



The Next 100 Project: Leveraging National Security Assistance to Meet Developing World Needs

A Report by The Stimson Center
and The Stanley Foundation

2009

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PRAGMATIC STEPS FOR GLOBAL SECURITY

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Executive Summary

The recent expansion of the nuclear club from five states to nine, the use of biological weapons by terrorist organizations and rogue scientists, and the increasing incidence of illicit dual-use technology transfers to state and nonstate actors contribute to the growing evidence that the world has entered a new era of proliferation. The end of the Cold War touched off an unprecedented era of war demobilization, transferring a growing menu of sophisticated technologies from government to private hands. This coincided with an array of new economic forces that would accelerate the spread of those same dual-use technologies into the hands of more nonstate actors in more countries around the world than at any other time in human history. Export-oriented growth models in developed and developing countries lowered barriers to trade and, along with advances in information, transportation, and communications technologies, spurred a fantastic growth in global trade. As trade grew, however, nonproliferation norms often became secondary to the economic benefits of globalization.

Governments of the developed North have instituted a tighter and more rigorous set of “supply side” restrictions on the transfer and movement of materials and technology designated “of proliferation concern.” For over forty years, the spread of weapons and technologies was held in check by a patchwork of “technology denial” regimes based upon an interlocking set of treaty obligations. But each of the major treaties comprising the nonproliferation regime—including the Nuclear Non-proliferation Treaty, the Biological Weapons Convention, and the Chemical Weapons Convention (CWC)—reflected state-centric solutions to the threat. This presumed that the state was the main repository of the technology or items being controlled, as well as the guarantor of its security from other, illegitimate actors.

Today, as innovation, research and development (R&D), production, and distribution have gone global, so too has the threat of weapons of mass destruction (WMD). Wealthy governments of the North speak of proliferation dangers emanating from, or fostered by, weak controls in the Global South. This situation is driven by both a fundamental capacity deficit, and by countervailing strategies for development.

While the most technologically advanced governments are challenged by the proliferation of advanced technologies and the blurred lines between peaceful and nefarious uses of that technology, the response capacities of less developed countries are even more severely limited. Even the most conscientious developing country government, sensitized to the dangers of proliferation of weapons, materials, and expertise of mass destruction, faces immense practical difficulties in preventing proliferation in a globalized economy.

Convincing these governments to make greater investments in counterproliferation activities while their public education and health infrastructures suffer from neglect is not an easy—or even reasonable—task. Indeed, the perceived unwillingness of these poor governments to fully embrace nonproliferation standards is also a conflict over technology itself. The tightening of controls demanded by the North is seen by many poor countries as a gambit to stymie competition and keep the developing world in a perpetual state of underdevelopment. The global financial crisis only exacerbates the developing world’s need for the most basic human services, even in the face of a rising tide of proliferant opportunity.

In April of 2004, the UN Security Council unanimously passed Resolution 1540. The goal was to reinforce global supply-side controls over sensitive weapons, materials, technologies,

and know-how. It sought to rectify the inadequacies of existing measures and the particular challenge of WMD proliferation to nonstate actors. Today, nearly five years into the experiment with 1540, progress toward its implementation has not been entirely encouraging. For instance, although the resolution required all member states to report their progress on implementation of the measures encompassed by the resolution to the 1540 Committee within six months of passage, only 161 countries have submitted their reports to date. Another 31 reports remain outstanding. Even more distressing has been the pace at which governments have developed national implementation plans to ensure full compliance with the tenets of the resolution.

In addition to the reporting requirement, 1540 stipulates that all states in need of assistance should request it, and that those states capable of providing assistance should offer to do so. In reality however, potential donors have not been matched to prospective recipients.

We find that in light of the resolution's importance in preventing acquisition and potential use of WMD in general, and by a nonstate actor specifically, the international community needs to overcome the impediments to achievement of 1540's primary counterproliferation objectives. We further find that the assistance mechanism embedded in the resolution offers the best hope of closing the growing divide between the haves and have-nots and between the security-conscious North and the developing South.

To assure effective implementation of UN Security Council Resolution 1540 (UNSCR 1540), the first priority is to correct the misperception of donor states that technical assistance or provision of equipment alone will achieve this purpose. Neither one-off trainings nor high-tech equipment will provide enduring solutions to the longstanding governance needs in many regions of the world. Due to the overwhelming barriers to implementation, recipient states must experience the value of receiving assistance in connection with 1540 so that their perception of the resolution as a North-driven priority—at the detriment of the South—will be changed. We therefore conclude that there is a need to demonstrate the potential benefits of 1540, first in meeting urgent domestic priorities in recipient states, and secondly, in serving as a foundation for effective and sustainable counterproliferation measures.

When viewed in detail, the resolution provides a unique opportunity for poorer countries to tap into “dual-use” security-related assistance to meet many of their development and capacity-building objectives. For instance, the technical assistance and communications infrastructure to address detection and interdiction of weapons of mass destruction is equally critical for emergency management authorities and first responders in the event of a natural disaster. The ability to apprehend and prosecute criminals who may be marketing materials of mass destruction requires a well-trained police force and functioning judiciary. The prevention of human or small arms trafficking relies upon many of the same resources and capacities that can detect and prevent nuclear proliferation. Countering the scourge of infectious diseases or the detection of and response to the use of a biological weapon require a functioning disease surveillance and public health infrastructure. And “safe ports” standards that challenge governments' ability to remain competitive in the global supply chain can be achieved, in part, with nonproliferation security assistance that ensures that borders and ports are both secure and efficient.

Although development and security programs are treated as conflicting priorities in national budgets, untapped opportunities leverage and mutually support each other. This entails not

simply a reallocation of resources, but also a wiser, more strategic expenditure of those investments. We propose an innovative “whole of society” approach to bridging the security/development divide that would leverage donor investments in both security assistance and development assistance, so as to ensure recipient state buy-in and an enduring return on investment.

Western political leaders, academics, nongovernmental organizations (NGOs), and philanthropists are all fond of decrying the divisions between the development and security communities. But until there is a greater financial allocation of resources toward poverty eradication, trade enhancement, basic education, infrastructure development, public health, and other critical development priorities, the world will be beset by a growing array of security threats—including terrorism and the proliferation of nuclear, biological, and chemical weapons. Using, among other tools, UNSCR 1540, the international community should now leverage existing resources and mechanisms to circumvent the stove-piped proclivities of governments and bridge the development/security divide.

The views expressed in this report are those of the authors and not necessarily those of the Stanley Foundation.

Project Report

If the United Nations is to be a useful instrument for its Member States and for the world's peoples...it must be fully adapted to the needs and circumstances of the twenty-first century...its strength must be drawn from the breadth of its partnerships and from its ability to bring those partners into effective coalitions for change across a whole spectrum of issues.

—*Report of the Secretary-General of the United Nations, 2005*¹

The Advent of Mass Destruction and the State-Centric Prevention Regime

On December 8, 1953, US President Dwight Eisenhower stepped up to the podium at the United Nations General Assembly in New York City. The nuclear arms race was only four years old, but the United States had already produced nearly 1,500 warheads, enough to equip each of its military services with nuclear weapons for a wide range of missions.² The Soviet Union and Great Britain were both testing and deploying atomic weapons. All three countries were also experimenting with an array of biological and chemical weapons.

In his speech, the American President hinted at his country's rapidly declining nuclear hegemony, cautioning that, "the knowledge now possessed by several nations will eventually be shared by others—possibly all others." He went on to warn the General Assembly about the perils of proliferation: "Let no one think that the expenditure of vast sums for weapons and systems of defense can guarantee absolute safety for the cities and citizens of any nation. The awful arithmetic of the atomic bomb does not permit any such easy solution."³

In 1960, the nuclear club expanded yet again as France conducted its first test. Four years later, China would go nuclear while other wealthy industrialized European countries, including Italy and Sweden, were actively pursuing their own weapons programs.

Fears of unchecked nuclear proliferation pervaded the international security dialogue during this time. In 1961, a draft resolution proposed by Ireland on the "prevention of the wider dissemination of nuclear weapons" was unanimously adopted by the UN General Assembly as Resolution 1665 (XVI). Recognizing the danger of the spread of nuclear weapons, the Assembly called upon

all States, and in particular the States at present possessing nuclear weapons, to use their best endeavors to secure the conclusion of an international agreement containing provisions under which the nuclear States would undertake to refrain from relinquishing control of nuclear weapons and from transmitting the information necessary for their manufacture to States not possessing such weapons, and provisions under which States not possessing nuclear weapons would undertake not to manufacture or otherwise acquire control of such weapons.

This resolution was a critical first step in the adoption, in 1968, of the Nuclear Non-proliferation Treaty (NPT) [Appendix C]. The treaty contains the commitments of five recognized nuclear weapons states neither to transfer nuclear weapons nor to assist nonnuclear

weapons states in acquiring a nuclear weapons capability. The treaty also ostensibly put the nuclear powers on the path to nuclear disarmament and allowed for the sharing of nuclear technology between nations for peaceful purposes. Together with the superpower standoff, the entry-into-force of the NPT in 1970 tempered the overt pursuit of the atomic bomb beyond the original permanent five (P5) members of the UN Security Council for the next two decades.

During World War II, both offensive and defensive biological weapons programs were initiated in Canada, France, Germany, Japan, the Soviet Union, the United Kingdom, and the United States. During the Cold War, the United States and the Soviet Union had by far the most sophisticated biological weapons capabilities. Both countries developed and weaponized sufficient pathogenic agents and toxins to destroy all human and most plant and animal life on the planet. As offensive biological capacities expanded both scientifically and geographically, a growing recognition of their destructive potential was accompanied by international efforts to control their proliferation and use.⁴ In 1969, US President Richard Nixon unilaterally renounced offensive biological weapons. As with global concern over unchecked nuclear proliferation, international revulsion in response to the effects of biological weapons led to negotiations aimed at reinforcing and extending the 1925 Protocol for Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases and of Bacteriological Methods of Warfare, also known as the Geneva Protocol. As a result of those efforts, by 1972 the international community had established the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BWC) [Appendix D]. The BWC represented the first multilateral disarmament treaty to ban the production and use of an entire category of weapons. When that treaty entered into force in 1975, four countries were thought to possess bioweapons: the United States, the Soviet Union, China, and South Africa.⁵ Among the seven countries listed above, the German and Japanese biological weapons programs ended with the surrender of these nations in 1945; Canada, France, and the United Kingdom shut down their programs in the 1950s; the United States eliminated its offensive biological warfare program in 1969; and, the Soviet Union/Russia closed down its offensive program in 1992.⁶ Although the BWC did not prevent continued experimentation with biological weapons by a core group of determined “cheaters,” the treaty did at least halt overt pursuit of offensive biological weapons.

As with bioweapons, chemical weapons proliferated both prior to and throughout the Cold War. The first modern instance of chemical warfare occurred in 1915 when the German army released chlorine gas on Allied troops. The First World War subsequently witnessed the use of chemical weapons by both the Allies and the Central Powers. By the war’s end, an estimated 124,000 metric tons of chemicals had been used on the battlefield. During the Second World War, Germany, the United States, and the Soviet Union produced tens of thousands of metric tons of chemical agents for delivery.⁷ This trend continued through the Cold War. Since the conclusion of the Chemical Weapons Convention (CWC) in 1996, a gradual roll-back has been occurring [Appendix E]. Under CWC obligations, five states party—Albania, India, Libya, the Russian Federation, and the United States—have declared a total of 71,315 metric tons of “Category 1 and 2” chemical weapons, contained in 8,679,133 munitions and containers.⁸ The destruction of Albania’s stockpile was completed in 2007, leaving four states with declared chemical weapons stockpiles.⁹ Seven other nations have declared their possession of existing or former chemical weapon production facilities: Bosnia and Herzegovina, China, France, Iran, Japan, the United Kingdom, and Yugoslavia.

Verification Mechanisms

As important as the NPT, BWC and CWC is the array of verification mechanisms that were subsequently developed to ensure adherence to the nonproliferation objectives set forth by these three treaties. The International Atomic Energy Agency (IAEA) was established to prevent the misuse of nuclear technology and materials by states for military purposes, as well as to act as a channel for scientific and technical cooperation in regard to the peaceful use of nuclear energy. The IAEA was created in 1957 in direct response to the “Atoms for Peace” address made by US President Eisenhower before the UN General Assembly. Although established under its own international treaty (the IAEA Statute), the IAEA also reports to the United Nations General Assembly and the Security Council. Today, the agency inspects nuclear and related facilities under safeguards agreements with more than 145 states around the world. As of September 2008, the IAEA included 145 member states, all of which belong to the United Nations.

Perhaps the most rigorous effort to prevent the unwanted transfer of weapons of mass destruction grew from the 1997 Chemical Weapons Convention (CWC), which prohibits the development, production, stockpiling, or use of chemical weapons and related materials for military purposes and drives a robust verification regime that ensures that any production, processing, consumption, or trade of related chemicals is related to peaceful purposes only. The CWC is administered by the Organization for the Prohibition of Chemical Weapons (OPCW), which conducts invasive military and industrial facility inspections in all member states and also works with declared stockpile countries to ensure continued compliance and nonproliferation safeguards.

In the case of biological weapons, no international verification mechanism has yet been developed. Only according to Article VI of the treaty does any party “which finds that any other State Party is acting in breach of obligations deriving from the provisions of the Convention [have the right to] lodge a complaint with the Security Council of the United Nations.” When this occurs, “[e]ach State Party to this Convention [must] cooperate in carrying out any investigation which the Security Council may initiate....”¹⁰ To strengthen the BWC, regular review conferences have been hosted to seek consensus on a more rigorous verification mechanism. Generally, these conferences have reaffirmed the basic prohibitions of the BWC and have attempted to resolve issues and problems that arise between the state parties. However, political and technical obstacles have frustrated conclusion of a protocol that would monitor and ensure compliance with the treaty.

Regardless, from the earliest days of the Cold War, firm international norms and practices evolved to prevent the proliferation and use of nuclear, biological, and chemical weapons. The elimination of chemical and biological weapons was an outstanding obligation and, in general, the world community expected at least some reduction in the existing stockpiles of nuclear weapons, even if their eventual elimination often seemed a distant hope. While the number of nuclear-armed states has grown from five to nine since China’s entry into the nuclear club, many more countries have abandoned their nuclear ambitions and arsenals—Argentina, Brazil, South Africa, Ukraine, Belarus, and Kazakhstan among them. Several states are suspected of harboring offensive biological and chemical weapons research and development programs; however, but for a few significant instances, these weapons have not been widely deployed or used in combat since the regime was formed. Instead, the supply of weapons, materials, and technologies has been tightly controlled by a limited number of governments, while demand has been comparatively minimal and easily tempered, to a large degree, by the influence of the superpowers.

Technology Denial as a Cornerstone Strategy

Although the efficacy of each of these instruments varies dramatically, the common thread connecting them to the WMD nonproliferation regime is the central strategy of technology denial: provided that the components of a weapon could be locked away, then proliferation was presumed to be manageable. But, while this strategy was generally effective in past decades, its discriminatory nature today combines with an array of changing forces to challenge its practicality and relevance in the 21st century.

For more than 40 years, nonproliferation strategies reflected the fault lines of the world's ideological and structural conflict.¹¹ The spread of weapons technology was held in check by a patchwork of denial regimes based upon an interlocking set of treaty obligations. One dimension was the East-West divide between Coordinating Committee for Multilateral Export Controls (COCOM) and the Communist bloc in the sharing of technology.¹² The other is the North-South dynamic, characterized by the sense of grievance among countries in the South, stemming from their colonial past and current perception of still being marginalized under the international economic order. While the East-West divide has been relegated to the dustbin of history, North-South tensions continue to undermine widespread support for export controls because—not unreasonably—the South views such controls as impinging on its economic growth.¹³

In answer, the major nonproliferation treaties focusing on nuclear, chemical, and biological weapons attempted to bridge the North-South divide and cajole universal compliance by facilitating technology transfer for peaceful uses of the technology, while limiting (Nuclear Nonproliferation Treaty) or eliminating (Chemical Weapons Convention and Biological Weapons Convention) the number of “legitimate” actors who may possess such weapons. All of these treaties reflect state-centric solutions to the proliferation challenge, meaning that the state is assumed to be the main repository of the technology being controlled and the guarantor of its security from illegitimate states. None of these treaties encompasses any specific measures relating to nonstate actors as a potential proliferation source. Notably, the nonproliferation treaties also confront the conundrum that the legitimate transfer of dual-use technology within the context of the regime creates the risk that parties can gain weapons capabilities and then subsequently abrogate the treaty, as in the case of North Korea's withdrawal from the NPT.

