

Beyond Boundaries in the Middle East: Leveraging Nonproliferation Assistance to Address Security/Development Needs With Resolution 1540

The Stimson Center
and the Stanley Foundation

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In 2006, the Ministry of Foreign Affairs in Helsinki offered a seed grant to bring together national governments, regional and subregional organizations, and nongovernmental experts in an innovative effort called Bridging the Security/Development Divide (formerly known as the Next 100 Project). The purpose of that effort was to more effectively and sustainably promote implementation of UN Security Council Resolution 1540 (2004), which mandates a sweeping array of supply-side efforts to prevent the proliferation of nuclear, biological, and chemical weapons of mass destruction, by breaking down the artificial barriers between the “security” and “development” communities, whose goals are often similar but whose methods rarely intersected. Over time, that initiative grew into a multifaceted outreach effort in multiple corners of the globe, from the Caribbean Basin to Africa and Central America, and now to the Middle East. Four years later, this informal consortium of interests has helped breathe new life into not only global nonproliferation efforts but an array of citizen security and economic-development objectives in key regions around the world. In so doing, we believe that we and our partners have helped to initiate a pragmatic series of regional initiatives that promises to advance the cause of sustainable nonproliferation in corners of the globe that are increasingly seen as critical links to the proliferation supply chain. This report on implementation opportunities for UNSCR 1540 in the Middle East is the third in an ongoing series.

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Additional information on Bridging the Security/Development Divide can be found at: www.stimson.org/programs/transnational-crime. A comprehensive source for information on UN Security Council Resolution 1540 can be found at www.1540hub.org. A previous publication in this series focused on 1540 implementation in Central America, and a forthcoming publication will consider innovative approaches in East Africa.



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Executive Summary

Widely considered to be the cradle of civilization itself, the Middle East not only boasts the origin of many major religions, it is a part of the world rich in history, culture, and natural resources. Regrettably, the region is also afflicted with the internecine discord that all too often accompanies those physical and social attributes. Festering religious conflict, uneven population distribution and access to resources, and radically divergent levels of gross domestic product and living standards all feed a complex political, economic, and social landscape across the region.

For many international security analysts, the Middle East is the very representation of the potentially daunting confluence of two insidious trends—global proliferation and the rise of catastrophic terrorism. In this sense, “security” in the region is more often defined by outsiders in terms of the grave threat posed by nuclear, biological, and chemical weapons. The case of Iran as the global security cause célèbre is indicative of the often one-dimensional prism through which the region is viewed and solutions considered. For regional analysts and inhabitants of the Middle East, however, security is more often characterized in very different terms. For instance, despite sitting upon more than 55 and 40 percent of global oil and gas reserves respectively, the Middle East is remarkably deficient in an even more critical natural resource: fresh water. With a rapidly growing population of some 370 million people, making up 6 percent of the global total, the region has only about 0.7 percent of the world’s available fresh water. For some governments of the region, the prospect of running out of fresh water is a proximate threat. With per capita water availability well below the water-scarcity line, Jordan, for example, is on the top-ten list of most water-scarce countries in the world, and many fear that Yemen will be the first country to literally run dry.

Intimately connected to growing shortages of potable water in the Middle East is the wider need for energy diversification. Even those governments of the region rich in fossil fuels are well attuned to rising indigenous energy demands and the need to seek energy alternatives to effectively operate, for example, energy-intensive water-desalination facilities to meet urgent human and agricultural needs. To date, over a dozen countries of the region have announced plans to pursue civilian nuclear power programs. There are serious questions as to whether or not the pursuit of nuclear energy makes sound financial sense, particularly at the scale currently being discussed, and in the face of solar and other renewable energy options. Regardless of how these internal discussions resolve themselves, what is clear is that an expanded nuclear power capacity is currently being prioritized by numerous governments across the Middle East as a central component of economic growth and development strategies. However, in addition to serious technical and financial obstacles, these plans have the potential to be frustrated, or at a minimum delayed, by global proliferation restrictions. Such restrictions are legitimately seen by the international security community as critical to ensuring a rigorous nonproliferation regime, but reasonably viewed by some in the region as a direct challenge to economic growth and development objectives.

Water scarcity and energy diversification are not the only high-priority security issues faced by governments of the region. As by-products of globalization, an increasing array of transnational criminal activities—from the proliferation of dual-use technologies and the global drug trade, to contemporary human slavery, small arms trafficking, and the counterfeiting of intellectual property—have become so widespread they threaten to overwhelm the capabilities of even well-intentioned governments to mitigate their destructive effects. Beyond their immediate human impact, they conspire to suborn government authorities and degrade the rule of law, and they can lead to state failure and, ultimately, the need for foreign military intervention. The Middle

East is as attractive a host to such transnational criminal activities as any other region around the world. For example, the UN Office on Drugs and Crime estimates that on average 105 metric tons of heroin flows across the Afghan border into Iran annually en route to West, Central, and Eastern Europe. The ravages of opiate consumption have been well-documented in the Islamic Republic, which has one of the largest opiate-user populations in the world and whose population consumes more than 17 tons of heroin every year. As a result, organized criminal groups in Iran have forged strong connections with Afghan and other trade networks, extending their potential for destructiveness well beyond the borders of those two countries.¹ In a similar vein, Dubai has long enjoyed a reputation as a free-trade paradise. The diminished oversight that has fueled the lucrative and hyper-efficient trade through that emirate has also given rise to significant levels of money laundering and the illegal transshipment of contraband, ultimately threatening the long-term viability of its business model. And incursions by Houthi rebels on the Yemeni-Saudi Arabia border, for instance, test the physical security of both countries and threaten to inflame insurgent and even terrorist sympathies in that part of the world.

In short, for governments of the region, security is more often defined in economic, political, and social contexts, rather than in broad geostrategic terms centered on the proliferation threats and global terrorism concerns most relevant to Western governments. What is clear is that without a full appreciation of their interconnectedness, and a willingness to bridge these divides, a lasting stability based upon economic prosperity will not be achieved in the Middle East.

A first priority for the international security community must be to correct the misperception on the part of all governments that the recitation of legal mandates will instinctively elevate the proliferation issue among target constituencies. Neither financial assistance, one-off trainings, nor high-tech equipment will yield enduring solutions or long-term commitments to the nonproliferation regime—particularly where there are competing demands that may or may not be commensurate with instituting and maintaining the instruments of nonproliferation.

In this report, we propose an innovative, “whole-of-society” approach to bridging the security/development divide in the Middle East 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. UN Security Council Resolution 1540 (2004) is one tool that could be used to this end. Using 1540, governments of the region could, for instance, identify novel streams of assistance—both technical and financial—to address capacity shortfalls in pursuit of safe nuclear power generation. Such a strategy would accelerate energy-diversification options and respond directly to the enduring challenge of water scarcity, while solidifying their participation as responsible members of the global nonproliferation community. Similarly, enduring economic and security threats to national governments resulting from the undetected trafficking of drugs, dual-use items, and other contraband; the unchecked movement of terrorist or insurgent groups; and the illicit laundering of money call for many of the same responses necessary to fully implement UNSCR 1540. Targeted assistance to less wealthy governments designed to strengthen government capacity to inspect and interdict unauthorized transfers within and across borders, to develop legal and regulatory standards on trafficking, to build legal capacity, or to provide inspection equipment and training at key “choke points” would go far in ameliorating immediate national security challenges prioritized by regional governments, while reinforcing the rigor of the global nonproliferation regime. In short, this “dual-use” assistance model would not only promote global nonproliferation, it would address directly the critical security and downstream development concerns of Middle Eastern governments.

UNSCR 1540 is a legal mandate for all member states of the United Nations. But it is incumbent upon the international community to develop scalable, sustainable, and replicable pilot efforts that pragmatically pair states in need of technical or financial assistance with those states willing to offer such assistance under the auspices of national security. Ultimately, our goal should be to draw all countries on the potential proliferation supply chain into a dialogue and pragmatic action that is viewed by all participants as mutually beneficial.

UNSCR 1540 is one logical platform from which to launch this new model for security and global development. Its effectiveness has been proven elsewhere around the globe, in less developed regions, including the Caribbean and Central America.² At present, more than \$2 billion is spent annually on targeted nonproliferation assistance by G-8 and partnering governments. This funding source and similar access to requisite technical assistance could leverage existing efforts across the Middle East to address the immediate priorities of regional governments, from dealing with the imminent threat of water scarcity to encouraging energy diversification to countering the transnational criminal activities that threaten longer-term economic security and political stability. By building a nonproliferation relationship based upon mutual self-interest rather than upon legal mandates, near-term trust will yield long-term buy-in, sustainability, and a strengthening of the nonproliferation regime. It is that development and security model that this report seeks to communicate.

The authors prepared this report as part of a larger project on regional implementation of United Nations Security Council Resolution 1540. The report has been informed by meeting discussions and contains the authors' views and recommendations, and not necessarily those of the Stanley Foundation or the Stimson Center.

Project Report

The Multifaceted, Interlinked Global Security and Development Environment

Widely considered to be the cradle of civilization itself, the Middle East not only boasts the origin of many major religions, it is a part of the world rich in history, culture, and natural resources. Regrettably, the region is also afflicted with the internecine discord that all too often accompanies those physical and social attributes. Festering religious conflict, uneven population distribution and access to resources, and radically divergent levels of gross domestic product (GDP) and living standards all feed a complex political, economic, and social landscape across the region. Although much attention has been focused on resolving the simmering conflicts of the region by addressing both “hard” and “soft” security challenges distinctly, it is increasingly clear that without a full appreciation of their interconnectedness, a lasting peace will not be achieved in the Middle East. In short, global security imperatives—including those related to the nonproliferation of nuclear, biological, and chemical weapons—cannot be achieved in a sustainable way without simultaneously addressing the national economic, development, and security concerns of regional governments. While this often complicates the enactment of targeted solutions, it also provides unique opportunities and leverage points for long-term sustainable resolution. Understanding top tier concerns and priorities of Middle Eastern governments is a critical first step.

Competition over scarce resources has emerged as a major source of conflict within and between states around the world in the modern era. Water is no exception and, indeed, it is reflective of not only immediate security challenges but also downstream complexities that reasoned solutions to near-term threats can yield. Although host to more than 55 and 40 percent of global oil and gas reserves respectively, the Middle East lacks access to other key natural resources essential to maintaining, much less improving, the quality of life among its more than 300 million inhabitants.³ In this regard, dwindling access to potable water has become perhaps the greatest threat to citizen security across the region. Today most Gulf countries do not meet international per capita water standards, putting an enormous strain on satisfying the most fundamental needs of individual citizens. Moreover, water scarcity poses a direct challenge to water-intensive economic sectors, including agriculture, which must produce sufficient quantities of goods to feed states’ growing populations.

