CHAPTER THREE: STRENGTHENING ENFORCEMENT

Strengthened enforcement is a critical part of a nonproliferation strategy of universal compliance. The administration of President George W. Bush has significantly improved enforcement: It has both developed new mechanisms, such as the Proliferation Security Initiative, which blocks illicit transfers, and refocused international attention on export control mechanisms.

The flaw in the Bush administration's enforcement approach is its narrow reliance on counterproliferation and preemptive force. This emphasis undercuts alternatives—such as strengthened inspections—that can resolve disputes without military confrontation. Selective enforcement against three "evil" states risks overlooking grave dangers in others, such as Pakistan.

A new strategy must retain the coercive options but further strengthen a broad set of voluntary and mandatory enforcement mechanisms on both the national and international levels.

New International Law

In many countries, stealing nuclear material is no more of a crime than stealing a car. Given the consequences, every nation with nuclear warheads or weapon-usable materials needs to make theft of such items a serious offense. International laws need to go further, and deny violators safe havens. As Matthew Meselson and Julian Robinson have noted, "National criminal legislation,

so far enacted by only a minority of states, is no substitute for international criminalization."[14]

Strengthened international law will only help if combined with leadership by the most powerful countries to push for and enforce these measures. Many states resist establishing and enforcing international law for fear they might constrain their own options more than deter bad behavior by others. The most powerful countries, particularly the United States, at times calculate that they can use their unrivaled military force or economic leverage to coerce "bad guys" in the absence of international law. But an effective legal system cannot be both: comprehensive against actions that alarm certain states, lax when it suits these states.

STRENGTHENING INTERNATIONAL LAW

A more ambitious international legal regime would strengthen deterrence against illicit activities, and also strengthen states' basis for prosecuting proliferation activities. UN Security Council Resolution 1540, which was adopted unanimously on April 28, 2004, is a laudable step in this direction. Initiated by the United States and France, it reflects broad international agreement on the urgent need for international controls of nonstate proliferation activities.[15] The resolution calls on all states to establish domestic controls to prevent proliferation and adopt national legislative measures to that effect. It also provides international authorization for seizure of illegal material transfers by making them subject to Chapter VII of the UN Charter. (Chapter VII permits the Security Council to use sanctions or military force in response to threats to international peace and security.)

To facilitate compliance with the laws criminalizing proliferation behavior, the Security Council or relevant specialized

institutions such as the IAEA need to develop a mandatory declaration system that will help distinguish between legitimate and illegitimate trade. Members of the Nuclear Suppliers Group have agreed to provide transfer information to the IAEA, but reporting is inconsistent and voluntary. As a start, the Nuclear Suppliers Group should adopt a binding requirement that all states notify the IAEA of each approved export of sensitive nuclear technology or material on a timely basis. Pursuant to Resolution 1540, the UN Security Council should ask the IAEA to develop a model for universalizing such a reporting requirement. A transparent reporting requirement would establish a legal basis for discriminating between legitimate commerce and illegitimate proliferation. Undeclared exchanges (such as those by the A. Q. Khan network) would be illegal on their face, while declared exchanges would be conducted under existing export control and customs regulations.

Furthermore, the IAEA should adopt a rule proscribing foreign assistance to a state that the agency cannot certify to be in full compliance with transparency and safeguard obligations under the NPT. Proscribed assistance would encompass nuclear activities and facilities that have weapon applications, specifically reactors, uranium enrichment, plutonium separation, and isotope separation facilities. To prevent states from sidestepping these obligations, the rule should also specify that members of the IAEA adopt national legislation making it illegal for any entity on their territory to facilitate forbidden assistance to a state the IAEA does not deem to be in full compliance with its transparency and safeguard obligations.

The United States, France, and other like-minded states should request that the 2005 NPT Review Conference urge the IAEA to adopt the central thrust of this proscription on assistance. The

rule would raise the costs and risks of cheating on transparency and safeguard requirements, and extend the burden of compliance not just to recipients of technology and know-how but to providers as well. In the event that a state ignored these prohibitions and continued a supply relationship with a noncompliant state (directly or by allowing entities on its territory to do so), the IAEA would be required to refer the matter to the Security Council for enforcement.

The UN Security Council, as the ultimate enforcement authority of the NPT, should adopt a resolution clarifying that a state that withdraws from the treaty remains responsible for violations committed while still a party to it. Like most treaties, the NPT has a withdrawal clause, Article X, which allows each party to withdraw if its "supreme interests" are threatened. However, from the standpoint of deterrence and enforcement, it is important to disabuse states of the idea that they can circumvent their NPT commitment, creep up to the nuclear weapons threshold, withdraw from the treaty, and quickly put together nuclear weapons without facing consequences.