In addition to these global nonproliferation treaties and international organizations (IAEA and OPCW), specific countries—largely comprising the wealthy, industrialized North—participate in several multilateral regimes that limit access to technology via export control norms established by the member states. The Wassenaar Arrangement was created in 1995 to replace COCOM and address conventional arms and dual-use items.¹⁴ The Nuclear Suppliers Group (NSG) was formed in 1974 as a multinational body that would help reduce the threat of nuclear weapons proliferation by limiting the export and transfer of nuclear technology and materials for peaceful purposes only and improving safeguards for existing nuclear materials in various host countries. NSG guidelines have since been created to help ensure that nuclear transfers are not diverted to unsafeguarded nuclear fuel cycle or explosive activities. As of 2008, the NSG includes 45 member states that share and uphold nuclear nonproliferation goals and obligations.

Similar structures grew out of the concern of committed governments regarding the proliferation of biological and chemical weapons. The Australia Group helps states that either

export or transship chemical and biological technologies and materials to develop stronger export control and nonproliferation measures. The group was established in 1984 by 15 countries, initially in response to the illegitimate use of chemical weapons by Iraq during the Iran-Iraq War in violation of the 1925 Geneva Protocol. As of 2008, the group consists of 41 member states, all of which are also parties to the CWC and BWC. The Australia Group meets once a year to review the effectiveness of the national export control and licensing measures of its member states. It also maintains a list of technologies that can be potentially used in chemical and biological weapons programs and helps ensure that such technologies are bound by strict export control and licensing restrictions through multilateral interstate cooperation. In addition, the Missile Technology Control Regime founded in 1987 focuses on curbing the spread of missile-related technology.

The Correlated Forces of Nonproliferation

Of course, multilateral treaty obligations have not been the only impediments to the unchecked proliferation of nuclear, biological, and chemical weapons, materials, and technologies. Indeed, the absence of the very factors that today are eroding the efficacy of technology denial once contributed to proliferation prevention. In general, the latter half of the 20th century was characterized by predictable global trading patterns. Commerce, while international in scale, was relatively leisurely in pace; and, although the forces of globalization and trade liberalization were gathering in the latter decades of the Cold War, they had not yet matured to a level where diverse networks of both licit and illicit middlemen facilitated access to the dual-use market for thousands of new and smaller independent producers, as is the case today.¹⁵ In regard to the nuclear threat, the scientific community capable of marrying weapon components to fissile material was small and strictly governed by the P5. These factors both reinforced and strengthened the technology denial regime. Similarly, prior to the biotechnological revolution, the lion's share of advanced biological capabilities was found in the most industrialized states of the Northern Hemisphere.

In hindsight, that strategy, coupled with little upward pressure on breakout to additional countries because of superpower suasion, meant that the proliferation challenge was largely manageable. With a limited number of nuclear states, with know-how and materials under nearly exclusive control of the P5, with a nonpermissive global regime, and with downward pressure from the superpowers on their allies to go nuclear, prevention translated into restriction of supply. Although enforcing restrictions on biological and chemical materials was more difficult, and while cheating by committed proliferators was more routine, no state blatantly broke the taboo of using a nuclear weapon after the first atomic bombs were dropped on Hiroshima and Nagasaki. Sporadic use of chemical weapons and even accusations of bioweapons use occurred, but these were far from routine.

While each component of the regime was designed to address a different point along the WMD prevention chain, each grew out of a central organizing principle—that the prevention of proliferation relied upon the denial of weapons, materials, and technologies. And for the most part, the regime worked.

The Eroding Efficacy of Technology Denial

By the 1980s, however, proliferation experts were sounding the same alarm that had been heard twenty years earlier—a mounting concern that led to the development of the modern nonproliferation regime. This time, the locus of concern was not proliferation among the developed states in the North, but on developing states in the Southern Hemisphere. As

many as eighteen developing countries, assumed to be unstable or worrisome environments for nuclear development, were thought to be harboring nuclear ambitions.

Similarly, despite the entry-into-force of the Biological Weapons Convention in 1975, a series of accusations beginning in the 1960s and continuing to the present has been made and suggests that up to twelve countries currently possess either offensive bioweapon development programs or bioweapons. In 1995, Iraqi officials admitted to having produced 30,000 liters of biological agents, some of which had been loaded into dispersible munitions.¹⁶ This revelation touched off renewed global introspection and, occasionally, accusations regarding the pursuit of biological weapons. In Africa, the Middle East, and in Asia, countries were being accused of renewed interest in and pursuit of dangerous biological pathogens for offensive use.

As with biological weapons, in addition to the twelve countries reporting either existing chemical weapons programs or vestigial capabilities, six more countries have been accused of harboring continued chemical weapons programs that have gone undeclared to the OPCW in the Hague.¹⁷ Furthermore, both chemical and biological weapons capabilities have been shown to proliferate down to the level of sub-state organization. Today, a variety of terrorist organizations have expressed both the intention to obtain and a willingness to use these weapons of mass destruction. On the morning of 20 March 1995, members of the Japanese doomsday cult Aum Shinrikyo released sarin in a coordinated attack on five trains in Tokyo's subway system. The attack killed twelve commuters and seriously injured 54 others. What is less well known is that prior to its successful chemical attack in Tokyo, the cult had attempted to develop and use botulinum toxin and other agents as bioweapons on several occasions. The cult's first attempt in 1990 consisted of spraying what its members thought was botulinum toxin from three trucks driving near important buildings throughout Japan.¹⁸ Fortunately, the group was not successful, likely due to faulty microbiological techniques, deficient aerosol-generating equipment, and perhaps also internal sabotage. In 1993, Aum Shinrikyo used similar tactics to spray an ineffective toxin mixture around Prince Naruhito's wedding ceremony in an attempt to fracture relations between Japan and the United States. In an incident the following year, police suspected that cult members sought to retaliate against an attorney working on behalf of the cult's victims by pouring a toxin into his drink. Finally, only five days before the sarin attacks in 1995, the cult members placed briefcases designed to disperse botulinum toxin in a Tokyo subway station. That attack would have failed even if it had gone as planned because authorities later deduced that the cult lacked the capability to weaponize the toxin. However, prior to the mixture's dispersal, a dissident member replaced it with water. In addition to botulinum toxin, the group also attempted to harvest and experiment with two other deadly pathogens—anthrax and Ebola.

Al Qaeda's pursuit of a nuclear capability has been well documented in the popular press. Less publicized, however, is the organization's aggressive quest for a chemical and biological weapons capability. Some experts even suggest that, based on open intelligence and the relative ease of access to dual-use biological pathogens and equipment, Al Qaeda may have advanced farther in this field than in the nuclear realm.¹⁹ For instance, upon searching the evacuated terrorist camps following the invasion of Afghanistan, a ten-volume *Encyclopedia of Afghanistan Resistance* was discovered, containing precise formulas for manufacturing botulinum toxin and ricin. The document also contained instructions for would-be perpetrators on what were then current methods for disseminating the agents.²⁰

Al Qaeda members attempted to learn how to fly and wanted to purchase crop dusters that analysts believe were intended for disseminating anthrax and chemical or biological agents. In legal testimony, Al Qaeda terrorist, Ahmed Ressum, who was captured while crossing from British Columbia into the United States, testified that Al Qaeda was experimenting with deadly chemicals and poisons.²¹ For years, the Central Intelligence Agency (CIA) in the United States tracked Al Qaeda's fascination with weapons of mass destruction. Its particular interest in chemical and biological weapons seemed to date back to Aum Shinrikyo's attack on the Tokyo subway system. Writing in 2007, former CIA Director George Tenet observed that Osama bin Laden and other leaders of the terrorist group viewed that attack as a model for achieving their own ambitions.²²

Globalization Unleashes New Proliferation Risks

In recent years, concerns about proliferation have grown in the wake of fundamental shifts in the global economic, political, and social order. As the Cold War was drawing to a close, an unprecedented era of war demobilization was beginning which would transition critical WMD knowledge and capacity from state-governed institutions and a limited number of highly regulated partners to a broader swath of private actors. Set in the context of a rapidly globalizing world economy, the 1990s was even more transformational than was the demobilization following World War II. The emerging nuclear powers of the 1940s and 1950s had orchestrated the production and procurement of dual-use technologies as part of their efforts to build and perfect their nuclear weapons capabilities.²³ In their infancy, such efforts were bound by the limitations of transportation and communication, as well as by the strict governance of the P5.

In the 1990s, the demobilization trend was different in scale and in character. In the states of the former Soviet Union, for instance, new companies emerged from state-owned manufacturing enterprises. Moscow became understandably eager to capitalize on its long history and expertise in civilian nuclear power generation. In 1999, exports of nuclear fuel-cycle goods and services from Russia topped US\$2 billion, including \$500 million in fuel assemblies and \$1.6 billion in other goods and services. Two years later, exports had risen to US\$2.5 billion, and by 2004, they topped \$3.5 billion.²⁴ The number of companies servicing this global market—particularly with dual-use items—similarly expanded. As global commerce expanded, so did the potential for illicit diversion. The practicality of government export controls was increasingly challenged.

In addition, post-Cold War superpower demobilization set in motion the proliferation of critical technical expertise. After the war, thousands of scientists who had been a key part of the Soviet nuclear weapons complex lost their favored place in Russian society. Many sought new opportunities to apply their dual-use talents in the private sector—both in Russia and abroad. Much of this talent ended up in the United States and in Western Europe, but others found lucrative possibilities in other countries around the world whose compliance with the nonproliferation regime was sometimes questionable.²⁵ A similar demobilization and globalization of talent occurred throughout the Western world.

The end of the Cold War coincided with the emergence of new economic forces that would put dual-use technologies in the hands of more nonstate actors, including legitimate industries and, potentially, terrorists and other criminal organizations.²⁶ This dynamic spread well beyond the confines of the former Soviet Union. During most of the post-World War II era, foreign investment in the developed economies of the North and in the developing

economies of the South was resisted by developing state governments. As such, these investments were closely screened, controlled, and restricted. But by the 1990s, mainstream economic thinking had concluded that foreign investment yielded not only short-term financial gains, but also long-term economic benefits. The global development community joined economists and state development agencies in promoting models of export-oriented growth to the governments of less-developed countries. Lower labor costs and often lax government regulation attracted massive new sources of foreign direct investment. Barriers to imports and exports were lowered around the world. In 1981, the worldwide average tariff on imports was 29.7 percent. By 2006, that figure had dropped to 9.5 percent.²⁷ As companies from the developed world began moving their manufacturing and even research and development (R&D), in some cases, to offshore locations in the developing world to benefit from cheaper labor and a more permissive regulatory environment, the corresponding transfer of information, processes, and technology led to the generation of local enterprises that collaborated with or competed for market share.

The information revolution further hastened the ease of transmitting sensitive data to more countries around the globe, and thus, technology democratized access to information in ways that both benefit and potentially harm humanity. Countries once thought to lack the indigenous expertise to perform complex manufacturing operations are developing competitive industrial sectors that are rivaling suppliers across the developed world. To many, it seems that suddenly, companies anywhere in the world could turn out centrifuge and other key dual-use components, competing with traditional exporters in Western Europe. As a result, by the late 1990s, more companies in more countries than ever before could make products that could be used either for legitimate commercial purposes—or for the development of nuclear, biological or chemical weapons.²⁸

In addition, transportation technology development enhanced the capacity of companies—including dual-use technology manufacturers—to ship products around the globe unhampered and undetected. Larger and more efficient ships, roll-on/roll-off cargo container vessels, new loading and unloading tools, more efficient port management, improved logistics, and satellite navigation and tracking accelerated the pace at which goods could flow around the world. An unprecedented volume of goods began moving through international mega-ports linked to maritime networks around the globe. Just as countries of the developed world began rapidly expanding their port facilities to meet burgeoning demand, countries of the developing world expanded their capacity to capitalize on a growing industry of transit, transshipment, and re-export services. The United Arab Emirates (UAE) alone invested billions of dollars in the 1990s to become a global trading hub. By 2007, more than \$12 billion worth of American goods were flowing through the UAE annually.²⁹ In that year alone, DP World, one of the largest marine terminal operators on the planet, announced that it had recorded a 19 percent growth in throughput with the handling of 11 million TEUs (twenty-foot equivalent container units) at its marine terminals in the UAE.³⁰ The sheer volume of trade through many of these ports imposed practical limitations to oversight and regulation.

The inspection of these goods was further inhibited by a common reluctance on the part of some countries to control the production and trade of dual-use items. As export-oriented economic models were adopted in countries across the developing world—replicating a pattern of behavior perfected years prior by advanced industrial states—officials were reluctant to sacrifice financial gains to prevent proliferation. Joined by trade experts, many of

these governments blamed the developed world for overstating the potential dangers of many dual-use items passing through their ports. In some high-profile cases, intense diplomatic and economic pressures led countries to adopt domestic supply-side export control regulations. But regulators have since learned that the domestic enforcement of the new standards was significantly lacking on some occasions as a result of inadequate enforcement capacity and/or political will. Furthermore, differing legal restrictions in countries around the world is providing committed criminals with the chance to “forum shop,” driving shady operations to locations of least resistance. In many cases ultimately, financial incentives, not nonproliferation norms, were the prime motivators among many private companies, port authorities, and national governments.

Working to convince these governments to make increased investments in counterproliferation activities while their public education and health infrastructures (by way of example) suffer from neglect is neither an easy nor a reasonable task. Indeed, the perceived unwillingness of some poor governments to fully embrace stringent nonproliferation standards was also, at its root, a conflict over technology itself. The tightening of controls demanded by the North was seen by many as a gambit to stymie competition and keep the developing world in a perpetual state of underdevelopment. The formation of the Group of 77 by developing countries led to demands for a New International Economic Order (NIEO). This aspiration grew out of the neo-Marxist political economy theory of the 1960s, which argued that the international trading system was condemning the “periphery”—Latin America and other developing countries—to poverty, exploitation, and dependency. Among other measures, NIEO specifically called for technology transfer to the South and the negotiated redeployment of some developed country industries to developing nations.³¹ In such an environment, restrictions on technical transfers southward were not viewed positively by developing world governments.

In short, new global realities meant that the potential for proliferation had gone global, expanding from the developed north to additional regions of concern in Global South.³² More actors than ever at both the state and sub-state levels have access to critical know-how, materials and capacities to develop, build, and ultimately use weapons of mass destruction than ever before.

All of this indicates the need to better understand the motives behind the elements of the proliferation chain to prevent the diffusion of WMD technologies. While a rich literature was generated throughout the Cold War examining the decisions of principally developed states to go nuclear, no such systematic analysis has been undertaken that evaluates the incentives for a new constellation of developing state and nonstate actors to proliferate or not. Understanding demand and the motivations to meet these demands is a critical unmet challenge for the nonproliferation community.

The Challenges of Technology Diffusion: Nuclear and Biotechnology

The likelihood of both nuclear and biotechnology diffusion present an increasing risk of further weapons proliferation in the coming years. Growing interest in the potential for nuclear energy to address burgeoning energy demands, while minimizing carbon emissions, will create a new challenge to the nonproliferation regime. Similarly, accelerating advances in biotechnology and its rapid spread to corners around the globe, without the attendant institutions or mechanisms to ensure security and safety, also constitute a major new threat.

The Renaissance in Nuclear Energy

No case better illustrates the erosion in the viability of the technology denial strategy than the convergence of global development, increased demand for energy, and a renewed drive among some toward the goal of nuclear abolition. It is well recognized that the technological revolution has led to unprecedented economic growth across the developed world. What is less appreciated is the extent to which the widespread diffusion of advanced technologies has brought unprecedented advances to global development. In many ways, the world is a better place to live than ever: life expectancy has doubled in the last 100 years; the proportion of the 6.1 billion people in the world who live on one dollar per day or less shrank from 63 percent in 1950 to 35 percent in 1980 and to 12 percent in 1999; astonishing new capabilities to diagnose and treat illnesses have been developed; and new technologies are bolstering food production across the Global South.

But these economic advances in the developing world have also hastened unprecedented new demands on global energy supplies. Evidence suggests that rising demand for energy, combined with concerns about climate change, is making civilian nuclear power more attractive to more countries than at any other point in history. By 2025, experts are estimating 75 percent growth in electricity demand, with even greater increases by mid-century. For many, nuclear energy is the most promising technology available to meet these huge requirements. This suggests a vast increase in the number of states that will develop or expand nuclear power capacity—from 30 to perhaps 50 or 60 by 2050. The geographic distribution of new countries that are interested in acquiring a nuclear capability is telling (Figure 1).

