

“Nuclear proliferation is neither out of control nor inevitable. The tools required to reduce the demand for nuclear weapons exist and remain effective if they are used constructively by the United States and other concerned countries. But if these tools are left unused, . . . [the] dominos could start toppling.”

Asia's Nuclear Dominos?

JON B. WOLFSTHAL

The United States director of Central Intelligence, George Tenet, testified before Congress this February that the United States was entering a “new world of proliferation.” “Demand makes the market,” Tenet warned senators from the Intelligence and Armed Services committees; the “domino theory” of the twenty-first century may well be nuclear.”

Nowhere do these grave predictions have a greater chance of coming true than in Asia. Five of the world's eight nuclear-weapon states (China, India, Israel, Pakistan, and Russia) are in or near Asia and the three most likely candidates for joining that club (Iran, Iraq, and North Korea) are in that region as well.¹ How the United States handles the nuclear crisis in North Korea will play a large role in determining if Tenet's theory proves correct.

Although compelling, the CIA director's testimony was incomplete. A critical component missing from the ongoing debate about whether proliferation is spiraling out of control are efforts to understand why countries choose to acquire nuclear weapons and why they sometimes decide to abandon nuclear programs. An understanding of these dynamics is critical if effective policies are to be devised to stem proliferation before it occurs.

Moreover, while Tenet's predictions may prove true, his premise—that this process is new—is incorrect. What we are seeing today in Asia is the result of trends that date to the dawn of the nuclear

age (in many cases, the underlying causes for proliferation predate the twentieth century). “Demand” does make the market, but that demand comes as much from historical and cultural rivalries as from modern security concerns or ambitions. In addition, the world has seen previous “spikes” in proliferation when experts and leaders were convinced that a wave of proliferation was threatening to wash over the global security system. In the early 1960s President John F. Kennedy foresaw dozens of nuclear states by the mid-1970s. This prediction did not come to pass because of concerted efforts by the United States and others to reduce the supply of and demand for nuclear weapons in at least 12 countries—efforts that need to be redoubled if future progress is to be made. Fatalistic warnings may convince policymakers to abandon diplomatic nonproliferation efforts to prevent the spread of weapons and instead rely solely on responsive means to deal with proliferation after the fact.

MANAGING PROLIFERATION

Despite the recent nuclear acknowledgments in India and Pakistan, proliferation remains—for now—a well-defined and manageable security issue. Handled well, the expansion of the nuclear club can be prevented or delayed until larger political trends can reduce the demand for such weapons. Handled poorly, proliferation can expand rapidly, destabilizing entire regions and greatly increasing the risk of an actual nuclear exchange.

That the past decade has seen a renewed wave of proliferation is beyond debate. Prior to 1998, when India and Pakistan tested nuclear weapons, the last entry into the nuclear club was Israel in the late 1960s. The 1970s and 1980s saw only marginal levels of proliferation, marked mainly by South Africa's nuclear program (which it publicly acknowledged and then dismantled in the 1990s) and ongoing

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¹The world's other nuclear powers are the United States, Britain, and France.

efforts by India and Pakistan to acquire nuclear materials and expertise.

The proliferation of nuclear weapons was and remains a slow process, one that affords countries like the United States time to reduce the demand for weapons. Nuclear programs can be delayed by efforts to restrict the flows of critical technologies, as well as by diplomatic means. Such efforts were successful in stopping nuclear programs in states like South Korea and Taiwan, and in buying time for internal dynamics to reduce the desire for weapons in Argentina and Brazil. Since the 1960s, more countries have actually given up nuclear weapons and programs than have acquired them. Clearly, traditional nonproliferation means can be effective.

The late 1990s appeared to reverse that trend. India and Pakistan entered the nuclear weapons club in 1998 when both countries conducted a series of nuclear tests. The two countries followed these tests with steps to institutionalize their nuclear weapon arsenals and expand their delivery capabilities. It is now known that at about the same time, North Korea embarked on a secret uranium-enrichment program to replace the plutonium-based nuclear program it had frozen in 1994 by agreement with the United States. This agreement had given hope that traditional tools remained relevant in stemming proliferation, even in difficult cases like North Korea.