The Security Council should adopt a resolution that a state that withdraws from the NPT—whether having violated it or not—may no longer make use of nuclear materials, facilities, equipment, or technology it acquired from another country before that withdrawal. This resolution should require further that such facilities, equipment, and nuclear material should be dismantled, destroyed, or returned to the supplying state under international verification. If the withdrawing state proves unwilling or unable to comply, the Security Council or the technology-supplying states could, as a last resort, authorize destruction of the facilities, equipment, or material in question. In support of this resolution

(but not conditioned on it), the Nuclear Suppliers Group should agree to include clauses in technology assistance transfer agreements to the effect that sensitive or major transfers of nuclear materials, facilities, equipment, or technologies may not be used in the event that a receiving state withdraws from the NPT. Suppliers would then have greater leverage to persuade or compel recipients to comply with their nonproliferation obligations.

VOLUNTARY ACTION

While an enforced legal regime related to nuclear proliferation is taking shape, companies, banks, and even nongovernmental organizations should join forces to ensure that international trade and lending practices also address the problem. *Voluntary measures* are a way to do so quickly. In recent years, such measures have been pursued as a means for states and nonstate actors alike to avoid new regulation or mitigate serious problems, in the absence of or pending the passage of new laws.

Voluntary measures would be no substitute for seeking an international regime to criminalize proliferation. Indeed, such negotiations should be expedited. At the same time, voluntary measures would permit key players, especially in the commercial arena, to take early action. International consensus on the need for such measures would add moral force to the measures themselves, and strong impetus to the negotiations to establish the legal regime.

For example, countries might volunteer to pursue a code of conduct that would prohibit aiding and abetting proliferation of nuclear components and technologies. The international code of conduct regarding proliferation of missile components is an example of such an approach. The Missile Technology Control

Regime (MTCR) is already in place, and has long operated as a mechanism to control exports from producers of missile-related technologies. The missile technology code of conduct has come into existence just in the past five years, as a way to reinforce the MTCR. The code draws additional countries, not members of the MTCR, into an international consensus on the need to control exports related to missile technology. Thus, it is a voluntary mechanism that reinforces an existing regime and seeks to expand the circle of countries that hold to its principles.

Banking and Lending Institutions

The banking industry has already become involved in an array of voluntary mechanisms in recent years, such as those that address concerns about environment and labor policy. The "Equator Principles," which originated with the World Bank, provide guidelines for lending to countries that historically have not shown much concern about maintaining environmental or social standards in large projects. The Equator Principles ask lenders to require that such standards be maintained in a project as a condition of lending. An increasingly wide array of banks subscribe to the principles in their lending practices, if only to avoid the embarrassment of lending to a project that turns out to be environmentally unsound or harmful to local cultures.[16]

Banks could also embrace "nonproliferation soundness" as a principle of their international lending. The damage caused by nuclear proliferation could be as destructive as the long-term effects of environmental or social damage, with more immediate and devastating effects on the global economy. Some have calculated that a single nuclear bomb, detonating in lower Manhattan, would cost the world economy three trillion U.S. dollars within

one year.[17] Preventing such an event is thus, for banks, sound business practice.

An example of how such a voluntary approach might work in international lending is provided by the case of the company in Malaysia that was producing centrifuges for Libya on contract to a front company in Dubai. The Malaysian manufacturer apparently had to buy a great deal of equipment and retool a factory in order to produce the centrifuges. Although it has not been disclosed whether the Malaysian firm had to borrow money for this upgrade in its capacity, any viable company has to seek loans from time to time.

Therefore, banks might consider, as one condition for granting a loan, whether a company has a clean nonproliferation "bill of health." This nonproliferation standard might be added to an existing mechanism, such as the Equator Principles. Alternatively, a wholly new code of conduct might be drawn up to highlight the particular problems associated with nuclear proliferation. If a company contributed to the building of an illicit nuclear bomb somewhere, and that bomb fell into the hands of terrorists, the damage to the international community would be profound.

Not all lending comes from the big multinational commercial banks or international lenders such as the World Bank. In many countries, especially in Asia, private and state banks are tightly connected. Here it may be necessary to develop a hybrid system that is not strictly voluntary, but involves instruction from the state. For example, the Chinese government could require banks to incorporate a nonproliferation standard into lending. This would be an extension of the increasingly developed Chinese export control system.

Investment Houses

Companies not only borrow, they also raise capital by seeking investors. Increasingly, large investment managers and equity funds are pushing companies to comply with best practices as a prior condition of investment. Their concern is the reputational damage to their portfolios that could result if companies in which they are investing commit human rights violations or other abuses.

