Nuclear Weapons: The Challenges Ahead

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Foreword

Terje Rød-Larsen
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The International Peace Academy (IPA) is pleased to introduce a new series of Working Papers within the program *Coping with Crisis, Conflict, and Change: The United Nations and Evolving Capacities for Managing Global Crises*, a four-year research and policy-facilitation program designed to generate fresh thinking about global crises and capacities for effective prevention and response.

In this series of Working Papers, IPA has asked leading experts to undertake a mapping exercise, presenting an assessment of critical challenges to human and international security. A first group of papers provides a horizontal perspective, examining the intersection of multiple challenges in specific regions of the world. A second group takes a vertical approach, providing in-depth analysis of global challenges relating to organized violence, poverty, population trends, public health, and climate change, among other topics. The Working Papers have three main objectives: to advance the understanding of these critical challenges and their interlinkages; to assess capacities to cope with these challenges and to draw scenarios for plausible future developments; and to offer a baseline for longer-term research and policy development.

Out of these initial Working Papers, a grave picture already emerges. The Papers make clear that common challenges take different forms in different regions of the world. At the same time, they show that complexity and interconnectedness will be a crucial attribute of crises in the foreseeable future.

First, new challenges are emerging, such as climate change and demographic trends. At least two billion additional inhabitants, and perhaps closer to three billion, will be added to the world over the next five decades, virtually all in the less developed regions, especially among the poorest countries in Africa and Asia. As a result of climate change, the magnitude and frequency of floods may increase in many regions; floods in coastal Bangladesh and India, for example, are expected to affect several million people. The demand for natural resources—notably water—will increase as a result of population growth and economic development; but some areas may have diminished access to clean water.

Second, some challenges are evolving in more dangerous global configurations such as transnational organized crime and terrorism. Illicit and violent organizations are gaining increasing control over territory, markets, and populations around the world. Non-state armed groups complicate peacemaking efforts due to their continued access to global commodity and arms markets. Many countries, even if they are not directly affected, can suffer from the economic impact of a major terrorist attack. States with ineffective and corrupted institutions may prove to be weak links in global arrangements to deal with threats ranging from the avian flu to transnational terrorism.

Finally, as these complex challenges emerge and evolve, "old" problems still persist. While the number of violent conflicts waged around the world has recently declined, inequality—particularly between groups within the same country—is on the rise. When this intergroup inequality aligns with religious, ethnic, racial and language divides, the prospect of tension rises. Meanwhile, at the state level, the number of actual and aspirant nuclear-armed countries is growing, as is their ability to acquire weapons through illicit global trade.

As the international institutions created in the aftermath of World War II enter their seventh decade, their capacity to cope with this complex, rapidly evolving and interconnected security landscape is being sharply tested. The United Nations has made important progress in some of its core functions—"keeping the peace," providing humanitarian relief, and helping advance human development and security. However, there are

reasons to question whether the broad UN crisis management system for prevention and response is up to the test.

Not only the UN, but also regional and state mechanisms are challenged by this complex landscape and the nature and scale of crises. In the Middle East, for example, interlinked conflicts are complicated by demographic and socioeconomic trends and regional institutions capable of coping with crisis are lacking. In both Latin America and Africa, "old" problems of domestic insecurity arising from weak institutions and incomplete democratization intersect with "new" transnational challenges such as organized crime. Overall, there is reason for concern about net global capacities to cope with these challenges, generating a growing sense of global crisis.

Reading these Working Papers, the first step in a four-year research program, one is left with a sense of urgency about the need for action and change: action where policies and mechanisms have already been identified; change where institutions are deemed inadequate and require innovation. The diversity of challenges suggests that solutions cannot rest in one actor or mechanism alone. For example, greater multilateral engagement can produce a regulatory framework to combat small arms proliferation and misuse, while private actors, including both industry and local communities, will need to play indispensable roles in forging global solutions to public health provision and food security. At the same time, the complexity and intertwined nature of the challenges require solutions at multiple levels. For example, governments will need to confront the realities that demographic change will impose on them in coming years, while international organizations such as the UN have a key role to play in technical assistance and norm-setting in areas as diverse as education, urban planning and environmental control.

That the world is changing is hardly news. What is new is a faster rate of change than ever before and an unprecedented interconnectedness between different domains of human activity—and the crises they can precipitate. This series of Working Papers aims to contribute to understanding these complexities and the responses that are needed from institutions and decision-makers to cope with these crises, challenges and change.

Terje Rød-Larsen

Acronyms

ABM	Anti-Ballistic Missile
CPPNM	Convention on the Physical Protection of Nuclear Materials
CTBT	Comprehensive Test Ban Treaty
CTR	Cooperative Threat Reduction
HEU	Highly enriched uranium
IAEA	International Atomic Energy Agency
MTCR	Missile Technology Control Regime
N-7	Group of seven states convened by Norway in 2005
NAC	New Agenda Coalition
NATO	North Atlantic Treaty Organization
NBCR	Nuclear, biological, chemical, and radiological (weapons)
NNWS	Non-nuclear weapons states
NPT	Nonproliferation Treaty
NSG	Nuclear Suppliers Group
NWFZ	Nuclear weapons free zone
NWS	Nuclear weapons states
P-5	Five permanent members of the United Nations Security Council (China, France, Russia, United Kingdom, United States of America)
PSI	Proliferation Security Initiative
UNSCR 1540	United Nations Security Council Resolution 1540
WMD	Weapons of mass destruction

Introduction

Questions related to nuclear weapons are highly contested in the international arena—including the question of how these weapons constitute a challenge to human and international security. Does the challenge exist mainly in the incorporation of these weapons into military doctrines, or in the possibility that more states and/or terrorists will acquire nuclear capabilities? Have nuclear weapons and nuclear deterrence prevented major wars, or are they ultimately destabilizing—or could both be true?

The inherent difficulty is that the existing distribution of nuclear weapons capabilities serves the interests of some states but not others (i.e., how you see the nuclear challenge depends on where you sit). Yet this is not a situation where all points of view are equally valid: the actual detonation of a nuclear weapon would be catastrophic, killing hundreds of thousands of people—a challenge to human and international security, indeed.

Thus we need a conception of the nuclear question that assumes an irreducible interest in preventing nuclear use, yet simultaneously acknowledges the intense politicization of the nuclear issue. The fundamental challenge is this: how can we build effective approaches to reducing the risk of nuclear use, in the context of vastly different and competing state interests?[1]

Always difficult, this task has become even more complex in recent years, as some states have acquired nuclear weapons status outside the existing regime treaties, and others—e.g., the United States, Iran, and North Korea—appear increasingly uncertain about whether current multilateral institutions can adequately protect their security. The old mechanisms for controlling nuclear dangers are inadequate, but new or strengthened approaches are not solidly in place. Nor is there agreement about the form of those new or strengthened approaches. Rather, the differences among states are often more salient than their common interests concerning nuclear issues; the international discussion is abrasive and frequently counterproductive.

This paper takes stock of this seeming impasse in multilateral efforts to prevent the use of nuclear weapons. It briefly describes the key policy dilemmas at play, but goes on to argue that the underlying challenges are essentially political, reflecting profound differences in state interests and power. We attempt to understand and characterize those political differences, how they shape different multilateral approaches, and what kinds of leadership imperatives they create.

The Nuclear Challenge

Background

Discussion of nuclear issues is often confusing (and confused), particularly at the international level, where there is considerable variation in states' interests and ability to set the terms of debate. Therefore we begin with a few framing observations:

Much of the international discussion of nuclear weapons issues concerns nuclear proliferation, but it is important to remember that the danger of nuclear proliferation is only one aspect of the threat posed by the integration of nuclear weapons into international life. A world where there was no further proliferation, but in which nuclear-armed states were at war, would still not be a safe world.