In 2009 the World Bank found that “[i]t is almost a feat that the Middle East, which is plagued with conflicts, has so far managed to avoid major water wars, even though water is a life-and-death economic issue for the people of the region.”⁴ While open warfare over this issue has fortunately not materialized, the threat posed by water scarcity will only worsen in the region. It is estimated that by 2050, the per person water availability across the region will halve.

Of course, neither the water-scarcity challenge nor the interrelated threats it generates operate in a vacuum. Beyond the immediate development crises it foment, particularly in resource-poor countries like Yemen, longer-term solutions for wealthier countries have created additional sources of political conflict. To meet present and growing regionwide water-scarcity challenges, several countries have announced their intent to develop massive electricity-intensive desalination projects. In turn, this has necessitated the massive expansion of energy production, often involving the development of new, or the expansion of existing, nuclear power programs. Jordan is one such country looking to the nuclear option to bridge its energy deficit. Today it imports more than 95 percent of its electricity-generating energy sources—oil and gas—at a great cost to the national economy. Nuclear power has therefore become a central tenet in Jordan’s development and economic security

agenda. Developing a safe, secure, and proliferation-resistant nuclear program will undoubtedly require significant external technical assistance. Yet even the mere exploration of nuclear power options in a region of such intense security complications has stoked global concern over regional proliferation and an incipient arms race.

Today the regional proliferation threat is illuminated by allegations that Iran is seeking to clandestinely develop a nuclear weapon or the capacity necessary to acquire such a bomb.⁵ Governments across the Middle East are deeply concerned about the prospect and implications of further spread of nuclear weapons in the region.⁶ Regional actors worry that a nuclear Tehran could lead to a regional arms race or war, as well as threaten a carefully crafted image of stability, which is crucial to many countries' continued economic prosperity and national development. Major power players in the Middle East, including Saudi Arabia and Egypt, also worry about shifting balance-of-power dynamics if Iran were to acquire nuclear weapons and increase its influence in the neighborhood and beyond. These debates threaten to slow, and even perhaps derail regional energy-diversification plans and ultimately impinge upon economic development and expansion across the Middle East.

Moreover, direct state-orchestrated pursuit of an offensive nuclear weapons option is only one proliferation challenge. In a region with more than 10,000 kilometers of internal borders, and varying capacities to control them, transnational crime also represents a serious threat to stability and economic growth. Efforts must be strengthened and sustained to prevent the free movement of sensitive proliferation technologies along with an array of weapons, people, and contraband. Neglecting to do so only serves to threaten national stability and colors international attitudes over the pace and scale of nuclear cooperation. Across the region, and around the world, criminals breach territorial boundaries and circumvent port authorities in order to move their illicit wares, plot or perpetrate terrorist acts, or otherwise frustrate the national and international controls. A newfound ability to tap into the global financial system through the free-trade zones of Dubai, for instance, has allowed smugglers to develop a global reach while simultaneously threatening the legitimate and lucrative trade passing through that emirate. The ability of the A. Q. Khan black-market nuclear network to utilize secure, decentralized procurement and transshipment systems to spread nuclear weapons technology across the planet vividly illustrates the potential for danger to individual governments and to the global nonproliferation regime. The deleterious impact such infractions have on legitimate trade and economic growth in the region is immeasurable.

In short, the multifaceted and interlinked regional development and security concerns in the Middle East are self-reinforcing, and threaten parallel and seemingly unrelated aspects of society. This is unfortunate in a region that holds such grand potential.

It was against this backdrop that the United Nations Security Council passed Resolution 1540 (2004). Promoted as part of a broader tapestry of formal and informal mechanisms to prevent proliferation globally, the resolution was seemingly ill-connected to the daily challenges facing much of the world—particularly countries of the Global South, where proliferation capacity is growing in an environment often ill-prepared for, and sometimes uninterested in, its effective management. The lack of operative controls over advanced technologies, and occasional reluctance to enact more rigorous standards for fear of derailing economic and development objectives, has yielded an environment ripe for the nefarious diversion of sensitive proliferation technologies.

Speaking at the Nuclear Security Summit in Washington this year, President Obama noted that “it is increasingly clear that the danger of nuclear terrorism is one of the greatest threats to global security—to our collective security.”⁷ The president’s recently released National Security Strategy reinforces this view, calling proliferation the “gravest danger to the American people and global security.”⁸ This sentiment has been repeated by leaders across the developed world with increasing frequency, especially since the tragic events of September 11, 2001. UN Secretary-General Ban Ki-moon has agreed that terrorism, and specifically weapon-of-mass-destruction (WMD) terrorism, is one of the primary threats facing the international community today.⁹

Yet while few can question the disastrous consequences a WMD terrorist incident would yield—as noted by former Secretary-General Kofi Annan, “[i]n today’s world, the security of every one of us is linked to that of everyone else”—requiring developing nations to divert attention from more immediate national and regional challenges to the seemingly distant threat of WMD terrorism is a nonproliferation strategy that is destined to fail, if not for a lack of political will then from a sheer lack of implementation capacity in these countries. Indeed, in the face of the daily threats to citizen safety and security—both economic and physical—in the Middle East and much of the Global South, such pronouncements are not only inaccurate, they are *prima facie* unreasonable to the target audience. There is a better way to bridge the development/security divide between the Global South and the more developed world.

Bridging this divide by appealing to the immediate needs and interests of target governments should be a central element to our common global nonproliferation strategy. Without the sustained buy-in among those governments that are emerging as increasingly prominent links in the global proliferation supply chain, as emerging dual-use technology innovators and manufacturers, as critical transshipment points and financial centers, or as breeding grounds for terrorist sympathies, international efforts to prevent the world’s most dangerous weapons from falling into the world’s most dangerous hands will inevitably fail. The consequences of such a scenario will be the suffering or death of untold numbers of people; it will jeopardize the foundations of the global economy; it will shake the nonproliferation regime at its core; and it will threaten international peace and security. For this reason, bridging the security-development divide in order to incent positive behavior, ameliorate proliferation concerns, and provide an agenda of opportunity beyond those countries traditionally viewed as links in the proliferation supply chain will be central to defending international security in the long term. UNSCR 1540 is one logical means by which to achieve this goal.

Development and Security Flashpoints in the Middle East

Water Scarcity

In no other part of the world is water a scarcer resource than in the Middle East and North Africa (MENA). The region’s population—some 370 million, and rapidly growing—makes up about 6 percent of the global total, yet MENA only has about 0.7 percent of the world’s available fresh water.¹⁰ Worldwide, the average water availability per person is approximately 7,000 cubic meters per year, but in the arid MENA region, that number is 1,200m³/year.¹¹ Even this latter figure does not fully illustrate how precarious the situation is for most Middle Eastern countries. These statistics fail to capture the reality that Iran, Iraq, and Syria, where water resources are more abundant, drive up the average value for regional access to water. In reality, most countries in the region are even farther below the water-scarcity level, which is generally accepted as 1,000m³/year per person.¹² For example, Jordan, Yemen, and all the Gulf states have annual per capita water shares less than 500m³.¹³

These conditions have been long forecasted. The World Bank found that between 1960 and 1995, the per person availability of water in the MENA region dropped by two-thirds.¹⁴ The future holds little promise either as per capita access to water will be cut in half over the next several decades, primarily due to rapid population growth and increased standards of living in urban areas in the Middle East.¹⁵ Between 1970 and 2001, the population of the Middle East and North Africa more than doubled, and it will double again by 2050.¹⁶ At the same time, the physical quantity of drinkable water will likely remain more or less constant—a fact that, if the status quo prevails, will ultimately result in even more dire water shortages.¹⁷

For any country, access to water is critical for overall economic and social development. Beyond immediate human needs, including access to safe drinking water and sanitation, water shortages in the Middle East impact the agricultural and industrial sectors, public health, and the environment.¹⁸ In 2003 the UN Development Programme reported that 15 percent of the region's population suffered from the absence of safe domestic water, resulting in, among other things, health hazards and high child mortality rates.¹⁹ In some poor rural areas, half the population does not have access to safe and clean water.²⁰

As in many parts of the world today, the agricultural sector in the Middle East is the biggest user of water.²¹ In several countries, including Yemen, Oman, and Saudi Arabia, irrigation accounts for approximately 85 to 90 percent of the total national water use. Intuitively, a well-functioning agricultural sector is crucial to any country's ability to provide the necessary goods to feed its people. With growing populations forecast, the output from the agricultural sector must expand, increasing demand for water at precisely the time when that resource is projected to become even scarcer.

How the water-scarcity challenge is managed at the domestic level will inarguably impact national and regional development and security issues.²² However it is addressed, it is clear that one central solution to the crisis will be water desalination. Many countries, particularly on the Arabian Peninsula, have kept up with rising water demands largely through the construction of water-desalination plants. On average, Gulf countries rely on desalination plants for 65 percent of their fresh-water needs.²³ Saudi Arabia and the United Arab Emirates (UAE) are the two largest producers of desalinated water in the Middle East.²⁴ Both countries, despite limited fresh-water resources, are among the highest water consumers in the world, in part because of a hot climate, inefficient use, and subsidies. To keep up with growing water demands described above, both countries will have to significantly expand desalination projects in order to ensure long-term economic security. However, desalination plants are extremely energy intensive, which in turn implies that these countries must also increase electricity output. For many Middle Eastern countries, the solution is the development of nuclear power. Many experts and officials, including some associated with the International Atomic Energy Agency (IAEA), believe Riyadh's nuclear ambitions are driven by a desire to replace or complement fossil fuel-powered desalination with a more environmentally friendly, efficient and, in the long term, more sustainable nuclear option to produce potable water.²⁵ In this regard, the development challenge presented by water scarcity is directly stoking regional energy-diversification needs and yielding heightened global concerns over nuclear proliferation across the Middle East.

Saudi Arabia is not alone. Jordan is also working to expand electricity-intensive desalination projects to address the water-shortages problem. At a per capita water availability of 145m³/year—well below the water-scarcity line discussed above—Jordan is on the top-ten list of most water-scarce countries in the world.²⁶ In 2004 the government addressed this trend by releasing a plan seeking

to better manage the water deficit by 2020.²⁷ Like Saudi Arabia, to produce sufficient amounts of electricity for the desalination process, Jordan is pursuing nuclear energy as a critical component of its development and economic security strategy.