The approach of F&C Asset Management, a leading European investment manager with £118.2 billion under management, is an example. F&C "engages in dialogue with the companies in which it invests, in order to assess how they manage risks related to governance, social, environmental and ethical factors. They do this to encourage good business practices that would enhance the value of the company for shareholders."[18] Examples of good practice would include developing specific policies to target the risks, establishing special review committees, defining accountability and reporting procedures, and training staff. Again, including nuclear proliferation on the list of risk factors should be attractive to investment firms concerned about damage to their reputations.

Manufacture and Service Industries

Large industries and manufacturing firms, including multinationals, could adopt their own codes of conduct to combat proliferation problems. Like the lending and investment institutions, at least one industry group has already developed a voluntary program to address a significant international issue. The De Beers Group, the world's leading diamond producer, worked together with governments and nongovernmental organizations (NGOs)

to develop the Kimberley Process, a mechanism to halt the trade in conflict diamonds.

Kimberley includes both an agreed-upon international system for certifying diamond shipments, and additional recommendations for diamond mining, exports and imports, and standardized statistics on the diamond trade. It was a complex but ultimately successful process that engaged industry, government, the NGO community, and the UN. An important factor in its success was the media spotlight that NGOs were able to shine on the impact that trade in conflict diamonds was having.[19]

Given the dire consequences of a potential nuclear, chemical, or biological attack, media and public attention should also be a factor in influencing companies to take voluntary measures to control trade in weapon components. However, because—mercifully—such attacks have not yet occurred on a large scale, the media and public have been notoriously immune to the dangers. Pictures of the Aum Shinrikyo sarin attack in the Tokyo subway, or of the Kurds gassed by Saddam Hussein, have had some impact, but it has been ephemeral. Lack of media and public attention remains a serious constraint on development of such measures in the nonproliferation arena.

Another issue is the dual-use nature of many components that could be used in weapon programs. The Malaysian company implicated in the sale of centrifuges to Libya for uranium enrichment pleaded that it was only manufacturing certain components, and it had no idea what their exact end use was to be. This problem occurs particularly in the chemical and biological spheres, where every fertilizer plant could be turned to the production of chemical weapons, and every pharmaceutical plant to the production of biological weapons.

ADAPTING EXISTING TECHNOLOGY AND PROCEDURES

Despite the diverse nature of trade in weapon components, technology as well as procedures could be put to work in solving the complicated problems of tracking and certifying end use. Such measures could be fairly intensive, such as marking individual pieces in shipments with a bar code, fiber-optic chip, or some other indelible identifying and tracking device. These technologies are already widely in use for business purposes such as inventory control. Nonproliferation assurance in this case would be an add-on to well-established procedures.

Other technologies and procedures, already existing in other sectors, might be used to track the transfer or shipment itself. For example, satellite monitoring of ships at sea is already established for certain purposes, such as tracking illegal fishing. Alternatively, procedures established to ensure proper labor or environmental practices for ships in port might be developed to provide nonproliferation assurance.

The North Koreans, for example, have complained that strict Japanese implementation of International Maritime Organization (IMO) regulations on environmental practices, including shipboard inspections, have slowed their seagoing trade with Japan to a virtual standstill. Since international concern has grown about North Korean trade in weapon materials or components, such well-established measures might also play some role in nonproliferation.

Indeed, it is high time to undertake a comprehensive review of how existing maritime and customs control measures could contribute to new, tougher enforcement activities under the Proliferation Security Initiative (PSI). Already-existing technologies and procedures, not only in the IMO system but also under

international agreements to ban trade in endangered species or to preserve natural resources such as fisheries, could provide good ideas or even the prototype for a layered approach to defeating trade in weapon components.[20]

While important international measures can occasionally be achieved quickly—as Security Council Resolution 1540 was—national and international laws and regulations generally take much longer. In the meantime, voluntary measures, which have not so far played a major role in nonproliferation policy, should be developed to tighten proliferation controls and effective enforcement.

SUMMARY OF POLICY RECOMMENDATIONS

- Develop model national laws to criminalize, deter, and detect nuclear proliferation pursuant to UN Security Council Resolution 1540. (p. 53)
- Develop universal international law to criminalize nuclear weapon and material proliferation and facilitate prosecution of states and nonstate actors. (p. 54)
- Develop a declaration system or reporting requirement to distinguish between legal and illegal nuclear trade. (p. 55)
- Encourage the IAEA to adopt rules restricting nuclear assistance to states not in full compliance with NPT obligations. (p. 55)
- Adopt resolutions through the UN Security Council to hold states that withdraw from the NPT responsible for violations of the treaty, and prohibit their continued use of materials and facilities acquired while party to it. (p. 56)

- Pursue voluntary codes of conduct and related measures with investment, banking, and manufacturing firms to discourage and prevent nuclear trafficking. (p. 57)
- Undertake a comprehensive review of how existing maritime and customs control measures could contribute to new, tougher enforcement activities under the PSI. (p. 62)

Tough Diplomacy: A Revived UN Security Council

The five veto-wielding members of the Security Council—the United States, China, France, Russia, and the United Kingdom, and their leaders—not an amorphous "UN," will largely determine whether a rule-based international system can succeed. If they fail to lead, they will not only undermine nonproliferation, they will further weaken the UN system and their own power.