Other countries investigating their nuclear options, such as Iran and Iraq, continued to seek and acquire the necessary technology and facilities during the 1990s. Iraq was within a year or two of producing a nuclear weapon before the start of the 1991 Persian Gulf War, and has retained an interest in these weapons since. Iran is actively working to produce a self-sustaining weapons program insulated from traditional nonproliferation tools, such as the denial of essential technologies.

Why have some countries continued to pursue nuclear capabilities when others have ended their efforts? The main motivations for possessing nuclear weapons are well known and can be divided into three categories: offensive, defensive, and nonmilitary. Understanding the motives behind a country's pursuit of nuclear weapons is critical if attempts to reverse or diminish the demand for such weapons are to succeed. For those countries intent on acquiring nuclear weapons for offensive purposes, demand-side efforts may not produce results without drastic steps, such as regime change or military alliances with potential enemies. For

those states that pursue weapons for defensive purposes, other tools, such as security assurances, conventional military transfers, and diplomatic initiatives to reduce points of conflict, have been successful in the past. It is the nonmilitary components of proliferation, however, that are often most difficult to address. The pursuit of nuclear weapons as a symbol of national power or status or for internal political benefits are difficult motives to change and not easily countered.

The most recent and important cases of nuclear proliferation are in South Asia and North Korea. The Indian and Pakistani nuclear programs are important not only because they represent the most likely nuclear flashpoint in the world, but because these programs continue to have an effect on weapon programs in other countries, including North Korea. By examining these cases, it is possible to better understand how proliferation trends have developed and where they may be heading.

INDIA'S ACTION . . .

The rivalry between India and Pakistan continues to pose the most likely risk of a nuclear exchange. Each side is taking steps to expand and institutionalize its fledgling nuclear arsenal. Underlying questions remain about how quickly and how far their arms race will expand, and how well each country can safeguard its arsenal against the accidental launch or theft of weapons and weapons material. India's and Pakistan's motives for acquiring nuclear weapons are very different, but their continued pursuit of advanced nuclear capabilities threatens to further destabilize an already dangerous regional standoff.

India possesses the components to rapidly produce and deploy a small number of nuclear weapons and has generated enough weapons-grade plutonium to make between 50 and 90 nuclear weapons. India is thought to have produced between 225 and 370 kilograms of weapons-grade plutonium and a smaller but unknown amount of weapons-grade uranium. It continues to generate nuclear materials for use in weapons and has not publicly stated how many weapons it has or ultimately plans to produce.

India is also pursuing an advanced missile capability and has conducted several tests of its shorter-range Prithvi and intermediate-range Agni missiles (the Prithvi has a range of between 150 and 250 kilometers; the Agni's range is between 2,000 and 2,500 kilometers). Both are capable of carrying nuclear warheads and are part of India's long-term

ambitions to develop a space launch capability and an intercontinental-range ballistic missile.

India's decision to pursue a nuclear weapons program stems from its long-standing desire for great power status, as well as its military conflicts with nuclear-armed China and Pakistan. Former Foreign Minister Jaswant Singh has explained that with the nuclear tests of May 1998, India achieved a "degree of strategic autonomy by acquiring those symbols of power . . . which have universal currency." More recently, the open demonstrations of its nuclear (and missile) capability have been driven by internal partisan politics, with the ruling Bharatiya Janata Party (BJP) using the nuclear weapons card as a symbol of India's strength and as part of its agenda of Hindu pride and nationalism. Although India's program—began in the 1960s—initially was driven largely because of tensions with China, over the past decades the country's nuclear ambitions have been increasingly focused on its open hostilities with Pakistan.

These multiple reasons for India's program explain, in part, why efforts to prevent India's acquisition of nuclear weapons were unsuccessful. Indeed, India's nuclear ambitions have been clear for some time. India's decision to conduct a "peaceful nuclear explosion" in 1974 demonstrated a basic capability to produce weapons and led to a set of major revisions to the international nuclear nonproliferation regime. But despite attention from American and international policymakers, India's program continued to advance. In hindsight, no combination of military or financial assistance, technology denial, or outside pressure or coordination may have been able to overcome India's international and domestic motives for acquiring nuclear weapons. Even if India's security concerns about China or Pakistan could have been addressed, its desire for great power status and the domestic motives of the BJP may have proved too great for any nonproliferation regime.

