

The Committee requested that I address three issues:

- 1) Assess security challenges to Pakistani nuclear weapons
- 2) Outline the threat posed by nuclear terrorism
- 3) Make recommendations to help guide U.S.-Pakistani nuclear cooperation

To that end, I co-authored testimony with my Harvard colleague and nuclear security expert Matthew Bunn. We provided this testimony in the form of a comprehensive paper that was restricted to committee members. We requested that the paper be handled in this unusual manner due to the sensitivities of the subject matter, and in deference to ongoing cooperation between the U.S. and Pakistan on nuclear-weapons security.

I am personally convinced that efforts to work more closely in nuclear security are in the national interests of both the United States and Pakistan - and that such cooperation helps enhance global security. I appreciate the committee's willingness to handle our testimony discreetly, recognizing that national sovereignty issues and special sensitivities apply to ongoing nuclear security-related cooperation.

Contextually, it is also important to bear in mind that the Pakistan military that controls the nuclear arsenal is highly professional and committed to upgrading nuclear security. The authorities have taken notable measures in a comprehensive effort to strengthen their defenses. They appear to be continuously assessing their overall security and making adjustments to help guard against any security lapse or compromise that might lead to a "loose nuke" or theft of nuclear materials. I believe the responsible approach is to soberly present the challenges Pakistani authorities confront in assuring control over their nuclear assets, without hyping the problem or implying that they don't have the situation in hand.

The problem is not the quality of Pakistan's nuclear security efforts. The problem is that the standard for success is so unforgiving. In a world in which terrorists are actively seeking weapons of mass destruction, there can be no breakdown in security that enables terrorists to obtain a nuclear bomb. The challenge is daunting: states must be successful every time in denying terrorists a nuclear capability; terrorists only have to succeed once. And as an added incentive to be on our toes, we must always bear in mind that there is no such thing as perfect security.

As President Obama stated in his speech in Prague, a terrorist nuclear bomb must never be allowed to devastate any city in the world. This "single bomb" threshold for nuclear threats places enormous strains on nuclear security that did not exist before terrorists arrived on the scene. The implication is that eliminating nuclear terrorism threats will require states to collaborate in ways that may still seem unimaginable, given the unique sensitivities that surround nuclear weapons. States that possess nuclear weapons - the US, Russia, Pakistan, India, and others - bear a special responsibility to work

collaboratively to ensure the world never faces the prospect of a nuclear catastrophe.

There are three broad trends that pose particular challenges to securing Pakistan's nuclear weapons. First, increasing levels of extremism in the country exacerbate the threat posed by malicious insiders in the nuclear establishment - people who may be willing to work with outsiders to provide access to nuclear-weapons related facilities, technologies, and materials. Second, Pakistan's aggressive expansion of their nuclear weapons program means more materials will become available in more places - in short, there will be more places for something to go wrong, greater numbers of possible pathways to a bomb. Moreover, Pakistan's interest in developing smaller, more sophisticated weapons with higher yields will place additional strains on maintaining absolute control over these assets. Third, the overall instability in the country and potential Taliban challenge to the government increases the possibility that at some point in the future, the system for managing nuclear command and control will be tested in unprecedented ways. In this context, while the Pakistan military is reportedly firmly in charge of the National Command Authority (NCA) that controls the use and deployment of nuclear weapons, it is not easy for senior military officers to anticipate and plan for all conceivable challenges to their authority, especially in the event of an extremist ascension to power, or takeover of significant portions of the country.

Denying terrorists a nuclear capability is particularly important in Pakistan's rough neighborhood. Fundamentally, terrorists have three pathways to a nuclear bomb: they can steal a bomb; attack a facility; or steal enough material to build a bomb. The first groups known to possess nuclear intent were the Japanese doomsday cult group Aum Shinrikyo and al Qaeda. Both groups began actively seeking the capability to produce a mushroom cloud in the early 1990's - before the world was watching. Al Qaeda's intent remains firm to this day. Fortunately, terrorists appear thus far to have failed in their efforts to acquire a nuclear bomb. Indeed, it is very difficult for any group to achieve a nuclear capability - but it is not impossible. Our biggest adversary is complacency. Time favors terrorist intent - if the world does not maintain constant vigilance and take the threat seriously, we will fail. Terrorists can wait patiently for opportunity to knock - in the form of a fatal breakdown in nuclear security somewhere in the world that enables them to acquire a bomb, or sufficient materials to build a bomb.

The nuclear terrorism threat is not theoretical - it is real. Over the past fifteen years, there have been nineteen publicized seizures of weapons usable nuclear materials globally. These seizures were serendipitous. The materials were not reported missing from their facility of origin. Historically, there has been a notable lack of resolve - in Pakistan and elsewhere - in dealing firmly with insiders and smugglers in nuclear weapons-related capabilities. The widespread lack of stiff penalties emboldens terrorists and fails to deter those who are willing to aid and abet a nuclear terrorism plot.

Finally, security cooperation between Pakistan and the United States

should focus on the following five generic areas, depending on what is deemed appropriate and consistent with national sovereignty and international obligations under the non-proliferation treaty.

- 1) Counter the insider threat
- 2) Strengthen protection against outsider threats
- 3) Reduce sources of support for terrorism, extremism, and the use of weapons of mass destruction
- 4) Increase awareness that the threat of nuclear terrorism is real
- 5) Improve joint communication mechanisms and reduce sources of misunderstanding. The greatest benefit of a US-Pakistani channel to cooperate on nuclear security is increasing the level of trust and confidence that will become a crucial asset to both sides in the event of a crisis.