Security Council Resolution 1540 was a welcome positive step after years of indecision and rancor among Security Council members over Iraq, North Korea, and, to some extent, Iran. Serious doubts remain, however, whether the five key rule enforcers permanently ensconced in the Security Council can reconcile their often-competing interests sufficiently to present a united front against proliferation. Indeed, China and Russia have been at various times major sources of proliferation concern. They, and occasionally the other permanent members of the council, including the United States, too often eschew council action for fear of setting enforcement precedents that could complicate their own freedom of action. The Security Council's credibility and its disposition to enforce nonproliferation are gravely weakened when its members' hands are not clean.

No magic formula can bring the United States, Russia, China, France, and the United Kingdom into concert.[21] The first requirement is for U.S. leaders to want to invest the time, energy, and patience required to build mutual understanding, if not consensus, among the five regarding the nature of nuclear threats and the priority of the policies needed to achieve universal compliance with nonproliferation norms and laws.

A logical next step after Resolution 1540 would be for the U.S. administration to orchestrate a summit of the heads of state of China, France, Russia, and the United Kingdom as soon as possible after the 2005 NPT Review Conference, to clarify the commitments they will make to advance universal compliance with nuclear nonproliferation norms and rules. Such an unprecedented summit would highlight the importance these five key states attach to their role of protecting their citizens and the world from the unsurpassed danger of nuclear use. Announcing the summit before the NPT Review Conference would also increase the prospect that the conference would produce consensus, rather than discord.

The Security Council should strengthen its capacity to enforce nonproliferation on a more routine basis by further developing Resolution 1540's requirement that states file reports documenting their implementation of required laws. To manage this reporting, the council should strengthen the monitoring committee established to collect and evaluate state submissions. The committee should be modeled on the successful example of the Counter-Terrorism Committee, which monitors Resolution 1373 and which is now being bolstered with an executive director and a staff directorate. Given the importance of Resolution 1540, a similar approach is warranted. The committee should also invite

societal verification, by collecting and evaluating public-source analyses of states' compliance with the resolution's terms, and forwarding these to the Security Council.

SUMMARY OF POLICY RECOMMENDATIONS

- Convene a P-5 summit to specify national commitments needed to strengthen nonproliferation mechanisms and laws. (p. 65)
- Strengthen the monitoring committee established for UN Security Council Resolution 1540 to collect and evaluate state reports documenting implementation of nonproliferation laws. (p. 65)

Inspections That Work

Robust international inspections are a key element of a layered defense against proliferation. International inspections add credibility and legitimacy to nonproliferation enforcement, as well as considerable skill and institutional memory. The United States has formidable resources that can supplement international inspections.

It is already established U.S. policy to increase IAEA nuclear inspection capabilities, but to date the policy has been little more than words. At a minimum, the agency needs an increased budget and expanded powers. The IAEA suffered more than a decade of zero budget growth despite a growing number of responsibilities.

As President Bush, IAEA Director General ElBaradei, and the UN's report of the Secretary-General's High-Level Panel on Threats, Challenges and Change have suggested, the Additional Protocol to the existing safeguards agreements should be mandatory for all states. Fewer than a third of the 191 UN member states have brought into force this protocol allowing broader and

more intrusive inspection of nuclear facilities. (The United States ratified the protocol in early 2004.) The United States should use every opportunity to make implementation of the protocol mandatory, starting with consensus building on the matter at meetings of the Group of Eight (G-8), the NPT Review Conferences, the North Atlantic Treaty Organization (NATO), the Asia-Pacific Economic Cooperation Forum, and the Organization of American States. As discussed in chapter 4 of the present report, "Stopping Transfers: Export Controls and Interdiction" (p. 116), nuclear transfers by members of the Nuclear Suppliers Groups should be made conditional on ratification.

The United States should encourage the UN secretary-general to charter a review of the inspections performed by both the UN Special Commission on Iraq (UNSCOM) and the UN Monitoring and Verification Commission (UNMOVIC) in Iraq. It now appears that even under the most trying circumstances, these intrusive inspections had considerable success. In conjunction with military actions, sanctions, and export-import mechanisms, the inspection process ultimately led to the discovery and elimination of all of Iraq's unconventional weapons and production facilities; inspectors were also able to destroy or monitor the destruction of chemical and biological weapons agents.[22]

Based on that inspections review, the UN Security Council should consider establishing under its authority a permanent international nonproliferation inspection capability. Other inspections capacities exist: the IAEA for nuclear programs, and the Organization for the Prevention of Chemical Weapons (OPCW) for chemical materials and facilities. However, there is currently no inspection authority able to carry out special inspections, to cover states that do not participate in the relevant treaties, or to address

the potential presence of biological weapons and missiles. This new capability would fill these gaping holes while providing for close coordination with the IAEA and the OPCW.