In this context it is helpful to take a step back and ask, what is the fundamental risk? Why are we worried about proliferation or any other aspect of nuclear policy?

The reason, of course, is that the explosion of nuclear weapons on the scale contemplated by military doctrines would have devastating consequences for human and other life, and for the physical environment. Moreover, the deliberate detonation of even a "small" weapon, by a state or a terrorist group, would not only cause many deaths and create profound economic dislocation, but would likely lead to great instability in the international system.

Even if no additional states acquire nuclear weapons capability, current arsenals stand at nearly 27,000 warheads, over 95 percent of which are held by Russia and the United States (see Box 1). There are some agreements in place to continue stockpile reductions, but their eventual implementation would leave stockpiles still far beyond minimal deterrence levels.

[1] The Nonproliferation Treaty (NPT) is one effort to do this, but states and analysts are increasingly uneasy about whether the NPT can be made an effective instrument of nonproliferation under current international conditions, precisely because of the extreme divergence in states' perceptions of their interests. And even when functioning as designed, the NPT is a limited instrument, capable of addressing possible proliferation but not potential use by those who are already nuclear capable. More generally, this basic problem—how to achieve cooperative action in the context of competing interests—is a central preoccupation in international affairs.

Box 1: Nuclear Warheads and Deployments

Nuclear weapons are integrated into the military posture of key states, including the five permanent members of the United Nations Security Council (P-5). A total of nine states are known or believed to have nuclear weapons:

- Eight states have publicly declared their nuclear weapons programs, and/or held nuclear weapons tests that are taken as indications of a weapons program: China, France, the Russian Federation, the United Kingdom, the United States, the Democratic People's Republic of Korea (North Korea), India, and Pakistan. The first five are considered nuclear weapons states (NWS) under the Nuclear Nonproliferation Treaty (NPT), of which each is a member.[2] India and Pakistan are not members of the NPT, but they announced their programs when they each tested nuclear weapons in 1998. North Korea withdrew from the NPT in 2003; it conducted its first (and so far only) test in October 2006.
- Israel is also assumed to have a nuclear weapons arsenal, although it has not been formally declared; and Israel is not an NPT member.

As the chart below shows, it is thought that these countries together possess just under 27,000 nuclear warheads. The vast majority of these warheads, over 26,000, are held by the United States and Russia, of which about 12,500 "are considered operational, with the balance in reserve or awaiting dismantlement."[3] Although this represents a substantial drop from Cold War years (a high of 70,000 warheads in 1986, and 59,000 in 1990, at the end of the Cold War), the US and Russian arsenals are still greatly beyond what would be needed for minimal nuclear deterrence. The two states agreed in the 2002 Moscow Treaty to reduce their strategic warheads further by year 2012, to a maximum of 2,200 on each side—still a large number that exceeds the requirements of deterrence.

Nuclear Weapons States as Defined by the NPT

	1990	2006
United States	21,004	10,104
USSR/Russia	37,000	16,000
United Kingdom	300	200
France	505	350
China	430 *	200 *
Approximate Total	59,200	26,854

* Change in numbers reflects new information about China's stockpiles

Non-NPT Nuclear Weapons States**

	2006
India	50-60?
Israel	60-80?
North Korea	5-15?
Pakistan	40-50?
Approximate Total	155-205

** Estimates come from Norris and Kristensen's analysis, which is based on what is known about fissile material holdings and experts' interpretations thereof.

Source: Robert S. Norris and Hans M. Kristensen, "Global Nuclear Stockpiles, 1945-2006," *Bulletin of Atomic Scientists* (July/August 2006): 64-66.

This paper assumes that states share a common interest in ensuring that nuclear weapons are not used (and presumably, that there is a declining probability of such use). "Nonproliferation" and "disarmament" are means to this end, not ends in themselves. These were the "ruling concepts" of Cold War approaches to the nuclear issue; it remains to be seen whether these approaches are adequate in the changed circumstances of the early twenty-first century.

If we say that the basic goal of multilateral action is to ensure that nuclear weapons are not used, then two questions follow: What are the conditions that increase/decrease the likelihood of nuclear use? What can be done to prevent such use?

The first question raises issues that are not necessarily specific to nuclear weapons capabilities. We might expect, for example, that the risk of nuclear use would be reduced as effective regional security structures emerge, or as organized terrorist activity recedes. Thus part of the answer to the second question—how to prevent nuclear use—resides in successfully creating the conditions of regional security, and in limiting terrorist activity generally.

But much of the task of prevention concerns nuclear weapons specifically. Historically, states have taken three approaches to reducing the danger of nuclear attack against their territory or their interests: deterrence, defense, and denial (see Box 2). Deterrence

[2] These five states (or the precursor state in the case of Russia) had already exploded nuclear weapons by January 1, 1967, the date established by the NPT as denoting status as a nuclear weapons state.
[3] Norris and Kristensen, "Global Nuclear Stockpiles," p. 64.

and defense have mainly been practiced through national strategies, while denial of nuclear capability (i.e., containing proliferation) includes both multilateral and national action.

Box 2: Protection Against Nuclear Threats

Deterrence describes the posture of nuclear-armed states whereby one state discourages nuclear attack by the other, through maintaining a credible threat of nuclear response. Nuclear forces and doctrines are structured to support this posture, which is sometimes extended to key allies. Bilateral arms control during the Cold War can be understood as an effort of the superpowers to support deterrence by influencing the structure of each other's nuclear forces.

In its most controversial form, defense against nuclear attack consists of defense against ballistic missiles that carry nuclear warheads. Between 1972 and 2002, ballistic missile defense against strategic nuclear attack was prohibited for the United States and the USSR/Russia through the ABM Treaty. This treaty became moot in 2002, when the United States withdrew so it could begin deployment of an experimental ballistic missile defense system.

A strategy of denial is found in efforts to limit proliferation of nuclear capability, reflecting the plausible (though not universally agreed upon) assumption that the risk of use rises with the number of states holding nuclear weapons. The relatively greater emphasis on nonproliferation in international debate occurs both because nonproliferation strategies are more likely to require multilateral partners, and because stopping proliferation is a central concern of the big powers, whose interests tend to set the international agenda.

There is an abundant literature in each of these areas. For a short piece that usefully conceptualizes the way in which national and multilateral policies interact to manage nuclear dangers, see William Walker, "Weapons of Mass Destruction and International Order," *Adelphi Paper* 44, no. 370 (2004).

During the course of the Cold War, there emerged a set of multilateral treaties, arrangements, and institutions that were designed to prevent proliferation of nuclear weapons capability. The core agreement is the Treaty on the Nonproliferation of Nuclear Weapons (NPT). It is supported by activities of the International Atomic Energy Agency (IAEA), and supplemented by numerous agreements (some developed since the end of the Cold War and post 9/11) to limit nuclear testing, to control trade in nuclear weapons-related material, and to secure stockpiles of nuclear material. (See Boxes 3 and 4.)

Together these agreements represent a significant investment in nonproliferation by the international community. Yet, while a large majority of states agree on the desirability of limiting proliferation, their interest in nonproliferation can derive from different sources.

Many states do not themselves have nuclear weapons, nor do they have neighbors that are likely to acquire or threaten them with nuclear weapons. Presumably these states are not concerned about direct nuclear attack so much as the larger consequences of possible nuclear war or use (i.e., massive damage to the environment, global economy, and international stability).

Others do not have nuclear weapons, but they may have neighbors—or countries within missile-strike distance—that may acquire a threatening nuclear weapons capability. These states would thus oppose proliferation on the grounds of both specific and general threats.

States that are nuclear-armed have an additional, particular interest in keeping other states from acquiring nuclear weapons, as that would erode the relative value of their own nuclear capability and limit their military options vis-à-vis potential adversaries that are nuclear armed.

