

The United States dealings with nuclear terrorism: cooperation from prevention

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Security experts agree that although unlikely, a nuclear terrorist attack is possible. Concerted efforts are needed in order to secure nuclear materials and nuclear weapons around the globe, particularly from 'countries of concern', in order to prevent their use by terrorist organisations. In this context, the us has a prime role to play as it may provide technical and logistical assistance to countries that are at risk of becoming the unwilling suppliers of fissile material to terrorist organisations. This article examines the possibilities of collaboration between the us and Pakistan in relation to the prevention of nuclear terrorism.

Since 1945 the world has been confronted with three major fears associated with the existence and possible use of nuclear weapons: a potential clash of superpowers during the Cold War era; the political and military peril of nuclear proliferation; and the threat of catastrophic nuclear accidents. Derived from the attacks of 9/11, the latest nuclear anxiety is the danger that sub-state groups will integrate nuclear terrorism into their strategic repertoire by getting hold of unsafe fissile materials or ready-made, black-marketed nuclear weapons [1].

Just like the nuclear countries, terrorists see the 'ultimate destructive power' [2] of nuclear weapons as an instrument for the attainment of their goals. Nuclear weapons are, in this sense, a realistic strategic option that these groups may recur to in order to push the US and its partners to accede to their demands which can range from the withdrawal of US support for Israel, the annexation of Kashmir by Pakistan, or the creation of Islamic governance systems (*Shariah*) around the world [3].

William C. Potter of the Center for Non proliferation Studies and Charles D. Ferguson argue that a nuclear terrorist attack is more likely to happen now than in any other time in the past. The rationale behind this statement lies in two basic premises [4]:

1. Non-state actors have emerged in the form of terrorist networks/organisations, which have the urge to use nuclear weapons for furthering their agendas.
2. Crude but real nuclear weapons, as distinct from radiological dispersal devices, are well within the technical reach of some terrorist organisations.

It is due to these realistic and almost tangible threats that nuclear non-proliferation has become 'the pre-eminent national security issue for the US'. The most prominent policy goal of the US is therefore to keep nuclear weapons, the know-how required for their construction, and the fissile materials that make them dangerous, out of the hands of those who could inflict harm on the country or one of its allies [5]. Thus, the current US strategy of non-proliferation with regards to the terrorist threat could be categorised along the following dimensions:

1. Securing nuclear materials and warheads at the sites where they are stored, a matter that could be termed the 'first line of defence'. [6]
2. Reducing the risk of proliferation or even of nuclear confrontations in South and Central Asia. [7]
3. Securing vulnerable Russian nuclear weapons. [8]
4. Improving protection of nuclear facilities within the US. [9]
5. Improving border and cargo monitoring at the frontier crossings and embarkation points most likely to be used by smugglers. [10]
6. Containing the spread of nuclear intelligence, defined as the know-how and material elements required to build a nuclear explosive device or even more cursory (yet sensitive) information that could give some group access to ready-made nuclear weapons. [11]
7. Preventing more states from acquiring nuclear weapons. [12]

Graham T. Allison has shown, in this sense, the inevitability of nuclear terrorism, arguing that this activity could pick up pace during the next decade. In order to prevent such inevitability, Allison has suggested that the 'thousands of unsecured weapons (soft ball size lumps of highly enriched uranium and weapons-grade plutonium) in Russia should be guarded from being stolen by criminals who could then sell them to terrorists deriving great economic gains' [13].

The US has forged a network of alliances with many countries as a measure to ward off terrorism after the attacks of 9/11. In this respect, the basic strategic goal of the US is to deploy a policy which makes 'prevention the highest priority' in 'countries of concern' [14]. North Korea, Iran, Iraq, Pakistan and Russia could be labeled as 'countries of concern' because of their undemocratic governments, the anti-Americanism that exists in some subgroups of their societies, and the existence of unsecured nuclear weapons or fissile materials which are vulnerable to thefts and may be diverted for their use in nuclear terrorist attacks. The focus of this paper will be limited to the case of Pakistan, a strong partner of the US in its 'war against terrorism', that nevertheless poses, due to its unstable situation and precarious socioeconomic structure, a high risk of being the source of black-marketed nuclear weapons and/or fissile materials. This paper will delve into the current US strategic cooperative efforts towards Pakistan in order to assess and fill any gaps that might exist in a foreign policy approach based on the US's 'first line of defence' rationale.