One way to create this capability is to build on the experiences and skills of the inspection teams established for Iraq. The Security Council could revisit the UNMOVIC verification and monitoring mandate in Iraq and expand it to other nations as needed. UNMOVIC currently has fifty experts serving at UN headquarters and maintains a roster of 350 experts from fifty-five nations able and willing to undertake inspections. The UN inspectorate could be maintained with an active core staff, expanding when needed for each particular mission. Such a permanent inspection capability could provide institutional memory, international expertise, and valuable, readily deployable capabilities at low cost. This would not only ease the burden on the United States but would more effectively provide the long-term monitoring and verification that is a vital part of the inspections process.

Dr. Barbara Hatch Rosenberg of the State University of New York has developed a detailed outline of the possible functions, structure, and requirements of a new UN inspections agency.[23] Other useful studies include an analysis by Trevor Findlay of the Verification Research, Training, and Information Centre in London.[24]

ELEMENTS OF SUCCESSFUL INSPECTION REGIMES

Past experience suggests that international inspections are an effective response to proliferation when three factors are present: a strong mandate, sufficient inspection budgets and resources, and consensus on robust consequences, including the possible use of military force.

A Strong Mandate

A united UN Security Council is key to any inspection regime. Security Council resolve will not be easy to maintain—especially over time, as the experience in Iraq suggests—but it is so critical to success that it is worth the effort. With it comes the legitimacy and independent verification that no unilateral inspections can match. Without it, sanctions and export-import controls, both of which require multilateral support, would likely collapse. Again, the credibility and effectiveness of the permanent members of the Security Council are at stake. Their failure to act when the IAEA sent the North Korean case to it in 2002, and the council's apparent reluctance to have the Iran case referred to it, make clear that achieving political resolve is a major challenge.

Sufficient Inspection Budgets and Resources

Inspectorates require adequate capabilities and resources, including U-2 high-altitude spy aircraft and other surveillance equipment, helicopters, unfettered access to scientists and sites,[25] and shared intelligence from many nations. This final factor is absolutely critical to the success of any inspection regime, because it allows inspectors to better identify suspect sites and individuals with access to valuable information. In addition, adequate funding is necessary to ensure the continued monitoring and destruction of existing weapons stockpiles around the world. To help protect against terrorist theft from weapons stockpiles and to increase the ability to verify that states are complying with nonproliferation commitments, the United States should lead efforts to increase the budgets and technical capabilities of international inspection agencies.

Consensus on Robust Consequences, Including the Possible Use of Military Force

Finally, any inspection effort must be backed by credible consequences in the event of noncompliance. After years of defiance, when the United States was poised to invade Iraq in 2003, Saddam Hussein complied with the inspections, even if that compliance did not extend to full disclosure of past activities. Future solutions will undoubtedly require a modified approach, as a massive military buildup will not often be possible. Policy makers should consider alternatives, such as coercive inspections, that offer stronger and more intrusive inspections backed up by credible force in cases of obstruction.[26]

In the event that inspections, sanctions, and other constraints do not succeed in the task of disarming an uncooperative nation, the UN or a credible coalition of nations should be prepared to authorize military force as an option of last resort. The involvement of a UN Security Council inspectorate could make the Security Council more likely to use force, as it would have its credibility at stake.

SUMMARY OF POLICY RECOMMENDATIONS

- Urge the UN secretary-general to charter a review of the performance of its two Iraq-focused commissions, UNSCOM and UNMOVIC. (p. 67)
- If the findings of this review warrant, urge the UN Security Council to consider establishing a permanent international nonproliferation inspection capability for chemical and biological weapons and delivery systems. (p. 67)
- Use all venues to advocate adoption of the IAEA's Additional Protocol by all states. (p. 66)

- Work to provide international inspection regimes with a strong international mandate, sufficient budgets and resources, and international consensus on robust consequences in the event of noncompliance. (p. 69)

The Use of Force: Counterproliferation and Preemption

Counterproliferation has a key role in nonproliferation policy. In *National Strategy to Combat Weapons of Mass Destruction* (December 2002), it is highlighted as one of the three pillars—along with nonproliferation and consequence management—of deterrence and defense against nuclear, chemical, and biological weapon use. If diplomacy and deterrence fail, the United States must have military forces ready to defeat attacks involving unconventional weapons. Currently, however, U.S. strategy and budgeting substantially overemphasize military responses to proliferation at the expense of the other two critical pillars. Terrorism, in addition, presents the new challenge of dispersed groups and facilities that are difficult to attack with traditional military means. A broader counterproliferation approach is necessary.