States that believe they are the potential targets of terrorist attack have yet a further reason to worry about the spread of nuclear capability—i.e., that nuclear weapons would be used in a terrorist attack against their territory or interests. The assumption is that such a weapon, or its components, would be acquired through indirect purchase from decommissioned nuclear arsenals, divertible sources of civilian Highly Enriched Uranium (HEU), or certain nuclear-capable states.

Given this variety of motivations, cooperative action can break down when states confront issues that invoke these interests in different ways. And while there are important technical and substantive questions about how best to manage nuclear risk, the greatest challenge is political: finding a way forward in the context of serious disagreement and large imbalances of power.

Box 3: The Nuclear Nonproliferation Regime I: The NPT

The Treaty on the Nonproliferation of Nuclear Weapons (NPT) is the keystone treaty of the nuclear nonproliferation regime. It was opened for signature in 1968 and entered into force in 1970. NPT membership is nearly universal, with 188 states party. Non-parties are the Democratic People's Republic of Korea (DPRK), which withdrew in 2003; India; Israel; and Pakistan. All four non-members are known or presumed to have nuclear weapons capability. The terms of this treaty are as follows:

- NPT members that are nuclear weapons states (NWS) agree not to transfer nuclear weapons to non-nuclear weapons states (NNWS), nor to assist them in developing nuclear weapons (Article I). NWS are defined by the Treaty as those states that "had manufactured and exploded a nuclear weapon or other nuclear device prior to January 1, 1967"; i.e., China, France, the Soviet Union (now Russia), the United Kingdom, and the United States.
- NPT members that are NNWS agree not to develop or otherwise acquire nuclear weapons, nor to receive any assistance in manufacturing them (Article II); and to accept safeguards to verify that they have not diverted fissile material from civilian energy programs to nuclear weapons programs (Article III). These safeguards agreements are negotiated with, and monitored by, the International Atomic Energy Agency (IAEA).
- The NPT does nothing to affect the "inalienable right of all the Parties to the Treaty to develop research, production, and use of nuclear energy…" in conformity with the previous articles. All parties agree to help NNWS develop applications of the peaceful uses of nuclear energy (Article IV).
- All Parties agree to pursue, in good faith, negotiations "on effective measures relating to cessation of the nuclear arms race, nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective control" (Article VI).
- A Party may withdraw from the NPT "if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country." It must give three months advance notice of such withdrawal to all other parties and the UN Security Council (Article X).

Emerging Issues

There is a set of serious, short-term dilemmas confronting the international community on nuclear issues. These include the question of the North Korean and alleged Iranian nuclear weapons programs, and the ever-present fear that terrorists will acquire nuclear or radiological weapons capability. Some particulars of these issues will be discussed below. But these short-term problems are indicative of longer-term underlying weaknesses in the multilateral system's approach to the nuclear question:

Dealing with Non-State Actors

Cold War nonproliferation measures mainly addressed the possibility of proliferation to and by states. Although recent initiatives attempt to extend coverage to non-state actors (e.g., UNSCR 1540, PSI), these are partial, administratively cumbersome, and difficult to enforce. Moreover, steps to gather intelligence about potential terrorist threats are corrosive of basic civil liberties and civilian oversight.

How to Prevent Proliferation to States

Confidence in the NPT is eroding and it is not clear that it can adequately handle proliferation risks. The Security Council has been unable to deal effectively with referrals of NPT noncompliance or withdrawal from treaties. At a time when many analysts predict substantial growth in reliance on nuclear energy, states can still legally develop indigenous fuel cycle capabilities, with apparently inadequate protection against diversion to military programs.

We May be Close to the Point of No Return

If the Iranians are perceived to have successfully kept a nuclear weapons option, it is assumed that several other Middle East states will begin down the nuclear path (or have already begun). We know little about how to maintain stability in a politically tense region with four or five nuclear powers. And while the pressures might not be as intense in Northeast Asia (given the different regional position of North Korea), there is a strong argument that the North Korean program might not be rolled back—lending greater fragility and complexity to regional and global security calculations. If the Middle East or Northeast Asia becomes a proliferating region, we can assume that other states will rethink their non-nuclear status—especially those that already have the technological capability to produce weapons.

Improvements

There are no effective mechanisms in place to constrain qualitative "improvements" in the nuclear capabilities of existing weapons states, nor the nuclear postures that those improvements imply.

Box 4: The Nuclear Nonproliferation Regime II: Additional Mechanisms

Additional nonproliferation institutions and treaties support and complement the NPT:

- The International Atomic Energy Agency (IAEA) was created in 1957. It concludes and monitors safeguards agreements with non-nuclear weapons states that join the NPT, to assure that no nuclear material is diverted from civilian energy programs to nuclear weapons programs.
- The Zangger Committee was established in 1971, to assist states in identifying which materials or equipments should be subjected to safeguards if they are supplied by NPT parties to any NNWS. This Committee has no treaty or compliance mechanisms. Membership in 2006 was thirty-six states.
- The Nuclear Suppliers Group (NSG), formed in 1975, consists of nuclear supplier countries. Also a voluntary group, the NSG develops and implements guidelines for nuclear and nuclear-related exports. Membership in 2006 was forty-five states.
- The Missile Technology Control Regime (MTCR), established in 1987, is a voluntary organization to control transfers and exports of equipment and technology that could be used to develop missile delivery systems for nuclear and other WMD. It had thirty-four members in 2006.
- The Comprehensive Test Ban Treaty (CTBT) was negotiated and opened for signature in 1996. However, its ratification is stalled, and it does not appear that it will enter into force any time soon. It cannot come into force without the United States (the Senate rejected it in 1999), or without several other key states that also have not ratified (China, North Korea, Egypt, India, Indonesia, Iran, Israel, Pakistan). However, nuclear weapons states other than North Korea have been observing a voluntary testing moratorium.
- Nuclear Weapons Free Zones (NWFZs) have been negotiated in Latin America and the Caribbean, the South Pacific, Southeast Asia, Africa, and Central Asia.

In the wake of the 9/11 attacks, there were new efforts to amend or create new agreements to address proliferation to non-state actors:

- The Proliferation Security Initiative (PSI) was established by the United States in May 2003, with sixteen "core" states, all from the global North. It coordinates states' efforts to interdict illegal transport of WMD-related material in transit by ship or air.
- Resolution 1540 (UNSCR 1540), passed in April 2004 by the Security Council, requires all states to enact domestic legislation that would prohibit the transfer of WMD-related material to non-state actors. It was adopted under Chapter VII of the UN Charter. The 1540 Committee was renewed in April 2006.
- The Convention on the Physical Protection of Nuclear Materials (CPPNM), created in 1987 to assure that states adequately protect civilian nuclear material in international transit, was amended in 2005 to require that states adequately secure nuclear materials domestically as well. Membership in 2005 was 110 countries.
- The International Convention for the Suppression of Acts of Nuclear Terrorism was passed by the UN General Assembly, and opened for signature, in 2005. Parties are required to criminalize the actions of individuals who plan or participate in nuclear terrorism. Over 100 states have signed the Convention, although most have not yet ratified it.

Finally, an important part of nonproliferation efforts since the end of the Cold War are those that collectively go under the name of Cooperative Threat Reduction—i.e., projects designed to assist former Soviet states, notably Russia, to secure nuclear stockpiles and to prevent diversion of fissile materials and professional expertise. Initially a set of activities between the United States and Russia, this approach has more recently been adopted and extended by the G-8, in the arrangement known as the Global Partnership.

These developments lead to this question: is it time (or past time) to negotiate a new "bargain" about nuclear weapons, or can the existing regime be made to work? This question will largely be answered in the political realm, by states. The balance of this paper attempts to describe how this occurs: how states are viewing the nuclear issue, and the opportunities—and constraints—that their views create.