Figure 1

The Global Expansion Of Civilian Nuclear Power				
Countries Considering Nuclear Power within 10 Years				
Azerbaijan	Belarus	Egypt	Indonesia	Kazakhstan
Norway	Poland	Lithuania	Estonia	Latvia
Turkey	Vietnam			
Countries with Long Term Plans Underway				
Algeria	Australia	Chile	Georgia	Ghana
Jordan	Libya	Malaysia	Morocco	Namibia
Nigeria	Bahrain	Kuwait	Oman	Saudi Arabia
Qatar	UAE	Syria	Venezuela	Yemen
Countries Participating in IAEA Workshop on Nuclear Power				
Cameroon	Croatia	Kenya	Sudan	Tanzania
Uruguay				
Source: United States Department of State International Security Advisory Board, <i>Report on Proliferation Implications of the Global Expansion of Nuclear Power</i> (7 April 2008): 3.				

Consideration of, or even the pursuit of, civilian nuclear power is not equated with the pursuit of an offensive nuclear capability; but by the simple law of averages, the dual-use technologies involved necessarily expands the *potential for* proliferation, if not the *desire*. Unless the expansion of nuclear energy is carefully managed and the requisite safeguards have the buy-in of all countries, the international community could be headed for a new era of proliferation. Balancing legitimate energy needs with the realities of proliferation will be a significant challenge for the international community in the 21st century, as indicated by the anecdote in Box 1. It will also necessitate an approach that addresses the limitations of technology denial in a globalized world.

Box 1

Case Study One: Dual-Use Nuclear Technology Proliferation

The case of Oerlikon Leybold Vacuum, Inc., a German multinational manufacturing firm, demonstrates the limits of export controls when dealing with certain ubiquitous dual-use technologies. In 1991, while searching a remote outpost in the Iraq desert, UN weapons inspectors stumbled upon a small number of vacuum pumps that could be traced back to this German firm. Oerlikon Leybold produces vacuum technologies for use in air conditioning and TV tubes, for automotive applications and high-tech processes like the coating of microchips, CDs and DVDs, and for the manufacturing of optical glass and analytical instruments. At the time, none of the items discovered were found on any export control or dual-use item list. But on closer study, the inspectors realized that the vacuum pump was attached to a cyclotron, which can be used to enrich uranium through a process called electromagnetic isotope separation. Thus, Oerlikon Leybold and its competitors had knowingly, though innocently, supplied the pumps to the Iraq government and unwittingly advanced the country's nuclear weapons program. As news of the discovery spread, the resulting damage to the Oerlikon brand prompted the company to re-think the fulfillment of a growing number of suspicious requests for technology.³³ The incident also highlighted the ease with which proliferators can exploit legitimate companies to obtain weapons technologies, the inability of existing supply-side measures to contain this growing threat, and the serious consequences that illicit networks may have on both legitimate business operations and on global security. The Oerlikon case is one of many public prosecutions of companies that have been either willingly complicit in proliferation or victimized by illicit traders. It illustrates the need to develop more collaborative information sharing approaches with Western businesses and increasingly with companies across the developing world.

The Biotechnology Revolution

As with the nuclear energy renaissance, the biotechnological revolution has also ushered in some unprecedented advances in global public health to many of the poorest countries of the world.³⁴ Remarkably diminished infant mortality rates are evident in many regions of the world. In Bangladesh for instance, mortality rates per 1000 live births dropped from 100 in 1990 to 52 by 2006. In Ethiopia, rates for the same period have declined from 122 to 77. Incidence of many of the most prevalent infectious diseases has

witnessed similar declines. Incidence of tuberculosis per 100,000 annually in Brazil has dropped from 84 in 1990 to 50 by 2006. In Bhutan over a similar period, the figures dropped from 207 to 96.³⁵ And in the developed world, people are generally living longer, happier lives.

Innovative new drugs are flooding the market and treating illnesses that were once considered incurable. The application of biotechnology promises to yield new personalized therapies to prevent, diagnose, and treat diseases, rather than just cure diseases after they occur. In the past decade alone, the number of innovative new therapies introduced or entering the R&D phase was unprecedented. The number of biotech companies outside the United States has grown remarkably. Between 1997 and 2001, the number of European biotech companies grew from 720 to 1,570. Similarly, the number of biotech companies in Israel grew from 30 in 1990 to about 160 in 2000 and those in Brazil grew from 76 in 1993 to 354 in 2001. Most remarkably, the number of publicly listed South Korean biotechnology firms rose from one in 2000 to 23 by 2003.³⁶ Biotechnology is also causing breakthroughs in the fields of agriculture, food processing and safety, the environment, and even energy production.

As with other industrial sectors, as pharmaceutical companies from the developed world began moving their manufacturing and even R&D to developing nations because of cheaper labor and fewer legal restrictions, the corresponding transfer of information, processes, and technology led to the generation of local enterprises that collaborated with or competed for market share. According to the Food and Agricultural Organization (FAO) of the United Nations, numerous developing countries are approaching the leading edge of biotechnology applications and have “significant” research capacity, including Argentina, Brazil, China, Cuba, Egypt, India, Mexico, and South Africa.³⁷ As a practical matter, this meant that by the late 1990s, more companies around the world were experimenting with technologies that were inherently “dual-use.”³⁸

As in the Northern Hemisphere, the developing South is putting these capacities to work for peaceful purposes. Recent technological breakthroughs are indicative of the geographic diversity of biological talents: the first vaccine against meningitis B was developed in Cuba; South Africa was the first country involved in HIV-C strain preventive treatment; India is the world’s largest producer of the hepatitis B vaccine; and, China was the first to license gene therapy.³⁹ As with the dual-use nuclear sector, intelligence agencies around the world recognized that the locus of proliferation concern was expanding from the developed north—Germany, Russia, France, and the United States—to such far-flung places as Malaysia, Burma and Sudan.⁴⁰

In 2000, for example, a group of Australian researchers worked to genetically engineer the mousepox virus to produce a contraceptive vaccine to control mouse populations. Instead, their research yielded a virus so deadly that it killed all of the mice in the experiment within nine days of them being injected. The case has raised fears that the scientific techniques used—and that are readily available—might be co-opted to create biological weapons. Today, many hundreds of laboratories around the globe routinely perform thousands of genetic manipulation experiments on a multitude of different organisms.⁴¹

Thus, even as humankind reaps the benefits of the biotech revolution, governments around the world are being threatened by the confluence of rapidly advancing science and tech-

nology and by globalization itself. Box Two explains the growing challenges of controlling the flow of biotechnology around the globe. While fears concerning the development and use of biological weapons were once restricted to advanced industrial states because of the high technical hurdles to isolation and weaponization of dangerous pathogens, the spread of dual-use biotechnologies worldwide means that a growing number of countries—and even terrorist groups—may be gaining access to the technologies necessary to develop a bioweapon. As stated before, the activities of the Japanese doomsday cult, Aum Shinrikyo, and more recently, of Al Qaeda, are certainly worrying.

Box 2

Case Study Two: Dual-Use Biotechnology Proliferation

From 1992 to 1993, a small bio-pharmaceutical company in Southern California began to export a new drug to global markets that was hailed as a medical breakthrough because it relieved the debilitating symptoms associated with severe muscle spasms. In those two years alone, the company shipped the product to thousands of doctors across Asia, Europe, and North and South America. Another client was the International Federation of Red Cross (IFRC). In several cases, IFRC had directed the product into a country that was accused of bioweapons development. Five years later, the US Department of Commerce fined the company \$2 million for exporting its product to that country. The Department's concern was not so much the transgression of both US and UN embargos, but the trace amounts of a toxin that could have been diverted for nefarious uses even while it provided therapeutic comfort to patients in the form of a drug. As a result, some inferred that the US company had unwittingly aided that country's bioweapons program. As news of this spread, the resulting damage to the brand prompted the company to re-think fulfillment of a growing number of suspicious requests for its product. Regrettably, today a European company with a competitor product is not only continuing to export to the country in question, but is conducting clinical trials and sharing potentially sensitive information with the government. As with the case of Oerlikon Vacuum, these incidents highlighted the ease with which proliferators can exploit legitimate companies to obtain dual-use technologies, the inability of existing measures to contain this growing threat, and the need to modernize the global toolkit to prevent proliferation.

In sum, the rapid march of scientific advances renders traditional, state-centric approaches insufficient to meet today's proliferation threats. In an era of high-speed communications that readily transcend political borders and easy access to many "dual-use" technologies, it is not enough to be concerned with the intentions of a leader or a "rogue" regime. State intentions do not necessarily capture the breadth of the problem. The international community must bridge the gap between traditional, state-centric arms control regimes that focus on technology denial, and the increasing risks stemming from weak or failed states and the inability of state-centric regimes to confront bad actors with knowledge or access to technologies and materials. The A. Q. Khan incident and evidence of Al Qaeda's pursuit of WMD capabilities both underscore this critical point.

Modernizing the Nonproliferation Toolkit for the 21st Century: UN Security Council Resolution 1540

The events of September 11, 2001 ushered in an acute and widespread awareness of the horrifying loss of life and damage that determined individuals can inflict with strategic and sophisticated planning. Shortly following the terrorist attacks on US soil, the UN Security Council passed Resolution 1373 requiring all UN member states to take steps to combat terrorism. The passage of Resolution 1373 marked the first time since the Security Council was formed in 1945 that it invoked its Chapter VII authority to legislate a functional, rather than state-specific, threat to international peace and security. Although 1373 is specific to the enactment and enforcement of counterterrorism measures, two paragraphs of the Resolution (3(a) and 4) address terrorist possession of WMD and trafficking in such materials.

With the increased focus of national security experts on the acquisition and use of weapons of mass destruction by terrorist groups, the measures called for in Resolution 1373 were found to be insufficient. Moreover, undertaking a year-long process of negotiating an international treaty to address the threat of proliferation by nonstate actors was not a viable option. In President Bush's September 2003 address to the UN General Assembly, he called for the Security Council to adopt a "new anti-proliferation resolution criminalizing the proliferation of weapons of mass destruction." This resolution "should call on all members of the United Nations to criminalize the proliferation of weapons—weapons of mass destruction, to enact strict export controls...and to secure any and all sensitive materials within their borders." In addition, he stated that the United States stood "ready to help any nation draft these new laws and to assist in their enforcement."⁴²

The ensuing revelations about the A. Q. Khan network throughout 2003 and early 2004 added more urgency to move this idea forward. For more than a decade, Khan's black market in nuclear technologies spanned the globe, providing one-stop shopping to untold numbers of customers from North Korea and Iran to Libya. The rogue scientist's distribution network also revealed a major flaw in the ability of existing treaties and agreements to address the role that individuals motivated by ideology or greed may play in undermining global nonproliferation objectives. The case stands as a warning to the world that the Nuclear Proliferation Treaty (NPT), regardless of strengthened verification mechanisms and/or adjustments to interpretations of Article IV, cannot meet the interrelated challenges of technological advances and rogue nonstate actors. The same is true of both the Biological Weapons Convention and the Chemical Weapons Convention.

During the seven months of negotiations to develop an initial draft of the resolution, concerns focused on the imposition of economic or even military sanctions for noncompliance. For instance, China required that the word *interdiction* be deleted from the now-operative paragraph 10, which calls for international cooperation to curb illicit trafficking. In addition, "States Parties" was inserted in operative paragraph 5, which allows for retention of the national security prerogative on the part of states not yet signatories to a nonproliferation treaty. Prior to its adoption, several states questioned whether it was the role of the Security Council to "prescribe legislative action by member states," and others argued that they had become subject to laws that they had no hand in drafting—all indicative of the wide-ranging legal implications of the Security Council's actions. Despite these reservations, all states have agreed under UN Charter Article 24 (1) that on issues of international peace and security, the Security Council acts on their behalf. They have also agreed to be bound by its resolutions.

The draft resolution was co-sponsored by France, Romania, Russia, Spain, the United Kingdom and the United States, and on April 28, 2004, it was unanimously adopted by the UN Security Council [Appendix A]. It sought to compensate for the inadequacies of existing measures and the particular challenge of WMD proliferation by nonstate actors.⁴³ The original resolution was followed two years later by Resolution 1673, which reiterated these obligations, but more importantly, emphasized the need for *implementation* and extended the mandate of the 1540 Committee for another two years. Then, on April 25, 2008, Resolution 1810 again extended the 1540 Committee's mandate for an additional three years.

We are now more than four years into the experiment with Resolution 1540 and the progress toward its implementation is not entirely encouraging. Although 1540 required all UN member states to report their progress on implementation of the measures encompassed by the resolution to the 1540 Committee within six months, only 161 countries plus the European Union have submitted their reports to date. Another 31 reports remain outstanding. [See Appendix B.] In addition, the resolution stipulates that all states in need of assistance should request it, and that those states that are in a position to offer assistance should do so. Unfortunately, not all potential donors have been matched to prospective recipients. This reality is related to the many impediments to the resolution's implementation, which are explained later in this report. In light of the resolution's importance in preventing acquisition and potential use of WMD in general, and by a nonstate actor specifically, the international community needs to look seriously at how to overcome the impediments to achievement of the resolution's primary counter-proliferation objectives.

Lessons from the G-8 and other governments' efforts under the Global Partnership to Prevent the Spread of Weapons and Materials of Mass Destruction in the states of the former Soviet Union provide the basis for a different approach to achieving 1540 implementation. Some of those lessons are directly relevant to ensuring that the measures taken to implement the resolution are both effective and sustainable. In addition, these lessons take on even greater significance in the context of trying to make progress on the measures called for by the resolution in the developing world. After an overview of the genesis and achievements of these cooperative nonproliferation efforts is provided in the next section, this report describes the limitations of such efforts to date and the lessons learned from more than sixteen years of these initiatives and their relevance to Resolution 1540.

Cooperative Nonproliferation: The US-Russia Experience

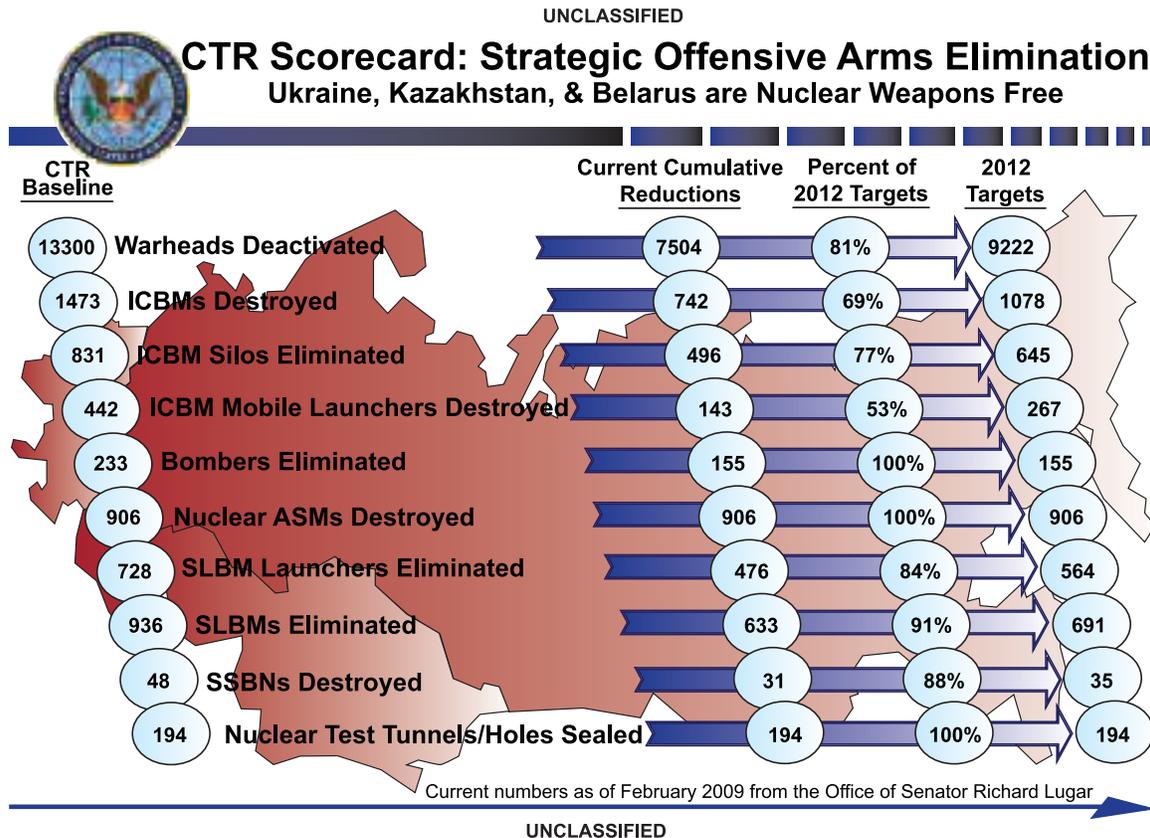
In December 1991, after almost five decades of enmity and a nuclear arms race with the West, the Soviet Union collapsed. As the world celebrated the end of the Cold War, a less tangible and much more diffuse threat emerged. This heretofore unimagined international security challenge was based not upon Soviet strength, but Russian weakness. For forty years, the Soviet Union maintained command and control over tens of thousands of nuclear weapons, experimented with hundreds of deadly pathogenic agents and stockpiled tons of chemical weapons. Control over this massive weapons complex occurred within the context of a closed society with redundant security measures that prevented incursion by the outside world. The omnipresence of the KGB and the threat of harsh penalties made clandestine behavior among insiders unlikely, obviating the need for the personnel and other security measures that were routine in the West.