In sum, a variety of domestic programs and international assistance efforts to address the chronic shortages of fresh water in the Middle East are ongoing and include:

- International assistance targeted at implementation of Millennium Development Goal 7, Target 3: “halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation.”²⁸
- Projects to increase improved water delivery.
- Technical cooperation on more efficient water-management techniques.
- Assistance to improve wasteful water practices and make water managers and politicians more accountable.
- Enhanced reliance on water-desalination efforts.

Success in implementing these programs is in the immediate and vested self-interest of all governments of the region, and is a significant factor in driving pursuit of the civilian nuclear renaissance in the Middle East. Yet questions over the attendant potential for proliferation threaten to derail the development agendas of both wealthy and struggling economies of the region.

Energy Needs and the Civilian Nuclear Renaissance

Middle Eastern energy demands are projected to skyrocket over the next several decades. The prospect of massive population increases along with the need to invest in electricity-intensive desalination projects are just two of the more significant factors driving this trend. Table 1 (on page 12) reflects the interlinked population, water, and energy realities facing a number of Middle Eastern countries over the next 20 years. As the table illustrates, the demand for energy in all countries is expected to approximately double—and in the case of Egypt, the demand will more than triple. To meet the growing energy challenge, as well as to capitalize on oil and gas export revenues in support of national economies, more than a dozen countries in the region are seeking to diversify their energy supply by, among other things and to varying degrees, pursuing civilian nuclear power programs.²⁹ In particular, many countries believe that a nuclear energy program can help ensure sufficient levels of electricity, a particularly crucial concern. Yet nuclear energy is not without its challenges: the high cost, safety concerns, waste management issues, and attendant proliferation risks all must be taken into consideration before embarking on a nuclear power program. Furthermore, there are serious questions as to whether or not the pursuit of nuclear energy makes sound financial sense, particularly at the scale currently being discussed, and in the face of solar and other renewable energy options. Regardless of how these internal discussions resolve themselves, what is clear is that an expanded nuclear power capacity is currently being prioritized by numerous governments across the Middle East as a central component of the economic growth and development strategies.

Table 1: Projected Energy Demand, Per Capita Renewable Fresh Water, and Population Growth ³⁰

Future Population, Water, and Energy Demand in the Middle East						
	Projected Population (millions) ³¹		Renewable Water Per Capita (meters cubed) ³²		Energy Demand (Terawatt/hour) ³³	
	2010	2030	2010	2030	Recent	2030
Saudi Arabia	26.2	36.5	92	66	87	156
UAE	4.7	6.6	32	23	74	191
Kuwait	3.1	4.3	6	5	52	145
Bahrain	0.8	1.1	150	109	11	30
Qatar	1.5	2	39	29	17	26
Oman	2.9	4	483	350	12	21
Iran	75.1	90	1,831	1,528	156	370
Yemen	24.3	39.4	86	53	4	9
Jordan	6.5	8.6	145	109	8	18
Egypt	84.5	111	678	516	123	407
Turkey	75.7	90.4	2,822	2,363	152	360

Middle Eastern states are situated within the so-called “Strategic Energy Ellipse,” where 70 percent and 65 percent of the world’s oil and gas reserves are located, respectively. Countries in the region are also among the biggest consumers of energy. For example, the Arab region’s energy growth rate over the last few years figured between 6 and 8 percent, which is several percentage points higher than the rest of the world.³⁴ Gulf Cooperation Council (GCC) states and the broader Middle East alike almost exclusively rely upon oil and gas to generate electricity.³⁵

For any developing region, increasing electricity production is a key component of advancement. In the Middle East, where water is scarce and electricity-intensive desalination projects are essential to maintaining current standards of living, meeting future electricity demands is of the utmost importance. However, under current circumstances, many countries are unlikely to effectively respond to the requirements of their budding populations. By some estimates, in 20 years GCC countries will need to add 200 gigawatts of additional electrical power to meet the surging need. In the near term, GCC members will need to double their electrical capacity by 2015 in order to meet the projected demand for desalination.³⁶ These are but a few of the regional energy realities facing the Middle East, which is why nuclear power programs to boost electricity production are being considered, or reconsidered, as part of national energy-diversification plans.

The rising prices of oil and gas are additional motivations to pursue civilian nuclear energy. Consuming less and exporting more to a world that increasingly will come to depend upon the region’s natural resources is a win-win for many countries in the Middle East.³⁷ To that end, for many wealthier countries of the region, a nuclear power program is an economic insurance policy for the future.

Of course, developing civilian nuclear energy is a multibillion-dollar investment and, according to the IAEA, “states just beginning to embark on the path toward nuclear energy can expect at least 15 years to elapse before their first plant begins operation.”³⁸ Even before construction can begin, adequate infrastructures must be in place to ensure safe and reliable use of nuclear energy.

According to the IAEA, history has shown that most delays in program development and project implementation can be traced to infrastructure inadequacies, including:

- Planning and decision-making capabilities.
- Organizational structures (including legal and regulatory frameworks).
- Electricity grid size and structure.
- Industrial support.³⁹

Experience further shows that human capacity and financing usually constitute the most significant constraints when seeking to initiate a nuclear power program.⁴⁰ Even for those Middle Eastern governments where financing is less of a near-term stumbling block, manpower shortfalls in key technical sectors have necessitated a search for external assistance in backfilling those capacities. While existing educational infrastructures in most countries—including in much of the Middle East—are usually sufficient to ensure basic technical training, specialized training and qualification in relevant nuclear disciplines or in those conventional disciplines required by the industry are less prevalent. As noted by the IAEA, the safe construction of a nuclear plant requires specialized project engineering, construction work management, and control and surveillance activities. Operation of the facility requires staff with both specialized instruction and on-the-job training, as well as a staff trained in health physics, maintenance, and other technical services.⁴¹ The IAEA has also recognized that although most of the training and almost all of the financing will have to be done domestically, foreign assistance will continue to play an important role in both the near-term development and mid-term operation of new nuclear power programs.⁴²

In addition to the technical challenges, a nuclear program is politically sensitive due to the inherent risk of nuclear weapons proliferation present in many dual-use fuel-cycle processes. Uranium enrichment and spent fuel reprocessing are activities that have civilian nuclear energy purposes but can also be used to manufacture a nuclear weapon. Notwithstanding the relative logic for or against pursuit of a civilian nuclear power capacity, countries of the region are on very different timetables as they seek to navigate the complexities of industry expansion.

The United Arab Emirates. The UAE will, by diversifying its energy resources, seek to more than double its power generation and transmission capacity to 40 Gigawatt-electric (GWe) by 2020. This target reflects a prospective 9 percent yearly growth rate, which stems from, among other things, population growth, industrial development, and government-subsidized energy prices driving up consumption.⁴³ Additionally, naturally occurring potable water is a rare commodity in the UAE, so the country must rely to a large extent on the energy-draining desalination process to alleviate water scarcity.⁴⁴ As is the case with many of the UAE's neighboring countries, its economy is heavily dependent on export revenues from oil and gas—about 30 percent of the country's GDP is the result of foreign trade in these goods.⁴⁵

The UAE's future energy-diversification portfolio includes hydrocarbons, renewable energy sources, and a nuclear energy program.⁴⁶ The country has committed itself to stringent nonproliferation objectives—notably forgoing domestic enrichment and reprocessing of nuclear fuel. In December 2009, a South Korean energy consortium won a \$20 billion bid to build four nuclear power plants in the UAE. The first plant is expected to be operational by 2017—well ahead of the IAEA's general timeline for new nuclear aspirants—and the other three are due to start generating electricity by 2020. Combined, the four plants are expected to produce 5.6 GWe, representing 14 percent of the UAE's total electricity demand.⁴⁷ Ultimately, the UAE seeks to build more than a dozen nuclear power plants, which are purported to generate electricity at a quarter

of the cost when compared to gas.⁴⁸ The UAE has also signed nuclear cooperation agreements with the United States and France, and memorandums of understanding with the United Kingdom and Japan. Although financing of this multibillion-dollar enterprise is less challenging for the oil-rich nation, the UAE continues to wrestle with a lack of indigenous technical capacity, as well as enduring questions regarding the proliferation of sensitive technologies.

Jordan. Among the energy-related issues facing Jordan today are increased demand, rising costs, lack of domestic energy resources, a near-total dependency on imported oil and gas, and increasing water scarcity.⁴⁹ Government officials estimate that the country will need about 6.8 GWe in new power generating capacity in order to meet its national energy demands by 2030.⁵⁰ Jordan has few of the natural energy resources common to the Middle East, namely gas and oil. Today 96 percent of Jordan's electricity-generating energy sources—99 percent of which comes from oil and gas—are imported, primarily from Saudi Arabia, Kuwait, and Iraq. In recent years, Jordan has imported energy worth between \$3 billion and \$4 billion, representing about 20 percent of the country's annual budget. This expense continues to be a heavy burden on state finances.⁵¹

Jordan's energy-diversification strategy includes exploration of domestic gas and oil shale reserves, importing natural gas, installing renewable energy sources such as solar and wind and, significantly, developing nuclear energy.⁵² By 2020 the country hopes to bring down its dependency on foreign energy sources from 96 percent to 61 percent.⁵³ Nuclear energy is expected to account for 6 percent of this reduction.⁵⁴ Other objectives connected to Jordan's nuclear energy program include leveraging the country's uranium assets (a mining agreement with French nuclear giant AREVA was signed in January 2010); promoting public/private partnerships; developing partnerships with nuclear technology providers (Jordan has signed nuclear cooperation agreements with Canada, France, the United Kingdom, Russia, China, South Korea, and Japan);⁵⁵ ensuring effective technology transfer and national participation in all phases; providing for water desalination and eventually hydrogen production; development of spin-off industries; enhancing electricity export; and enabling competitive energy-intensive industries.⁵⁶ If the high expectations on Jordan's nuclear program come to fruition, significant positive contributions to energy security and general national development will likely follow. But like the UAE, Jordan faces an endemic lack of indigenous technical capacity to achieve these goals and will doubtlessly face tough questioning regarding the capacity of the government to prevent the illicit diversion of sensitive technologies.