Three Views of the Nuclear Challenge

Among states there are broadly three views of the nuclear challenge. These are described in detail in the Appendix, but can be summarized as follows:

1. The Risks are Great and Time is Short

   The most urgent dangers are the potential terrorist use of nuclear weapons and the possibility that "irresponsible" states will acquire nuclear weapons capability, disrupting regional relations, and possibly supplying terrorists with nuclear materials. It is important to address these threats, while simultaneously maintaining robust deterrence and defense against nuclear attack. Multilateral institutions and processes are important to the degree that they facilitate—and do not obstruct—achievement of these objectives.

2. The Greatest Danger is the Erosion of the Nonproliferation Regime

> Nuclear terrorism, nuclear proliferation, and the possibility of nuclearized regional conflict are all real threats, but none can be adequately addressed if the international regime is allowed to collapse. There are several steps that would measurably strengthen the regime and reduce nuclear dangers, all of which could be taken within the framework of existing treaties and institutions. The nuclear policies of the P-5 are not necessarily dangerous—indeed they may be stabilizing—but their effect on international debate can be problematic, and it is important to find a way around the political ramifications of P-5 policies.

3. The Real Threat Comes from Nuclear Weapons States

> As long as nuclear weapons states (NWS) assert their right to maintain and improve their nuclear arsenals, it will not be possible to decrease nuclear threats significantly. The need to counter the power of NWS leads to the pursuit of destabilizing asymmetric means of warfare. If the NWS are not going to reduce their reliance on nuclear weapons, then those non-nuclear weapons states (NNWS) that have the technical ability to produce nuclear weapons may choose to do so—especially if they face regional proliferators. Within a few years we could have a world of fifteen to twenty nuclear-armed states.

These snapshots are of course over-generalized: there are more nuances to many states' views of the nuclear challenge, and some states overlap among these three. Still, these summaries are broadly descriptive of the stances reflected in the international debate. States are distributed as follows:

> A large number of states are concentrated in the second area—concerned that the regime may collapse, but seeing such collapse as unnecessary, and believing that there are sensible ways forward if the political will exists. Some of these are themselves nuclear weapons states, with a strong investment in assuring that there remain effective multilateral controls on proliferation. Also in the second area are some of those states that have the ability to develop nuclear weapons but so far have chosen not to do so.
>
> Fewer states hold the first and third views, but they exert considerable power over the direction of multilateral discussion and activity (or inactivity). The first view, emphasizing counterterrorism and counterproliferation, has disproportionate sway because it essentially describes US policy (and at some points, that of its closest European allies). The United States is unquestionably the most powerful actor in international politics, and its preferences have a large effect on the international policy agenda. This is not simply an active ability to promote its own policies. By ignoring or walking away from an issue or a negotiation, the United States can profoundly affect policy outcomes as well. This is partly what happened at the 2005 NPT Review Conference.
>
> The influence of the third position, which argues that the NWS are the problem, is exercised differently. These views are held by a set of countries—mainly but not exclusively developing countries—that are not themselves easily able to shape the international agenda, but that do, at times, have the power of refusal or delay. Some see themselves as having agreed to a bargain that the NWS have abandoned, i.e. foregoing the nuclear option in exchange for a commitment to disarmament; others may mainly be concerned about the way in which the P-5, and particularly the United States, uses its power in the international arena.

How do these Different Views Play Out in the Multilateral Arena?

General Approaches to Multilateralism

The first way in which these views play out in the multilateral arena is in the general approach that states take to multilateral activity, and here the division is largely between the United States and the rest of the world.

Although the United States is frequently charged with a retreat from multilateralism, the reality is more complex. Finding itself to be not wholly dependent on multilateral action for its security, the United States is able to be selective and opportunistic in its approach, making frequent use of multilateral means to address the nuclear threats that it sees. Thus the

United States is a key player—often the driving force—in the NSG, IAEA, PSI, NATO, UNSCR 1540, various counterterrorism activities, CTR, and the push to use the Security Council to enforce compliance with the NPT.

These areas of substantial US engagement do not, however, necessarily represent a commitment to negotiated, universal arrangements. Indeed, with the exception of UNSCR 1540 (which is universal in its application, but came into being through Security Council action rather than treaty negotiation) and its role in the IAEA, the weight of the United States is decidedly with non-universal, targeted multilateral efforts.

Other states do not necessarily have this degree of selectivity (although the broad generalization of the second view masks some important differences; the P-5, for example, have more flexibility than other states). The United States can afford to pick and choose its engagements, because of its extraordinary power in the international system—a condition that, by definition, does not currently obtain for any other state.

Nonetheless, many other states participate in those multilateral efforts noted above, presumably because they serve their interests. Many also carry a strong commitment to the long-run viability of the NPT. Again, we would expect that these states believe their interest is best served by limiting the number of new nuclear weapons states, and their best route to achieving this is through the binding commitments that the NPT places on NNWS.

More generally, however, the NPT represents one of the few places that states can try to shape the actions of states more powerful than they. At this moment, when the United States is more willing to take and act on decisions by itself, the NPT structure provides a platform for efforts to constrain US behavior. This may be another reason that the United States appears decreasingly inclined to take the NPT seriously.[4]

Priorities for Action: Nuclear Terrorism

Secondly, we see these differences among states play out in terms of the priorities for action to prevent nuclear use—or even how much priority to give to the nuclear issue, relative to other threats.

If one were to identify a single issue on which there is widespread (if not total) agreement in the Western political and analytical communities, it would be this: we face a great (perhaps the greatest) threat from the possibility of the detonation of a nuclear explosive device by terrorists.[5]

While this may be correct, the actual threat is exceedingly hard to gauge; each coefficient in the equation is a probability of incalculable dimension. Will terrorists be able to get the fissile material or the weapon? Will they know what to do with it? Can they get it to its target? Will they evade detection? Will the weapons detonate as planned?

While the probabilities of each of these steps may be difficult to quantify, it is possible to increase the likelihood that the answer to each is "no." This is essentially what those states that feel especially threatened by nuclear terrorism are doing. This means trying to reduce availability (e.g., at the multilateral level this includes UNSCR 1540, PSI, Cooperative Threat Reduction, controls on exports to states that might supply terrorists, and counterproliferation); and working to detect and apprehend terrorists and illicit nuclear material, through intelligence and police activity. By identifying nuclear terrorism as the greatest threat, states may find it easier to marshal resources in the direction of these often costly endeavors.

But this notion of "greatest threat" nonetheless deserves inquiry once we are looking at the threats facing all states. Those who argue that nuclear terrorism is the urgent threat would say that threat is a function of probability multiplied by consequences. The probability that terrorists can successfully detonate a nuclear weapon may be small or unknown, but the consequences—likely hundreds of thousands dead, at a minimum—would be so large that the threat must be considered severe. Indeed, the only circumstances in which one would conclude that there were other, equally commanding threats, would be if some

[4] These issues were discussed in several articles in *International Security* including, Stephen G. Brooks and William C. Wohlforth, "Hard Times for Soft Balancing"; T.V. Paul, "Soft Balancing in the Age of US Primacy"; Robert A. Pape, "Soft Balancing against the United States," *International Security* 30, no. 1 (Summer 2005): 7-139; see also, Robert J. Art, Stephen G. Brooks, William Wohlforth, and Kier A. Lieber and Gerard Alexander, "Correspondence: Striking the Balance," *International Security* 30, no. 3 (Winter 2006): 176-196.

[5] Matthew Bunn and Anthony Wier, "Securing the Bomb 2006." Paper prepared for the *Project on Managing the Atom*, Harvard University, and Nuclear Threat Initiative, July 2006; Graham T. Allison, *Nuclear Terrorism: The Ultimate Preventable Catastrophe* (New York: Times Books/Henry Holt, 2004); Charles D. Ferguson and William C. Potter with Amy Sands, *The Four Faces of Nuclear Terrorism* (New York: Routledge, 2005); William M. Arkin offers a refreshingly critical analysis in William M. Arkin, "The Continuing Misuses of Fear," *Bulletin of the Atomic Scientists* 62, no. 5 (2006): 42-45; GlobalSecurity.org, "US Nuclear Posture Review," December 2001, p. 1, available at www.globalsecurity.org/wmd/library/policy/dod/npr.htm; White House, National Security Strategy, March 2006, available at www.whitehouse.gov/nsc/nss/2006/.

other event had higher probabilities and/or greater consequences. Is that the case?