Within months of the Soviet Union's collapse, Russia and its former Soviet neighbors were left to deal with the legacy of massive nuclear, biological, and chemical weapons programs with a vastly diminished resource base. Moreover, Moscow's ability to exercise adequate command and control and prevent unauthorized access into its WMD complex became frequently challenged. Security measures designed to keep foreigners out failed as knowledge, materials, and weapons became instantly marketable to terrorists and rogue states. From 1991 to 1997, Russia's gross domestic product (GDP) fell by almost 40%. In 1997, GDP grew by 0.8%, but this growth was obliterated by the 1998 crisis that crashed the ruble.⁴⁴ As economic conditions throughout the former Soviet Union worsened throughout the 1990s, stories of the personal hardships experienced by thousands of under- or unemployed WMD workers began to surface. The temptation to surreptitiously divert materials from within the weapons complexes for profit led to new fears of an incipient nuclear, biological, and chemical black market. Potential proliferators recognized that only a small amount of fissile material was required to build a viable nuclear device—an amount small enough to fit into a can of Coca-Cola. From hundreds of excess strategic and tactical nuclear warheads and dozens of decaying nuclear submarines, to radioactive lakes and thousands of unemployed nuclear and biological weapons scientists, the strain placed on the fragile new governments of the former Soviet Union, by virtue of their nuclear legacy alone, was overwhelming.

As the world contemplated the potentially catastrophic consequences of “loose nukes” resulting from the Soviet Union's collapse, Senators Sam Nunn (D-GA) and Richard Lugar (R-IN) wrote the Soviet Nuclear Threat Reduction Act of 1991. Conceived as an emergency response to the loss of centralized control over a vast nuclear arsenal, this act gave rise to a bilateral government effort called the Cooperative Threat Reduction (CTR) program. Better known as the Nunn-Lugar program, its mission would gradually evolve from an emergency effort led by the Department of Defense to secure, transport, and destroy excess Soviet nuclear weapons into a broader, multi-department attempt to keep the weapons, the materials to build them, and the talent within the massive Soviet weapons complex, out of the hands of hostile states and terrorist organizations.

When Senators Nunn and Lugar first envisaged the CTR program, the primary focus was on securing and destroying nuclear weapons and their delivery vehicles in the territories of the former Soviet Union. The enacted provisions authorized a program in the Soviet successor states designed to “(1) destroy nuclear weapons, chemical weapons, and other weapons, (2) transport, store, disable, and safeguard weapons in connection with their destruction, and (3) establish verifiable safeguards against the proliferation of such weapons.”⁴⁵ Thus, beginning in 1991, the United States and Russia launched a multilateral initiative to de-nuclearize Belarus, Kazakhstan, and Ukraine and to disassemble strategic warheads that were deemed extraneous to Russian security and slated for destruction under existing bilateral treaties. The dividends of this laborious new cooperation soon became evident. Cold War hardware representing decades of military investments were isolated, secured, and eliminated for a fraction of earlier investments. The CTR Scorecard below offers a snapshot of the progress that has been made in responding to the most urgent of the proliferation concerns.⁴⁶

Figure 2—The Cooperative Threat Reduction Scorecard



The early success of the CTR program made other members of the United States Congress realize that the initial activities under this program were much too narrow to counter the full spectrum of threats arising from the Soviet Union’s demise. Thus, for cooperative nonproliferation efforts to succeed in the long run, a broader set of tools was needed. In 1992, the FREEDOM Support Act helped to expand the traditional rubric of arms control tools by promoting new efforts to “prevent [the] diversion of weapons-related scientific expertise of the former Soviet Union to terrorist groups or third countries.”⁴⁷ While the FREEDOM Support Act described the threat of WMD terrorism, the link between counterterrorism efforts and the CTR programs did not become explicit until later in the 1990s.

The sea change for CTR occurred with the passage of the National Defense Authorization Act for Fiscal Year 1997, which finally brought the terrorist threat to the forefront of CTR planning by spotlighting both domestic preparedness and a greater concentration on WMD material security.⁴⁸ Title XIV of that law, known as the Nunn-Lugar-Domenici Act, greatly expanded the scope of cooperative nonproliferation programs (CNP). Fissile material and biological pathogens remained an open target for terrorists interested in acquiring a weapon of mass destruction. To counter these threats, the act strengthened the role of the Department of Energy in nonproliferation efforts by adopting programs such as the Elimination of Weapons-Grade Plutonium Production effort and a variety of border security assistance activities. Additionally, the legislation prompted the development of new efforts to address the long-overlooked threats posed by biological and chemical weapons and mandated the appointment of a National Coordinator on Nonproliferation. The nexus

of terrorism and fissile materials was emphasized by the Baker-Cutler Task Force Report which, in early 2001, declared the theft of WMD materials from Russia and their use in the United States as “the most urgent unmet national security threat to the United States. . . .”⁴⁹

It is critical to underscore that CTR efforts evolved in order to fill the gaps presented by a failed nuclear empire’s ability to fulfill its existing and subsequent arms control treaty commitments. CTR functions most effectively against the backdrop of specific nonproliferation commitments. At the same time, threat reduction activities also addressed critical needs in downstream concerns associated with the realization of disarmament commitments. For example, these programs helped to remove warheads from their delivery platforms, dismantle the silos and destroy the bombers, and provide measures of transparency and data exchanges in these processes to verify the treaty obligations set forth in START. However, as the warheads were removed from delivery vehicles and dismantled, programs were created to ensure safe storage of warheads and to deal safely with the excess fissile materials resulting from the dismantlement process. Additionally, proliferation concerns related to hundreds of thousands of WMD scientists gave rise to several new programs designed to channel their immense scientific and technical expertise into civilian, commercial pursuits. Moreover, these efforts provide technologies and training for securing borders and technical assistance to create legal mechanisms and the enforcement capacity to stem the flow of potentially dangerous technology or materials across borders. Despite the immense bureaucratic and political obstacles that consistently stymie these efforts, a whole cadre of actors within the US government has repeatedly demonstrated creativity and persistence in finding solutions to satisfy the evolving needs across a spectrum of risks.

Contemporary perceptions of the threat posed by nuclear, biological, and chemical material and weapons have expanded beyond both the weapons complex and the former Soviet Union. Nonproliferation specialists now see nuclear material, specifically highly enriched uranium (HEU) in research reactors, as a proliferation threat that must be dealt with under CNP initiatives, giving rise to the Energy Department’s Global Threat Reduction Initiative.⁵⁰ Young scientists the world over, having modern laboratory skills and access to biological materials as well as major financial ambitions, potentially pose a new source of proliferation concern. In light of these evolving threats and perceptions, Congress enacted the Nunn-Lugar Expansion Act in the National Defense Authorization Act for Fiscal Year 2004 (Section 1308, Public Law 108-136) in 2003 to expand the Pentagon’s efforts outside the borders of the former Soviet Union.⁵¹

Almost as significant as the hard security dividends on these investments have been the immeasurable soft security “spin-off” benefits. For instance, programs designed to mothball former weapons facilities in the former Soviet Union have spawned new foreign and locally owned and operated companies. In turn, business management, marketing, and finance skills once anathema to the state-run economies of the region have been transferred from the US private sector to its former Soviet Union counterparts. Innovative research partnerships between the scientific communities of erstwhile adversaries have generated new products—from immune-boosting pharmaceuticals to new landmine detection technologies—and successfully introduced them into the marketplace. A new and heretofore absent understanding of quality control, cost accounting, and financial auditing in these states has been fostered in the close working relationships with US private sector entities. Regional economic growth has promoted stability in potentially volatile countries and

turned prevailing models of development and democracy building on their heads. The comprehensive list of successes is striking in its breadth of accomplishment, and impressive in its depth of engagement.

Despite recognition of the global dimension of these threats, the cooperative nonproliferation efforts within the United States do not represent a coherent “whole of government” approach aligned with the threat. While CNP currently encompasses an impressive list of tools for providing assistance with 1540 implementation, a consistent weakness of threat reduction efforts has been the lack of “clear strategic objectives and effective interagency” coordination.⁵² Repeated studies have confirmed that neither congressional micro-management nor bureaucratic incrementalism can satisfactorily prioritize and tackle such an immense and complicated range of tasks. Simultaneously, CNP’s resilience and flexibility stems from its decentralized mechanisms and from the outgrowth of numerous actors and exchanges across multiple fronts. Maintaining this broad-based, fluid approach will be critical to its applicability, regardless of whether the activities are on a bilateral or multilateral basis. The challenge is to maintain this mode of operation while moving CNP from a grouping of acronyms to a robust, strategic toolkit to provide support for, if not also to cajole, the implementation of nonproliferation obligations. Policymakers also must move from thinking about CNP as a set of programs to deal with “loose nukes” in the former Soviet Union, to viewing it as a strategic toolkit applicable to a growing number of proliferation threats and a necessary complement to state-centric regimes.

The G-8 and the Global Partnership

Launched at the G-8 Summit in Kananaskis in 2002, the Global Partnership against the Spread of Weapons and Materials of Mass Destruction pledged to commit \$20 billion over ten years to support nonproliferation work in Russia and, later, Ukraine. To date, 22 member nations and the European Union have been involved in a variety of critical projects, including nuclear submarine dismantlement, chemical weapons destruction, and fissile material security. At the 2008 G-8 Summit in Japan, the Global Partnership made a commitment to expand its efforts globally. Although this expansion of the geographic scope is a welcome and appropriate shift in the Global Partnership’s agenda, going global requires a substantial adjustment of the existing toolkit and a clear assessment of the lessons learned to ensure that effective and sustainable results stem from the assistance provided to recipient states to improve their nonproliferation efforts.

As with the US cooperative nonproliferation efforts, the Global Partnership’s activities have focused on dismantling, destroying, or containing Cold War legacies. With certain exceptions, the lion’s share of requirements outside of the former Soviet Union will not be addressing legacy WMD threats, but rather assisting states in establishing a baseline standard of good governance including, in particular, the rule of law. This provides the foundation upon which specific measures to address potential proliferation threats—from policing and interdiction to criminalization of proliferation activities and enforcement of export controls—can be effectively implemented. The G-8 Summit documents specifically refer to implementation of IAEA safeguards and the Additional Protocol, UN Security Council Resolution 1540 and the Global Initiative to Combat Nuclear Terrorism as priority activity areas. All of these require effective governance as a prerequisite to controlling the activities of individuals and potential transiting of dangerous materials within or across a state’s borders.

The activities of the Global Partnership represent a patchwork of largely disjointed efforts focused on a range of proliferation challenges. There has not been a serious effort either within the US government or the Global Partnership to make sure that the most urgent concerns are being addressed first and to achieve coherence among the different activities. Both stovepipes within and the lack of transparency between governments gave rise to both redundancies and gaps in the assistance being provided. Governments have been stymied in their efforts to achieve holistic responses and leverage the tools of assistance at their disposal, both individually as well as in concert. This problem is only magnified by the number of states providing assistance to support the international nonproliferation regime. In light of the nature of assistance required in other regions, the existing problems with coordination and coherence will only be exacerbated by the challenges associated with providing effectual assistance worldwide.

Further complicating implementation is the pace at which financial pledges have been turned into budgetary appropriations, and ultimately, into de facto programs on the ground. One analysis by the G-8 Research Group at the University of Toronto concludes that G-8 governments “compliance” with their Global Partnership obligations has been less than overwhelming. Nonetheless, there are success stories. Halfway through the 10 year timeframe of the Global Partnership, the European Union has contributed €635 million of its €1 billion pledge. The government of Finland has contributed €13,299,000 of its €17,414,000 pledge. Canada has contributed \$395,473,000 of its \$1 billion pledge.⁵³

In general, governments’ nonproliferation toolkits are limited by stovepiped policy structures and bureaucratic obstacles that stifle innovative, long-term and complementary approaches. From inside the national security agencies, the policymaking process is often highly sequestered and segmented, rarely forcing different departments systematically to coordinate or collaborate on their often-related activities. The United States has become a classical case study in the challenges of interagency collaboration, particularly in the wake of the intelligence failure that contributed to the war in Iraq. This dysfunction is by no means limited to intelligence operations, nor is it strictly a symptom of large governments. Australia, Canada, Denmark, Finland, and Sweden have joined France, Germany, and the United Kingdom in identifying the need to break down policy stovepipes across, and occasionally within, government departments to more effectively and efficiently achieve their foreign policy goals.⁵⁴

Lessons Learned

In 2005, the Cooperative Nonproliferation Program at the Henry L. Stimson Center launched a two-year research project to assess the successes and failures, lessons learned, and challenges of sustainability vis-à-vis the US and G-8 nonproliferation assistance to the former Soviet states. Unlike earlier studies, this effort concentrated on the operational impediments to success. Therefore, the research centered on the views of program managers in all three of the major US government agencies—State, Defense and Energy—involved in nonproliferation, along with program managers from several G-8 partner states. Stimson staff also interviewed more than 100 businesses that engaged in these endeavors as contractors for one of the agencies or that were trying to provide civilian employment for former weapons scientists. Stimson’s two-year research project culminated in early 2007 in the publication, “Cooperative Nonproliferation: Getting Further, Faster.”⁵⁵

Four key lessons were gleaned from Stimson’s in-depth analysis of the cooperative nonproliferation efforts. First, the threat reduction programs of the State, Energy and Defense

Departments in the US government context and within the Global Partnership offer a vastly underappreciated and underused toolkit in assisting with implementation of Resolution 1540. The Global Partnership's decision to extend nonproliferation assistance beyond the former Soviet Union appears to clearly indicate that this is becoming widely recognized. Second, without mutual agreement on the underlying threat or risk or challenge, the assistance rendered is not sufficiently valued by the recipient state to sustain the measures put in place. In short, buy-in by the host country is critical to success. Most importantly and inextricably linked to mutual agreement, the third major lesson from the US experience is that sustainability of these efforts requires the integration of traditional development assistance for institution and capacity building within the nonproliferation agenda, yielding a "whole of government" approach. Until governments view these programs as being in their self-interest, it is highly unlikely that any developing government in particular would be eager to divert scarce resources from immediate public health, welfare, education, and other needs in favor of counterproliferation measures to prevent a crisis some day in the future. And without strong buy-in from the host country, sustainability may be difficult. Lastly, the United States and many other traditional donor countries remain woefully inadequate in rendering a comprehensive government approach. The effective implementation of Resolution 1540 will require a concrete application of all of these lessons.

Revitalizing the Nonproliferation Regime: Impediments to Implementation of UNSCR 1540

Below we outline four distinct hurdles to implementing Resolution 1540. These hurdles represent a set of interrelated issues that, in combination, hinder progress toward sustainable realization of the resolution's mandate.⁵⁶ They are as follows.