Saudi Arabia. Similar to the UAE and Jordan, Saudi Arabia's energy demand is currently growing by 8 percent annually—the new demand for electricity has, in recent years, been as high as 10 percent.⁵⁷ By 2020 the country's electricity needs are expected to be around 60 GWe.⁵⁸ Compared to the UAE and Jordan, the energy shortage challenge is less of an immediate problem for Riyadh, partly a benefit of owning the largest oil reserves on the planet—some 260 billion barrels. This number far exceeds any other country in the region. At the same time, Saudi Arabia is a large consumer of its own oil resources, burning about one-fourth of the crude oil it produces to generate electricity.⁵⁹

Saudi Arabia depends on desalinated water more than any other country in the Middle East, but desalination projects can meet only 70 percent of the water needs today.⁶⁰ A growing population will only exacerbate the stresses on electricity and potable water. Some estimates suggest that Saudi Arabia will have to spend at least \$50 billion on water projects that require increased investments into electricity production by 2020.⁶¹ In the past several years, the price of oil has been rising, and the opportunity cost of continuing to burn fossil fuels for domestic power production is going up

in parallel. These are key factors in the country’s decision to pursue a civilian nuclear power program. According to officials in Riyadh, “[t]he development of atomic energy is essential to meet the Kingdom’s growing requirements for energy to generate electricity, produce desalinated water and reduce reliance on depleting hydrocarbon resources.”⁶² Again, while financial resources are not lacking, securing both the technical capacity as well as global confidence in the country’s ability to ensure the nonproliferation of sensitive technologies will be central to successful implementation of Riyadh’s diversification strategy.

Notwithstanding the dire current and future need for energy resources in the Middle East, to realize nuclear aspirations a country must, as noted above, be willing to accept significant financial investments, long-term commitments, and significant nonproliferation responsibilities. The table below demonstrates the implementation and compliance status of several Middle Eastern countries as it pertains to various aspects of the nonproliferation regime.

Table 2: Implementation of the Nonproliferation Regime in the Middle East

Country	1540 Report	NPT	Safeguards		CNS	CPPNM	Waste	Liability
			CSA	AP				
Bahrain	Yes	Yes	SQP	B	No	Yes	No	No
Egypt	Yes	Yes	Yes	No	S	No	No	VC
Iran	Yes	Yes	Yes	S	No	No	No	No
Iraq	Yes	Yes	Yes	S	No	No	No	No
Israel	Yes	No	No	No	S	Yes	No	VC (S)
Jordan	Yes	Yes	SQP	Yes	Yes	Yes	No	No
Kuwait	Yes	Yes	SQP	Yes	Yes	Yes	No	No
Lebanon	Yes	Yes	SQP	No	Yes	Yes	S	VC/CSC
Oman	Yes	Yes	SQP	No	No	Yes	No	No
Qatar	Yes	Yes	SQP	No	No	Yes	No	No
Saudi Arabia	Yes	Yes	SQP	No	Yes	Yes	No	No
Syria	Yes	Yes	Yes	No	S	No	No	No
Turkey	Yes	Yes	Yes	Yes	Yes	Yes	No	No
UAE	Yes	Yes	SQP	S	Yes	Yes	Yes	No
Yemen	Yes	Yes	SQP	No	No	Yes	No	No

B = Approved by IAEA Board of Governors; 1540 Report = Report to Committee pursuant to UN Security Council Resolution 1540; NPT = Treaty on the Non-Proliferation of Nuclear Weapons; CSA = Comprehensive Safeguards Agreement with IAEA; SQP = In addition to a CSA, the country also has in place a Small Quantities Protocol with the IAEA; AP = Additional Protocol with IAEA; CNS = Convention on Nuclear Safety; CPPNM = Convention on the Physical Protection of Nuclear Material; Waste = Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management; VC = Vienna Convention on Civil Liability for Nuclear Damage; CSC = Convention on Supplementary Compensation for Nuclear Damage. *Table styled after Squassoni, Sharon, “Nuclear Energy: Rebirth or Resuscitation?” 2009, Table 10. Source: IAEA.org, retrieved July 20, 2010.*

A host of domestic programs and international assistance efforts to address the energy-resource shortages in the Middle East are ongoing and include:

- Domestic initiatives, including strategic energy-diversification programs.⁶³
- Planning assistance from international organizations focusing on balancing the national energy mix.
- Bilateral development aid specifically focusing on electricity and water shortages.
- Multilateral and bilateral assistance programs to ensure safe and reliable nuclear energy programs.
- IAEA technical assistance and cooperation programs, including planning and preparatory studies and activities to establish an adequate basis for program launch, and establishment of a schedule for implementation.
- Country-specific assistance in project management and related activities.
- Training opportunities in specialized nuclear fields, including power project construction and operations management, siting, safety analysis and review, safety and reliability in operation, and quality assurance, as well as targeted on-the-job training opportunities.

Identification of alternative sources of energy will be critical to ensuring economic security and long-term development in countries across the Middle East. In the case of nuclear power, attendant security concerns threaten to derail nearer-term progress in the face of declining confidence in the ability of governments to ensure the inviolability of the nonproliferation regime. Given the interconnectedness of energy diversification to key development and economic security concerns, including water scarcity, rigorous nonproliferation standards could be seen by some to be in direct conflict with the fundamental needs of the region.

Transnational Crime: Illicit Financing, Border Security, Trafficking, and Export Controls

Global concern over the civilian nuclear power renaissance in the Middle East are in part driven by recent evidence of governments' inability to effectively prevent the illicit use of financial and transit networks to circumvent global crime-control regimes. Although this is a global phenomenon not unique to the Middle East, the confluence and concentration of interest in nuclear power development, best exemplified by the case of Iran, has dramatically raised the bar for exculpatory evidence of positive intent. Thus the transnational crime afflicting the region not only threatens the stability and economic well-being of individual governments, it presents wider concerns that ultimately threaten parallel areas of national policymaking—including energy diversification.

Illicit Finance. Dubai has long enjoyed a reputation as a free-trade paradise. The city-state is one of the seven emirates that make up the United Arab Emirates, and in recent years it has sought to establish itself as an international capital market comparable to London, Hong Kong, or New York. Today Dubai hosts 28 specialized free-trade zones, and eight more are planned.⁶⁴ The largest is the Dubai International Finance Centre, which offers investors incentives such as zero tax on income and profits, full foreign ownership, and minimalist registration and accounting requirements. Yet the diminished oversight that has fueled the lucrative and hyper-efficient trade through the region has also given rise to significant levels of money laundering and the illegal transshipment

of contraband. In the past, terrorists, drug cartels, pirates, and smugglers have all made Dubai a waypoint for their illicit activities.

Although the UAE Central Bank has vehemently denied that its nation remains a money-laundering center following enactment of dozens of new financial reform laws, mounting evidence suggests that Dubai remains a favorite locale for illicit financiers.⁶⁵ The US Department of State, the International Monetary Fund, and the Financial Action Task Force (FATF) have all criticized the emirates' incomplete policies and lax enforcement.⁶⁶ Even the director of supervision at the Dubai Financial Services Authority admits that “[t]here’s an inherent conflict between the ease of doing business and the potential for money laundering.... The easier it is to open a business, the easier it is for money launderers.”⁶⁷ Media reports suggest that Dubai has become a home for Indian, Iranian, and Russian mafia kingpins, who use the free-trade zone to launder their profits.⁶⁸ There have also been suggestions that Dubai is home to organizers of several Somali piracy operations.⁶⁹

One way the money could have slipped through Dubai is the practice of *hawala*—“transfer” in Arabic.⁷⁰ Dubai and *hawala* have been critical to Al Qaeda operations and the resurgence of the Afghan drug trade. “It’s quite open among the diaspora of Afghans and *hawaladars* that the favorite hidey hole for money is Dubai,”⁷¹ one senior UN official told the US Senate Committee on Foreign Relations. In 2003 the UAE passed a law requiring the registration of *hawala* dealers, but the state has only gone so far as to provide for the registration of *hawaladars* on a voluntary basis. Under this arrangement, the Central Bank cannot conduct noncompliance inspections or sanction violators.⁷² The UAE has been cited for wire-transfer policies that “fall well short” of FATF requirements and ineffective responses to couriers arriving from Afghanistan with large amounts of cash.⁷³ The 9/11 Commission Report found that both *hawala* and wire transfers from Dubai were used by Osama bin Laden and the Al Qaeda hijackers.

Not only does this make Dubai a target of international condemnation, but illicit finance ultimately has a corrosive effect on the legitimate financial services operated by the emirate. Preventing the illegitimate use of the financial system is therefore in the long-term economic interest of the government and of the region. Over the past decade in particular, the UAE and other governments across the Middle East have sought the technical and, in some cases, financial support necessary to develop and promote national measures to combat money laundering and terrorist financing through the FATF and the Middle East & North Africa Financial Action Task Force.

Border Security. The Middle East is an extremely boundary-dense region, with more than 10,500 kilometers of internal borders between 14 nations.⁷⁴ The sheer number of borders, desolate nature of the terrain, and wide disparities in GDP have made ensuring the security of these boundaries extremely challenging for some governments across the region. Like illicit finance, border insecurity is not just an issue in and of itself; it can undercut the foundations of national development more widely. Trafficking in drugs and people erodes the rule of law, which can have broader effects on civil society. Terrorists may target the levers of government directly and enlist fear, which can degrade the social capital necessary to engage in development projects. Illicit trade deprives the state of duty revenue that could fund public works. And all three ills can negatively impact the security of neighbors, who may experience trafficking, instability, and illicit trade spilling over their borders.

Maintaining physical territorial integrity is the most basic element of border security. Even the strictest of entry laws offer little protection against an unguarded border. Furthermore, in a more tightly connected world in which some countries have stricter border controls than others, illicit activity will often follow the path of least resistance. Insurgents and terrorists are some of the clearest

violators of border controls. Houthi rebels on the Yemeni-Saudi Arabia border are one case in point. The group has staged insurgency operations from Yemeni-Saudi border areas since 2004.⁷⁵ In late 2009, Houthis crossed the border from Yemen and attacked a Saudi guard post, killing one and prompting a large land-based and aerial retaliation from the Saudi military. The swift response suggests that the Saudis expected the fighting to spill over the border.⁷⁶ Though a fragile cease-fire was brokered in February 2010, fighting had broken out six times in the previous six years.⁷⁷

While an insurgency like that in northern Yemen is internally destabilizing, and may even have regionwide security implications, perhaps its greatest effect is the co-option of resources of the counterinsurgent force, leading to a security vacuum in other parts of the country. As Al Qaeda comes under ever more pressure along the Afghanistan-Pakistan border, many—both Western analysts and Jihadi message boards themselves—predict that Yemen, preoccupied by the Houthis, will be the next location where the group can flourish.⁷⁸ The group has maintained a foothold in the country for nearly 20 years, but recently coalesced into a more organized Al Qaeda in the Arabian Peninsula (AQAP).⁷⁹ AQAP exploits Sana'a's limited effectiveness, as well as domestic cultural and political cleavages, to operate freely in the southern portion of Yemen. The attack on the USS *Cole* was orchestrated in Yemen, and AQAP has claimed responsibility for plotting Umar Faruk Abdulmutallab's attempted Christmas Day attack on a Northwest Airlines flight from Amsterdam to the United States.⁸⁰

Likewise, the Iran-Iraq border has emerged as a critical boundary for terrorist movement. In March 2010, General David Petraeus, then commander of US Central Command, wrote that “[t]he Iranian regime has also attempted to thwart international efforts to bring stability to Iraq, Afghanistan, and the broader region.”⁸¹ Iran's Qods force, a special unit of the Revolutionary Guard, funds and arms militant groups in Iraq and facilitates the movement of Al Qaeda between Afghanistan and Iraq.⁸² The inability of governments to adequately police their borders, leading to the relative free movement of criminals and terrorists across national boundaries, presents pressing security concerns not only for governments of the region but for the world as a whole.