Defining nuclear terrorism

Nuclear terrorism is a term that is not restricted solely to the use by a terrorist organisation of an explosive nuclear device. According to Ferguson, nuclear terrorism in its broad definition includes actions such as [15]

- The seizure and detonation of an intact nuclear weapon.
- The theft or purchase of highly enriched uranium (HEU) or plutonium, leading to the fabrication and detonation of a crude nuclear weapon, or an improvised nuclear device (IND).
- Attacks against, and sabotage of, nuclear facilities, such as nuclear power plants, to try to cause the release of large amounts of radioactivity.
- The unauthorised acquisition of radioactive materials contributing to the construction and detonation of a radiological dispersion device, popularly known as a 'dirty bomb,' or a radiation emission device.

Nuclear terrorism involving the detonation of an (albeit primitive) nuclear device is not to be deemed a technically unachievable scenario. The simplicity of a gun-type weapon design makes it easier for a terrorist, given access to HEU, to engage in nuclear terrorism. A terrorist group could use, for instance, a commercial explosive to shoot two sub-critical masses of HEU into one another to 'form [the] supercritical mass needed to sustain an explosive chain reaction' [16]. Plutonium could likewise be used as a fissile element, though it implies a greater deal of technical challenges. Plutonium would have to be employed in the more technically sophisticated implosion-assembly method, which uses military-grade explosives and precision detonation electronics to squeeze the plutonium into a supercritical mass.

Al-Qaeda and the inevitability of nuclear terrorism

The probability of a nuclear terrorist attack has increased in the aftermath of 9/11. Security experts agree that although unlikely, a nuclear terrorist attack is possible. Several episodes in the contemporary history of nuclear proliferation unveil, in particular, al-Qaeda's clandestine efforts to get the bomb. As early as December 1998, Bin Laden showed great desires to acquire nuclear weapons for the mass killing of so-called 'infidels'. Bin Laden believes, it is said, that it is a religious duty to possess nuclear weapons and that were he not to follow this duty, he would be committing a sin [17]. Bin Laden tried to acquire nuclear materials as far back as in 1992 when he sought to forge relations with South Africa. Bin Laden was also alleged to have sought a deal with Chechen rebels in Russia to buy a nuclear war head [18].

The fact that, until now, Bin Laden's network has not recurred to a nuclear attack does not mean that such attack will not occur. Evidence shows that there is an important probability of a large-scale terrorist attack involving the use of nuclear weapons. In the aftermath of 9/11, Osama Bin Laden was reported to have said in an interview with the Pakistani news paper *Dawn* that if the US uses nuclear weapons on Osama Bin Laden groups and affiliates, he would attack the US with nuclear and/or chemical/biological weapons. In the same interview, Bin Laden also assured that he possessed weapons of mass destruction [19].

The statements issued by al-Qaeda before and after the 9/11 attacks are evidence of the intense hatred this network holds towards Americans. Graham Allison argues, in this sense,

that al-Qaeda would not miss any chance to kill and injure millions of Americans, since they believe that America's collaboration with 'the Jewish' 'is the cause of corruption and is responsible for the breakdown of values: moral, ideological, political and economic'. The poor state of Muslims in the contemporary world, according to their view, is due to America [20]. The document *Terrorist CBRN: Materials and Effects* produced in 2003 reports, for instance, that Islamist extremists linked to al-Qaeda leader Osama bin Laden 'have a wide variety of potential agents and delivery means to choose from for chemical, biological and radiological or nuclear (CBRN) attacks.' The goal of these terrorists would thus be to use CBRN to cause mass casualties. 'Attacks would be small scale, incorporating relatively crude delivery means and easily produced or obtained chemicals, toxins or radiological substances' [21].

