments more likely to occur if global perceptions of nuclear terrorism threats converge.

Implementation of the aforementioned short-term measures should reduce significantly the risks of nuclear terrorism. However, the threat will remain unless certain underlying factors are addressed. On the demand side, the most basic long-term strategy is to decrease the absolute number of terrorists (and hence the number of would-be nuclear terrorists). While the root causes of terrorism is beyond the scope of this paper, it should be noted that terrorist grievances stem from a complex and poorly understood interplay of social, political and psychological factors, some of which can be assuaged by policy. The ideological make-up of potential nuclear terrorists, however, reduces their susceptibility to such measures as political concessions or improved socio-economic conditions, which may take decades to implement.

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<sup>40</sup> For one thing, many deranged or excessively aggressive individuals cannot function as part of a group.

<sup>41</sup> As Ehud Sprinzak has argued, “the vast majority of terrorist organizations can be identified well in advance...and the number of potential [WMD] suspects is significantly less than doomsayers seem to believe. Ample early warning signs should make effective interdiction of potential superterrorists much easier than today’s prevailing rhetoric suggests.” Sprinzak, E. “On Not Overstating the Problem” in Brad Roberts op. cit. pp. 5-6.

Another manner in which to reduce motivations for nuclear terrorism is to remove at least part of the subjective benefit that terrorists might derive from conducting acts of nuclear violence. Useful steps include strengthening normative taboos against the use of nuclear weapons, vilifying terrorists who have attempted to obtain nuclear weapons, and increasing public education programs in order to psychologically immunize the public against some irrational fears related to radiation. Implementation of these measures might help to dissuade some terrorists that the strategic benefits of nuclear violence outweigh the costs.

Maintaining high standards of nuclear forensics and attribution, coupled with strict warnings to states that they will be held responsible for any terrorism involving fissile material of their national origin, also may be useful. In addition to providing states with greater incentive to increase the protection of fissile material under their control, these steps could provide some measure of deterrence against state complicity in terrorist acts.

## Conclusion

The primary objectives of this paper have been to enumerate the variety of possible motives for engaging in nuclear terrorism and to suggest how a greater understanding of the motivational aspect can assist in identifying would-be perpetrators and preempting their nuclear ambitions before these can be realized. This is not to downplay the critical role of controls on fissile materials and nuclear technology. Rather it is to suggest that the prospects for success in preventing nuclear terrorism will be enhanced if we develop and implement both supply and demand side approaches.

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*The Mission of The Fund for Peace is to prevent war & alleviate the conditions that cause war.*

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