Drug Trafficking. Drug trafficking is another border-security issue in the Middle East. Traffickers short-circuit nearly every aspect of border security—either by breaching border control, beating cargo inspectors, corrupting enforcement authorities, or a combination of the three. The vast sums of money involved in the drug trade give traffickers the resources to develop complex methods to thwart counternarcotics officials. The relative security of drug-trafficking networks makes them attractive carriers on which to piggyback other illicit goods. Conversely, as other networks become more sophisticated, they may begin to transport drugs.

Networks that began as terrorist supply routes through Iran into Iraq have picked up a second role as trafficking routes. One Iraqi politician said “[n]ow the terrorists are bringing the drugs with them.”⁸³ The drug trade is flourishing in Iraqi cities on the Iranian border, where drugs travel across Iraq to the Saudi Arabian border and the Gulf states.⁸⁴

Emirati law allows the death penalty for convicted drug traffickers, but this only seems to have limited deterrent value. The International Narcotics Control Board, a UN agency, warns that “several countries in [the region], in particular the United Arab Emirates, have become trans-shipment areas for large consignments of ephedrine destined for Africa and North America.”⁸⁵ The UN Office on Drugs and Crime listed Dubai as a stop on one of the world's three largest drug-trafficking routes.⁸⁶ The UAE does regularly incarcerate traffickers, but much still evades the government's best efforts at interdiction.

Dual-Use Technologies. Like its national financing law, the UAE’s export-control law has long been ill-defined and underenforced.⁸⁷ For years Pakistani nuclear scientist A. Q. Khan and his illicit nuclear network used Dubai as an intermediate port of call to evade the global export-control regime. Among other things, Khan used the free-trade port to mask the shipment of uranium-enrichment components to, for example, Iran, Libya, and North Korea.

Though perhaps the most notorious example, Khan’s network was just one of many that take advantage of weak UAE export law. Other notable busts include the 1996 revelation of a scheme to deliver impregnated alumina, useful in the production of chemical nerve agents, to Iran, and the 2001 news of a ring that illegally re-exported 70 million cigarettes to the United Kingdom.⁸⁸ When questioned, the accused merchant defended himself by claiming that he was acting according to the “time-honoured business tradition of Dubai...which is an entrepôt centre for goods being imported for re-export.”⁸⁹ Since the breakup of the Khan network, Iran is known to have developed its own smuggling channels through Dubai to procure sensitive nuclear technology and deliver bomb components to insurgents in Iraq.⁹⁰

Sensing the importance of Emirati export controls as a lever against Iran, the Bush administration began to apply significant pressure on the UAE to strengthen its export controls. In February 2007 the US Department of Commerce announced that it was considering developing a list of “Destinations of Diversion Concern,” which, while no specific countries were mentioned, was generally assumed to be aimed at the UAE.⁹¹ By August the UAE had a stricter export-control law in force. Authorities shut down 40 noncomplying businesses soon after, and the United States never implemented the proposed list.⁹²

Enforcement appears to vacillate, though this is as much a result of limited capacity as limited political will. As of September 2009 the enforcement body created by the 2007 export-control law had not been staffed, and the necessary national export-control regulations had not been implemented. However, the UAE has stemmed illicit Iran-bound cargo with some success.⁹³ After the fourth round of UN sanctions against Iran was passed in June 2010, the UAE closed 40 firms and froze 41 bank accounts involved with illicit trade.⁹⁴

Ultimately, these interrelated security concerns not only affect the smooth and efficient operation of the legitimate economy, but they have raised serious questions internationally that ultimately impinge upon the regional economy as well as parallel areas of policymaking—including, as noted previously, the successful pursuit of civilian nuclear power. A lack of confidence in governments’ ability to interdict contraband or prevent the illicit diversion of sensitive items will ultimately encumber regional energy-diversification plans, economic-development objectives, and the wider security environment across the region. Therefore, a variety of domestic programs and international assistance efforts to address perceived weaknesses and capacity shortfalls related to illicit trafficking and finance, border insecurity, and inadequate export controls have been developed across the region. They include:

- Counterterrorism initiatives to disrupt AQAP.
- Information-sharing efforts to stem the flow of human trafficking through the Gulf region.⁹⁵
- Military assistance to physically secure Middle Eastern borders.
- Multilateral and direct assistance to improve financial regulations.

- Tighter enforcement of current trafficking and financial legislation.
- Cooperation on WMD nonproliferation programs.
- Increased prosecution of traffickers.

Although some international observers have questioned some Middle Eastern governments' commitment to preventive efforts related to certain of these objectives, it is clear that each of these threats poses a direct challenge to the long-term stability of Middle Eastern countries, and hence they are high priorities for all governments of the region.

Regional Proliferation of Nuclear Weapons

Middle Eastern governments are all—albeit to various degrees and for various reasons—concerned about the prospects and implications of the further spread of nuclear weapons in the region.⁹⁶ The threat posed by proliferation has loomed in the Middle East for decades. Israel developed nuclear weapons in the late 1960s, and throughout the 20th century over half a dozen countries in the Middle East have either pursued or considered acquiring a nuclear weapons capability—a rather common trend, as many people feared widespread and worldwide proliferation throughout the Cold War.⁹⁷ To date, however, Israel remains the sole nuclear power in the Middle East, while countries like Egypt have become steadfast advocates for nonproliferation and nuclear disarmament. Egypt, among others, has for years led efforts in the region and around the world to organize a conference on a nuclear free Middle East. During the 2010 Nuclear Non-Proliferation Treaty (NPT) Review Conference, Egypt's and other Middle Eastern countries' efforts bore fruit as the United States endorsed such a gathering, which is prospectively due to take place in 2012.

In recent years, the nuclear weapons proliferation threat has been most clearly illuminated by the alleged development of nuclear arms in Iran. A complete review of developments with regard to the Iranian nuclear weapons program in recent years, as well as comprehensively discussing the potential implications of a nuclear Iran, is beyond the scope of this report. But a few key points are important to highlight. Countries in the region worry that a nuclear Tehran could lead to a regional arms race or war, threaten prospects for continued economic prosperity and national development, and upset the balance of power as Iran gains increased influence in the neighborhood. With regard to the latter point, major players in the region, including Saudi Arabia and Egypt, are especially concerned over the impact a nuclear Iran could have on the power distribution in the Middle East.

The Arab Gulf states are among the countries particularly concerned with Iranian nuclear ambitions, yet these nations face a difficult and serious strategic dilemma in seeking to deal with the prospective threat from the spread of nuclear weapons in their part of the world:

The Gulf states' ability to take action to prevent or stall [the alleged nuclear weapons development in Iran] is limited due to both a lack of capacity to affect political change within Iran and a belief that criticism of the regime today will threaten the prospects of a peaceful relationship with a nuclear Iran in the future.⁹⁸

Notwithstanding the conundrum that several regional actors find themselves in, the GCC states and Egypt and Jordan have shown a joint front against proliferation in their part of the world. For example, in 2007 these countries issued a communiqué cementing the commitment to nonproliferation, stating, "Recognizing the grave threat posed to regional and global security by weapons of mass destruction, and wishing to avoid a destabilizing nuclear arms race in the region, the partici-

pants concur that it is important to achieve the universality of the Nuclear Non-Proliferation Treaty, *and* for all parties to comply with it fully.”⁹⁹ The call for universality was likely directed toward Israel, while the appeal for full NPT compliance can be interpreted as a nonproliferation nudge vis-à-vis Iran.¹⁰⁰

Almost all of Iran’s neighbors share the fear that the development of an Iranian nuclear weapon, or that country achieving so called “break-out capability,” could lead to a regional arms race or war, which could spill over national borders and damage economies throughout the region.¹⁰¹ One analyst, basing her writing on discussions with regional officials, stated that in the case of Iranian proliferation, GCC countries “may have no other option but to enter a nuclear arms race...as a means of self-defense and as a necessary measure to protect their independence and security.”¹⁰² Saudi Arabia’s response to Iranian nuclear proliferation is a much-debated issue because it is considered particularly crucial to how other regional actors will respond. One recent report states that “[s]peculative predictions aside, history and recent policy statements suggest that if Saudi leaders decide that an Iranian nuclear weapon would have a significant deterrent effect on the United States or otherwise intolerably alter the balance of power in the Gulf, then Saudi Arabia would take decisive action to secure its national interests as it has in the past, whether unilaterally or in cooperation with other governments.”¹⁰³

Iranian proliferation could also have significant economic consequences for GCC countries and other actors. For example, “[a]s an international hub for business and banking, Bahrain’s economic success depends upon its image as a secure environment for investment and commerce,” and other GCC countries are seeking to “project an image of rapidly growing, investment-friendly, highly efficient and, most importantly, stable states. Either the outbreak of war or a new regional balance of power drastically tipped in Iran’s favor would seriously damage this carefully crafted image.”¹⁰⁴ In turn, investors may take their business elsewhere, which would seriously compromise the prospects for economic prosperity and national development.¹⁰⁵ There is also the fear that a potential US attack on Iran may result in retaliation against American military facilities in the region or other strategic targets, such as energy infrastructure in GCC countries, including Saudi Arabia, the UAE, and Bahrain.¹⁰⁶

The risk of nuclear weapons proliferation in the Middle East has been and will continue to be a top security priority for regional players and the rest of the world. Efforts seeking to combat the proliferation of nuclear weapons in the Middle East include:

- Bilateral and international programs focusing on promoting and raising awareness of implementation and compliance of key components of the nuclear nonproliferation regime.
- Financial and technical assistance from the IAEA to countries seeking to develop civilian nuclear programs or requiring safeguarding assistance of nuclear materials and facilities.
- Bilateral assistance to shore up export and border controls to prevent illicit trafficking of nuclear materials or components crucial for the development of nuclear weapons.
- Bilateral agreements (or the negotiation of them) that include foregoing enrichment and reprocessing when building a civilian nuclear program (to decrease the risk that programs at a later date do not develop a military component).
- Cooperation on WMD nonproliferation programs.