. . . AND PAKISTAN'S REACTION

Pakistan possesses the components and material to quickly assemble a small number of nuclear weapons and has produced enough weapons-grade uranium to make as many as 50 nuclear weapons. Pakistan is also thought to possess enough weapons-grade plutonium for three to five weapons. Pakistan's nuclear weapons are reportedly stored in component form, with the fissile core separated from the nonnuclear explosives. Where Pak-

istan stores its fissile material and warheads is unclear. Like India, Pakistan has not joined the Non-Proliferation Treaty (NPT) or the Comprehensive Test Ban Treaty.

Pakistan has also acquired ballistic missiles capable of carrying nuclear weapons. These systems, unlike India's, were purchased from other countries, including China and North Korea. The longest-range missile in Pakistan's arsenal, the Ghauri II, may be able to travel over 2,000 kilometers.

Pakistan's nuclear program has been developed almost exclusively as a counterweight to India's size and conventional military superiority and in response to India's own nuclear program. This can be seen in the growth of Pakistan's nuclear program following the 1974 Indian nuclear test. For many years, however, Pakistan's program was couched in terms of pursuing an "Islamic bomb," reflecting in part the attempt by Pakistani rulers to position the

country as a leading voice in the Muslim world. As the program came to fruition, it became clearer that Pakistan did not have an active interest in shar-

ing its new achievement with its Muslim brethren or in allowing its nuclear weapon capability to become entangled in the Arab-Israeli conflict.

India's conventional and later nuclear capabilities clearly drove Pakistan's program. American efforts to reassure Pakistan about its security—through both political alliances and even sales of advanced conventional military equipment—were unable to keep Pakistan from going nuclear after India's nuclear tests in 1998. Yet the effort to prevent Pakistan from acquiring the ability to produce nuclear weapons actually failed years earlier, possibly in the late 1980s, when the United States tried to isolate Pakistan (this effort included a cutoff of United States military assistance to Pakistan after 1989). That effort, in fact, may have even intensified Islamabad's nuclear program. India's conventional superiority, Pakistan's economic plight and international isolation, and Pakistan's need to counter India's nuclear moves were too much for any nonproliferation efforts to overcome.

Today, the dynamics of Pakistan's weapons program have shifted, in large part because of the broader United States-led war on terrorism and the increased concerns over Islamic fundamentalism in Pakistan. There are increasing concerns about how reliable Pakistan may be in protecting its nuclear capabilities. Immediately after September 11, the

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stability of Pakistan as a state was questioned, and fears were raised that extremist elements in the country might be able to steal or transfer Pakistani nuclear weapons or materials to Al Qaeda. More recently, it has become clear that Pakistan transferred some of its nuclear expertise to North Korea in exchange for ballistic missiles. Washington refuses, however, to confirm the transfer; any such exchanges would have taken place in the past, and Pakistan has issued assurances that no future transfers will occur.

THE NORTH KOREA CRISIS

Although not immediately clear to the casual observer, the nuclear dynamic between India and Pakistan could play out in East Asia. While India's nuclear program is geared primarily toward Pakistan, its origins lie in long-standing tensions with China. In turn, China provided Pakistan with the basis for its nuclear program, including (according to some reports) the transfer from Beijing to Islamabad of a workable design for a nuclear weapon.

This connection between China and Pakistan, some two decades old, is now threatening to boomerang as North Korea continues to develop its nuclear weapons program. North Korea has reportedly been able to acquire uranium-enrichment technology and even equipment from Pakistan in exchange for ballistic missiles that were sold to Pakistan in the 1990s. This connection would be consistent with the nature of trade between Pakistan and North Korea. Ironically, this technology now threatens to destabilize all East Asia, with negative consequences for Chinese security as well.

North Korea may possess enough nuclear material to produce one or perhaps even two nuclear weapons. No conclusive evidence exists that North Korea actually possesses enough separated nuclear material to produce atomic weapons, but United States intelligence believes it to be likely. North Korea is known to hold 25 to 30 kilograms of plutonium in spent fuel produced at a research-production reactor at Yongbyon. The current state of this fuel is unknown, since North Korea expelled international inspectors in December 2002. Moreover, North Korea has refueled and restarted its research reactor, which can produce enough plutonium for one nuclear weapon per year. At the same time, Pyongyang continues to develop a uranium-enrichment capability that may be able to produce one or two nuclear weapons annually when that program starts operation, possibly by the middle of this decade.

