

II. According to some specialists, nuclear terrorism is still a serious threat. Discuss the validity of this premise.

Due to the complexity and cost of production and the difficulty of acquisition, delivery, and dispersal, it seems extremely unlikely that a terrorist group, no matter how sophisticated, would be able to acquire a nuclear bomb. Although the probability of a non-state-sponsored terrorist group making an atomic bomb is extremely low, it is not an impossibility. There are several hurdles that a terrorist group would have to overcome in order to be able to use a nuclear weapon. These complications make nuclear terrorism a much less serious threat than many other types of terrorism, including radiological, biological, and chemical terrorism.

There are three main ways a sophisticated terrorist organization could obtain a nuclear weapon. The first would be to steal one from a nuclear state or buy one off the nuclear black market. Stealing a nuclear weapon from one of the eight states that has successfully detonated a nuclear weapon would be very difficult to carry out, but that does not mean that various groups have not tried. In 2002, Russia intercepted two separate terrorist plots to spy on nuclear weapon sights (Ferguson,). Russia presents the biggest vulnerability in the security of nuclear weapons. The former Secretary of the Russian Security Council, General Alexander Lebed, claimed after a thorough investigation into the whereabouts of Russia's nuclear materials that Russia was missing 84 nuclear bombs from their arsenal (Blair, 2001). It is certainly possible that records of these bombs have not been well kept and that they are still in Russia or former Soviet states rather than having been stolen, but without having assurance that this is the case, the risk that a terrorist group has at least one Russian nuclear bomb remains. Senior Russian officials have also confirmed that there have been terrorist teams inspecting Russian nuclear weapon storage sites at which they have been incidents in which heavily-armed and well-trained terrorists have attacked

(Bunn and Bielefeld). In addition to the thwarted attempts to smuggle nuclear materials out of the former Soviet Union, there are both confirmed and unconfirmed rumors of actual thefts. In 2006, highly enriched uranium was stolen from the country of Georgia (Bunn and Bielefeld). There are also rumors that countries, and perhaps even terrorists groups, have gotten nuclear warheads out of former Soviet states (Combs). While there have been confirmed incidents involving the theft of highly enriched uranium or plutonium, the International Atomic Energy Agency's list of these incidents shows that they peaked in 1994. Even if all of the material that had been stolen over that year were combined, it would not be nearly enough to build a nuclear weapon (Wirz and Egger). Nevertheless, "...stealing a nuclear weapon appears to be a very unlikely pathway for terrorists to detonate a nuclear explosive (Ferguson)."

Even if a terrorist group did manage to steal a nuclear warhead, it would not be easy to use. On most fairly recent nuclear weapons, there are safeguards that prevent them from being operated easily. Permissive Action Links are security devices on nuclear weapons that make it more difficult from being detonated by an unauthorized source. While these security measures used to be fairly simple, they have become more complex over the years. There is a concern, though, that older Russian nuclear bombs do not have Permissive Action Links, and it is not clear whether Indian, Israeli, or Pakistani devices have them at all (Ferguson). Safing, arming, firing, and fusion (SAFF) procedures also help with security of nuclear weapons. In order for an intact weapon with this safety measure, the weapons must go through a series of environmental changes (Ferguson). In addition to the difficulty of actually getting a weapon, the PAL and SAFF procedure are another piece of the weapons that terrorists must figure out before being able to successfully use it.