Again, probabilities are hard to calculate and compare. We cannot quantify the chance that there will be state-level use of nuclear weapons in South Asia, the Taiwan Straits, Northeast Asia, or the Middle East. Nor do we know the likelihood that the United States or France would use a "small" nuclear device in response to an exceptional provocation, though we hope and presume that the probability is low. But are these occurrences more or less likely than the risk that terrorists will detonate a nuclear weapon? Of course we cannot answer that question—though we do know that retaining the option of nuclear use is part of the military doctrine of most nuclear-armed countries.

And we know that any nuclear exchange in these circumstances would likely have consequences equal to, and perhaps far beyond, the devastation caused by the terrorist use of a weapon, although these consequences, at least in the first instance, would be in the regions of use (assuming that the war was contained to that region, which may be a questionable assumption for the Middle East and the Taiwan Straits).

Does any of this matter? Yes and no: No, because any nuclear explosion is bad. One might reasonably argue that more can be done to avert terrorist use than can be done to prevent the use of nuclear weapons in regional conflicts; or even that a form of deterrence is at work in these regions, and that is adequate. Yes, because nuclear terrorism may be the greatest threat for some states, but not others. Yet because the threat of nuclear terrorism drives (and/or is used to justify) the policy of powerful states, it ends up driving the international agenda. And that may well be a misallocation of international attention and resources.

Priorities for Action: Deterrence and the Conditions of Stability

It is not possible to understand the international debate about nuclear weapons without understanding that political leaders in many states believe nuclear weapons have kept their societies safe. They view a world with a small number of "responsible" NWS as the most secure and in need of preservation. If terrorists and "irresponsible" states can be prevented from acquiring nuclear weapons, and if deterrent arsenals are maintained, there is no great danger of nuclear use.

Indeed, in the Western academic literature, there is a case made that the system of Cold War nuclear deterrence prevented major wars between states, allowing the emergence of the "long peace." Others, in the West and elsewhere, would describe the Cold War and subsequent period differently, arguing that the concentration of nuclear weapons capability in the hands of a small number of states allowed those states to exercise undue influence over global political developments. Still others would say that we were lucky to get out of the Cold War alive, and that nuclear weapons—and the political and military ambitions that they unleash—are inherently destabilizing and risky.[6]

Among states, the strongest advocates of the notion that nuclear weapons have produced security are likely to be those states that have nuclear weapons, are protected by them (through alliance relationships), or aspire to have them. The sharpest criticisms of this view often come from those states that have opted not to go down the nuclear path, but could do so, and that feel potentially threatened by nuclear powers; presumably some are privately reserving the nuclear option.

In this sense, disagreements about the security provided by nuclear weapons are not resolvable through better analysis: if you have, or are protected by, nuclear weapons, you feel more secure; if you do not, or are not, you feel less secure.

Still, there are several important issues here that have been taken up by the research community, and that require further analysis:

1. US First Strike Capability?

   Cold War stability is understood to have rested on the potential for mutually assured destruction: the ability of either the United States or the Soviet Union to survive a nuclear attack, and respond with a devastating nuclear attack on the other. Some analysts now argue that, with the erosion of Russia's nuclear capabilities, and the ongoing improvements in US nuclear forces, the United States is moving toward a first strike capability with regard to Russia; and that such a capability already exists with regard to China. (This view is contested in the United States—indeed, seen as

[6] See, for example, Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed* (New York: Norton, 2003); John Lewis Gaddis, *The Long Peace: Inquiries into the History of the Cold War* (New York: Oxford University Press, 1987); Melvyn P. Leffler, *A Preponderance of Power: National Security, the Truman Administration, and the Cold War* (Stanford, CA: Stanford University Press, 1992).

dangerous in the message it sends to Russia and China.) Those who discuss US "primacy" do not assert that the United States would choose to launch a first strike, nor do they claim that this nuclear superiority would necessarily persist after the next ten to twenty-five years. Nonetheless, a shift in this strategic balance would be important, changing power relations among the P-5, perhaps inducing more rapid nuclear modernization in Russia and China, and decreasing "crisis stability."[7]

2. Collective Deterrence

   Although deterrence has been a strategy principally of national governments, it can also be a strategy of collective actors such as the Security Council or NATO.[8]

3. Quantity into Quality

   If we move toward a world of numerous nuclear states—or several highly nuclearized regions—do we need to rethink assumptions about nuclear deterrence? Is deterrence possible if one is facing several nuclear-armed adversaries? Can it be assumed that all nuclear weapons states have sufficiently reliable command and control, that adversaries are confident in their calculations about "deterability"?

Priorities for Action: Deterrence and the Conditions of Stability

The NPT is nearly universally subscribed to, with only four states (all with nuclear weapons) remaining outside it. But questions of compliance with the NPT ultimately rest with the Security Council. Many states see an increasing concentration of power in a Security Council that they believe follows the interests of the P-5 more than those of the broader community of states. This complicates the ability of the Security Council to deal effectively with compliance issues, and will be discussed further below.

What's New?

Given states' varying perceptions of threat and the best way to secure their interests, it is not surprising that multilateral action is difficult, especially when it attempts to reach across the spectrum of states. But states have always had different threat perceptions and interests, without the sense of stalemate and acrimony that pervades nuclear-related discussions today. What is different now?

Basically, several developments have heightened states' anxiety and reduced their confidence in the multilateral system: the reality of state proliferation has become clearer (via Iraq after the first Gulf War; North Korea; A.Q. Khan; Libya; assertions about Iran); the threat of terrorism is taken more seriously; and the United States has changed its role, becoming willing to step outside existing arrangements. The question is whether these trends will continue, and if so, with what longer term effect.

Key Challenges and Institutional Response Capacities

This section discusses substantive policy challenges in the near future, and the political dynamics that they engage:

Keep the Lid on Proliferation to States

It is not clear that this can be done. In the first instance, this is a question of keeping Iran and North Korea from establishing functioning nuclear weapons programs. Sanctions against North Korea and Iran are being attempted, but questions of their enforcement and effectiveness remain.

Both issues have been fractious and their consideration reveals not only divisions between NWS and NNWS, but among NWS. Part of the difficulty facing the Council is the paucity of enforcement measures at its disposal. When sanctions are the only choice, the bar is placed high to take any action at all; yet sanctions alone do not necessarily lead to the desired change in the targeted state's behavior. But lack of political unity within the P-5—and perhaps more

[7] Keir A. Lieber and Daryl G. Press, "The Rise of US Nuclear Primacy," *Foreign Affairs* 85, no. 3 (2006): 55-68; Peter C. Flory, "Just the Facts," *Foreign Affairs* 85 no. 5 (2006): 149-150; Keith Payne, "A Matter of Record," *Foreign Affairs* 85 no. 5 (2006): 150-152; Pavel Podvig, "Open to Question," *Foreign Affairs* 85, no. 5 (2006): 152-153; Alexei Arbatov, "Cutting a Deal," *Foreign Affairs* 85, no. 5 (2006): 153-154.

[8] Not much scholarship exists on collective deterrence, although Patrick Morgan has a useful chapter in his 2003 book *Deterrence Now*, where he describes a number of conditions and implications of deterrence by collective actors. He notes that "a major objective in establishing collective actors has been to diminish reliance by states on deterrence based on WMD by providing a potent alternative… [it] is most unlikely that a collective actor will be able to … promise pure retaliation …[since] in representing the general welfare a collective actor must regard even the target actor *as one of its clients*, which it serves in upholding peace and security" [emphasis in original]. Patrick M. Morgan, *Deterrence Now* (Cambridge: Cambridge University Press, 2003), p. 179.

broadly—is also an important factor in limiting effective action.