The Legitimacy Deficit

First and foremost, the resolution's genesis gives rise to a legitimacy deficit. The legitimacy question is at once legal and political, with the latter being more salient than the former. The seven months of negotiations devoted to 1540 revealed numerous concerns. In the aftermath of the Iraq invasion, a primary concern for many UN member states was the possible imposition of economic or even military sanctions for noncompliance. Not only is there no mention of any enforcement actions for noncompliance in the resolution, but any notion of using sanctions to compel compliance is likely to meet with staunch and potent resistance for the reasons described below. As noted earlier, prior to its adoption, several states questioned whether it was the role of the Security Council to "prescribe legislative action by member states," and others argued that they had become subject to laws that they had no hand in drafting—all indicative of the wide-ranging legal implications of the Security Council's actions. Despite these reservations, however, all states have agreed under UN Charter Article 24 (1) that on issues of international peace and security, the Security Council acts on their behalf, and they also have agreed to be bound by its resolutions.⁵⁷

The political question often impedes constructive dialogue on implementation in public fora. Many states, especially within the Non-Aligned Movement, see compliance with 1540 as, at best, secondary to the existing treaty obligations.⁵⁸ In addition, the resolution is seen as a continuance of technology denial to the advantage of the wealthy industrialized North. The perceived lack of progress by the nuclear weapons states on their Article VI disarmament obligations under the Nuclear Nonproliferation Treaty is immediately, albeit obliquely, referenced by some officials as a reason to question the legitimacy of the resolution. While progress on existing nuclear disarmament commitments is indeed a longstanding obligation

and necessary to cajole international cooperation to achieve many nonproliferation objectives, waiting for disarmament by the nuclear-armed states prior to proceeding with global adherence to minimal standards in counterproliferation is not an option.

Low Priority and High Cost

Second, proliferation of weapons of mass destruction is a low priority for most developing countries. In this vein, 1540 itself is viewed by some as another exercise driven by the North's security interests to the detriment of the South. With all of their existing problems and other critical development priorities, why should they divest resources to deal with WMD proliferation? To overcome this barrier to progress, wealthy donor nations either need to offer better incentives or threaten laggards with reprisals for failure to comply. Because forcing compliance would likely only create greater animosity and resistance to supporting the resolution's objectives, the offering of strong incentives for compliance is more likely to be a better strategy for facilitating 1540 implementation.⁵⁹

Inadequate Capacity

Third, many states lack the technical expertise to assess their compliance with many aspects of the resolution. An additional complication is that many different agencies or actors within any single government must participate in assessing the status of legal mechanisms and enforcement capabilities required by the resolution. For example, states that have not submitted their progress reports on meeting the resolution likely not only lack the will but also the capacity to do so. Many organizations and actors have been raising awareness and facilitating understanding about the resolution and its import to facilitate universal compliance with the reporting requirements as a first step. However, fulfillment of the reporting obligation can only spur implementation if the reports are of sufficient quality and specificity to delineate what assistance is needed.

Mixed Quality of Reports

The last significant impediment to 1540 implementation has been the mixed quality of the reports received from states and the mismatch between offers for assistance and requests. The preponderance of requests for assistance has been financial, while the majority of offers has been for technical assistance, revealing a critical and potentially debilitating mismatch. In those instances where assistance other than financial has been put forward, the requests often have been so general that donor states could not act on the request. The 1540 Committee has streamlined the reporting process by developing a matrix for the initial roster of requirements and by producing a relatively simple form for assistance requests.

Despite this and the four-year period since the resolution passed, much more work is ahead just to achieve universal compliance with the reporting requirements. To move toward implementation of Resolution 1540, raising its priority in the perception of recipient states will likely require an approach that recognizes good governance as a prerequisite to implementation and also fosters a sense of ownership by the recipient state. These are key lessons from the West's fifteen years of nonproliferation assistance in the states of the former Soviet Union.

Bridging the Security/Development Divide

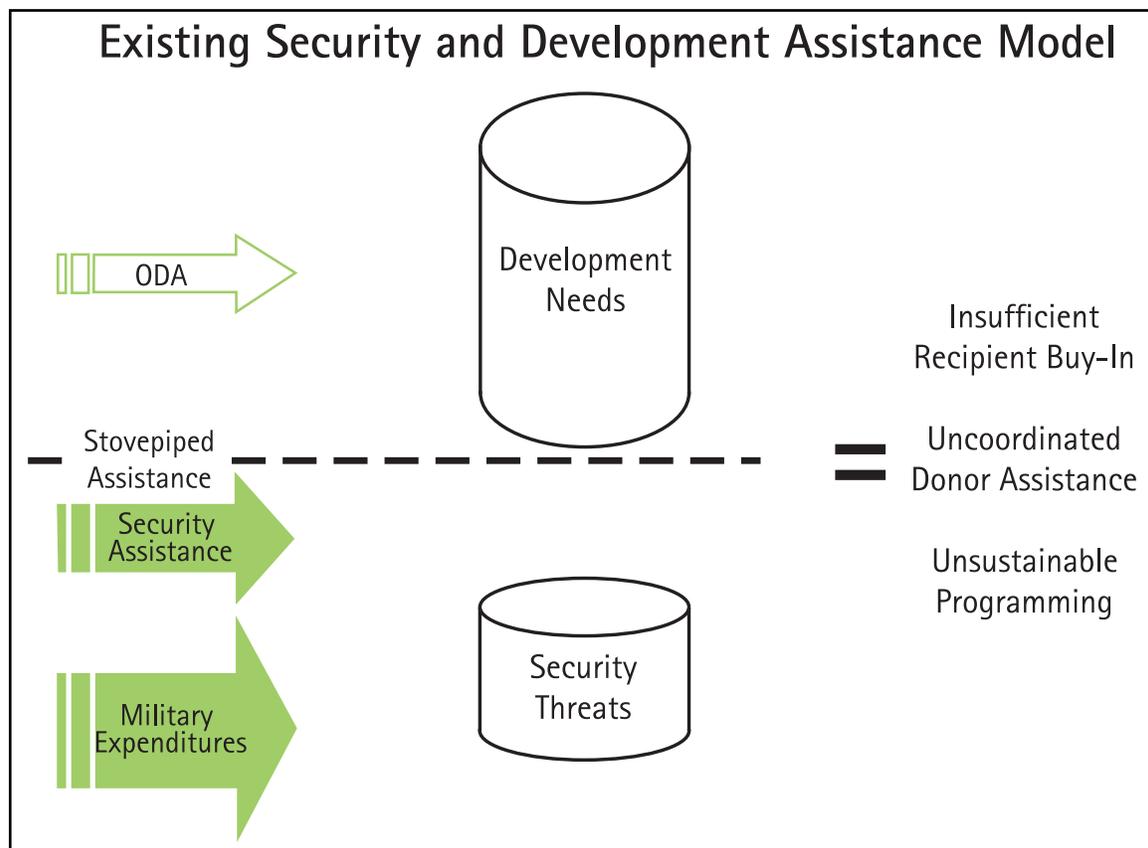
To assure effective implementation of 1540, the first priority is to correct the misperception of donor states that technical assistance and technological gadgets alone will achieve this purpose. Neither one-off trainings nor high-tech equipment will provide enduring solutions to the long-term governance needs in many regions of the world. Due to the over-

whelming barriers to implementation, recipient states must begin to experience the value of receiving assistance in connection with 1540 so that their possible perception of the resolution as a North-driven priority (at the South’s detriment) will change. Thus, there is a need to demonstrate the potential benefits of 1540 in first meeting urgent domestic and related priorities, and then secondly, serving as a foundation for effective and sustainable counterproliferation measures.

During his tenure as UN Secretary General, Kofi Annan famously remarked that long-term security is not possible without development, and that there is no development in the absence of security. Although leaders in the developed world have incorporated this language into their policy speeches, the relationship between these diverse policy portfolios has not been translated into concrete action, as reflected by national budgets. Today, top-line development assistance worldwide is approximately US\$106 billion, while total military expenditures exceed US\$1105 billion. Until there is a greater financial allocation of resources toward poverty eradication, trade enhancement, energy security, infrastructure development, public health, and other “soft” security priorities, the developed world will be continually challenged by a growing array of “hard” security threats—including terrorism and the proliferation of weapons of mass destruction (WMD).

Figure 3 depicts the existing stove-piped assistance generally practiced by donor governments around the world. Failure to leverage these accounts has resulted in an assistance regime that is not only often unsustainable; it suffers from a diminished return on investment.

Figure 3

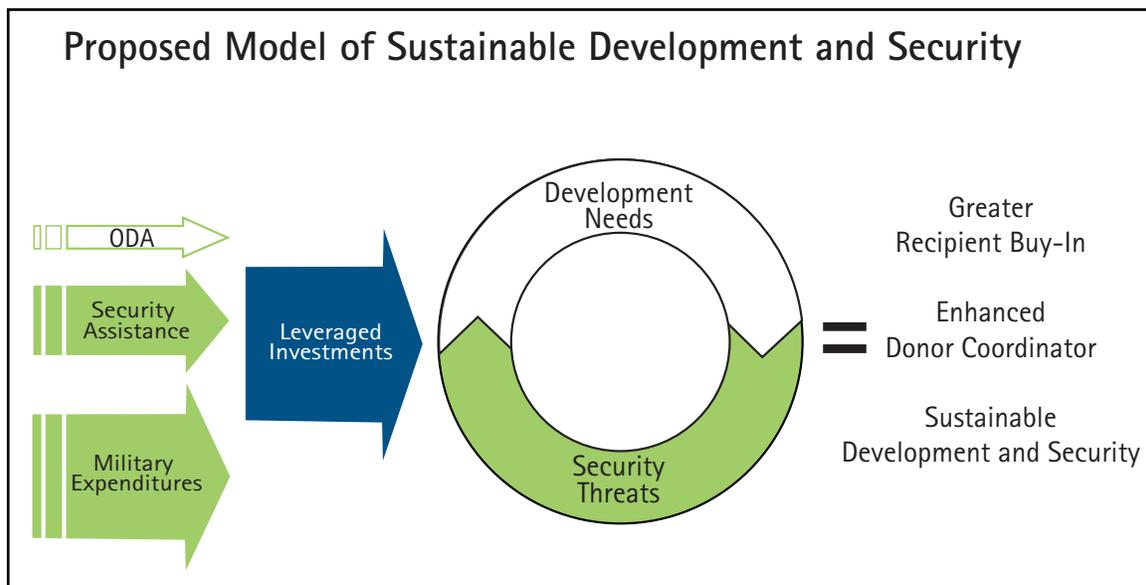


Creating a Virtuous Circle?

The impediments to implementation and the lessons learned from the West's experience in cooperative nonproliferation programs provide key guidance regarding a viable approach for implementation of Resolution 1540. Most importantly, this approach provides mutually reinforcing conditions for progress in achieving the resolution's objectives. As mentioned, the legitimacy of 1540 remains one impediment to progress and many states either lack the will or capacity to implement the resolution. This presents a challenge to getting host country buy-in to receive assistance and sustain the measures put in place—unless the needs assessment starts from the premise that there are certain internal development priorities that are related to, or can be supported by, effective implementation of the measures mandated by 1540.

Addressing the capacity-building needs of the recipient state will foster the conditions for sustainable implementation of the resolution and provide a viable approach for holistically addressing the state's political will, capacity needs, and ultimate buy-in of the assistance being offered. Helping to meet the state's development priorities will not be presented as a quid pro quo arrangement, but as a starting point for developing a package of assistance that will both strengthen the state internally and, simultaneously, enable it to support broader nonproliferation goals. Figure 4 depicts the benefits of leveraging security assistance and military expenditures with official development assistance (ODA). The goal is not to militarize development aid, but instead to use the vastly more significant appropriations for security and defense to meet parallel development goals.

Figure 4



The following case study of a workshop held in the Caribbean in early 2008 offers some early evidence of the efficacy of the approach.

Case Study on Implementation of UNSCR 1540: The Caribbean

In February of 2008, a one-day workshop on 1540 implementation was convened in Santo Domingo to address the development priorities of the region as they pertain to key governance issues related to 1540 implementation.⁶⁰ With an agenda focused on regional development concerns, the discussions confirmed regional priority needs that link to 1540 in at least

three areas: emergency management and disaster response; port/maritime security; and illicit trafficking. Each of these challenges presented an opportunity to create a virtuous circle by addressing specific priorities in the Caribbean while also meeting key 1540 objectives.

The Caribbean Basin is the world's second most natural disaster-prone region. Recent trends indicate that the number of disasters has risen and the nature of hazards is diversifying, necessitating multi-hazard, integrated approaches. An effective Caribbean response plan requires three essential elements: civil-military protocols for humanitarian response; a disaster mitigation response curriculum for military forces dealing with civilians; and, robust communication capabilities and detailed protocols for major crises. Natural disaster response capabilities have clear overlap with WMD-related incidents. While WMD incident response is not explicitly required by the resolution, there is much needed technical assistance and communications infrastructure to address WMD detection and interdiction capabilities that could be integrated into the assistance provided to emergency management authorities and first responders in the region.

Second, Caribbean states have significant, yet highly vulnerable, maritime links with the world. In aggregate, they comprise the United States' tenth-largest trading partner and a key destination for both tourists and business investments. Due to inadequate oversight and the lack of any regional coordination of security requirements, the shipping operations in the basin are at risk of attack and of unwittingly facilitating WMD proliferation. Recently enacted national and international regulations require ships and port facilities to take appropriate measures to prevent security incidents. Failure of ports, vessels, and companies to meet the newly mandated compliance standards will result in sanctions that could lead to denial of vessel entry into ports of call. Many states are struggling to meet these new requirements, particularly in the Eastern Caribbean, giving rise to the prospect of economic dislocation within the region. There is a clear nexus with respect to facilitating compliance with new port and maritime measures and many aspects of the controls, interdiction, and border security requirements of Resolution 1540.

Lastly, illicit trafficking in the Caribbean Basin presents a formidable challenge. As the second most violent region in the world, with a homicide rate four times the global average, arms and drug trafficking affect citizen security on a daily basis. The nexus between illicit trafficking and international crime presents a substantial deterrent to foreign direct investment in the Caribbean, negatively impacting growth and economic advancement for these developing economies. The geographic proximity of many Caribbean states makes them a transit point for illegal migration, cocaine, and other contraband destined for North America. Thus, the overlay between responding to a significant transnational threat and 1540 implementation is evident: the same human capacity, legal framework, and enforcement capabilities are also required to address illicit trafficking in all of its forms—WMD, small arms, and drugs.

The Caribbean Community (CARICOM) responded to the opportunities presented by 1540 with a region-wide request for targeted assistance in November 2008. If the donor community can marry the stated development needs of the Caribbean Community—at least in part—with the nonproliferation objectives of 1540, the response to this request would not only prove the model, it would provide additional assurances to the donor community that investments will be sustainable in the long run by appealing to the enlightened self-interest of the recipient states.

Conclusion

Recent events combined with an increasingly fertile environment suggest that a new era of proliferation could be upon us. Expansion of the nuclear club from five states to nine, the use of biological weapons by terrorist organizations and rogue scientists, and increasing incidence of illicit dual-use technology transfers to state and nonstate actors offer a glimpse of this growing challenge. The growing impact of proliferation from countries such as Pakistan in the wake of the A. Q. Khan affair has become a more broadly recognized threat. Even prior to the exposure of these challenges, however, strategies to address proliferation became ever more focused on technology denial—including export controls, strengthened and expanded safeguards, sanctions, and even regime change. Little thought was given by government security agencies to the need for comprehensive outreach to the full array of new actors with a role to play in proliferation prevention, including private industry and developing world governments. Strategies designed to stem supply were themselves limited by governments' lack of coordinated effort to curtail demand. Scant attention was paid to the notion of integrating hard security, supply-side programming with soft security, demand-side incentives to build buy-in and ensure sustainability.

Although the denial regimes have proven quite successful in preventing the unchecked proliferation of WMD, the last two decades have witnessed the emergence of new global forces that confound the ability of this approach to address the challenges. The rise of nonstate actors (including terrorist groups, nongovernmental organizations and multinational corporations), the rapid pace of technological advances, increasing global trade, transport and communications, and financial liberalization, are all combining to challenge the traditional ability of the state(s) or multilateral organizations to provide solutions.⁶¹

These new and powerful dynamics suggest that technology denial between governments is no longer efficacious, in and of itself, to stemming access to today's dual-use technologies by committed proliferators at the state and sub-state levels. With some significant exceptions, particularly in the nuclear domain, earlier "sensitive" and highly controlled technologies have become ubiquitous. This is particularly true in the electronics and information technology/computing domain.⁶² At the same time, advances in biotechnology continue to outpace the ability of governments to implement adequate restrictions, not to mention the rapid pace of outsourcing the research, development, and production of pharmaceutical agents to the developing world.⁶³

Of course, continued concern over state-run WMD programs is only one part of this rapidly shifting environment. With an unprecedented flow of potentially dangerous technology from public to private hands, there is an increased likelihood that nuclear, biological, and chemical weapons technologies could fall into the hands of an ill-intentioned nonstate actor that may be more willing to use such a weapon to perpetrate an attack. In such an environment, the role of the state as both a potential proliferator and a central bulwark supporting the global nonproliferation regime is increasingly being questioned as this set of dynamic forces continues to coalesce and outpace governments' ability to respond. Ensuring that states are both motivated and capable of preventing WMD proliferation is a central challenge for the United Nations. In short, the fundamental shift in the nature and modalities of proliferation suggests a corresponding need to modernize our ability to counter the threat.