The second way a terrorist organization could get a nuclear weapon would be through insider connections with a country that is known to have nuclear capabilities. Yet again, Russia is a primary concern when it comes to the danger of nuclear weapons getting into the hands of terrorists, as is Pakistan. In 2006, the then-deputy chairman of the section of the Russian Ministry of the Interior that was responsible for law in order in the closed territories, which included closed nuclear cities, was fired for helping to organize smuggling in and out of those territories (Bunn and Bielefeld). This suggests the possibility of complex insider conspiracies that could penetrate much deeper into the government than previously thought. In addition to the terrorists outside Russia that have shown interest in Russian nuclear sites, there are terrorists inside Russia who are attentive to the sites. Pakistan is another country from which terrorists could potentially get nuclear weapons from the inside. Pakistan's nuclear arsenal consists of thirty to fifty bombs, which is much fewer than other nuclear states, but the instability of the country combined with the large number of Islamist sympathizers in the military leaves the potential for these atomic bombs to be stolen or given to al Qaeda (Blair). Nuclear insiders in Pakistan met with the late Osama bin Laden to discuss the possibility of al Qaeda being armed with nuclear weapons. The most dangerous Pakistani nuclear expert is Abdul Qadeer Khan; Khan's network has sold equipment and necessary expertise to at least three countries. Between 1997 and 2003, Khan traveled to Afghanistan numerous times, and it is suspected that he offered nuclear assistance to al Qaeda during that time (Combs). Al Qaeda was also looking into the nuclear black market outside of their dealings with Khan. Ayman Zawahiri, who was appointed leader of al Qaeda after the assassination of Osama bin Laden, spent two years traveling to Russia, Yemen, Malaysia, Singapore, and China after al Qaeda was banished from Sudan in

1994. “The purpose of [his] travels has never been established, but Zawahiri’s associations during his travels, and own statements suggest that he and his cohorts might have been hunting for WMD (Mowatt-Larssen).” Since stealing a nuclear weapon would involve an enormous amount of effort, personnel, planning, finances, and organization, the most likely scenario for a group like al Qaeda obtaining a nuclear weapon is with the help of insiders. Any government with nuclear weapons knows that, in the event that it uses one, it will have to deal with retaliatory attacks. As a result, a government that wishes to fight an enemy may arm a terrorist group with weapons of mass destruction so that the government itself is not held directly responsible (Nacos).

The third way that a terrorist group could get a nuclear weapon is to build its own. The first difficulty would be getting bomb-grade nuclear material. As discussed above, this type of nuclear material is generally very well guarded and would be difficult to steal.

The easiest means by which a terrorist group might make a nuclear bomb would be to find a government willing to allow access to its laboratories or its arsenals, but few, if any, governments are willing to take such a risk today.... (Combs)

Even if a terrorist group were able to get the fissile material to build a viable nuclear device, there would be extreme technical and engineering difficulties. The creation of a nuclear weapon would be a life-threatening procedure for the manufacturers, though, given their willingness to die for their cause, this may not be a concern for many terrorists (Wirz and Egger). To test the feasibility of designing a nuclear weapon, the United States carried out the N-th Country experiment between 1964 and 1967. During these three years, three post-doctorate physicists were assigned to the task of developing a viable fissile weapon design. They had no access to classified information. After the three year time period, they were told that the bomb they had

proposed was indeed viable, but, since it was never actually built, there was no information on how strong it would have been (Wirz and Egger). These physicists had access to engineers who would test some of their assumptions for them, which gave them more time to focus on the technical portions of the blueprint and also allowed them to use their specific knowledge without having to learn more about engineering. There is little doubt that a well-funded terrorist group could pay a group of physicists to do the job, but it would be extremely difficult to access to required materials and information without drawing attention to the group and its possible objectives (Wirz and Egger). The N-th Country experiment is a prime example of the difficulties involved in creating a nuclear weapon.

Although the extreme difficulties presented to terrorist groups trying to get a nuclear weapon is reassuring, if presented with the chance, many terrorists very well may take advantage of the opportunity and use a nuclear weapon. After Kabul fell to the Northern Alliance in November, 2001, “hundreds of pages of photocopies, handwritten, and printed documents, written in a mixture of Arabic, Urdu, Persian, Mandarin, Russian, and English, were recovered from a number of al-Qaeda houses....(Combs)” Al Qaeda, as evidenced by their discussions with various countries in an effort to get a nuclear weapon, has been hoping to acquire nuclear devices for at least fifteen years. In 1998, Osama bin Laden issued a fatwa, which is considered illegitimate by most Muslim since he has no religious authority, in which he called on all Muslims to kill Americans and American allies, both civilians and military personnel. He claimed that this action was in accordance with the words of Allah, and, further, that if nuclear weapons were the best way to go about killing a large number of Americans, than that would be appropriate (Mowatt-Larssen). It is disturbing that some terrorist groups would be more than

willing to use weapons of mass destruction such as atomic bombs, but the likelihood of this scenario actually coming to life is so limited that it should not be a major concern in the war on terror.

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