Diversifying Capacity-Building Assistance: United Nations Security Council Resolution 1540

In the wake of the A. Q. Khan affair, the growing number of countries capable of innovating, manufacturing, financing, transshipping, being taken advantage of by a proliferating state, or victimized by a WMD has become a more broadly recognized threat. Prior to the exposure of the Khan network, strategies to address WMD proliferation became evermore 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 varying motivations, all with a role to play in proliferation prevention. Nor have systematic efforts been made to fully understand or tangibly link seemingly unrelated activities at the state or substate level to the wider proliferation challenge. Moreover, strategies designed to stem supply have been 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 from the next generation of potential proliferators.

As a direct result of globalization, development, privatization, and technology modernization more countries than ever before—many of which have never been considered “WMD capable”—are forming potential links in the nuclear, chemical, or biological weapons supply chain. Meanwhile, the relative motivations of governments, private-sector companies, and even individuals in preventing such diffusion are being driven by a complex spectrum of economic or security imperatives. Thus, in this new era of proliferation, challenges related to water scarcity or border controls may be as relevant to regional proliferation exigencies as the development of nuclear power or a nuclear-armed Iran.

In response, the UN Security Council unanimously passed Resolution 1540 in April 2004, creating an opportunity to leverage hard and soft security approaches to preventing proliferation. The resolution mandates that all member states implement a set of supply-side controls related to the nonproliferation of nuclear, biological, and chemical weapons. Criminalization and enforcement provisions vis-à-vis proliferant activities within national territories are also key components of Resolution 1540. Specifically, this legally binding resolution calls upon states to:

- Adopt and enforce laws that prohibit any nonstate actor from manufacturing, acquiring, possessing, developing, transporting, transferring, or using nuclear, chemical, or biological weapons and their means of delivery.
- Develop and maintain measures to account for and secure such items in production, use, storage, or transport.
- Develop and maintain effective physical protection measures.
- Develop and maintain effective border controls and law-enforcement efforts to detect, deter, prevent, and combat illicit trafficking.
- Establish, develop, review, and maintain appropriate effective national export and transshipment controls over such items.¹⁰⁷

The resolution also established a Committee of the Security Council to report to the council on the implementation of the resolution. UNSCR 1540 further calls upon states to present a first report no later than six months from adoption of the resolution to the 1540 Committee (comprising all

members of the Security Council and supported by a group of technical experts) on steps they have taken or intend to take to implement its provisions. Recognizing that some states may require assistance in implementing the measure, Resolution 1540 includes language that encourages states with the capacity to support other countries' 1540 implementation efforts to do so. In turn, the resolution encourages states in need to request any help they deem necessary to comply with 1540's demands. Thus the resolution provides a significant opportunity for countries lacking financial and technical resources to tap into traditional security-related assistance available from donor countries to help them meet their internal economic and development goals, while simultaneously promoting and advancing global nonproliferation efforts and building international confidence.

To date, approximately 85 percent of countries have issued their first report to the 1540 Committee—the first step toward compliance with the terms of the resolution. The committee, the UN Office for Disarmament Affairs, regional organizations, and several nongovernmental organizations have exerted significant effort to raise the necessary awareness to encourage both the mandated reporting on the status of national implementation of 1540 and submission of national action plans that fulfill the mandate of the resolution. The subject of 1540 has been raised and debated at the Association of Southeast Asian Nations Regional Forum and within the Organization for Security and Co-operation in Europe, the Organization of American States, and the League of Arab States, among other regional actors worldwide. By the end of 2010, UN-sponsored implementation workshops will have been held in Argentina, China, Costa Rica, Croatia, Egypt, Ghana, Indonesia, Jamaica, the Kyrgyz Republic, Peru, Romania, Vietnam, and elsewhere. Additional awareness-raising workshops have been convened by a host of nongovernmental organizations, and the subject has found its way into the deliberations of the Senior Political Committee of NATO and the UN Conference on Disarmament Issues in Japan.

The result of these outreach initiatives has been the issuance of formal statements of support from a multiplicity of foreign ministries and regional organizations.¹⁰⁸ In addition, a greater proportion of national operating authorities are at least aware of their obligations under UNSCR 1540. The number of reports to the committee, while still not complete, has increased, even if their quality and thoroughness varies dramatically from country to country. And the 1540 Committee in New York has received sporadic requests for assistance with implementation of the resolution. At present, a number of requests sit before the committee, although many lack sufficient specificity to be actionable.¹⁰⁹

Implementation Challenges for 1540

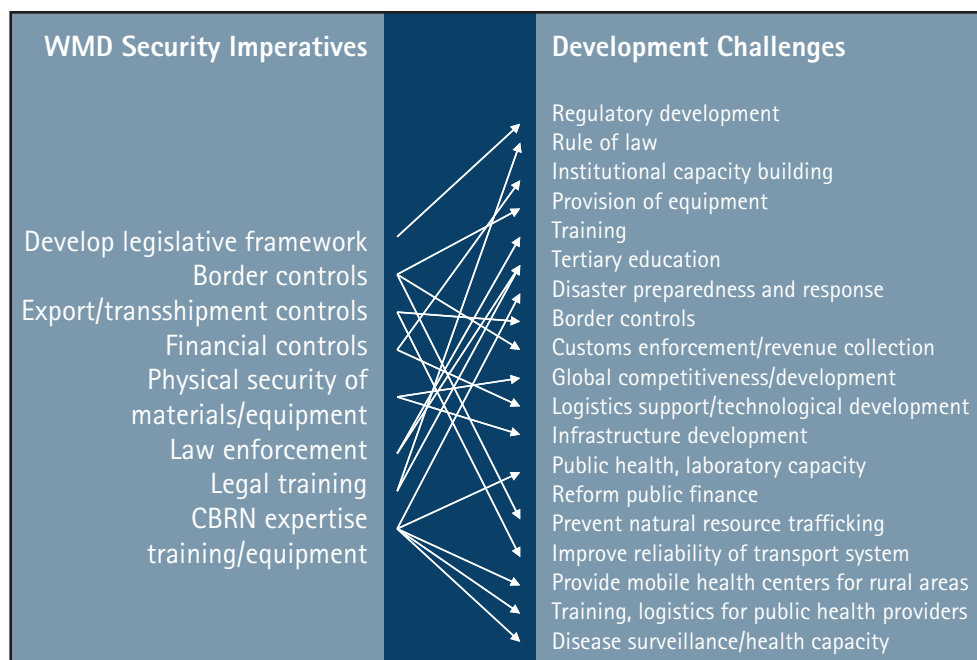
Beyond these outreach and awareness-raising efforts, some have concluded that because little material evidence of systemic implementation of the resolution is readily evident on the ground, Resolution 1540 is a moribund effort. These skeptics point out that broad swathes of the globe are plagued if not by nonreporting, then by underreporting to the 1540 Committee. The committee is itself said to be under-resourced for the herculean task it has been assigned.¹¹⁰ And perhaps most importantly, the tangible political will needed to turn 1540 from a multifaceted mandate to a pragmatic instrument of nonproliferation has more often than not been lacking on the part of potential donors and states needing assistance, where the potential for proliferation has been growing for decades.

On the part of the developing states, lack of interest in implementing 1540 is not due to rejecting the dangers of WMD terrorism; states in the Global South are simply confronted with myriad other development and national security concerns that more directly threaten citizens' well-being and quality of life: overwhelming public-health challenges, endemic energy shortages, loose financial standards, security challenges resulting from porous borders, and so on. To divert scarce resources that only assuage the WMD threat—a threat that is many times seen as more distant than other

challenges—does not make sense for leaders in the developing world. Convincing these governments to make greater and more sustainable investments in counterproliferation activities while they are threatened by a scarcity of water supplies, challenged militarily by a regional power with hegemonic aspirations, or pursuing critical and alternative energy sources, for instance, is, in short, not an easy—or even reasonable—task. In the case of governments in the developed world, leaders have often proven unimaginative in their foreign nonproliferation assistance, favoring quick “technology drop” fixes that prioritize donor concern over more sustainable and longer-term approaches that build recipient buy-in.

Despite this halting progress, where 1540 assistance has been advanced on the basis of its inherently “dual-use” benefits—that is, with both nonproliferation and regional development and security goals, such as promoting local, national, or regional needs related to economic development, public health, technological development, or citizen security—implementation of the resolution has taken a firm hold. By better understanding the modalities of implementing UNSCR 1540, dual-use benefits can be derived, thereby initiating a conversation on proliferation prevention that includes tangible efforts to address the more immediate concerns of target states. This dual-use assistance is displayed below in Figure 1.

Figure 1: Dual-Use 1540 Assistance



One area that has seen a dramatic rise in state reporting and tangible evidence of pragmatic implementation of UNSCR 1540 is the Caribbean Basin. In one year, the Caribbean as a region went from a 1540 black hole to a model for implementation of the resolution around the globe. This progress was not a result of dictating legal mandates from the Security Council, but rather is a reflection of the countries’ realization that 1540 implementation is in their best interests because it not only helps to address endemic security challenges related to the flow of drugs and small arms but also promotes their plans for economic diversification through port security and other enhancements to trade.¹¹¹ New streams of assistance are flowing into the region to meet pressing security challenges and to promote economic development and diversification. At the same time, important

steps to implement Resolution 1540 are being taken. A similar model has been applied successfully in Central America. There, the Central American Integration System (SICA), a subregional organization, has requested assistance to hire a full-time regional coordinator to assist members with reporting, devising national implementation strategies and, where necessary, identifying novel streams of assistance to meet in-country needs. Similar opportunities exist for win-win progress in the Middle East.

Responding to UNSCR 1540 With Capacity-Building Assistance in the Middle East

While all governments of the Middle East have, at a minimum, satisfied the initial reporting requirements under Resolution 1540, comprehensive implementation of 1540 remains a challenge. Iran presents an urgent challenge to the global-denial regime and international confidence in its ability to prevent proliferation. Challenges in implementing more rigorous border controls not only threaten regional stability, they further erode global preventive efforts. And more broadly, questions regarding the potential proliferation threat arising from the burgeoning nuclear renaissance in the region threaten to slow, if not derail, energy-diversification plans necessary to meet rapidly growing demand.