However, many analysts and policy makers have argued that nuclear terrorism is not inevitable. Robin Frost argues that obtaining access to fissile material and consequently assembling an explosive device would prove to be a very difficult for a terrorist organisation. Frost does not limit the definition of terrorist organisations to al-Qaeda; he includes many other such organisations. These organisations draw their motivations from multifarious political, spiritual and historical events, like Aum Shinriko in Japan, the National Liberation Front of Nigeria, the Irish Republic Army, and other separatist organisations who could find 'hostage-taking, conventional bombings, shoot and run sniper attacks more feasible and cheaper to attain their terrorist motivations' [22].

Despite these criticisms, the sheer danger posed by the possibility of a nuclear-armed al-Qaeda makes focus on this organisation highly relevant. Even Frost has contended that al-Qaeda stands today as the most dangerous religious terrorist organisation [23]. Frost even concedes that al-Qaeda has attempted to acquire a nuclear weapon and is obsessed with killing American citizens.

Similarly, I argue that al-Qaeda believes in nuclear terrorism as an instrument that will allow this organisation to fulfil its goals (in particular, the assassination of Americans). Osama Bin Laden, leader of al-Qaeda, runs this organisation on the core beliefs of extremist political Islam, making it easier for these Sunni fundamentalists to renounce to their lives in the process of killing the 'infidels' in this world. After all, this belief contends, martyrs will be rewarded with 72 wives and a mansion of gold in the afterlife which, incidentally, is more important than earthly existence [24]. For Bin Laden and his followers, praying, marrying twelve wives, living in caves, crossing the snow-clad mountains of northern Kashmir and Afghanistan without the basic amenities of survival, fasting in Ramadan, or killing 'infidels' are all on the same level, all mere acts to make Allah content. The force of *Imaan* (belief in Arabic) could make them do anything. These extremist individuals, whether from Hizbollah or Jaish-e Mohammed, draw their motivations from the battles fought between Prophet Mohammed and the Jews of Medina in the 600 AD Battle of Badr, where Muslims were a small minority but overwhelmed their opponents. The battle of Karbala is also a mythical figure in the minds of Sunni fundamentalist terrorist groups, and although a defeat for Husyn, grandson of Prophet Mohammed, it is seen with reverence, extreme passion and devotion. Moreover, due to their beliefs in a Muslim brotherhood (based on the fear of Allah and giving one's life while pursuing *jihad* for saving Allah's religion), al-Qaeda deems it reasonable to use any means available, whether it be nuclear weapons or aeroplanes and buildings, for spreading Islam and killing the western 'Satan', i.e. the US [25].

Bin Laden wants to bring the 'rule of Allah' to the world, and is not inspired by any 'cult' or driven by the need to make his 'personality special or gifted' [26]. Bin Laden said in one of his sermons [27]:

All these crimes and sins committed by the Americans are a clear declaration of war on Allah, his messenger, and Muslims. And *Ulema* have throughout Islamic history unanimously agreed that the *jihad* is an individual duty if the enemy destroys the Muslim countries. This was revealed by Imam Bin-Qadamah in *Al-Mughni*, Imam al-Kisa'i in *Al-Bada'i*, al-Qurtubi in his interpretation, and the Shaykh of al-Islam in his books, where he said: 'As for the fighting to repulse [an enemy], it is aimed at defending sanctity and religion, and it is a duty as agreed [by the ulema]. Nothing is more sacred than belief except repulsing an enemy who is attacking religion and life'.

The above mentioned evidence makes it clear that al-Qaeda is adamant to engage in nuclear terrorism.

Deterrence and nuclear terrorism

The traditional strategy that was used between states to prevent either the spread of nuclear weapons or their first use was that of deterrence. This concept, however, may fail in its applicability once it is extended to the domain of nuclear terrorism due to the mere fact that sub-state actors do not respond in the same way as a nation or a centralised bureaucratic system. Thus, in the literature, arguments have been made both for and against deterrence as a line of defence against nuclear terrorism.

The main position in the literature argues that deterrence, defined as threatening an enemy with assured destruction, cannot work effectively against non-state actors, i.e. the terrorists. Deterrence, in this view, is only viable for enemies having a territorial reality [28].