While even the most technologically advanced governments are challenged by the proliferation of advanced technologies and the blurred lines between peaceful and nefarious uses

of that technology, the response capacities of less developed countries are even more severely limited. Even the most conscientious developing world government sensitized to the dangers of proliferation of weapons, materials, and expertise of mass destruction faces immense practical difficulties in preventing proliferation in a global economy. In general, these governments not only present rich targets of opportunity for criminal networks and would-be proliferators, but many also face systemic economic and social challenges with steep implications for their national budgets. Trying to convince governments to make increased investments in counterproliferation activities while their public education and health infrastructures suffer from neglect is not an easy—or even reasonable—task, especially in light of the immediate demands on limited resources. The global economic crisis has only made this disjuncture more acute. For donor countries, inefficiencies result when foreign assistance is strictly siloed by development or security labels when these resources could be leveraged for mutual gain.

But requisite “whole of government” responses have been the exception rather than the rule. In the face of evolving threats and limitations to responsive capacity, the reaction of government security agencies has been more of the same: state-centric, supply-side controls including tighter export controls, restrictions on access to technology, and rigorous enforcement of domestic regulations. Paradoxically, these measures, while potentially important, put governments in a confrontational relationship with another critical constituency which has become a necessary partner for prevention—the private sector. While tighter export controls and rigorous enforcement of those measures may be critical, unless the relationship with industry is successfully transformed from one of confrontation to one of collaboration where mutual needs are served, the proliferation challenge will continue to grow.

The sweeping mandate put forward by 1540 should force recognition of the governance needs that must necessarily precede effective implementation. Many of these more basic requirements would traditionally fall under the label of “development assistance,” whereas a rendering of narrow technical assistance related to 1540 implementation likely would fall under a security assistance umbrella. Yet untapped opportunities exist to leverage each in mutual support in a whole of government approach. This entails not simply a reallocation of resources, but also a wiser, more strategic expenditure of those investments. When viewed through this prism, the opportunities for synergy are plentiful. For instance, as with countering the scourge of infectious diseases, the detection of and response to the use of a biological weapon requires a functioning disease surveillance and public health infrastructure. The ability to prosecute criminals who are marketing materials of mass destruction requires a non-corrupt police force and functioning judiciary. The prevention of human or small arms trafficking relies upon many of the same resources and capacities necessary to detect and prevent nuclear proliferation. And, trade expansion and business development cannot occur unless borders and ports are safe, efficient, and secure.

We propose an innovative “whole of society” approach to bridging the security/development divide that would leverage donor investments in both security assistance and development assistance, so as to ensure recipient state buy-in and an enduring return on investment.

The goal of this strategy should be threefold: (1) to identify new sources of assistance to address endemic threats in the developing world, such as poverty, corruption, infectious diseases, and economic underdevelopment; (2) to expand a new engagement model that addresses the causes of proliferation, rather than its symptoms; and (3) to reinforce the

legitimacy of the United Nations to respond to transnational issues. It is incumbent upon the international community to develop scalable, sustainable, and replicable pilot efforts that pragmatically pair states in need of development assistance with those states willing to offer such assistance under the rubric of national security.

Unlike traditional assistance measures, this effort will bridge the gap between “soft” security (global development) and “hard” security (nonproliferation) objectives, thereby addressing identified in-country needs of the Global South while building state capacity to manage and ensure the sustainability of nonproliferation and global security efforts. The result is less duplication of effort and more efficient utilization of limited resources for the global good.

UN Security Council Resolution 1540 is the logical platform on which to base this new model for security and global development. The resolution mandates that all member states implement a set of supply-side controls and criminalize proliferant activities within their territories. Significantly, the resolution includes a provision that encourages states with the capacity to provide international assistance in meeting the 1540 mandate to do so; and, in turn, encourages states-in-need to request any assistance they may require to meet the demands of 1540. The resolution thus provides a unique opportunity for poorer countries to begin tapping traditional security-related assistance from developed countries to help them meet their development goals.

Western political leaders, academics, NGOs, and philanthropists alike are fond of decrying the divisions between the development and security communities. But until there is a greater financial allocation of resources toward poverty eradication, trade enhancement, basic and tertiary education, infrastructure development, public health, and other critical development priorities, the world will be continually beset by a growing array of security threats—including terrorism and the proliferation of nuclear, biological, and chemical weapons. Using the proven model described above, the international community should now leverage existing resources and mechanisms to circumvent the stove-piped proclivities of governments and bridge the development/security divide.

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Tanya Ogilvie-White, “Facilitating Implementation of Resolution 1540 in South-East Asia and the South Pacific,” p. 72, in Scheinman, *Implementing Resolution 1540*.

⁵⁹ An extensive discussion of this conundrum in regions of Africa is offered by Jeen du Preez and Dominique Dye, “Implementing Resolution 1540 in Africa: Balancing Competing Priorities,” p. 123-129, in Scheinman, *Implementing Resolution 1540*.

⁶⁰ This workshop was spearheaded by the Cooperative Nonproliferation Program at The Henry L. Stimson Center, in collaboration with The Stanley Foundation and the Office of the Assistant Secretary-General of the Organization of American States. Financial support for the workshop was provided by the Government of Canada’s Department of Foreign Affairs and International Trade.

⁶¹ See, for example: Naím, Moisés, *Illicit: How Smugglers, Traffickers and Copycats are Hijacking the Global Economy*. (New York: Anchor Books, 2006); Kenney, Michael, *From Pablo to Osama: Trafficking and Terrorist Networks, Government Bureaucracies, and Competitive Adaptation* (University Park, PA: The Pennsylvania State University Press, 2007); Holmes, Leslie (ed.), *Terrorism, Organised Crime and Corruption: Networks and Linkages* (Cheltenham, United Kingdom: Edward Elgar Publishing Limited, 2007); van Schendel, Willem and Itty Abraham (eds.), *Illicit Flows And Criminal Things: States, Borders, And the Other Side of Globalization* (Bloomington, IN: Indiana University Press, 2005); Friman, H. Richard and Peter Andreas (eds.), *The Illicit Global Economy and State Power* (Lanham, MD: Rowman & Littlefield Publishers, Inc., 1999).

⁶² Glenn J. McLoughlin and Ian F. Fergusson, “High Performance Computers and Export Control Policy: Issues for Congress,” CRS Report for Congress RL31175 (Updated May 5, 2005), accessed at: <http://fas.org/sgp/crs/matsec/RL31175.pdf>.

⁶³ Committee on Research Standards and Practices to Prevent the Destructive Application of Biotechnology and the National Research Council, *Biotechnology Research in an Age of Terrorism* (Washington: National Academies of Science, 2004). Working Party on Biotechnology, Task Force on Biotechnology for Sustainable Industrial Development, “Globalisation of Industrial Biotechnology R&D,” Committee for Scientific and Technological Policy, Organization for Economic Co-operation and Development DSTI/STP/BIO(2008)13 (February 8, 2008), accessed at: [http://www.oalis.oecd.org/oalis/2008doc.nsf/NEWWRMSFREDAT/NT00000AD6/\\$FILE/JT03240092.PDF](http://www.oalis.oecd.org/oalis/2008doc.nsf/NEWWRMSFREDAT/NT00000AD6/$FILE/JT03240092.PDF). With the eroding efficacy of state-centric denial regimes and rise of nonstate actors, the international community must harness private industry as a proactive partner in addressing the illicit networks that fuel proliferation. (See: Russell, James A, “Peering into the Abyss: Non-State Actors and the 2016 Proliferation Environment,” *Nonproliferation Review* 13, no. 3 (2006), pp. 645-657.) While international organizations, treaty regimes, and governments should still play an important role in establishing standards and verifying compliance, there is increasing recognition that states must implement comprehensive counterproliferation measures within their jurisdiction and that industry must be a part of the solution.

Appendix A

United Nations Security Council Resolution 1540

Adopted by the Security Council at its 4956th meeting on 28 April 2004

The Security Council,

Affirming that proliferation of nuclear, chemical and biological weapons, as well as their means of delivery,* constitutes a threat to international peace and security,

Reaffirming, in this context, the Statement of its President adopted at the Council's meeting at the level of Heads of State and Government on 31 January 1992 (S/23500), including the need for all Member States to fulfill their obligations in relation to arms control and disarmament and to prevent proliferation in all its aspects of all weapons of mass destruction,

Recalling also that the Statement underlined the need for all Member States to resolve peacefully in accordance with the Charter any problems in that context threatening or disrupting the maintenance of regional and global stability,

Affirming its resolve to take appropriate and effective actions against any threat to international peace and security caused by the proliferation of nuclear, chemical and biological weapons and their means of delivery, in conformity with its primary responsibilities, as provided for in the United Nations Charter,

Affirming its support for the multilateral treaties whose aim is to eliminate or prevent the proliferation of nuclear, chemical or biological weapons and the importance for all States parties to these treaties to implement them fully in order to promote international stability,

Welcoming efforts in this context by multilateral arrangements which contribute to non-proliferation,

Affirming that prevention of proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes while goals of peaceful utilization should not be used as a cover for proliferation,

Gravely concerned by the threat of terrorism and the risk that non-State actors* such as those identified in the United Nations list established and maintained by the Committee established under Security Council resolution 1267 and those to whom resolution 1373 applies, may acquire, develop, traffic in or use nuclear, chemical and biological weapons and their means of delivery,

Gravely concerned by the threat of illicit trafficking in nuclear, chemical, or biological weapons and their means of delivery, and related materials,* which adds a new dimension to the issue of proliferation of such weapons and also poses a threat to international peace and security,

Recognizing the need to enhance coordination of efforts on national, subregional, regional and international levels in order to strengthen a global response to this serious challenge and threat to international security,

Recognizing that most States have undertaken binding legal obligations under treaties to which they are parties, or have made other commitments aimed at preventing the proliferation of nuclear, chemical or biological weapons, and have taken effective measures to account for, secure and physically protect sensitive materials, such as those required by the Convention on the Physical Protection of Nuclear Materials and those recommended by the IAEA Code of Conduct on the Safety and Security of Radioactive Sources,

Recognizing further the urgent need for all States to take additional effective measures to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery,

Encouraging all Member States to implement fully the disarmament treaties and agreements to which they are party,

Reaffirming the need to combat by all means, in accordance with the Charter of the United Nations, threats to international peace and security caused by terrorist acts,

Determined to facilitate henceforth an effective response to global threats in the area of non-proliferation,

Acting under Chapter VII of the Charter of the United Nations,

1. *Decides that* all States shall refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery;
2. *Decides also* that all States, in accordance with their national procedures, shall adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the foregoing activities, participate in them as an accomplice, assist or finance them;
3. *Decides also* that all States shall take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons and their means of delivery, including by establishing appropriate controls over related materials and to this end shall:
 - a. Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage or transport;
 - b. Develop and maintain appropriate effective physical protection measures;
 - c. Develop and maintain appropriate effective border controls and law enforcement efforts to detect, deter, prevent and combat, including through international cooperation when

necessary, the illicit trafficking and brokering in such items in accordance with their national legal authorities and legislation and consistent with international law;

- d. Establish, develop, review and maintain appropriate effective national export and trans-shipment controls over such items, including appropriate laws and regulations to control export, transit, trans-shipment and re-export and controls on providing funds and services related to such export and trans-shipment such as financing, and transporting that would contribute to proliferation, as well as establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations;
4. *Decides* to establish, in accordance with rule 28 of its provisional rules of procedure, for a period of no longer than two years, a Committee of the Security Council, consisting of all members of the Council, which will, calling as appropriate on other expertise, report to the Security Council for its examination, on the implementation of this resolution, and to this end calls upon States to present a first report no later than six months from the adoption of this resolution to the Committee on steps they have taken or intend to take to implement this resolution;
5. *Decides* that none of the obligations set forth in this resolution shall be interpreted so as to conflict with or alter the rights and obligations of State Parties to the Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention and the Biological and Toxin Weapons Convention or alter the responsibilities of the International Atomic Energy Agency or the Organization for the Prohibition of Chemical Weapons;
6. *Recognizes* the utility in implementing this resolution of effective national control lists and calls upon all Member States, when necessary, to pursue at the earliest opportunity the development of such lists;
7. *Recognizes* that some States may require assistance in implementing the provisions of this resolution within their territories and invites States in a position to do so to offer assistance as appropriate in response to specific requests to the States lacking the legal and regulatory infrastructure, implementation experience and/or resources for fulfilling the above provisions;
8. *Calls upon* all States:
 - a. To promote the universal adoption and full implementation, and, where necessary, strengthening of multilateral treaties to which they are parties, whose aim is to prevent the proliferation of nuclear, biological or chemical weapons;
 - b. To adopt national rules and regulations, where it has not yet been done, to ensure compliance with their commitments under the key multilateral non-proliferation treaties;
 - c. To renew and fulfill their commitment to multilateral cooperation, in particular within the framework of the International Atomic Energy Agency, the Organization for the Prohibition of Chemical Weapons and the Biological and Toxin Weapons Convention, as important means of pursuing and achieving their common objectives in the area of non-proliferation and of promoting international cooperation for peaceful purposes;

- d. To develop appropriate ways to work with and inform industry and the public regarding their obligations under such laws;
9. *Calls upon* all States to promote dialogue and cooperation on non-proliferation so as to address the threat posed by proliferation of nuclear, chemical, or biological weapons, and their means of delivery;
10. Further to counter that threat, *calls upon* all States, in accordance with their national legal authorities and legislation and consistent with international law, to take cooperative action to prevent illicit trafficking in nuclear, chemical or biological weapons, their means of delivery, and related materials;
11. *Expresses* its intention to monitor closely the implementation of this resolution and, at the appropriate level, to take further decisions which may be required to this end;
12. *Decides* to remain seized of the matter.

Appendix B

1540 Reporting Status

States with Publicly Available National Reports				
Albania	Algeria	Andorra	Angola	Antigua and Barbuda
Argentina	Armenia	Australia	Austria	Azerbaijan
Bahamas	Bahrain	Bangladesh	Belarus	Belgium
Belize	Benin	Bolivia	Bosnia and Herzegovina	Brazil
Brunei Darussalam	Bulgaria	Burkina Faso	Cambodia	Canada
Chile	China	Colombia	Costa Rica	Croatia
Cuba	Cyprus	Czech Republic	Denmark	Djibouti
Ecuador	Egypt	El Salvador	Eritrea	Estonia
Finland	France	Georgia	Germany	Ghana
Greece	Grenada	Guatemala	Guyana	Honduras
Hungary	Iceland	India	Indonesia	Iran (Islamic Republic of)
Iraq	Ireland	Israel	Italy	Jamaica
Japan	Jordan	Kazakhstan	Kenya	Kiribati
Kuwait	Kyrgyzstan	Lao People's Democratic Republic	Latvia	Lebanon
Libyan Arab Jamahiriya	Liechtenstein	Lithuania	Luxembourg	Malaysia
Malta	Marshall Islands	Mauritius	Mexico	Monaco
Mongolia	Morocco	Myanmar	Namibia	Nepal
Netherlands	New Zealand	Nicaragua	Nigeria	Norway
Oman	Pakistan	Panama	Paraguay	Peru
Philippines	Poland	Portugal	Qatar	Republic of Korea
Republic of Moldova	Romania	Russian Federation	Samoa	Saudi Arabia
Senegal	Serbia and Montenegro	Singapore	Slovakia	Slovenia
South Africa	Spain	Sri Lanka	Sweden	Switzerland
Syrian Arab Republic	Tajikistan	Thailand	The Former Yugoslav Republic of Macedonia	Tonga
Trinidad and Tobago	Tunisia	Turkey	Turkmenistan	Tuvalu
Uganda	Ukraine	United Arab Emirates	United Kingdom	United Republic of Tanzania

States without Publicly Available National Reports				
Afghanistan	Barbados	Bhutan	Botswana	Burundi
Cameroon	Cape Verde	Central African Republic	Chad	Comoros
Congo (Republic of the)	Côte d'Ivoire	Democratic People's Republic of Korea	Democratic Republic of the Congo	Dominica
Dominican Republic	Equatorial Guinea	Ethiopia	Fiji	Gabon
Gambia	Guinea	Guinea-Bissau	Haiti	Lesotho
Liberia	Madagascar	Malawi	Maldives	Mali
Mauritania	Micronesia, Federated States of	Montenegro	Mozambique	Nauru
Niger	Palau	Papua New Guinea	Rwanda	Saint Kitts and Nevis
Saint Lucia	Saint Vincent and the Grenadines	San Marino	São Tomé and Príncipe	Serbia
Seychelles	Sierra Leone	Solomon Islands	Somalia	Sudan
Suriname	Swaziland	Timor-Leste	Togo	Zambia
Zimbabwe				

Left: Serbia and Montenegro filed a report as a single entity on January 5, 2005, prior to Montenegro's secession from the Union. The European Union a "common report" on November 15, 2004.