To ensure effective implementation of more rigorous nonproliferation around the globe, a first priority must be to correct the misperception on the part of all governments that the recitation of legal mandates will instinctively elevate the issue among the target community of either governments or the private sector. Neither financial assistance, one-off trainings, nor high-tech equipment will provide enduring solutions or long-term commitment—particularly where there are competing demands that may or may not be commensurate with instituting and maintaining the instruments of nonproliferation. Due to the overwhelming barriers to implementation, both political and economic, targeted states must begin to experience the value of receiving nonproliferation assistance beyond meeting the security concerns of the donor state. In the case of UNSCR 1540, there is a need to demonstrate the potential benefits of the resolution by first pairing assistance to urgent domestic priorities to build a foundation for effective and sustainable nonproliferation measures.

In short, appealing to the enlightened self-interest of recipient states will help foster the conditions for sustainable implementation of the resolution and provide a viable approach for holistically addressing states' political will and capacity needs, while building requisite long-term buy-in for the assistance being offered. Of course, helping to meet the states' security and development priorities should not be presented as a *quid pro quo* arrangement, but as a starting point for developing a package of assistance that will both strengthen states internally and enable them to simultaneously support broader nonproliferation goals.

Focusing nonproliferation investments, at least initially, in areas of dual-use benefit in the Middle East—namely improving border security, preventing illicit trafficking of drugs and other contraband, ameliorating the threat of illicit financial transactions and the violence it supports, and providing the technical capacity to accelerate civilian nuclear development and thus addressing growing energy demands, economic diversification goals, and the threat of water scarcity—will yield a mutually beneficial and sustainable return on investment. In addition, such an approach will promote a more enduring buy-in to wider nonproliferation efforts at the subregional, regional, and global levels.

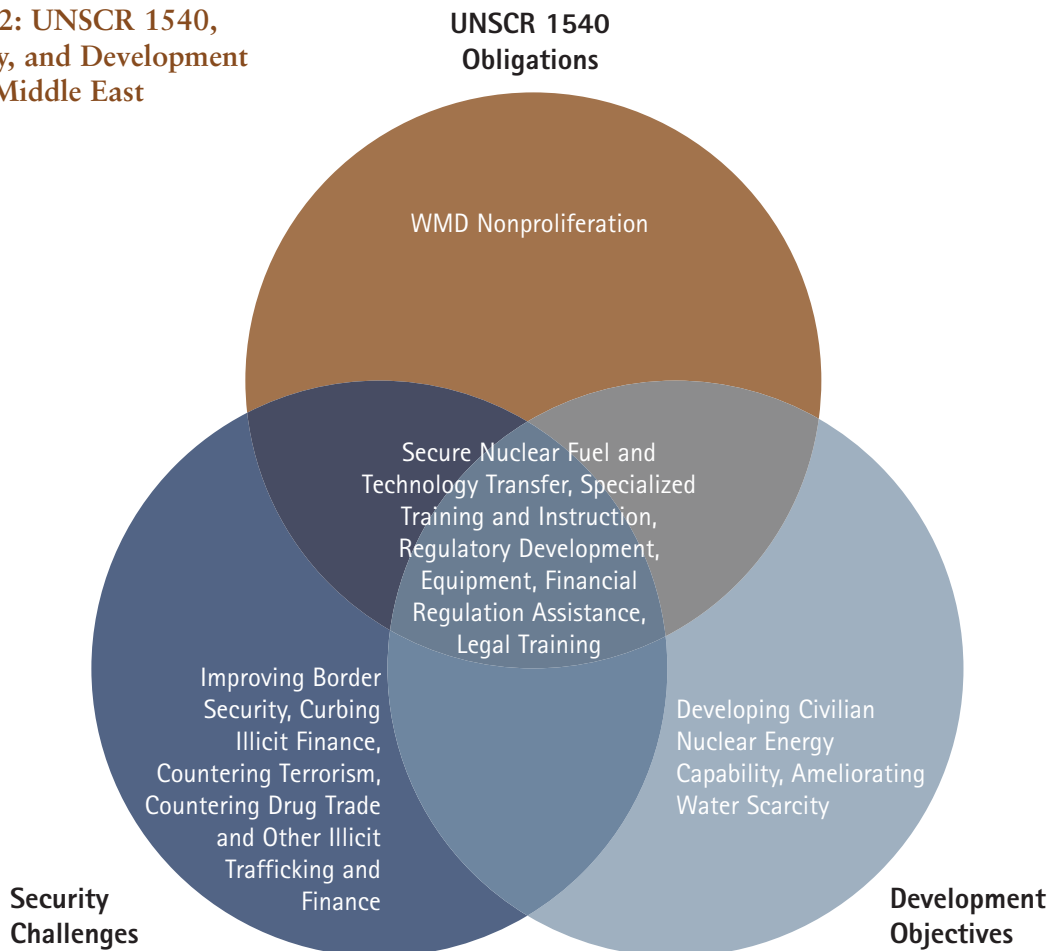
As noted, the scarcity of water in the Middle East is, at least in part, responsible for renewed interest in civilian nuclear power development across the region. For this reason, the pursuit of energy diversification is a critical element in the national economic and development strategies of regional governments. Yet enduring proliferation questions and an indigenous undercapacity in key

technical sectors pose direct challenges to achievement of these strategies. By appealing to international collaboration in key technical sectors under the auspices of UNSCR 1540 and the assistance provision therein, governments of the region could not only backfill shortfalls in pursuit of nuclear power, they could do so while simultaneously providing affirmation to the international community of their willingness to adhere to globally accepted nonproliferation standards. Such a strategy would accelerate energy-diversification options and respond directly to the enduring challenge of water scarcity; it would also solidify their participation as responsible members of the global nonproliferation community.

Similarly, enduring economic and security threats to national governments resulting from the undetected trafficking of drugs, dual-use items, and other contraband; the unchecked movement of terrorist or insurgent groups; or the illicit laundering of money call for many of the same responses necessary to fully implement UNSCR 1540. The strengthening of government capacity to inspect and interdict unauthorized transfers within and across borders, the development of legal and regulatory standards on trafficking, assistance targeted at building legal capacity, as well as the provision of inspection equipment and training at key choke points in the poorer countries of the Middle East would go far to ameliorating immediate national security challenges while reinforcing the rigor of the global nonproliferation regime.

Figure 2 demonstrates the overlapping benefits of investments in nonproliferation to both regional security and economic development needs.

Figure 2: UNSCR 1540, Security, and Development in the Middle East



With a diminishing donor base to meet these regional priorities, the international community is unlikely to witness robust implementation of UNSCR 1540 if it requires a further shift of technical and financial resources away from addressing regional security and economic development objectives. Beyond this immediate competition for resources, the wherewithal of some smaller and less affluent governments in the Middle East to allocate sufficient human resources to implementation of 1540 is questionable. Therefore, identifying innovative resource streams that can provide dual-use benefit to these governments—that is, assistance that aids with defined in-country needs while promoting global nonproliferation—and assisting with the institutional requirements of the resolution will be critical for successful implementation of 1540 across the Middle East.

Coordinating Responses and Leveraging Opportunities: Prospects for Middle Eastern Subregional Burden and Capacity Sharing¹¹²

In addition to emphasizing the role of bilateral assistance and implementation support from international organizations, Resolution 1540, and its follow-on resolutions 1673 and 1810, stresses the importance of regional implementation efforts. The current and previous 1540 Committee chairmen have continuously reiterated the utility of this option for 1540 implementation. Moreover, there is a record of support among UN member states and the Secretariat leadership for regional and subregional collaboration. For example, in 2006 then-Secretary-General Kofi Annan emphasized that implementation of UNSCR 1540 was part of the burden-sharing concept between the United Nations and regional organizations.¹¹³ In turn, and as noted above, the United Nations, independently and in cooperation with other states and organizations, has organized several regional workshops in Africa, Asia, the Middle East, and Latin America.

Implementing UNSCR 1540 through a regional approach is often more logical because the transnational nature of several of the resolution's provisions unavoidably entail cooperation between neighboring countries. The regional perspective can help ensure consistency so that efforts are not duplicated, already scarce resources do not go to waste, and one country's advances are not immediately undercut by a gap in its neighbor's implementation. The regional context provides an opportunity for states to discuss and establish, among other things, cost-sharing plans, exchange model legislation, and collaborate on enforcement mechanisms.

There is no one-size-fits-all template when considering a regional approach, but there are several effective precedents. The Caribbean and Central America have successfully utilized their regional and subregional organizations to implement Resolution 1540 and in so doing have advanced other development and security-related priorities beyond WMD proliferation. Recognizing the dual benefits and the funding available, the Caribbean Community has hired a full time regional 1540 coordinator, and SICA has requested funding to employ one in the Central American region. Both positions have been facilitated by the active engagement of the Organization of American States. The positive results for these two subregions have included increased streams of international funding at the regional and national level to support security and development objectives regarding small arms proliferation, drug trafficking, and various forms of criminality threatening human security and civil society.

The League of Arab States and the GCC are two regional arrangements in the Middle East that have either already shown interest in contributing to the coordination of 1540 implementation or are currently cooperating in areas relevant to the resolution. In the case of the League of Arab States, Radwan Ben Khadra, head of the league's legal department, noted during a UN Security Council meeting in October 2009 that his organization was considering the establishment of an office to coordinate 1540-related implementation activities among its membership.¹¹⁴ At that same meeting, Egypt's

representative stated his country's commitment to promote 1540 implementation at the regional level through mechanisms such as the League of Arab States. Following the UN October gathering, the Department of Legal Affairs of the League of Arab States organized a workshop focused on preventing terrorists from acquiring weapons of mass destruction. The meeting was attended by representatives of the 1540 Committee as well as officials from 17 Arab countries' Ministries of Justice, Interior, Foreign Affairs, and Defense. The league's legal affairs department has also recently participated in regional 1540 workshops, including seminars on the preparation of 1540 reports. It is also worth noting that the league previously asked the United Nations and its specialized security and development agencies to further engage, and increase cooperation on, regional priority issues, including many of those dual-use development and security-related matters that this report has previously highlighted—including energy, trade, finance, and water resources.¹¹⁵

Illuminating some of the areas where the League of Arab States has achieved various degrees of regional cooperation is not to say that the organization stands ready, or is willing, to adopt all of the measures previously discussed in the cases of the Caribbean and Central America. The league's membership is much larger and more diverse than the South America regional groups, and occasionally a lack of trust and tensions among Arab states have hindered cooperation on issues, including terrorism and transnational crime.¹¹⁶ However, if the proper buy-in is achieved, and the dual-use connection is sufficiently established, there may be a window of opportunity to explore regional development and security-related issues with cooperative nonproliferation within the framework of the League of Arab States (see below for pragmatic recommendations to this end).