If the Security Council is understood to have failed in the North Korean and/or Iranian cases, this will add further questions about the ability of the Security Council—or perhaps any multilateral institution—to enforce compliance with nuclear nonproliferation treaties. Moreover, as noted earlier, if North Korea and Iran are eventually seen as having irrevocable nuclear weapons programs, we can expect that other states will reconsider their non-nuclear status. (This will likely destabilize regional political and military relations, and presumably cause states bordering on those regions, if not worldwide, to reconsider their nuclear status as well.)

Assure that there is No Terrorist Use of a Nuclear Weapon

States and international organizations have a range of measures underway to prevent terrorist use: national and international efforts at interdiction; controls over dismantled weapons; UN conventions on physical protection of nuclear materials and against nuclear terrorism.

The multilateral activity that most engages a large number of states is the implementation of UNSCR 1540. This resolution, passed in 2004, requires all states to prohibit the transfer of WMD related material to non-state actors. The discussions surrounding its passage were heated at times, including debate about the appropriateness of invoking Chapter VII of the UN Charter and calls for more attention to disarmament, with some states unhappy that it was in the Security Council at all (as opposed to the General Assembly).

Given this beginning, the implementation process, especially in the last year, appears to have been fairly smooth, if not rapid. It is not clear that UNSCR 1540 can, or will, make major differences in the ability to prohibit or detect WMD transfer to non-state actors. But the Committee appears to be striving for an attitude of facilitation of states' efforts, rather than penalizing failures to comply—or seeking the power to enforce compliance. If the modicum of civility surrounding implementation continues, this may be one area where interstate relations can be reasonably positive.

Find a Solution to the Problem of Indigenous Fuel Cycles

Under the NPT, states can legally develop civilian nuclear industries, as long as they do not use the materials and expertise to develop nuclear weapons programs. The most sensitive issue in the short term is the development of indigenous abilities to produce nuclear fuel, which even when legal in NPT terms, would potentially allow a state to master the technically most difficult part of a nuclear weapons program. This issue becomes even more pressing if there is increasing global reliance on nuclear energy.

Since 2003, there has been a new set of proposals to guarantee fuel supplies to states so that they need not develop indigenous fuel cycle capabilities. These have come from IAEA Director General El-Baradei, the US government, and the analyst community. Each proposal would accomplish these guarantees in different ways, some with more multilateral sponsorship than others. Although there has not been unanimity on these proposals, neither have they proven completely divisive. However, the form of any agreement does matter: if the availability of guaranteed fuel supplies is used to justify military action against states that have indigenous capacity, it could be highly problematic.

Conduct the NPT Review Process in a Way that Does Not Further Erode Multilateral Activity

The five-year NPT Review Conference will take place in 2010, and beginning this year, a subset of states will start meeting in Preparatory Commissions (PrepComs). In the past, these planning activities have often been vacuous and/or contentious. Given the extreme unhappiness with the outcome of the 2005 Review, and the poisonous politics of these issues surrounding the 2005 summit, there is certainly a good chance that states will be deeply suspicious of the PrepCom process from the start. The question will be whether there is any room for cooperative approaches that include—or at least do not alienate—the most partisan states from the 2005 Review.

More generally, and as discussed above, the big long-term question is the viability of the NPT system and how states will ultimately deal with nuclear modernization. A solution to the fuel cycle problem that is seen as equitable and nondiscriminatory would help address underlying tensions in the NPT, as well as the real danger that some states may develop nuclear weapons capability within the context of the NPT. But there are other important issues. One is the how the regime as a whole incorporates nuclear weapons states that are not in the NPT (India, Israel, and Pakistan, and North Korea as of this writing). There has been considerable attention to this in the analyst community, as well as the bold initiative of the Bush

administration to make its own deal with India; but this issue is still unresolved.

Second is the question of the NWS' commitment to disarmament under the NPT. It seems unlikely that states will voluntarily eliminate weapons that give them such disproportionate power (unless nuclear weapons are used, which would dramatically change the calculus, assuming anyone were left to calculate). Certainly several current NPT NWS are moving in the other direction, modernizing their arsenals and announcing doctrines that contemplate use.

Given these developments, the existing "bargain" of the NPT may well be unsustainable over the longer term.

Response Capacities at the Political Level

Is there capacity within the international system to think systematically about the politics of multilateral activity on nuclear issues? Clearly this is what states do—it is the very essence of their diplomatic activity. But they do so, of necessity, from the perspective of national interests. There are three possible vehicles for a broader perspective that attempts to think about the system as a whole: coalitions of states; the political leadership of a powerful state, promoting interests over and above those of that state; or the leadership of a UN institution (the Secretariat or the IAEA), attempting to act on behalf of the system as a whole.

Coalitions of States

There have been two such efforts with a public profile in the past decade. The New Agenda Coalition (NAC), composed of eight states,[9] came together in the late 1990s to help articulate and promote agreement over disarmament goals in the 2000 NPT Review Conference. Their efforts were considered largely successful, although the ensuing "thirteen steps" emerged as a point of contention between some NWS and NNWS in the 2005 Review. The NAC was of declining importance in the 2005 review process.

However, the 2005 Review Conference itself led to a somewhat different grouping, convened by the Norwegians (N-7). In July 2005, with the September summit of heads of state approaching, seven states[10] articulated a statement of shared nonproliferation and disarmament goals that was eventually agreed to and signed by over eighty other countries. Basically, the points made in the document represented sensible steps that, in a less politically charged context, might have been at least partially agreeable to the NPT conference earlier that year. In this sense, it staked out a position much like the second view, described above.

While in both cases, the NAC and the N-7 appeared to reflect majority opinion within the international discussion, it has been difficult to develop and sustain it in pursuit of these principles. This is not surprising—by definition, these groups do not include the more powerful obstructers of international action, and their ability to set the agenda is limited. Moreover, their strength—representing a range of states—can become their weakness, as they try to find meaningful agreement beyond the level of rhetoric.

Leadership from an Individual, Powerful State

Theoretically, the political leaders in a powerful state could decide to take action that addresses not only national interest, but the interests of the system as a whole (as the United States is said to have done after World War II). This possibility is discussed further below.

The UN System

IAEA Director General El-Baradei has played the most prominent role in this regard, laying out a medium-term vision for steps to adjust the existing nonproliferation regime to current risks. This has included specific proposals, and consensus-building activities, on the fuel cycle question. But as DG of the IAEA, this role has some built-in constraints. The IAEA is mandated to assist with the technical side of civilian nuclear energy development, and to monitor states' compliance with their commitments not to develop nuclear weapons. To do this successfully, the DG needs to be careful to stay within, and not broaden, that mandate.

These constraints are not necessarily operative for the Secretary General, however. Although s/he obviously must be responsive and equitable in relations with member states, the SG's larger system-wide responsibility is less narrowly defined than the DG. In theory, the SG might play a more active and engaged role on nuclear questions—not only when they occur as threats to regional security (although

[9] Brazil, Egypt, Ireland, Mexico, New Zealand, Slovenia, South Africa, and Sweden.
[10] Australia, Chile, Indonesia, Norway, Romania, South Africa, and the United Kingdom.

that is very important), but also attending to, and attempting to help shape, the broader multilateral response to these issues.

Scenarios

These scenarios concern prospects for more effective multilateral collaboration to address nuclear threats:

The Worst Case: Strategies become National and Unilateral

Of course the real worst case concerning nuclear weapons would be this: a weapon is detonated; hundreds of thousands are killed and incapacitated; and states respond with what becomes an escalating series of nuclear attacks. Surviving states (if any) retreat into even greater dependence on nuclear capability. Or a slightly better worst case: a weapon is detonated, there is major death and destruction, but states exercise restraint and do not respond with nuclear attacks. The horror at the attack galvanizes effective, lasting international activity to prevent any further use. It is a costly reprieve.