However, Micheal A. Levi [29] argues that 'with a little technological innovation, deterrence can become a useful strategy against terrorist use of nuclear weapons'. Given that nuclear terrorism depends on the existence of a state-based source of either active weapons or basic fissile materials, deterrence could work under the guarantee of massive retaliation against countries involved in the promotion and/or sponsorship of terrorism: 'those rogue states who are caught secretly or overtly providing nuclear materials and weapons to terrorists' and who could consequently be threatened with complete nuclear retaliation in the form of a inter-state confrontation (although the legality of this issue is left open to questioning). Levi thus argue that

[B]uilding on scientific techniques developed during the Cold War, the United States stands a good chance of developing the tools needed to attribute terrorist nuclear attacks to their state sponsors. If it can put those tools in place and let its enemies know of their existence, deterrence could become one of the most valuable tools in the war on terror.

I concur with Levi, insofar as deterrence can be used as a measure against nuclear terrorism. Once the links of the rogue states with terrorists are unveiled, massive retaliation could be used

destroy such links: focus should be on breaking the links of terrorist with any states/non state actors transferring fissile material.

The us and Pakistan

The history of the US-Pakistan relationship is chequered. Sometimes Pakistan has been the US's most favoured ally and sometimes a troublesome friend. Now, Pakistan represents three things to the US; 'a staunch ally', 'a threat' and a 'troublesome friend'.

For instance, Pakistan is termed as the most favoured non-NATO ally by the US (specifically by the administration of President George W. Bush and in reference to its role in the war against nuclear terrorism.) This position has been cemented by the work of Pervez Musharraf, President of Pakistan; he is often referred to by anti-American elements within the country as 'Busharf' due to his strong pro-American leanings [30]. On the other hand, after the A. Q. Khan nuclear black market network was exposed in 2004, Pakistan also came to symbolise a 'hub of terrorists', remaining as a great concern for the international community. The doubtful ability to secure loose nuclear materials in Pakistan is, in this sense, one of the sources of anxiety. In particular, there is a fear that followers of al-Qaeda holding major posts in the Pakistani army and the Inter Services Intelligence Agencies might choose to divert nuclear weapons to their parent organisation [31].

President Musharraf has reiterated that nuclear command and control in Pakistan is securely delegated and that nuclear materials are secure and protected from terrorist elements. However, it has been argued that this false 'expressed belief' of Musharraf poses a major problem in securing nuclear material from the twisted ideologies of terrorists [32].

Nuclear command and control in Pakistan

Command, Control, Communication and Intelligence Systems (C3I) are the arrangements of facilities, personnel, procedures and means of information acquisition, processing and dissemination used by a commander in planning, directing and controlling military operations [33]. Safe and reliable C3I systems are thus a prerequisite in preventing access to nuclear materials.

There are many features of the existing Command and Control (CC) system in Pakistan which deviate from the typical US-USSR model. Pakistani policy makers contend that 'the issues relating to the nuclear [CC] in the Indo-Pakistani context are different in nature from those of the Cold War Model. The geographical proximity of the two countries, the asymmetry in conventional forces, and the low strategic warning times are factors that demand highly efficient and reliable CC executed by their respective decision making authorities. The absolute failsafe CC is not likely to be achieved by either side in near future; indeed, such an ideal was perhaps not even achieved by the US or the USSR. Thus, an 'always/never' dilemma will continue to be part of the risk calculus for accidental or unauthorised use of nuclear weapons on both sides' [34].

Khalid Banuri of the Pakistani Strategic Plans Division elaborates that 'Pakistan has established an effective and reliable National Command Authority (NCA) that is at the apex of a decision-making body under the chairmanship of the President, with the Prime Minister as its Vice-Chairman.' This system consists of an Employment Control Committee and Development Control Committee as well as of a Strategic Plans Division (SPD) which acts as its Secretariat, and a Strategic Force Commands with clearly defined functions. The operational

control of all strategic assets in Pakistan rests directly with the NCA through the SPD which has, on ground, a very elaborate and layered security structure under a Director General Security, reporting directly to the Director of SPD [35].