Efforts to strengthen counterproliferation should focus on four areas, the first being the ability of U.S. forces to fight in a nuclear, chemical, or biological warfare environment. Activities to enhance U.S. capacity in this area would include research on and acquisition of chemical and biological warning sensors, vaccines, protective coverings and sealed vehicles, and means of base protection. Second, new conventional weapons for attacking chemical or biological arms must also be pursued. Third, better equipment and training for police, firefighters, and other service personnel

most likely to be involved in terrorist pursuit and response within the United States must be developed and made available. Fourth, accurate, timely intelligence to detect illicit activity and potential threats is a critical element that must be continuously reviewed and improved.

PROSPECTS OF COUNTERING MISSILE ATTACKS

The bulk of the U.S. counterproliferation defense budget is devoted to antimissile weapons—currently some $11 billion per year, out of a total of roughly $13 billion—and most of this is spent on a national system to counter long-range missiles.[27] This allocation is greatly disproportionate to the threat from ballistic missiles and does little to defend against the most probable threats. The U.S. intelligence community and military officials have concluded for years that the United States is most likely to be attacked with a nuclear weapon covertly delivered on a ship, plane, or truck.[28]

Of the more than 190 nations in the world, 30 have ballistic missiles. Most of these are friends of the United States, and most (i.e., 19) have only short-range missiles. Only China and Russia currently are able to attack the United States with nuclear warheads on long-range, land-based missiles.[29] Only one hostile state, North Korea, has the potential to hit even part of the United States with a missile launched from its own territory. The most significant missile threat today comes from the slow but steady increase in the number of states testing medium-range ballistic missiles. Seven nations—China, India, Iran, Israel, Pakistan, North Korea, and Saudi Arabia—now have such missiles. In sum, the ballistic missile threat today is limited and changing relatively slowly.[30]

Research on antimissile systems should be depoliticized and

restructured. All systems should undergo thorough, realistic testing to ensure that the United States and its armed forces get weapons that work. The president should ask the Joint Chiefs of Staff, absent political pressures, for their assessments of the missile threat and their budget recommendations for defensive systems. When the Joint Chiefs were asked in 1993, they recommended that research be funded at modest levels for a national system to counter long-range missiles and that the majority of the funds be spent on effective interceptors for the short-range threat U.S. troops and U.S. allies actually faced. Only modest changes in the threat have occurred since then.

There are several practical means of addressing the missile threat. Efforts to intercept missiles while they are outside the atmosphere can be easily thwarted by lightweight decoys and other countermeasures available to any country capable of building a long-range missile. The Alaska-based antimissile system has not proved capable of defeating these countermeasures and has experienced substantial schedule and testing delays, budget overruns, and technical problems. Military planners cannot and do not count on it to provide an effective defense. A better defense against a North Korean missile would be a "pre-boost-phase intercept" that would destroy any threatening missile on its launch pad.

Also, the Alaska system could not intercept a short-range missile launched from a cargo ship off the U.S. coast. It is impractical to proliferate short-range anti-missile systems (such as Patriot or Aegis ship-based systems) in the numbers needed to guard every incoming ship. The best defense would be to interdict the ship before missile launch.

For ground-based attacks, systems capable of intercepting Scuds and Scud derivatives, such as the North Korean 1,000-km-

range Nodong and its cloned cousins, Iran's Shahab and Pakistan's Ghauri, should be developed. These missiles could threaten U.S. forces in the field and U.S. allies. It is not clear whether any of the nations that have these weapons also have nuclear warheads suitable for missiles, but their acquisition of such warheads cannot be ruled out in the future. In other areas, research on adapting the antiaircraft system on Aegis ships to counter short-range missiles should continue. Despite substantial funding, however, progress has been slow, and expectations about the military utility of the Aegis system should be modest.

Experiences in South Asia and Cyprus (where the United States objected to the introduction of anti-missile systems as a destabilizing move in this tense region) demonstrate that even short-range anti-missile systems can have the unintended consequence of stimulating new missile deployments. Greater efforts should be devoted to preventing the missile threat in the first place by, for example, reconsidering President Reagan's Reykjavik proposal to eliminate all ballistic missiles, or by making the U.S.-Russian ban on intermediate ballistic missiles a global treaty, or by ending the trade in short-range ballistic missiles.

PREEMPTION

The United States has the inherent right and moral obligation to take preemptive military action against imminent threats to its national security or that of its allies. Future proliferation threats, however, may not appear as immediate dangers.[31] The United States had trouble acquiring broad support for the invasion of Iraq because U.S. actions were largely perceived as preventive—destroying a threat before it was imminent—rather than preemptive—destroying an imminent threat.