Assuming such a horrific outcome is avoided, what is the worst case scenario in terms of efforts to prevent deterioration of the current situation? It might begin this way:

States forego broad multilateral efforts to contain nuclear weapons dangers and prevent nuclear weapons use. Rather, they increasingly rely on national means to protect and assert their security interests, forming alliances or coalitions only selectively. As more universal approaches are abandoned, there is substantial proliferation of state-level nuclear capability. With additional states acquiring nuclear weapons materials and expertise, the risk of diversion to non-state actors grows as well. Deterrence relationships become more obscure and difficult to calibrate. States generally feel less secure, and both conventional and nuclear stability decreases.

Several developments could lead to this. The Iranian and North Korean nuclear programs might move forward, with both acquiring a demonstrated nuclear weapons capability. The Security Council is discredited as an effective agent of treaty enforcement. Simultaneously, the NPT process is especially divisive and discouraging, and states either walk away from it, or participate only formally. In the wake of the Iran and North Korea developments, a few more states begin to exercise their right of withdrawal, and the Security Council again takes no action. Moreover, of the states that have chosen not to pursue nuclear capability (but are technically capable), one or more decides to reverse that decision. Other states that had been holding out also begin to reconsider, and there is a surge of nuclear aspirants. Some, such as Japan, are technologically already close, and several new nuclear powers are quickly added. Regional security relationships become tenuous and uncertain.

More dramatically, and perhaps sufficient in itself to constitute a worst case scenario: there is a failed but demonstrable terrorist attempt to use NBCR weapons against one of the major powers. The attempt does not have sufficient signature to justify visible military response by the state affected, but it creates domestic pressure for more aggressive, unilateralist approaches. At least one of these states has a domestic government in place that is also inclined toward more assertive unilateralism, for reasons either of conviction or political necessity. It makes a clean and public break with existing treaty commitments, which heralds the rapid exit of two or three other key states. Everything goes downhill after that.

Finally, note that this is not saying that the NPT collapses and therefore the system falls apart. While perhaps not desirable in the short term, a failure or significant transformation of the NPT might be a precursor to a new, more effective set of arrangements. While this is risky, it is not out of the question.

Muddling Through: Nothing much Changes

The quality of states' cooperation does not get better, but neither does it get notably worse. This is how that could happen:

The Iranian and North Korean issues drag along, in and out of the Security Council, sometimes threatening to erupt but never quite doing so. If Iran is developing nuclear weapons, that fact is not irretrievably in the public record. There is no dramatic terrorist event that causes new levels of anxiety for Western governments. The NPT process does not completely deteriorate. Although there is not substantive progress, most states consider it a victory to stay in the same room. Governments change but policies remain essentially the same. UNSCR 1540 chugs along without creating major controversy or incident. Talks about fuel supplies continue, without much progress, but neither do they collapse. No major country invades another, nor is there a global recession.

This scenario is easy to imagine because it is basically more of the same. It would be aided by having in place an SG who, at a minimum, attempted to ensure no backsliding in the political debate. And this scenario does rely on there being no important

reversals on difficult fronts (e.g., a terrorist incident or a new war justified by the threat of WMD). On the other hand, without a major shock, it is unlikely that a single event could push things as far as either the worst or best case scenarios sketched here.

There is a somewhat more positive subset of this scenario which would entail an accumulation of discrete compromises or instances of cooperation, on some of the specific tasks that await action (e.g., universalization of adherence to the Additional Protocol; reasonably strong agreement on approaches to HEU in the civilian sector; and successful and non-controversial provision of technical assistance to those states that request it under UNSCR 1540). Such developments would be useful in their own right, strengthen practical cooperation, and possibly lay the groundwork for developments in a politically more advantageous environment.

The Best Case: Surprising Leadership

There emerges a credible leader, capable of convening divergent interests (or knocking heads). S/he argues for and helps establish the elements of a new (or refurbished) regime for preventing nuclear use. This might happen in several ways, but here is one:

An energetic and committed SG takes on the nuclear issue, managing in the first few years to promote several small measures to reduce nuclear dangers, and helping slowly to change the tenor of debate. States that were considering abandoning the regime have second thoughts. Within a few years, a change in governments in one of the P-5 puts in place a leader who is eager to make progress on the nuclear issue. S/he goes to the NNWS and says that basically they are right: there are too many nuclear weapons among the P-5. S/he proposes and gets agreement within the P-5 to reduce gradually these arsenals to minimal deterrence levels. At the same time, the global infrastructure for preventing proliferation and diversion to non-state actors is strengthened, including with substantial funding from the north to the south. The new political legitimacy of the P-5, and the strengthened protections against proliferation, make it possible finally to begin developing non-nuclear security structures in regions of conflict.

A Few Final Notes

As much as one might wish otherwise, it may not be possible to deal with the politics of this issue, at least in the short term. The heavy hitters on questions of nuclear weapons policy are powerful states that believe their basic interests are at stake. Not all are confident that they can safely pursue their security interests in a multilateral setting.

But if there is any forward movement, it is likely to come by finding specific steps that simultaneously address real nuclear dangers and, at a minimum, do not require states to abandon strongly held views of their interests—a sort of "third way" in the nuclear realm. These steps will probably be small and seemingly minor, compared to the magnitude of the task. Therefore it would be important explicitly to name and build on these steps as they occur.

To get to any of this, the nuclear problem cannot be defined solely as proliferation, whether to states or to terrorists. This is not just because that definition alienates a politically powerful segment of the international community. It is also because it is incorrect as an understanding of the risk posed by nuclear weapons. The risk is that nuclear weapons will be detonated, with devastating effect. Proliferation may heighten that risk, but so may the escalation of tension in nuclear-armed regions, or the prospect of an emergent first strike capability in the United States. All need to be addressed.

Yet neither does this mean that worries about proliferation are ill-founded. It is a very dangerous world if we keep adding nuclear weapons states and if terrorists have nuclear weapons.

Finally, and perhaps paradoxically, there is room for transformative global leadership on the nuclear issue. This space exists because the nuclear problem has outstripped the infrastructure and political relations that have guided strategies to address it over the past fifty years. Such leadership may not appear—as suggested above, it would have to come from either a forward looking state, willing to subordinate short term national interests to longer term security; or someone (or some social movement) capable of speaking for the world's peoples as a whole. None of these developments are impossible—there are historical precedents—though none seems imminent, either.

Appendix: Three Views of the Nuclear Challenge

I. The Risks are Great and Time is Short

There are bad actors in the international system who will use, or threaten to use, nuclear weapons (or other WMD) if they have the opportunity. The most urgent dangers are the terrorist use of nuclear weapons, and the acquisition and potential use of nuclear weapons capability by states seeking to pursue or protect the interests of their own totalitarian regimes. And while the danger of interstate nuclear war has receded since the end of the Cold War, notably among the P-5, deterrence remains necessary; and there remains the possibility of escalation to nuclear use in specific regional contexts (e.g., South Asia, the Korean peninsula, or the Taiwan/China disputes).

This view leads to three priorities:

1. Prevent terrorist use. Since the hardest part of building a nuclear weapon is producing the fissile material, it is crucial to keep fissile material, as well as already constructed weapons, out of the hands of terrorists. There are two primary potential sources of fissile material or weapons for terrorists: black market purchase of material or weapons from dismantled nuclear arsenals, most likely from the former Soviet Union; or acquisition from states (or their agents) that produce fissile material or nuclear weapons.