North Korea also possesses a significant ballistic missile capability. It is the largest proliferator of ballistic missiles in the developing world and may be close to developing a missile with intercontinental range. Pyongyang is currently under a self-imposed missile flight-test moratorium, but this could end at any time, especially given the continued standoff with the United States over North Korea's nuclear activities.

Pyongyang's nuclear research program is reported to have begun as early as the 1950s, but concerns over its nuclear weapons program did not fully emerge until the mid-1980s, when United States intelligence satellites reportedly photographed the construction of a research reactor and the beginnings of a reprocessing facility in Yongbyon. In 1989 North Korea is reported to have shut down its plutonium-production reactor for approximately 100 days. This presumably would have given North Korea enough time to refuel the entire reactor and provide it with a source of sufficient nuclear material to build a nuclear device.

Pyongyang acceded to the NPT on April 18, 1985, but it was not until April 9, 1992 that the government finally approved a safeguards agreement with the agency; initial inspections to verify the accuracy of North Korea's initial declaration began a month later. North Korea informed the International Atomic Energy Agency (IAEA) as part of this initial inspection process that it had conducted a one-time plutonium-extraction experiment on "damaged" fuel rods removed from the Yongbyon reactor in 1989. The IAEA was given access to the small amount separated by North Korea (approximately 90 grams, or less than one-fortieth the amount required to build a nuclear device).

The IAEA's inspection results indicated that the North had separated plutonium in four attempts over three years, starting in 1989. The findings added weight to the allegation that North Korea had removed large amounts of fuel from its Yongbyon reactor during the 1989 shutdown.

The crisis escalated in mid-May 1994 when North Korea announced that it was planning to defuel the Yongbyon reactor. Gaining access to the fuel to be removed from this reactor immediately became an international concern for two reasons. First, the fuel contained nearly 30 kilograms of plutonium, which could be used to produce several nuclear weapons. Second, by gaining access to the fuel and taking appropriate samples, the IAEA could determine if the fuel had been in the reactor since its initial operations began in 1986, or whether the fuel was a secondary

batch, indicating that North Korea had indeed removed an entire load of fuel from the reactor during the 1989 shutdown.

As Pyongyang accelerated and completed the defueling, IAEA Director Hans Blix declared in a letter to the UN Security Council on June 2, 1994 that the “agency’s ability to ascertain, with sufficient confidence, whether nuclear material from the reactor has been diverted in the past, has been . . . lost.” There was some controversy surrounding this point, as other ways to determine the reactor’s history have since been developed and put forward.

These developments prompted the United States to circulate a proposal to the UN Security Council calling for sanctions against North Korea. The United States also publicly began discussing plans to reinforce its military presence in North Korea; growing calls were heard for United States military action against North Korea to prevent it from gaining full access to the plutonium-bearing spent fuel at the reactor.

The crisis eased after former President Jimmy Carter met with North Korean President Kim Il Sung in mid-June. The North Korean leader agreed to freeze his country’s nuclear program if the United States resumed high-level talks. These negotiations took place in July but were suspended until early August because of the sudden death of Kim Il Sung on July 9. The talks eventually led to the negotiation of an “Agreed Statement” on August 12, 1994, under which, in broad terms, North Korea agreed to dismantle the elements of its nuclear program that appeared to be linked to the production of nuclear arms in return for the supply of two less-proliferation prone light water reactors and a number of other energy- and security-related inducements.

On October 21, 1994 the crisis was resolved when the two countries signed the so-called Agreed Framework. Under the agreement, North Korea agreed to freeze and eventually dismantle its plutonium-extraction facilities in exchange for the construction of two modern light water nuclear reactors in North Korea. As part of the agreement, the United States would also provide North Korea with heavy fuel oil to replace the energy produced by its plutonium-production reactors and Pyongyang agreed to completely satisfy the IAEA’s requests for information about the history of North Korea’s nuclear activities before construction of the new reactors was completed.

The agreement held until 2002. That October Assistant Secretary of State James Kelly confronted

North Korean officials with facts that suggested North Korea was pursuing, in violation of its agreements, a secret program to enrich uranium—another material that can be used in nuclear weapons. It is now believed the bulk of the technology and material for this program was transferred to North Korea from Pakistan.