Table 3.1. The Thirty Nations with Ballistic Missiles

NINETEEN COUNTRIES POSSESS ONLY SHORT-RANGE BALLISTIC MISSILES (RANGE UNDER 1,000 KILOMETERS).			
Afghanistan	Greece	South Korea	Ukraine
Armenia	Iraq	Syria	United Arab Emirates
Bahrain	Kazakhstan	Taiwan	Vietnam
Belarus	Libya	Turkey	Yemen
Egypt	Slovak Republic	Turkmenistan	
SEVEN COUNTRIES POSSESS MEDIUM-RANGE BALLISTIC MISSILES (RANGE OF 1,000–3,000 KILOMETERS).			
China	Iran	North Korea	Saudi Arabia
India	Israel	Pakistan	
ONE COUNTRY POSSESSES INTERMEDIATE-RANGE BALLISTIC MISSILES (RANGE OF 3,000–5,500 KILOMETERS).			
China			
FIVE COUNTRIES POSSESS INTERCONTINENTAL BALLISTIC MISSILES (WITH RANGES OF 5,500+ KILOMETERS)			
China	Russia	United States	
France	United Kingdom		

Leaders as diverse as former Secretary of State Henry Kissinger and UN Secretary-General Kofi Annan have called for an initiative to establish international guidelines for possible military action against grave but nonimminent threats.[32] The UN High-Level Panel has recommended criteria for the Security Council to use in considering whether to authorize the use of force.[33] Without such guidelines, Kissinger warns, the world could become increasingly chaotic, with numerous countries embarking on preventive

military campaigns justified by a variety of individual standards. The best venue for negotiating such guidelines is the UN Security Council, though others, such as NATO, should be explored.

The process of negotiation itself will be valuable in clarifying vital issues, even if ultimate agreement is not reached. Situations requiring an international recommendation for preemptive military action are likely to be rare, but because such action could entail very high costs, it is vital to try to ensure international support. If international actors are reluctant to support military intervention, they should alternatively feel compelled to strengthen international resolve, procedures, and instruments to prevent proliferation crises from emerging in the first place.

Recent experience suggests that the following criteria should be considered in devising guidelines: the standards of imminence; deterrability of the threat; confidence in intelligence assessments; clarity of purpose; cost-benefit ratio of military action; and breadth of political authority.[34]

Clarify the Standards and Implications of Imminence

Imminence of threat has been a key legal and customary criterion in determining the legitimacy of preemptive force or anticipatory self-defense. Before the Iraq War, imminence was generally understood as a credible, specific threat that was likely to be exercised in the immediate future.[35] However, terrorists' capacity to acquire chemical, biological, or nuclear weapons and attack without warning complicates this state-based standard. Thus, there is a genuine need to develop an internationally shared and valid definition of "sufficient imminence" to warrant the use of force.

The standard of imminence considered sufficient to warrant military action should vary with the magnitude of the

threat. This requires a disaggregation of the threat. The now-ubiquitous phrase "weapons of mass destruction" conflates three very different categories of weapons whose use would pose distinctly different levels of threat, both physically and in terms of the impact on international order.

Nuclear weapons pose incomparably grave threats in scale and potential damage to international order. Biological weapons can theoretically kill huge numbers of people and sow international disorder, but few potential adversaries have the combination of biological agent and dispersal mechanism to wreak such damage. Chemical weapons are relatively easy to develop and deploy, but the scale of potential impact is far less than for either nuclear or biological weapons. The threshold warranting military action—that is, the degree of imminence required—should vary inversely with this risk. That is, among the three, action against a nuclear threat should require the lowest degree of certainty and imminence. Regarding biological weapons, the cost-benefit calculus of military force should take into account the likelihood that the possessor has both the biological agent and the means to disperse it on a broad scale.

Assess the Deterrability of the Threat

Decision makers must also assess rigorously whether the suspected possessor of a given category of weapons is deterrable. That is, the urgency of military action would be less against actors that were demonstrably deterrable than against those who appeared unbowed by the threat of military retaliation. Ideally, the United States, with international backing, could simply destroy the offending nuclear capability with little military or political consequences. But rarely are such conditions encountered. Trade-offs must be weighed

between the consequences of military action and the effects of falling back to a deterrence and containment strategy.

Reliance need not be placed on wholly subjective assessments. History is a guide, but must be evaluated carefully. In the case of Iraq, for example, many officials and pundits cited Saddam Hussein's use of chemical weapons against Iran and his own population in the 1980s as proof that Iraq was undeterrable. Yet, closer analysis indicated that Saddam only used chemical weapons against targets that were militarily weak and did not possess chemical defenses. After the 1991 war, faced with a determined international military coalition, Saddam was clearly deterrable.