Above: This chart includes states that have reported but whose reports have yet to be listed on the 1540 Committee's website, as well as those states that have not reported. Montenegro and Serbia filed jointly prior to Montenegro's secession.

Appendix C

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this article shall be applied to all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.
2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this article.
3. The safeguards required by this article shall be implemented in a manner designed to comply with article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international cooperation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this article and the principle of safeguarding set forth in the Preamble of the Treaty.
4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the

International Atomic Energy Agency to meet the requirements of this article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

Article IV

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I and II of this Treaty.
2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also cooperate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

Article V

Each party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a nondiscriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

Article VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.

Article VII

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

Article VIII

1. Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circu-

late it to all Parties to the Treaty. Thereupon, if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.
3. Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.

Article IX

1. This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this article may accede to it at any time.
2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland and the Union of Soviet Socialist Republics, which are hereby designated the Depositary Governments.
3. This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to January 1, 1967.
4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.
5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.

6. This Treaty shall be registered by the Depositary Governments pursuant to article 102 of the Charter of the United Nations.

Article X

1. Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.
2. Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

Article XI

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

Appendix D

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction

The States Parties to this Convention,

Determine to act with a view to achieving effective progress toward general and complete disarmament, including the prohibition and elimination of all types of weapons of mass destruction, and convinced that the prohibition of the development, production and stockpiling of chemical and bacteriological (biological) weapons and their elimination, through effective measures, will facilitate the achievement of general and complete disarmament under strict and effective control,

Recognizing the important significance of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on June 17, 1925, and conscious also of the contribution which the said Protocol has already made and continues to make, to mitigating the horrors of war,

Reaffirming their adherence to the principles and objectives of that Protocol and calling upon all States to comply strictly with them,

Recalling that the General Assembly of the United Nations has repeatedly condemned all actions contrary to the principles and objectives of the Geneva Protocol of June 17, 1925,

Desiring to contribute to the strengthening of confidence between peoples and the general improvement of the international atmosphere,

Desiring also to contribute to the realization of the purposes and principles of the Charter of the United Nations,

Convinced of the importance and urgency of eliminating from the arsenals of States, through effective measures, such dangerous weapons of mass destruction as those using chemical or bacteriological (biological) agents,

Recognizing that an agreement on the prohibition of bacteriological (biological) and toxin weapons represents a first possible step towards the achievement of agreement on effective measures also for the prohibition of the development, production and stockpiling of chemical weapons, and determined to continue negotiations to that end,

Determined, for the sake of all mankind, to exclude completely the possibility of bacteriological (biological) agents and toxins being used as weapons,

Convinced that such use would be repugnant to the conscience of mankind and that no effort should be spared to minimize this risk,

Have agreed as follows:

Article I

Each State Party to this Convention undertakes never in any circumstance to develop, produce, stockpile or otherwise acquire or retain:

Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;

Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

Article II

Each State Party to this Convention undertakes to destroy, or to divert to peaceful purposes, as soon as possible but not later than nine months after the entry into force of the Convention, all agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention, which are in its possession or under its jurisdiction or control. In implementing the provisions of this article all necessary safety precautions shall be observed to protect populations and the environment.

Article III

Each State Party to this Convention undertakes not to transfer to any recipient whatsoever, directly or indirectly, and not in any way to assist, encourage, or induce any State, group of States or international organizations to manufacture or otherwise acquire any of the agents, toxins, weapons, equipment or means of delivery specified in article I of the Convention.

Article IV

Each State Party to this Convention shall, in accordance with its constitutional processes, take any necessary measures to prohibit and prevent the development, production, stockpiling, acquisition or retention of the agents, toxins, weapons, equipment and means of delivery specified in article I of the Convention, within the territory of such State, under its jurisdiction or under its control anywhere.

Article V

The States Parties to this Convention undertake to consult one another and to cooperate in solving any problems which may arise in relation to the objective of, or in the application of the provisions of, the Convention. Consultation and cooperation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter.

Article VI

1. Any State Party to this Convention which finds that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should include all possible evidence confirming its validity, as well as a request for its consideration by the Security Council.

2. Each State Party to this Convention undertakes to cooperate in carrying out any investigation which the Security Council may initiate, in accordance with the provisions of the Charter of the United Nations, on the basis of the complaint received by the Council. The Security Council shall inform the States Parties to the Convention of the results of the investigation.

Article VII

Each State Party to this Convention undertakes to provide or support assistance, in accordance with the United Nations Charter, to any Party to the Convention which so requests, if the Security Council decides that such Party has been exposed to danger as a result of violation of the Convention.

Article VIII

Nothing in this Convention shall be interpreted as in any way limiting or detracting from the obligations assumed by any State under the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on June 17, 1925.

Article IX

Each State Party to this Convention affirms the recognized objective of effective prohibition of chemical weapons and, to this end, undertakes to continue negotiations in good faith with a view to reaching early agreement on effective measures for the prohibition of their development, production and stockpiling and for their destruction, and on appropriate measures concerning equipment and means of delivery specifically designed for the production or use of chemical agents for weapons purposes.

Article X

1. The States Parties to this Convention undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the use of bacteriological (biological) agents and toxins for peaceful purposes. Parties to the Convention in a position to do so shall also cooperate in contributing individually or together with other States or international organizations to the further development and application of scientific discoveries in the field of bacteriology (biology) for prevention of disease, or for other peaceful purposes.
2. This Convention shall be implemented in a manner designed to avoid hampering the economic or technological development of States Parties to the Convention or international cooperation in the field of peaceful bacteriological (biological) activities, including the international exchange of bacteriological (biological) agents and toxins and equipment for the processing, use or production of bacteriological (biological) agents and toxins for peaceful purposes in accordance with the provisions of the Convention.

Article XI

Any State Party may propose amendments to this Convention. Amendments shall enter into force for each State Party accepting the amendments upon their acceptance by a majority of the States Parties to the Convention and thereafter for each remaining State Party on the date of acceptance by it.

Article XII

Five years after the entry into force of this Convention, or earlier if it is requested by a majority of the Parties to the Convention by submitting a proposal to this effect to the Depositary Governments, a conference of States Parties to the Convention shall be held at Geneva, Switzerland, to review the operation of the Convention, with a view to assuring that the purposes of the preamble and the provisions of the Convention, including the provisions concerning negotiations on chemical weapons, are being realized. Such review shall take into account any new scientific and technological developments relevant to the Convention.

Article XIII

1. This Convention shall be of unlimited duration.
2. Each State Party to this Convention shall in exercising its natural sovereignty have the right to withdraw from the Convention if it decides that extraordinary events, related to the subject matter of the Convention, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other States Parties to the Convention and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

Article XIV

1. This Convention shall be open to all States for signature. Any State which does not sign the Convention before its entry into force in accordance with paragraph (3) of this Article may accede to it at any time.
2. This Convention shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland and the Union of Soviet Socialist Republics, which are hereby designated the Depositary Governments.
3. This Convention shall enter into force after the deposit of instruments of ratification by twenty-two Governments, including the Governments designated as Depositaries of the Convention.
4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Convention, it shall enter into force on the date of the deposit of their instrument of ratification or accession.
5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession and the date of the entry into force of this Convention, and of the receipt of other notices.
6. This Convention shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article XV

This Convention, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of the Convention shall be transmitted by the Depositary Governments of the signatory and acceding States.

Appendix E

Excerpts from the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction

The States Parties to this Convention,

Determined to act with a view to achieving effective progress toward general and complete disarmament under strict and effective international control, including the prohibition and elimination of all types of weapons of mass destruction,

Desiring to contribute to the realization of the purposes and principles of the Charter of the United Nations,

Recalling that the General Assembly of the United Nations has repeatedly condemned all actions contrary to the principles and objectives of the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, signed at Geneva on 17 June 1925 (the Geneva Protocol of 1925),

Recognizing that this Convention reaffirms principles and objectives of and obligations assumed under the Geneva Protocol of 1925, and the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction signed at London, Moscow and Washington on 10 April 1972,

Bearing in mind the objective contained in Article IX of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction,

Determined for the sake of all mankind, to exclude completely the possibility of the use of chemical weapons, through the implementation of the provisions of this Convention, thereby complementing the obligations assumed under the Geneva Protocol of 1925,

Recognizing the prohibition, embodied in the pertinent agreements and relevant principles of international law, of the use of herbicides as a method of warfare,

Considering that achievements in the field of chemistry should be used exclusively for the benefit of mankind,

Desiring to promote free trade in chemicals as well as international cooperation and exchange of scientific and technical information in the field of chemical activities for purposes not prohibited under this Convention in order to enhance the economic and technological development of all States Parties,

Convinced that the complete and effective prohibition of the development, production, acquisition, stockpiling, retention, transfer and use of chemical weapons, and their destruction, represent a necessary step toward the achievement of these common objectives,

Have agreed as follows:

Article I—General Obligations

1. Each State Party to this Convention undertakes never under any circumstances:
 - a. To develop, produce, otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone;
 - b. To use chemical weapons;
 - c. To engage in any military preparations to use chemical weapons;
 - d. To assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention.
2. Each State Party undertakes to destroy chemical weapons it owns or possesses, or that are located in any place under its jurisdiction or control, in accordance with the provisions of this Convention.
3. Each State Party undertakes to destroy all chemical weapons it abandoned on the territory of another State Party, in accordance with the provisions of this Convention.
4. Each State Party undertakes to destroy any chemical weapons production facilities it owns or possesses, or that are located in any place under its jurisdiction or control, in accordance with the provisions of this Convention.
5. Each State Party undertakes not to use riot control agents as a method of warfare.

Article IV—Chemical Weapons

1. The provisions of this Article and the detailed procedures for its implementation shall apply to all chemical weapons owned or possessed by a State Party, or that are located in any place under its jurisdiction or control, except old chemical weapons and abandoned chemical weapons to which Part IV (B) of the Verification Annex applies.
2. Detailed procedures for the implementation of this Article are set forth in the Verification Annex.
3. All locations at which chemical weapons specified in paragraph 1 are stored or destroyed shall be subject to systematic verification through on site inspection and monitoring with on site instruments, in accordance with Part IV (A) of the Verification Annex.
4. Each State Party shall, immediately after the declaration under Article III, paragraph 1 (a), has been submitted, provide access to chemical weapons specified in paragraph 1 for the purpose of systematic verification of the declaration through on site inspection. Thereafter, each State Party shall not remove any of these chemical weapons, except to a chemical weapons destruction facility. It shall provide access to such chemical weapons, for the purpose of systematic on site verification.

5. Each State Party shall provide access to any chemical weapons destruction facilities and their storage areas, that it owns or possesses, or that are located in any place under its jurisdiction or control, for the purpose of systematic verification through on site inspection and monitoring with on site instruments.
6. Each State Party shall destroy all chemical weapons specified in paragraph 1 pursuant to the Verification Annex and in accordance with the agreed rate and sequence of destruction (hereinafter referred to as “order of destruction”). Such destruction shall begin not later than two years after this Convention enters into force for it and shall finish not later than 10 years after entry into force of this Convention. A State Party is not precluded from destroying such chemical weapons at a faster rate.
7. Each State Party shall:
 - a. Submit detailed plans for the destruction of chemical weapons specified in paragraph 1 not later than 60 days before each annual destruction period begins, in accordance with Part IV (A), paragraph 29, of the Verification Annex; the detailed plans shall encompass all stocks to be destroyed during the next annual destruction period;
 - b. Submit declarations annually regarding the implementation of its plans for destruction of chemical weapons specified in paragraph 1, not later than 60 days after the end of each annual destruction period; and
 - c. Certify, not later than 30 days after the destruction process has been completed, that all chemical weapons specified in paragraph 1 have been destroyed.
8. If a State ratifies or accedes to this Convention after the 10 year period for destruction set forth in paragraph 6, it shall destroy chemical weapons specified in paragraph 1 as soon as possible. The order of destruction and procedures for stringent verification for such a State Party shall be determined by the Executive Council.
9. Any chemical weapons discovered by a State Party after the initial declaration of chemical weapons shall be reported, secured and destroyed in accordance with Part IV (A) of the Verification Annex.
10. Each State Party, during transportation, sampling, storage and destruction of chemical weapons, shall assign the highest priority to ensuring the safety of people and to protecting the environment. Each State Party shall transport, sample, store and destroy chemical weapons in accordance with its national standards for safety and emissions.
11. Any State Party which has on its territory chemical weapons that are owned or possessed by another State, or that are located in any place under the jurisdiction or control of another State, shall make the fullest efforts to ensure that these chemical weapons are removed from its territory not later than one year after this Convention enters into force for it. If they are not removed within one year, the State Party may request the Organization and other States Parties to provide assistance in the destruction of these chemical weapons.

12. Each State Party undertakes to cooperate with other States Parties that request information or assistance on a bilateral basis or through the Technical Secretariat regarding methods and technologies for the safe and efficient destruction of chemical weapons.
13. In carrying out verification activities pursuant to this Article and Part IV (A) of the Verification Annex, the Organization shall consider measures to avoid unnecessary duplication of bilateral or multilateral agreements on verification of chemical weapons storage and their destruction among States Parties.

To this end, the Executive Council shall decide to limit verification to measures complementary to those undertaken pursuant to such a bilateral or multilateral agreement, if it considers that:

- a. Verification provisions of such an agreement are consistent with the verification provisions of this Article and Part IV (A) of the Verification Annex;
 - b. Implementation of such an agreement provides for sufficient assurance of compliance with the relevant provisions of this Convention; and
 - c. Parties to the bilateral or multilateral agreement keep the Organization fully informed about their verification activities.
14. If the Executive Council takes a decision pursuant to paragraph 13, the Organization shall have the right to monitor the implementation of the bilateral or multilateral agreement.
 15. Nothing in paragraphs 13 and 14 shall affect the obligation of a State Party to provide declarations pursuant to Article III, this Article and Part IV (A) of the Verification Annex.
 16. Each State Party shall meet the costs of destruction of chemical weapons it is obliged to destroy. It shall also meet the costs of verification of storage and destruction of these chemical weapons unless the Executive Council decides otherwise. If the Executive Council decides to limit verification measures of the Organization pursuant to paragraph 13, the costs of complementary verification and monitoring by the Organization shall be paid in accordance with the United Nations scale of assessment, as specified in Article VIII, paragraph 7.
 17. The provisions of this Article and the relevant provisions of Part IV of the Verification Annex shall not, at the discretion of a State Party, apply to chemical weapons buried on its territory before 1 January 1977 and which remain buried, or which had been dumped at sea before 1 January 1985.

Article V—Chemical Weapons Production Facilities

1. The provisions of this Article and the detailed procedures for its implementation shall apply to any and all chemical weapons production facilities owned or possessed by a State Party, or that are located in any place under its jurisdiction or control.
2. Detailed procedures for the implementation of this Article are set forth in the Verification Annex.

3. All chemical weapons production facilities specified in paragraph 1 shall be subject to systematic verification through on-site inspection and monitoring with on-site instruments in accordance with Part V of the Verification Annex.
4. Each State Party shall cease immediately all activity at chemical weapons production facilities specified in paragraph 1, except activity required for closure.
5. No State Party shall construct any new chemical weapons production facilities or modify any existing facilities for the purpose of chemical weapons production or for any other activity prohibited under this Convention.
6. Each State Party shall, immediately after the declaration under Article III, paragraph 1 (c), has been submitted, provide access to chemical weapons production facilities specified in paragraph 1, for the purpose of systematic verification of the declaration through on-site inspection.
7. Each State Party shall:
 - a. Close, not later than 90 days after this Convention enters into force for it, all chemical weapons production facilities specified in paragraph 1, in accordance with Part V of the Verification Annex, and give notice thereof; and
 - b. Provide access to chemical weapons production facilities specified in paragraph 1, subsequent to closure, for the purpose of systematic verification through on-site inspection and monitoring with on-site instruments in order to ensure that the facility remains closed and is subsequently destroyed.
8. Each State Party shall destroy all chemical weapons production facilities specified in paragraph 1 and related facilities and equipment, pursuant to the Verification Annex and in accordance with an agreed rate and sequence of destruction (hereinafter referred to as "order of destruction"). Such destruction shall begin not later than one year after this Convention enters into force for it, and shall finish not later than 10 years after entry into force of this Convention. A State Party is not precluded from destroying such facilities at a faster rate.
9. Each State Party shall:
 - a. Submit detailed plans for destruction of chemical weapons production facilities specified in paragraph 1, not later than 180 days before the destruction of each facility begins;
 - b. Submit declarations annually regarding the implementation of its plans for the destruction of all chemical weapons production facilities specified in paragraph 1, not later than 90 days after the end of each annual destruction period; and
 - c. Certify, not later than 30 days after the destruction process has been completed, that all chemical weapons production facilities specified in paragraph 1 have been destroyed.

