By Alex Shone

Chemical, biological and radiological (CBR) weapons all fall under the insidious acronym, "CBRN", missing of course the ultimate nuclear (N) option. Debate and discussion on the nature of a "new" terrorism has revolved around the potential for a terrorist deployment of a CBR weapon. This threat is cited as the result of the worldwide proliferation of technologies, expertise and materials via black markets and the internet. There is an equally vocal countenance to this debate that the realities involved in deploying a successful and effective CBR weapon place the endeavour beyond the interests of those terrorist groups who realistically could make the attempt. Nonetheless, the threat is undoubtedly treated seriously by authorities worldwide and the question remains as to whether CBR weapons really do pose the threat that we are often led to believe. Many countries have now experienced terrorism within their borders, and the kind of attack their counter-terrorist strategy should prepare for is a critical question. CBR remains a continuously advancing possibility, the potential damage of which runs parallel to much of the ongoing medical and other scientific research in its related fields.

The classic case-study of a CBR attack remains Japanese terrorist group, Aum Shinrikyo's release of Sarin gas, into the Tokyo underground in 1995. The fact that any discussion of CBR attack invariably raises this example, demonstrates two points. First, is that CBR devices are clearly weapons of mass disruption or effect where even a failed CBR attack retains its notoriety. Second, is the fact that this event from 1995 has not been replicated by a more recent example against a background of a multitude of terrorist attacks. Indeed, all the attacks since have proved very different and are currently progressing along a divergent strategic trend to the acquisition of viable a CBR device.

Rather, one might contend that if anything, terrorists are scaling back the complexity of their attacks. By this, it is meant that attacks are becoming far simpler in their composition, planning and execution. A very recent example is the 5th November 2009 shooting by U.S. Army Major Nidal Malik Hasan who opened fire upon a group of unarmed soldiers in Fort Hood, Texas. Hasan was able to kill 13 people and wound 42. By any standards, for one man, this can be considered an effective outcome. This can be compared to Lashkar-e-Taiba's attack on the Indian city of Mumbai in November 2008. This event shows what a coordinated and organised team of people are able to achieve, armed with assault weapons and explosives in a populated city centre where the death toll reached several hundred with hundreds more injured.

The distance between these attacks is of course huge, one being conducted by a notorious terrorist organisation, and the other by a 'lone wolf' terrorist actor. Hasan's attack is in one respect similar to other incidents where American citizens have turned weapons indiscriminately on their fellow citizens. However, it is a precedent in another sense because he has been linked to and influenced by radical Islamism. Hasan was a member of the U.S. military, in short, a reliable element. If American citizens can be radicalised by the al-Qaeda

(AQ) franchise and inspired to commit attacks, then arguably a far more insidious potential exists for extremist, home-grown elements to turn against their fellow citizens.

Another important issue here is that terrorists, almost as much as the populations they terrorise, are influenced by other terrorists. Terrorist organisations undoubtedly emulate and replicate successful attacks made by other groups. The example and legacy of 9/11 is one example of this, replications have been attempted from "shoe bomber" Richard Reid to "Christmas Day bomber", Omar Farouk Abdulmutallab. Aviation remains one of the ultimate terrorist targets, though it is now rendered one of the "hardest" targets. Though 9/11 did not inspire aviation terrorism, it defines it and in this author's opinion, likely always will. Abdulmutallab's failed attack is an event that is in many ways an anomalous one, as in all likelihood, a successful avian terrorist attack is in this respect, highly unlikely.

The non-emergence of a successful CBR attack, against a plethora of other devastating yet conventional terrorist attacks, no doubt has an influential factor among terrorist groups in its own right. The message sent is clear; conventional attacks, using small arms and explosives, are far more successful than CBR weapons. Quite simply, the difficulties in producing a basic CBR device outweigh the impact of the effects it would have. CBR devices produced by states, used within the context of inter-state conflict, are force-multipliers. Yet the devices produced by terrorists have proved ineffective. One has only to briefly consider the implications and realities of developing even basic CBR device.

CBR devices require several conditions. They firstly require the necessary materials, though these are not impossible to acquire. In the case of a radiological dispersal device (RDD), radioactive sources are as plentiful as they are varied. However, not all of the available sources are suitable for use in a weapon. Americium 241 is the standard source within many household smoke detectors; but it has small potential for a RDD. Cobalt 60 or Caesium 137, however are extremely dangerous radioactive sources with great potential in RDD devices; but they are also highly secure sources. There are of course, a multitude of sources between these examples that are to be found in a multitude of locations. The fact remains, most realistically obtainable radioactive sources, potentially usable in a RDD would, at best be a secondary factor in terms of their casualty infliction compared to the explosive dispersal feature of the RDD.

CBR devices require expertise. In the case of chemical and biological weapons, expert knowledge is required to develop, store and produce the material for any device. Such materials are extremely dangerous to store and work with outside of laboratory conditions. Then there is the issue of dispersal. This is in many ways the greatest obstacle to the effective deployment of a CBR weapon. If we return to Aum Shinrikyo's use of Sarin, two factors made the attempt ultimately a failure. First is that the Sarin was of insufficient purity to work as intended, demonstrating the difficulty in producing and refining such materials. Second is that the Sarin was dispersed via puncturing the bags in which it was stored with a sharpened umbrella tip. An extremely ineffective method of dispersal, it reflects the operational impracticalities that Aum Shinrikyo faced in executing their plan.

The point being made is that CBR devices do require considerable resources and expertise to

produce. Pure materials would have to be procured, assembled by expert hands in appropriate conditions, and deployed with a viable device. This is of course by no means impossible, but crucially that it has not yet been attempted. Despite expressed interest in CBR weapons, made by AQ and other groups, there is undoubtedly an enormous gap between intent and realistic capability; as well as perhaps, rhetoric. The prospect of a viable CBR weapon is in many ways a 'pipedream' for the terrorist organisations that would, if they could, use one. 9/11 set a precedent for avian terrorism, and is yet to be replicated. It is even further in the past since Aum Shinrikyo's attack, and no serious attempts have been made to replicate their failed attack with a similar or alternative CBR device. Therefore, we can realistically ask whether the likelihood of a CBR attack is a real possibility by comparison to a conventional terrorist attack.

In conclusion, this author would argue that of course, the possibility of a CBR attack by a terrorist organisation is a future worry. Such a weapon's damage-potential against an unprotected civilian 'soft' target is a dreadful prospect. However, CBR weapons do not currently reflect the strategic trend pursued by terrorist organisations. It is the opinion of this author that our fears of terrorism are far better placed in a conventional attack using small arms of explosives, by a 'lone wolf' or an organised team upon an unprotected civilian target. The realities involved in a creating and deploying a viable CBR device make them an unlikely terrorist opportunity. However, CBR preparedness has an assured and enduring place within CT strategy, in terms of protecting our vulnerability to such an attack as well as reducing the capability of any terrorist or sub-state group to procure and use such a device.