Pakistan has also taken steps towards the evolution of its export-control legislation, now approved by the Cabinet and under revision within the Parliament. This legislation lays down strict export-control measures and will take stringent actions for any attempt or violation of export-control laws.

Pakistan furthermore has a rigorous screening for human reliability at various levels of access to nuclear materials. Likewise, Pakistan is open to outside assistance, the overarching principle being, however, non-intrusiveness [36].

In particular, it is Pakistan's Strategic Plans Division which looks after the security of nuclear materials and facilities. Other measures taken by Pakistan to secure its nuclear materials include:

- The introduction of domestic legislation to tighten controls on nuclear-related exports
- The improvement of physical security at sensitive facilities
- The strengthening of the personnel reliability system
- The relocation of nuclear materials and weapons to more secure locations, and
- The removal of individuals involved in the nuclear black market from their posts within the nuclear establishment [37].

No to sanctions – yes to economic help

Ferguson has argued that certain countries who have terrorist cells, like Pakistan, should be penalised [38]. However, while refuting Ferguson, Touqir has argued that any kind of American sanctions towards Pakistan would not be a good tool to combat terrorism for they would have overall debilitating effects [39]. Sanctions would 'squeeze Pakistan economically, giving rise to more extremist elements. Resource-starved sectors such as health care, education and correctional services should be stimulated so that more jobs, better education and health services are provided to the marginalised populations. In this sense, the focus of attention should not be on the sanctioning of a nation-state (i.e. Pakistan), but rather the recognition that unemployed youth facing severe economic challenges, for instance, are attracted by extremist organisations are therefore candidates to become suicide bombers.

The US has to forge a policy towards Pakistan which plucks out the root causes of terrorism following an approach different from that of sanctions and diplomatic retaliations. As in the past, the US should help Pakistan both economically and socially.

The United States should not suffer from any political myopia while reviewing its economic policies towards Pakistan. The US has to commence its anti-terrorist fight by educating both the civilian and military populations: an implementation of social and educational reforms is essential. In addition, the US should help India and Pakistan to build peace and pursue complete disarmament, so that the ambitions of nuclear terrorists are nipped at their base [40].

The US and Pakistan have cooperated with each other to root out the menace of terrorism in the past, so actions of this type are not without some sort of precedence. For instance,

within the three years that followed the 9/11 attacks, the US gave economic aid to Pakistan in the order of \$1 billion, and wrote off \$1 billion in debt. In June 2003, the US announced it would give a \$3 billion aid package to Pakistan to be distributed over five years. This aid is aimed at assisting the (traditional) economic and security sectors. A framework agreement on trade and investment has also been signed between these two countries, including a \$1.2 billion arms-sales package that includes the sale of P3 Orion aircrafts. The United States has also reinstated a military-training programme through which some three hundred officers have received instruction at American military institutions since 2001. Pakistan-US relations are not limited only to this kind of military intelligence relationship but extend further [41].

Curtailing anti Americanism

US economic assistance towards Pakistan could be used to curtail anti-Americanism. The traditional Pakistani army has been inculcated with doctrines imbedded with a deep hatred for Jews and Hindus [42]. A strategic reorientation of the Pakistani army's thinking is needed to pave the way for the evolution of liberal-minded officers who are tilted more towards US interests than those of Osama Bin Laden [43].

Broader reforms in Pakistan are central to combating terrorism of all kinds. For many years, political parties and governments used the goad of anti-Americanism to win public support and to divert attention away from festering domestic issues. Now the very same anti-Americanism is being used by extreme Islamists. Both the Pakistani and US governments should cooperate to root out hatred towards the US amongst Pakistani civil and political elites as well as within the larger population via, for instance, media campaigns and education [44].

India-Pakistan rivalry and nuclear security

The rivalry between India and Pakistan enhances the risk of nuclear material from being diverted into terrorist activities. The 'new peace' between India and Pakistan could bolster this aspect of security in the region, in direct benefit to the US and its allies [45].

Pakistan's first-use policy and inferiority in conventional weapons *vis à vis* India have given it strong incentives for the deployment of its nuclear arsenal, raising concerns in the US policy-making elite, and forcing them to work even harder to provide assistance on detection technologies to Pakistan

So far India and Pakistan have participated in nuclear-threat reduction measures. They have signed or acceded to regional cooperative agreements containing disarmament components; and have participated in IAEA nuclear safety and security training courses [46].