10. If a State ratifies or accedes to this Convention after the 10-year period for destruction set forth in paragraph 8, it shall destroy chemical weapons production facilities specified in paragraph 1 as soon as possible. The order of destruction and procedures for stringent verification for such a State Party shall be determined by the Executive Council.
11. Each State Party, during the destruction of chemical weapons production facilities, shall assign the highest priority to ensuring the safety of people and to protecting the environment. Each State Party shall destroy chemical weapons production facilities in accordance with its national standards for safety and emissions.
12. Chemical weapons production facilities specified in paragraph 1 may be temporarily converted for destruction of chemical weapons in accordance with Part V, paragraphs 18 to 25, of the Verification Annex. Such a converted facility must be destroyed as soon as it is no longer in use for destruction of chemical weapons but, in any case, not later than 10 years after entry into force of this Convention.
13. A State Party may request, in exceptional cases of compelling need, permission to use a chemical weapons production facility specified in paragraph 1 for purposes not prohibited under this Convention. Upon the recommendation of the Executive Council, the Conference of the States Parties shall decide whether or not to approve the request and shall establish the conditions upon which approval is contingent in accordance with Part V, Section D, of the Verification Annex.
14. The chemical weapons production facility shall be converted in such a manner that the converted facility is not more capable of being reconverted into a chemical weapons production facility than any other facility used for industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes not involving chemicals listed in Schedule 1.
15. All converted facilities shall be subject to systematic verification through on-site inspection and monitoring with on-site instruments in accordance with Part V, Section D, of the Verification Annex.
16. In carrying out verification activities pursuant to this Article and Part V of the Verification Annex, the Organization shall consider measures to avoid unnecessary duplication of bilateral or multilateral agreements on verification of chemical weapons production facilities and their destruction among States Parties.

To this end, the Executive Council shall decide to limit the verification to measures complementary to those undertaken pursuant to such a bilateral or multilateral agreement, if it considers that:

- a. Verification provisions of such an agreement are consistent with the verification provisions of this Article and Part V of the Verification Annex;
- b. Implementation of the agreement provides for sufficient assurance of compliance with the relevant provisions of this Convention; and

- c. Parties to the bilateral or multilateral agreement keep the Organization fully informed about their verification activities.
17. If the Executive Council takes a decision pursuant to paragraph 16, the Organization shall have the right to monitor the implementation of the bilateral or multilateral agreement.
18. Nothing in paragraphs 16 and 17 shall affect the obligation of a State Party to make declarations pursuant to Article III, this Article and Part V of the Verification Annex.
19. Each State Party shall meet the costs of destruction of chemical weapons production facilities it is obliged to destroy. It shall also meet the costs of verification under this Article unless the Executive Council decides otherwise. If the Executive Council decides to limit verification measures of the Organization pursuant to paragraph 16, the costs of complementary verification and monitoring by the Organization shall be paid in accordance with the United Nations scale of assessment, as specified in Article VIII, paragraph 7.

Article VII—National Implementation Measures

General Undertakings

1. Each State Party shall, in accordance with its constitutional processes, adopt the necessary measures to implement its obligations under this Convention. In particular, it shall:
 - a. Prohibit natural and legal persons anywhere on its territory or in any other place under its jurisdiction as recognized by international law from undertaking any activity prohibited to a State Party under this Convention, including enacting penal legislation with respect to such activity;
 - b. Not permit in any place under its control any activity prohibited to a State Party under this Convention; and
 - c. Extend its penal legislation enacted under subparagraph (a) to any activity prohibited to a State Party under this Convention undertaken anywhere by natural persons, possessing its nationality, in conformity with international law.
2. Each State Party shall cooperate with other States Parties and afford the appropriate form of legal assistance to facilitate the implementation of the obligations under paragraph 1.
3. Each State Party, during the implementation of its obligations under this Convention, shall assign the highest priority to ensuring the safety of people and to protecting the environment, and shall cooperate as appropriate with other States Parties in this regard.
4. Each State Party, during the implementation of its obligations under this Convention, shall assign the highest priority to ensuring the safety of people and to protecting the environment, and Relations between the State Party and the Organization.
5. In order to fulfill its obligations under this Convention, each State Party shall designate or establish a National Authority to serve as the national focal point for effective liaison with the Organization and other States Parties. Each State Party shall notify the

Organization of its National Authority at the time that this Convention enters into force for it.

6. Each State Party shall inform the Organization of the legislative and administrative measures taken to implement this Convention.
7. Each State Party shall treat as confidential and afford special handling to information and data that it receives in confidence from the Organization in connection with the implementation of this Convention. It shall treat such information and data exclusively in connection with its rights and obligations under this Convention and in accordance with the provisions set forth in the Confidentiality Annex.
8. Each State Party undertakes to cooperate with the Organization in the exercise of all its functions and in particular to provide assistance to the Technical Secretariat.

Appendix F

Donor and Recipient Matrices

For the donor matrices, spending is based on 2007 Official Development Assistance (ODA) statistics prepared by the Organization for Economic Cooperation and Development and is calculated in United States dollars.

For the recipient matrices, major donor figures are based on the 2006 Creditor Reporting System records prepared by the Organization for Economic Cooperation and Development and is calculated in millions of United States dollars.

Canada		
Region	Spending (2007 ODA, USD)	Strategic Concentration
Americas	\$462,960,000	promote basic democratic values strengthen economic linkages meet new security challenges reducing poverty and inequality
Europe	\$69,990,000	institutional accountability, transparency, and effectiveness supporting civil society creating a more favorable business and investment climate
Middle East and North Africa	\$143,820,000	bridging social and economic gaps improving governance strengthening democratic institutions ensuring human security equitable wealth distribution skilled labor training
Sub-Saharan Africa	\$785,590,000	governance health (including HIV/AIDS prevention and control) basic education private sector development, and environmental sustainability gender equality
South and Central Asia	\$545,660,000	governance private sector development gender equality trans-border health and environmental threats international terrorism
Southeast and East Asia	\$193,780,000	governance private sector development gender equality environmental sustainability financial sector reform economic integration
Oceania	\$8,160,000	ocean development education gender equality economic integration private sector development
Total	\$2,209,960,000	

Canada
Country Priorities
<p>Haiti—strengthen good governance; build an open, responsible government; fight corruption; restore the rule of law; health; education; infrastructure</p> <p>Bolivia—health; safe water; sanitation; gender equality; governance; oil and gas sector; free and fair elections; yellow fever vaccination</p> <p>Nicaragua—reducing social vulnerability; productive capacity development; reducing ecological vulnerability; human rights; democracy; good governance</p> <p>Peru—youth education; democratization; public sector reform; inclusive management in strategic sectors; rule of law</p> <p>Jamaica—improving governance; strengthening the private sector; improving environmental management; HIV/AIDS prevention and treatment</p>
<p>Ukraine—democratic development; nuclear security; electoral, administrative and judicial reforms, strengthening civil society</p> <p>Russia—federalism; public administration and legal/judicial reform; economic well-being in the Russian north; civil society; gender equality</p> <p>Georgia—humanitarian assistance; conflict prevention; business development; corporate governance</p> <p>Bosnia and Herzegovina—rule of law; health; education; peace and security</p>
<p>Iraq—rebuilding the social and economic base; governance; effective security structures; human rights; rule of law; gender equality; regional economic development</p> <p>Palestinian Administered Areas—security; democratic, social, and economic development; humanitarian assistance</p> <p>Egypt—job creation; education; democratic governance; private sector development; gender equality</p> <p>Lebanon—humanitarian assistance; mine education and clearance; governance reform; social/economic development; refugee protection</p> <p>Morocco—basic education; vocational training; citizen engagement; gender equality; capacity building</p>
<p>Ethiopia—food security; agriculture; governance; accountability; democratization; rule of law; capacity-building</p> <p>Ghana—access to water; food security; poverty reduction; local governance and capacity-building</p> <p>Sudan—reduce security threats; enhance stability; reintegrating returnees; mine clearance; governance; public health; improved access to education</p> <p>Mali—health; education; agriculture; economic development; good governance; rule of law</p> <p>Mozambique—education; agriculture; rural development; HIV/AIDS; governance; gender equality; environmental sustainability; capacity-building</p> <p>Senegal—education; grass-roots economy; microfinance</p> <p>Tanzania—education; health and HIV/AIDS; governance; private sector development</p>

Canada
Country Priorities
<p>Afghanistan—army and police capacity-building; judicial reform; job creation; water; education; border management and security; reconciliation; humanitarian assistance</p> <p>Bangladesh—basic education; health; government transparency and accountability; private sector development</p> <p>Sri Lanka—good governance; human rights; gender equality; employment for youth and the disadvantaged; humanitarian/rehabilitation assistance</p> <p>Tajikistan—rural poverty alleviation; agrarian reform; rural entrepreneurship; democratization; public sector capacity-building</p>
<p>Indonesia—governance; environment; private sector development; tsunami recovery; gender equality; taxation and financial sector reform</p> <p>Cambodia—land management and administration; landmine clearance; peace building; civil society development; elections support; poverty reduction; democratic institution development</p> <p>Philippines—transparent and accountable governance; private sector development; small and medium-sized enterprises; anti-corruption</p> <p>Vietnam—legal and financial reforms; equitable economic growth; food-quality standards; domestic market development; access to international markets; education</p>
<p>Papua New Guinea—ocean development; environmental economics; gender equality</p> <p>Solomon Islands—ocean development; gender equality</p> <p>Vanuatu—ocean development; higher education; urban development; strengthening local democracy; legal and IT training</p>

Kenya	
Major Donors	United States (\$377.4 M); United Kingdom (\$182.6 M); France (\$150.2 M); Japan (\$124.2 M); Denmark (\$93.3 M); Sweden (\$79.8 M); Germany (\$59 M); Canada (\$23.8 M); Spain (\$23.1 M); Norway (\$22.8 M); Netherlands (\$22.6 M); Ireland (\$15.1 M)
Implicit Needs Based on 1540 Report	July 26, 2005: (1) technical assistance in terms of equipment so as to conduct an effect surveillance program that works toward preventing illicit trafficking of nuclear materials and equipment across the country's borders. (2) assistance in helping effect decisions taken at tripartite (Uganda, Tanzania, and Kenya) meetings convened to improve regional cooperation with regard to radiation safety, security of radiation sources, etc.
Country Priorities	As per Kenya's Medium-Term Plan 2008-2012 (Kenya 2030), the country's priorities include the following objectives: <ul style="list-style-type: none"> • Facilitate the resettlement of Internally Displaced Persons (IDPs) • Restore security in the country as well as promote national dialogue and reconciliation. • Strengthen border security and enhance cross-border peace dialogues through peace building committees established under the framework of the National Steering Committee on Peace Building and Conflict Management. • Deepen policy, legal and institutional reforms for improved enforcement of law and order; • Improve coordination and communication among the various institutions dealing with security to enhance effective management of crime; • Promote sustainable public-private partnerships in policing and the provision of security services; • Promote stakeholders cooperation and community involvement for improved safety and security; • Curb small arms trafficking and usage and tighten immigration and border control; • Deepen the use of early warning systems to detect and address crime and other forms of insecurity; • Execute policies and program for the re-integration of ex-security personnel into society, and the deployment of their skills to local communities; • Intensify the campaign against and control of drug and substance abuse as well as drug trafficking; • Intensify surveillance and improve crime detection; • Improve human resource management, particularly with regard to terms and conditions of staff in the police force, security forces and administration related field services; • Modernize of security equipment; • Facilitate capacity building through intensified modern training of security staff and provision of the necessary equipment in all security agencies.

Kenya	
Country Priorities	<ul style="list-style-type: none"> • Provide support to key economic sectors such as agriculture and tourism in order to ensure their quick recovery and accelerated growth. • Improve and modernize the country's infrastructure and achieve the long overdue structural transformation of the economy in terms of increasing the share of manufacturing and industry in GDP as well as manufactured exports in total exports. • Revitalize agricultural sector, including improvements in overall agricultural productivity • Improve manufacturing, wholesale, and trade, and tourism • Enhance the low cost of provision of ICT goods and services • Reorganize the National Social Security and Pension system; Insurance and Banking sectors as well as SACCOs and capital markets with a view to facilitating higher savings and investment. • Raise the primary to secondary school transition rate to 75 per cent and the rate from secondary to university to 15 per cent by 2012 • Provide affordable and quality health care to all citizens, involving (among other things) the restructuring of the health delivery system in order to shift the emphasis to preventive and promotive health-care, which will lower the nation's disease burden. • Provide clean water, sanitation and waste management • Rehabilitate and protection of forests and water resources • Provide adequate, affordable and decent housing, particularly for low-income earners in urban areas and equally so, in the rural sector • Develop high quality national physical Infrastructure
Governance	<p>A political crisis erupted after disputes and violent protests following the announcement of the results from the presidential, parliamentary, and local government elections of December 28, 2007. On February 28, 2008, after two months of intermittent violence, which resulted in 300,000 displaced people and over 1,000 lives lost, Kenya's political leaders agreed to establish a coalition government in a National Accord and Reconciliation Agreement. The agreement also called for the creation of the post of Prime Minister and a coalition government with an equally shared portfolio balance between the Party of National Unity (PNU) and the Orange Democratic Movement (ODM). The "Grand Coalition Government" was sworn in on April 17, 2008 with Mr. Mwai Kibaki from the PNU as President and Mr. Raila Odinga from the ODM as Prime Minister.</p>
Rule of Law	<p>As per a panel of Commonwealth judicial experts from Africa and Canada in July 2002, Kenya's judiciary system was found to be among the most incompetent and inefficient in Africa. There is no tradition of independent judicial review of legislative and executive actions. In previous years, judges that ruled against the government were sometimes punished with transfers or non-renewals of their contracts. Interim</p>

Kenya	
Rule of Law	<p>reports by the Judiciary Sub-Committee on Integrity and Corruption appointed in March 2003 by Chief Justice Johnson Evan Gicheru indicated that almost one-third of judges were involved in corruption. Also, judicial competence is often a key issue mainly due to appointment mechanisms, which are based on political patronage and ethnicity.</p> <p>Kenya also officially recognizes the Kadhi Islamic courts in certain predominantly Muslim areas, where these courts administer Sharia personal law on issues such as marriage and succession disputes. This is controversial with non-Muslims in the country.</p> <p>While there is a tradition of civilian control over security forces, the Moi government (1978-2002) selectively encouraged abuses and adopted a “see no evil” attitude in other cases. While significant numbers of human rights abuses by security forces were documented in previous years, only rarely, if ever, were security forces brought to account for alleged abuses. The Kibaki government, by contrast, has presented itself as determined to introduce effective control and accountability over the security forces. President Kibaki has appointed new army and police commanders, but specific reforms in the security sector were limited as of September 2003.</p> <p>In addition, defendants do not have the right to government-provided legal counsel, except in capital cases. Free legal aid is rarely available for lesser charges and generally only in Nairobi and other major cities. Defendants may have access to an attorney before trial, but defense attorneys often do not have access to government-held evidence. The government can utilize the State Security Secrets Clause in order to withhold evidence, and local officials sometimes classify documents to hide the guilt of government officials. In addition, court fees for filing and hearing cases tend to be high for ordinary citizens.</p> <p>Transparency International, Corruption Perceptions Index 2008 Rank: 147 (of 180)</p> <p>Foreign Policy, Failed States Index 2008 Rank: 26 (of 60)</p>

Definitions

** Definitions for the purpose of this resolution only*

Means of delivery:

missiles, rockets and other unmanned systems capable of delivering nuclear, chemical, or biological weapons, that are specially designed for such use.

Non-State actor:

individual or entity, not acting under the lawful authority of any State in conducting activities which come within the scope of this resolution.

Related materials:

materials, equipment and technology covered by relevant multilateral treaties and arrangements, or included on national control lists, which could be used for the design, development, production or use of nuclear, chemical and biological weapons and their means of delivery.

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