Build Shared Confidence in Intelligence and Threat Assessments

The 2002 U.S. National Security Strategy recognized that the legitimacy of "preemptive" force depended on outstanding intelligence capabilities and close coordination "with allies to form a common assessment of the most dangerous threats." The lesson of Iraq, however, was not only that intelligence was poor, but that few states agreed with the U.S. assessment of the Iraqi threat, including the link to terrorists. If U.S intelligence assessments are improved and internationally vetted, it should be easier to generate shared confidence. Intelligence can provide the necessary leads for conducting cooperative inspection or verification of violations, further building the unity needed for joint military action.

Two elements should be considered in evaluating intelligence. First, if intelligence is not sufficiently exact as to the locations of nuclear, biological, or chemical weapons and their related infrastructure, then doubt should increase whether intelligence is sufficient to warrant invasion of another state, if these weapons are the

justification for the invasion. Second, if and when threat assessments are uncertain, policy makers should not delete caveats and uncertainties in advocating actions of last resort (i.e., the use of force). Use of force may still be sound policy, but decision makers should be able to demonstrate its soundness without downplaying intelligence uncertainties.

Distinguish between Actions to Target Weapons and Actions to Remove Regimes

The costs and risks of targeting threatening weapons can be more readily contained than the costs and risks of removing governments. Military action to remove governments, therefore, should be subject to the most rigorous criteria, while action to remove weapons and related infrastructure could be justified more readily.

In 1998 the United States bombed a pharmaceutical plant in Khartoum, Sudan, which U.S. intelligence believed was being used to produce chemical weapons. Subsequent investigation determined that the intelligence informing the attack was mistaken. Although the incident was an embarrassing intelligence mistake, the physical damage was modest, and partially remedied by payment to the factory's owner, pursuant to a lawsuit.

By contrast, the consequences of the military invasion of Iraq to remove Saddam Hussein's regime are enormous and long-term. Whether or not the Iraq War proves salutary, the point is that distinctions should be made in considering whether the object of military force is specific weapon capabilities or the removal of a government.

Establish Military Action as a Last Resort

War should continue to be an act of last resort, but its wisdom and legitimacy depend on whether other means to prevent or

redress a threat have been truly exhausted. In many ways, this is a subjective judgment. The difficulty of making such assessments in the middle of a crisis highlights the imperative of more resolute international enforcement of stronger nonproliferation rules *early* in the development of threats.

This subjectivity is one of the reasons for developing international guidelines for preemptive action in the first place. An international negotiation should establish a scale of prevention and enforcement actions that, where possible, should be pursued before a resort to force against threats that are not self-evidently imminent.[36] This prior standard would provide a benchmark for a state, a coalition, or the UN Security Council to use in arguing that no further recourse is left but military action. Debate cannot be unlimited, however. A balance must be struck between taking joint action and taking action before time runs out.

Establish the Prospects for Success and the Cost-Benefit Ratio of Military Action

Force should be applied only with confidence that it will be effective, and at a cost in lives and international order proportional to the threat.

International support for military action (absent a clear need for self-defense or an imminent threat) is necessary to share the cost and risks of the operation and to enhance global order and security in the aftermath. This requires more rigorous and shared assessments not only of the prospects for immediate success of military action, but of likely subsequent developments. Guidelines should require rigorously vetted strategies for making the postwar environment significantly better than its antecedent, including the possibility that the military action might deter other actors from developing or acquiring similar threatening capabilities.

The converse also must be analyzed: that other actors will feel emboldened to strike preventively against their adversaries. India and Pakistan, China and Taiwan, and Israel and Egypt or Syria are just some examples of adversaries that could follow such a precedent.

Clarify the Authority under Which Military Action Should Be Taken

The UN Security Council is often regarded as the necessary authorizing agency of legitimate force, but the experiences of Kosovo and Iraq suggest that complementary or supplementary sources of legitimacy may be necessary.[37] Even a partial international consensus on guidelines for preventive use of military force would augment the moral and political legitimacy of a state or coalition that acted according to these guidelines. This is important, especially for the United States, which is often seen, fairly or not, as projecting force for its own selfish interests. Because the Security Council's pace of deliberation is generally too slow to begin in the midst of a crisis, international negotiation of guidelines for military action in advance increases the likelihood of an effective international response.

SUMMARY OF POLICY RECOMMENDATIONS

- Enhance and broaden counterproliferation strategy beyond purely military responses to encompass the capabilities most likely to deter and defend against the use of nuclear, biological, and chemical weapons. (p. 71)
- Restructure missile defense research and subject all antimissile systems to realistic testing. (p. 72)

- Develop international guidelines for preventive military action in the absence of imminent threat. (p. 75)