In the case of the GCC, one analyst has suggested that because of the territorial proximity and shared economic interests of the member states, this subregional organization “would be an ideal forum to coordinate” 1540 implementation, including information exchange, lessons learned, and reporting assistance.¹¹⁷ Key regional countries seem to agree. During the 2010 Nuclear Security Summit in Washington, Saudi Arabia announced that Riyadh would host at the end of the year a 1540 workshop within the context of the GCC.

Several promising signs indicate the GCC could actively engage on 1540-related activities. For example, its 1981 founding document requires members to coordinate their import and export policies and regulations—both of which are key elements of 1540 implementation and more general economic prosperity.¹¹⁸ This statute also calls for various other forms of economic coordination that are linked to both development and security priorities of the region, but also would be useful in the context of 1540 implementation.

On terrorism and transnational issues, the GCC signed an antiterrorism security agreement in 2004 and more recently has hosted seminars that discussed regional initiatives to combat fraud and money laundering.¹¹⁹ In the energy field, the European Union (EU) and the GCC have chartered a Clean Energy Network, which will focus on efficiency and renewable sources.¹²⁰ With regard to nuclear energy in particular, the GCC has partnered with groups including the European Union and the IAEA to ensure safe and secure development of nuclear energy. In 2008, at the 18th EU-GCC Joint Council and Ministerial meeting, the two regional organizations stressed “the importance of the establishment and implementation of effective systems of national export controls in accordance with UNSCR 1540.”¹²¹ The EU and GCC built upon this call to action with a 1540 workshop hosted by Qatar in 2009 and the GCC Secretariat led a workshop on nuclear safety and security in June 2010.¹²² The GCC also engages with the IAEA on the members' various nuclear activities.¹²³

At the GCC summit in Riyadh in December 2006, member states adopted a proposal to begin investigating the viability of a joint, peaceful, nuclear program. Under the GCC Secretariat, a Gulf Team was created in 2007 to prepare a prefeasibility study conducted with the IAEA. Subsequently, the IAEA and nuclear agencies of GCC members launched a program of studies and workshops designed to assist members in establishing the appropriate legislation, infrastructure, and training to ensure standards of efficiency, safety, and nonproliferation. The second of two workshops, which trained 80 GCC delegates in establishing nuclear safety legislation, was conducted in June 2010 in Abu Dhabi.

The experiences of the League of Arab States and the GCC suggest that a regional or subregional approach for burden and capacity sharing should not be rejected out of hand, though legitimate challenges do exist. Several programs and initiatives are ongoing, and overtures toward further cooperation have been presented. Honing in on dual-use issues such as water scarcity, transnational challenges, energy, and proliferation could create the traction necessary for these organizations to take further steps. In this light, 1540 implementation should not be seen as a burden, but an opportunity to attract funding that helps relieve regional development and security challenges while at the same time moving toward compliance with the resolution.

Pragmatic activities under these regional arrangements can include assisting their members with building and coordinating national implementation plans, identifying new streams of assistance, and better leveraging that assistance to avoid the need to replicate highly specialized expertise within each national context. A full-time 1540 regional coordinator inside the League of Arab States' proposed 1540 unit would assist member states in meeting their commitments under the UN resolution; identifying gaps and opportunities for collaboration or technical capacity building; and promoting the nearer-term goals of its members, from energy diversification to preventing illicit trafficking. The overlapping memberships of the League of Arab States and the GCC might encourage a dual-hatted role for a Middle East 1540 coordinator. In the cases of the Caribbean Community and SICA, these coordinator positions have been the result of financial assistance from donor states and elsewhere and have come at no cost for the organizations or their membership.

The coordinator would be responsible for outreach efforts that would link UNSCR 1540 to the broader security and economic development mandate of the host organization(s). This individual should develop a robust workplan in close consultation with the organization's membership. Execution would begin with the regional coordinator working systematically with member states to provide updated national reports to the 1540 Committee and then initiating the development of national implementation action plans. The coordinator would be responsible for working with members of the League of Arab States and the GCC on sensitization trainings, evaluations, and compliance. The coordinator could also explore facilitating additional workshops in targeted areas of need and aiding in the development of requests for assistance to the 1540 Committee in the event of unforeseen financial gaps or capacity shortfalls. Managing these requests through the coordinator would reassure donor states that all assistance across the region is harmonized and leveraged, and would provide donors with a regional ally to promote the long-term sustainability of those investments. Ultimately, the development of a reference legal framework may prove useful for member states in adopting relevant antitrafficking and nonproliferation legislation.

Conclusion

Kofi Annan, at the end of his tenure as UN secretary-general, famously remarked that long-term security is not possible without development, and sustainable development is not achievable in the absence of security.¹²⁴ Annan's successor, Ban Ki-moon, and other world leaders and policymakers

alike, have echoed and endorsed this notion, resulting in the concept gaining considerable rhetorical traction around the globe. However, even though general agreement exists that approaching development and security challenges in tandem is an appropriate and effective course of action, pragmatic implementation of this grand and much important realization has largely failed to materialize. For example, in 2009, net development assistance worldwide was just shy of \$120 billion, while total military expenditures exceeded \$1.5 trillion.¹²⁵

In short, a deep divide remains between developing and developed countries and the relative emphasis afforded development and security priorities. Nations of the Global South necessarily prioritize development objectives and regional security concerns, such as improving public health; expanding trade; and combating human, arms, and drug trafficking. The North, comparatively, focuses the lion's share of its resources on "hard security" issues, including most notably the spread and use of WMDs.

Identifying options to bridge this development/security divide, and mutually advance domestic and international foreign policy goals worldwide, is key to sustainable development and security in the 21st century. To that end, we propose a holistic approach to leverage donor investments in security and development assistance, so as to ensure recipient state buy-in and an enduring return on donor investments. This report has identified UN Security Council Resolution 1540 as one logical multilateral mechanism to bridge the gap between developing and developed states and the development/security divide.

By implementing the proposed dual-use approach, the Middle East can use Resolution 1540 to ameliorate serious development and security challenges that are plaguing the region—including water scarcity, rising energy deficits, transnational criminality, and risk of further proliferation of WMDs to states and nonstate actors, all key concerns for regional governments. Under the auspices of Resolution 1540, Middle Eastern states can tap into security-assistance programs and mutually advance their development and national security concerns, while still furthering the global nonproliferation regime.

Dual-use assistance includes technical and financial aid to ensure safe, secure, and proliferation-resistant nuclear power generation that can also accelerate many countries' energy-diversification aspirations, a response necessitated by water scarcity and general regional energy deficits. Preventing terrorists or insurgent groups from moving unchecked across borders, and curbing the trafficking of drugs and other contraband that threaten citizen security and legitimate business, calls for many of the same responses necessary to fully implement UNSCR 1540. And assistance provided to enhance border and export controls also facilitates efficiencies at transit hubs that, in turn, facilitate trade expansion, business development, and national competitiveness within the global supply chain. These are just three dual-use applications that directly and simultaneously address national and regional development and security priorities in the Middle East while strengthening the fight against the spread of WMDs to states and terrorist organizations.

The dual-use model has gained momentum in other less developed parts of the world, including the Caribbean and Central America, where regional organizations have played key roles in furthering national and regional development and international security objectives using Resolution 1540. These two regions have seen increased streams of international funding and better leveraging at the regional and national levels to support security and development objectives such as countering small arms proliferation, drug trafficking, and various forms of criminality that threaten human security and civil society. While there is no one-size-fits-all template to implement the dual-use model or to

take advantage of regional infrastructures, Middle Eastern nations—which are largely far more developed than their Caribbean and Central American counterparts—are in a good position to capitalize on both.

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 patronage of national security. As can be seen, UNSCR 1540 is one logical platform upon which to base this new model for security and global development. The resolution's assistance provision has created a unique opportunity for less developed countries to begin tapping traditional security-related assistance from developed countries to meet their development goals.

New assistance pathways for a broad variety of the needs in the Middle East could be identified via the assistance template offered by the UN 1540 Committee and backed by nonproliferation donors around the world. At present, more than \$2 billion is spent annually on targeted nonproliferation assistance by G-8 and partnering governments. This funding source could be used to further the fight against the development and security-related challenges in the Middle East. Capitalizing on the dual-use nature of the assistance available in connection with implementing UNSCR 1540, governments of the region have an opportunity to show that they can help donor states better leverage diminishing assistance dollars. Using 1540 as a tool for increasing current assistance and pinpointing new sources of assistance are steps toward coming to grips with development and security issues in the Middle East and ultimately realizing national aspirations as well as regional potential.

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- ⁶⁹ Kim Sengupta and Daniel Howden, "Pirates: The \$80m Gulf Connection," *The Independent*, April 21, 2009, <http://www.independent.co.uk/news/world/africa/pirates-the-80m-gulf-connection-1671657.html>.
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represents a ripe opportunity for money laundering because the communications between dealers leave little to no paper trail in the formal banking industry.

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- ⁷² Middle East and North African Financial Action Task Force, “Mutual Evaluation Report: Anti-Money Laundering and Combating the Financing of Terrorism: United Arab Emirates,” April 9, 2008: 11.
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- ⁸⁷ Stein.
- ⁸⁸ Christopher Davidson, “Dubai: The Security Dimensions of the Region’s Premier Free Port,” *Middle East Policy*, Vol. XV, No. 2, Summer 2008: 145; and Elena McGovern, “Export Controls in the United

Arab Emirates: A Practical Manifestation of a Strategic Dilemma,” *WMD Insights*, February 2009, http://www.wmdinsights.com/li30/li30_me1_exportcontrols.htm.

⁸⁹ Davidson, “Dubai.”

⁹⁰ McGovern, “Export Controls.”

⁹¹ Christopher M. Blanchard and Paul K. Kerr, “The United Arab Emirates Nuclear Program and Proposed U.S. Nuclear Cooperation,” Congressional Research Service, December 23, 2009.

⁹² McGovern, “Export Controls.”

⁹³ Blanchard and Kerr, “United Arab Emirates.”

⁹⁴ “UAE freezes 41 UN-banned Iran Accounts: Report,” *AFP*, June 28, 2010, http://www.google.com/hostednews/afp/article/ALeqM5gOSnI7exLZZv-WQx-GiJoN75YP_Q.

⁹⁵ “Bahrain: ‘Human Trafficking at the Crossroads,’” UN Global Initiative to Fight Human Trafficking, <http://www.ungift.org/ungift/en/stories/bahrain-at-the-crossroads.html>.

⁹⁶ Israel is widely understood to possess a small nuclear arsenal, but its national policy is to not acknowledge these arms.

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⁹⁸ McGovern, “Export Controls.”

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¹⁰⁶ *Ibid.*, see sections on Saudi Arabia, the UAE, and Bahrain.

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