   Both sources must be blocked. There are several parts to this: prohibiting and interdicting the flow of nuclear-related material to terrorists; preventing "unreliable" states from developing the ability to produce fissile material or nuclear weapons; ensuring that state arsenals or capabilities do not fall into the hands of the wrong people, especially if currently reliable governments are overthrown; ensuring that nuclear materials from the former Soviet Union are under control, and that scientists and technicians do not sell their expertise to potential proliferators.

2. Stop proliferation to "irresponsible states". It is no longer acceptable for states of dubious intent to produce their own fissile material. Nor should they develop delivery capability for nuclear or other WMD. States that violate their NPT safeguard obligations, and refuse to abandon fissile material production, should be referred to the Security Council for sanctioning, if necessary. Military action against them is not to be ruled out.

3. Maintain robust deterrence and defense. Make appropriate qualitative improvements in existing nuclear arsenals, and deploy at least limited ballistic and theater missile defenses.

   Multilateral institutions and processes are important to the degree that they facilitate these objectives. Thus UNSCR 1540 is potentially valuable, as it may help to restrict the flow of dangerous material to non-state actors. The Security Council has an important role to play, though it needs to be more effective. The fact that there are a few nuclear weapons states outside the NPT is not an urgent concern, and it is an open question whether the NPT itself is (or needs to be) viable over the long term. Certain multilateral measures that are targeted but not universal (the NSG, PSI) can be effective and important.

II. The Biggest Danger is the Erosion of the Nonproliferation Regime

Nuclear terrorism, nuclear proliferation, and the possibility of nuclearized regional conflict are all real threats, but none can be adequately addressed if the international regime is allowed to collapse. Thus approaches to these threats should be developed in a way that strengthens the regime and does not weaken it; and steps to prevent terrorist acquisition or use of nuclear weapons, and to limit proliferation, should be measured against their political effects and implications for the regime. The nuclear policies of the P-5 are not themselves problematic, though their effect on international debate can be.

Several steps would measurably strengthen the regime and reduce nuclear dangers. With sufficient political will, all could be taken within the framework of existing treaties and institutions. These are the following: solve the fuel cycle problem—find an alternative way for states to acquire the fuel that they need for civilian energy programs. End the so-called NPT "loophole." This is increasingly urgent as states consider increased reliance on nuclear energy. Hold states accountable to their NPT obligations, and clarify the Security Council's role and options when states violate their nuclear weapons-related treaty

commitments—including the terms of withdrawal from the NPT. Continue and strengthen CTR. Maintain and strengthen export control regimes. Help states to implement their responsibilities under UNSCR 1540. Establish international controls over fissile material accountancy. Eliminate HEU in the civilian sector. Support diplomatic efforts to address regional tensions. And work to strengthen related WMD nonproliferation mechanisms, particularly the Biological Weapons Convention.

It is important that the NPT function effectively, including the review conferences. There is no easy solution to the problem of non-NPT nuclear weapons states, but at a minimum they should have regularized relationships with the IAEA and adhere to similar standards as NPT nuclear weapons states. Because nuclear weapons states committed themselves to disarmament in the NPT, they should demonstrate good faith efforts to move in that direction—although this is important mainly for political, not military, reasons.

III. Nuclear Weapons States are the Real Threat

The NPT enshrined a two-tiered system that is not only unfair but provocative. It artificially maintains disproportionate power relations between NWS and NNWS, obstructing the emergence of new powers and allowing "old" states to retain more influence than they would otherwise have. This is made even worse by the fact that the NPT NWS also constitute the permanent members of the Security Council. Furthermore, states with nuclear weapons are able to intimidate and coerce NNWS beyond what would otherwise be possible. The need to counter the power of NWS leads to the pursuit of dangerous and destabilizing asymmetric means of warfare, including biological and chemical weapons, as well as secret efforts to acquire nuclear weapons capability.

The refusal of the NWS to take seriously their disarmament commitments is particularly problematic. Not only does it weaken the case for requiring that NNWS continue meeting their own nonproliferation obligations, it even works against the NWS's desire to limit proliferation. Some NNWS feel genuinely threatened by the persistence of nuclear arsenals and doctrines in the NWS. If the NWS are not going to reduce their reliance on nuclear weapons, then those NNWS that have the technical ability to produce nuclear weapons may choose to do so. Within a few years we could easily be looking at a world of fifteen to twenty nuclear weapons states.

Although not all states expect to be targets of terrorism, it is recognized that the potential for nuclear terrorism is extremely dangerous—hence the General Assembly convention on nuclear terrorism. And nearly all NNWS remain members in good standing of the NPT, demonstrating their commitment to nonproliferation. But the international cooperation required to address terrorist threats, and instances of real weapons proliferation, would be much easier to realize if the NWS were seriously engaged in reducing their reliance on nuclear weapons.

Further Reading

Allison, Graham T. *Nuclear Terrorism: The Ultimate Preventable Catastrophe*. New York: Times Books/Henry Holt, 2004.

In this explicitly policy-oriented work, Allison agrees with the emphasis placed on preventing nuclear terrorism, but argues that an effective prevention strategy is still lacking. He recommends a series of concrete actions, preventing the spread of proliferation-sensitive technologies, either through the black market or under the guise of "peaceful purposes." Allison also advocates an ideological shift in US foreign policy in favor of one that is more open to compromise and, in the author's words, more "humble."

Campbell, Kurt M., Robert J. Einhorn and Mitchell B. Reiss, eds. *The Nuclear Tipping Point: Why States Reconsider Their Nuclear Choices*. Washington, DC: Brookings Institution Press, 2004.

Rather than focusing on the nuclear policies and motivations of non-NPT states, or nuclear-weapon-states, this edited volume examines the cases of eight states that have chosen to forego a nuclear weapons program. Although the states represent varying degrees of nuclear technical capability (from Japan on the one hand to, for example, Egypt on the other), all provide interesting examples of how the nonproliferation regime has operated in practice. The editors use these cases as the source for a number of policy recommendations for ensuring that the nonproliferation regime remains useful and credible, focusing as much on the current politics of nuclear weapons as on the security aspect.

Lieber, Keir A. and Daryl G. Press. "The Rise of US Nuclear Primacy." *Foreign Affairs* 85, no. 3 (2006): 55-68.

In their initial article in Foreign Affairs, Lieber and Press make the case that the era of Mutually Assured Destruction (MAD)—a nuclear doctrine that prevailed during the Cold War—is at an end. Instead, the United States is near to attaining "nuclear primacy," or first-strike capability. More to the point, and following an overview of US Cold War nuclear strategy, the authors argue that the imminence of US nuclear primacy is deliberate and is part of an overall policy of expanding global dominance. Both US and Russian analysts dispute these claims in subsequent responses. See "Nuclear Exchange: Does Washington Really Have (or Want) Nuclear Primacy?" Peter C. W. Flory, Keith Payne, Pavel Podvig, Alexei Arbatov, Keir A. Lieber, and Daryl G. Press. *Foreign Affairs* 85 no. 5 (2006): 149-158.

Sagan, Scott D. and Kenneth N. Waltz. *The Spread of Nuclear Weapons: A Debate Renewed*. New York: Norton, 2003.

The original debate, which was published in 1992 and which has become a "classic" of nonproliferation literature, focused on the consequences of nuclear proliferation and the question of whether or not proliferation was ipso facto a bad thing. The resumption of this debate, just over ten years later, sees an expansion of these arguments, taking into account the events of the past decade.

Walker, William. "Weapons of Mass Destruction and International Order." *Adelphi Papers* 44, no. 370 (2004).

This paper looks at both the underlying issue of "international order" and the influence of recent events (such as 9/11 and the war in Iraq) and their effects on changing conceptions thereof, particularly in reference to weapons of mass destruction. The text examines the broader theoretical questions of enmity, power and legitimacy, which, it argues, are fundamental to current challenges. It then moves on to propose an alternative to the doctrines of preventative war and counter-proliferation that currently prevail.

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