'Both countries are also required to provide the highest standards of security for fissile material under UN Resolution 1540, and as members of the Convention on Physical Protection of Nuclear Materials' [47]. Although India and Pakistan have taken measures to secure their nuclear stockpiles, they have done so on their own terms and have not provided concrete evidence to the international community that their nuclear storage facilities are not vulnerable. Their national sovereignty overwhelms nuclear security measures. Both countries are suspicious about any intrusive act of the IAEA.

The US could encourage Pakistan to become more cooperative and transparent about its nuclear programme, without compromising its national interests. Unlike Russia, Pakistan is not likely to allow any US nuclear experts or laboratory specialists in its nuclear facilities, even if it

were part of an upgrade in security. In the future, Pakistan cannot be expected to dismantle its nuclear establishment, 'closing down facilities and blending down fissile materials' [48].

While looking for a cooperative deal with Pakistan, the US should embark on the development of a 'not-so-hyper' intrusive tool to safeguard fissile material that keeps in view Pakistan's national security interests and sensitivities related to sovereignty [49].

The US should pave the way for bilateral dialogue on the possible 'menu' of low-intrusive tools, for both civilian and military sites where nuclear material is stored, that could be further adopted and implemented by Pakistan unilaterally. Other cooperative measures could be as follows [50]:

training programs, exchanges of best practices, and steps to strengthen the security culture in all nuclear-related institutions. Organisational links, such as lab-to-lab relations and scientific exchanges, could also be explored. Dialogue might need to begin by addressing the outsider threat (guard training, fences, cameras, equipment, et cetera) because the insider threat is more sensitive and touches on broader internal issues that will be more difficult to address without a certain level of trust. It may also be possible to provide uncontroversial and non intrusive up-to-date technology that is not nuclear specific, including surveillance monitoring and physical access controls.

Some more steps proposed in the literature go as follows:

- ensuring that personnel reliability systems are as up-to-date and efficient as possible
- updating physical security standards at all nuclear facilities and for weapons, weapon components and materials, including barriers and perimeters, surveillance, and access control techniques
- strengthening the security of radioactive material held by non-state agencies
- ensuring effective planning for dealing with emergencies and response procedures
- ensuring effective control and accounting for weapons, weapon components, and materials
- reviewing the most likely threats and designing protection that ensures a high level of security, and
- discussing stringent export control law implementation.

The 2001 visit by Secretary of State Collin Powell initiated a bilateral dialogue between the US and Pakistan to talk about nuclear security. They were called the 'non intrusive and non sensitive expert-level' discussions. The scope of the discussion extends from 'export and commodity controls to personnel reliability programs, nuclear material protection, control and accounting, transportation security, knowledge exchanges, and training'. Progress on these dialogues is successful [51].

PAL assistance to Pakistan under cooperative threat reduction measures

Permissive Action Links, or PALs, are a technology integrated into nuclear weapons to force any potential user to enter an authorisation code before the weapon can be armed. The combined features in PAL mean that any group that were able to obtain one of Pakistan's

weapons would encounter great difficulty in arming or using the device. PAL deals with securing nuclear weapons and not the underlying nuclear material. Securing nuclear material and nuclear weapons are two different things.

Cooperative Threat Reduction Measures (CTRM), on the other hand, are a cooperative assistance program offered by the US to countries like Russia who are signatories of the Non-Proliferation Treaty (NPT) for securing nuclear materials and arsenal.

There are various kinds of constraints faced by the US for the application of CTRM in Pakistan. For instance, international legal constraints make it difficult for the US to provide any kind of technology to Pakistan, which is (in the framework of the NPT) a non-nuclear state. US domestic laws have 'incorporated significant non proliferation requirements' which also make it difficult to cooperate with Pakistan. For instance Atomic Energy Act requires that states receiving US original nuclear material should not transfer it to anyone, putting this technology under tight security. The act also needs an Agreement of Cooperation before any technology is transferred, and currently, the US and Pakistan do not have such an agreement. There are also technical limitations for the US to provide nuclear securing technology to Pakistan, namely, because of its very secretly guarded nuclear weapons programme. Knowledge about Pakistani nuclear weapons is inadequate, posing a technical hurdle for the US since there is great uncertainty as to what they would be dealing with. However, it is desirable that the United States 'offer security assistance [to Pakistan] that includes generic physical security procedures, unclassified military handbooks, portal control equipment, sophisticated vaults and access doors, and personnel reliability programs' [52].