Instead of denying the claims, North Korea admitted that it was pursuing a weapons option using uranium; at the same time, it appeared to open the possibility that it would terminate this program through negotiations with the United States. In response, the Bush administration has said it will not negotiate with the North until it dismantles its uranium program; in late 2002 the United States cut off future oil shipments to North Korea—effectively ending the Agreed Framework. The decision not to engage in negotiations was taken against the advice of key United States allies in the region—including Japan and South Korea—that engagement and negotiations with the North have the best chance of shutting down the North Korean nuclear program.

North Korea reacted to the United States decision to suspend oil shipments in December by expelling IAEA inspectors, announcing its intention to withdraw from the NPT, and moving to restart its plutonium-production reactor and process its spent fuel into weapons-usable plutonium. It is not known how far North Korea has advanced toward reprocessing the spent fuel into a weapons-usable form, but United States officials predict that Pyongyang could produce enough nuclear weapon material by the end of the year for five weapons.

This standoff over North Korea’s nuclear ambitions has destabilized the entire region and threatens to spark a new wave of proliferation that could engulf Japan and South Korea, and even Taiwan in the extreme. Although North Korea appears to be pursuing its nuclear program because of concerns about its security, it is also thought that North Korea hoped to improve its financial situation by selling weapons-related technology—as it had with its ballistic missile capabilities. But North Korea’s motives remain unknown. United States policy is now set on a strategy of isolating North Korea and hopes that pressure from other states, including China, will force Pyongyang to accede to Washington’s demands. Many observers, including those that supported the implementation of the Agreed Framework, believe that this policy will only exacerbate North Korea’s sense of insecurity and that a direct policy of engagement and negotiations holds

a higher likelihood of success. At the very least, a demonstrated willingness to try engagement would make it easier for the Bush administration to line up allies in the region should it contemplate a more aggressive policy—including sanctions and even military actions—in the future.

Regardless of North Korea's motives, South Korea and Japan are directly threatened by any ongoing nuclear weapons program in the North and may be compelled to consider their own nuclear options should efforts to prevent North Korea from going nuclear fail. South Korea has already responded to North Korea's missile programs by developing a short-range missile of its own, and the new (or some future) government in South Korea could be compelled to pursue a nuclear program in response to the weapons program in the North.

Japan, which previously debated the benefits of a nuclear weapons option, may also be motivated by North Korea's weapon program to reconsider its nonnuclear position. Japan has an advanced nuclear power and research program and is widely believed to have the skills and materials to produce a nuclear weapon in months, if not sooner. South Korea is also advanced enough technologically to make a nuclear weapon in months if a decision is made to do so.

PROLIFERATION PREDICTIONS

Certain aspects of proliferation remain as true today as they were at the dawn of the nuclear age. These include:

- The greater the number of countries possessing nuclear weapons, the greater the odds that nuclear weapons will be used.
- The acquisition of nuclear weapons by one country will inevitably lead another country to desire the same weapons.
- Outside forces can slow the pursuit of nuclear weapons and diminish the demand, but any coun-

try determined to acquire nuclear weapons can do so if it is willing to invest the time and resources.

These nuclear “truths” show why, now more than ever, international efforts to prevent the spread of nuclear weapons require leadership from the United States and other key countries. If North Korea acquires nuclear weapons, the risk of nuclear war increases, as does the likelihood that still more countries will acquire nuclear weapons. The situation in North Korea threatens not only to destabilize the Korean peninsula but also to spur the acquisition of nuclear weapons in Japan. In addition, if North Korea produces excess plutonium and is willing to sell it to other countries, the predictions made by CIA Director Tenet could come true more quickly than even he imagines.

If the North Korean nuclear program can be refrozen and dismantled, much of this nightmare scenario can be avoided. The willingness of the United States to intercede—constructively or confrontationally—would reaffirm Washington's commitment to the stability and security of the region. Constructive engagement, however, would require the Bush administration to change course and negotiate with North Korea and try to better understand what prompted North Korea's nuclear ambitions in the first place. Possibly, even with engagement, the reasons for acquiring nuclear weapons cannot be adequately addressed. But with no engagement, it appears likely that North Korea can succeed in producing enough nuclear weapons for itself and to fuel arms races in East Asia and elsewhere.

Nuclear proliferation is neither out of control nor inevitable. The tools required to reduce the demand for nuclear weapons exist and remain effective if they are used constructively by the United States and other concerned countries. But if these tools are left unused, George Tenet's line of dominos could start toppling. ■