Conclusion

Al-Qaeda's core philosophy is to bring mass deaths to Americans and to bring 'Allah's rule' around the world. Bin Laden's network believes they could only be successful if they 'bring death to the US'. This destructive goal requires powerful weapons and nuclear weapons seem a viable option to achieve their end. Concerted efforts are needed with the help of the US to secure nuclear materials and nuclear weapons around the globe particularly from countries of concern, thus denying al-Qaeda any access. Pakistan's factional infighting within the Pakistani Army could put a dangerous question mark over the command and control of Islamabad's nuclear material and weapons. Similarly, a wider civil war in Pakistan could jeopardise the safety and security of its fissile material stocks and nuclear installations. A few assassination attempts on President Musharraf in 2003 and 2004 are examples of militants trying to oust him from the leadership of Pakistan. This reality has added more to the insecurity of Pakistani nuclear material. Although the US has cooperated with Pakistan in some quarters for the security and safety of nuclear related issues, America's own domestic laws, the Nuclear Non-Proliferation Treaty, the sensitive nature of Pakistani nuclear arsenal, the India-Pakistan nuclear rivalry and the lack of confidence-building measures between these two nations, illiteracy and anti-Americanism in Pakistan, remain hurdles preventing the US to forge true cooperation for the security of nuclear weapons and materials in Pakistan. Cooperative Threat Reduction Measures, which are currently applicable to Russia, should be made globally accessible to prevent nuclear terrorism at its roots.

Notes

1. Report of the International Task Force on the Prevention of Nuclear Terrorism. (http://www.nci.org/NEW/NT/task-force/p_05.htm or <http://www.nci.org/nuketerror.htm>).
 2. Lawrence Freedman, *The Evolution of Nuclear Strategy*, Mac Millan Press Ltd., UK, 1981, pp. 6-7.
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 6. Ibid.
 7. Charles D. Ferguson, *Probability of a Nuclear Attack by Terrorists Has Increased, Warns Council Report*, Council on Foreign Relations, 28 March 2006 (http://www.cfr.org/publication/10266/probability_of_a_nuclear_attack_by_terrorists_has_increased_warns_council_report.html).
 8. Ibid.
 9. See [4].
 10. See [5].
 11. Ibid.
 12. Graham Allison, *Nuclear Terrorism: the Ultimate Preventable Catastrophe*, Henry Holt, US, 2005. One of the 'Three Nos' to prevent nuclear terrorism is to stop nuclear proliferation to new countries.
 13. See [12, p. 9].
 14. See [7].
 15. Ibid.
 16. See [7] and Richard A. Clarke, Rand Beers, et al., *Preventing nuclear terrorism*, in *The Forgotten Homeland: A Century Foundation Task Force Report*, 29 June 2006, chapter 14.
 17. ABC News interview, *Terror suspect: An interview with Osama Bin Laden*, 22 December 1998 (conducted in Afghanistan by ABC News producer Rahimullah Yousafzai).
 18. See [12, p. 3].
 19. David William and Alan C. Miller, *US raises concern over nuclear terrorism acts: Sept. 11 attacks raises possibility*, Los Angeles Times, 11 November 2001.
 20. See [12, p. 13].
 21. Analysis by Bill Gertz, *CIA says al Qaeda ready to use nukes*, The Washington Times, 3 June 2003. (<http://www.washtimes.com/national/20030603-122052-2698r.htm>).
 22. Robin Frost, *Nuclear Terrorism After 9/11*, Adelphi Papers 378, International Institute of Strategic Studies, UK, 2005.
 23. See [22, pp. 55-57].
 24. al-Qaeda has misinterpreted Islam and defamed *Quranic* verses related to 'life after death' and 'rewards earned in paradise' or *Jannah*.
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25. Derived from many interviews of Osama Bin Laden and his affiliates after 9/11 in Urdu news paper from Pakistan (Naway Waqat, Jang) and English-language dailies (The News, Dawn).
 26. See [22, p. 44].
 27. Jihad Against Jews and Crusaders: World Islamic Front Statement 23 February 1998. FAS Note: The following statement from Osama bin Laden and his associates purports to be a religious ruling (fatwa) requiring the killing of Americans, both civilian and military. This document is part of the evidence that links the bin Laden network to the September 11 terrorist attacks on New York and Washington. The original Arabic text of this statement may be found here. Frost has argued that there are risks of leakage of nuclear weapons from Russia. (<http://www.fas.org/irp/world/para/docs/980223-fatwa.html>).
 28. See [7].
 29. Micheal A. Levi, Detering nuclear terrorism, *Issues in Science and Technology* (Spring 2004), A publication of the National Academies and the University of Texas at Dallas.
 30. Sharon Squassoni, Nuclear Threat Reduction Measures for India and Pakistan, Congressional Research Service, 5 May 2003 (updated 17 February 2005). (<http://www.fas.org/sgp/crs/nuke/RL31589.pdf>).
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 33. Clayton P. Bowen and Daniel Wolven, Command and control challenges in South Asia, *The Non Proliferation Review* (Spring/Summer 1999), p. 25.
 34. Khurram Shaik and Khalid Banuri, An Outline of Pakistan's Nuclear Command and Control, 18 November 2004. (<http://www.pakdef.info/forum/archive/index.php/t-6250.html>).
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 37. Muhammad Afzal, Cooperation in Fissile Material Management: The View From Pakistan, paper submitted to the Institute for Nuclear Materials Management Annual Meeting, 12 July 2005; Major General Mahmoud Ali Durrani (Ret.), Pakistan's Strategic Thinking and the Role of Nuclear Weapons, Cooperative Monitoring Center Occasional Paper No. 37, July 2004.
 38. See [7].
 39. Touqir Hussain, US-Pakistan Engagement: The War on Terrorism and Beyond, Special Report No. 145, United States Institute of Peace, July 2005. (<http://www.usip.org/specialists/bios/current/hussain.html>).
 40. See [39].
 41. Ibid.
 42. Just like any nationalistic army, the Pakistani army had evolved to think of Indians and Jews as its enemies. Pakistan's secession from India and the latter's close ties with Israel are the major reason for this cultural attitude.
 43. See [39].
 44. Mushahid Hussain, Anti Americanism has roots in US foreign policy, Common Dreams News Center, Published by Inter Press Service.
 45. The term 'New Peace' was first used by Dr. Shaun Gregory, The Department of Peace Studies, University of Bradford; see his 'New Peace, New War: Global Perspective', read on the launch conference of the International Center for peace and conflict Studies, Islamabad, 20 May 2004. See
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- also Sarah Bokhari, Indo-Pak 'new peace', *ISYP Journal on Science and World Affairs* 1 (2) (2005) 145-151.
46. Pakistan participated in an IAEA safety workshop held in Islamabad and an IAEA-sponsored physical protection training course at Sandia in 2002. In 2002, India requested a regional workshop on physical protection, and India was one of several states in which the IAEA conducted physical protection-related seminars in 2003.
 47. Kenneth N. Luongo and Isabelle Williams, *Seizing the moment: Using the US-Indian nuclear deal to improve fissile material security*, *Arms Control Today*, May 2006. (http://www.armscontrol.org/act/2006_05/usindiafissilesecurity.asp#bio).
 48. *Ibid.*
 49. Ramamurti Rajaraman, *Cooperative Threat Reduction: Is There Scope for Extension to South Asia*, Landau Network Centre Volta Workshop on South Asia Discussion Paper 1, *Arms Control Today*, 27 September 2004. (http://www.armscontrol.org/act/2006_05/usindiafissilesecurity.asp?print).
 50. *Ibid.*
 51. *Ibid.*
 52. See [7].
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