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THE "OTHER" ASIAN SECURITY ISSUE: SOUTH ASIAN NUCLEARIZATION AND OPTIONS FOR U.S. FOREIGN POLICY

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This paper argues that the issue of nuclear proliferation in India and Pakistan deserves considerable scrutiny by U.S. policy makers. This article reviews the status of South Asian nuclear and ballistic missile proliferation, discusses possible deterrence models for South Asia, and presents four broadly-conceived avenues for U.S. policy.

INTRODUCTION

While many international security analysts focus their attentions on the evolving relationship between the United States and the People's Republic of China (PRC), less frequently addressed are the security orientations of South Asia's nuclear powers. Issues of nuclear proliferation on the Indian subcontinent have major implications for both U.S. and global security. The region is by most accounts the world's most dangerous nuclear flashpoint, and the use or even large-scale deployment of nuclear weapons there would drastically alter global attitudes toward proliferation, and could result in a tragedy of immense proportions.

Ten years after the cold war's end, U.S. relations with India and Pakistan are in a state of flux. As the power of both China and India increases, the strategic orientations of these two vast nations—and the triangular relationship with a nuclear-armed Pakistan—are likewise still being formed. The new configurations that arise will be central to Asian stability or the lack thereof, and the means by which the United States

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wields its currently preponderant power could strongly influence both the tone and substance of Asia's security dialogue in the new century.

Some observers consider the current situation of territorial contiguity and weak command-and-control structures in South Asia to be inherently unstable but, in the absence of increased regional tensions, strategic stability in the region is likely to continue. Given China's strategic complacency in relation to India, and Pakistan's largely reactive posture, New Delhi's nuclear deployment decisions are perhaps key to regional stability. At present, strategic, economic, and technological factors indicate that the growth of South Asian nuclear and missile forces likely will continue to be limited in the foreseeable future.

This article reviews the status of South Asian nuclear and ballistic missile proliferation, discusses possible deterrence models for South Asia, and presents four broadly-conceived avenues for U.S. policy. The United States government has maintained a policy of nonproliferation in South Asia, a policy that seeks to "cap" or even "roll back" the region's nuclear forces and their delivery systems. Possible policy options for the United States include those which either *increase pressure* in seeking to compel greater cooperation on nonproliferation, *continue* the approach currently in place, *increase incentives* to encourage greater cooperation, and/or provide *technological assistance* to one or both countries with the goal of allowing for better managed and, therefore, safer nuclear arsenals and more stable security dynamics in the region.

BACKGROUND

US Policy Goals

For the past decade, the United States security focus in South Asia has sought to minimize damage to the nonproliferation regime, prevent escalation of an arms and/or missile race, and promote Indo-Pakistani bilateral dialogue, especially on the sovereignty dispute over Kashmir and adjacent areas. In light of these goals, the Clinton Administration set forward five key "benchmarks" for India and Pakistan based on the contents of UN Security Council Res. 1172 (June 1998) which condemned the two countries' nuclear tests. These are:

- signing and ratifying the Comprehensive Nuclear Test Ban Treaty (CTBT);

- halting all further production of fissile material and participating in Fissile Material Cutoff Treaty (FMCT) negotiations;

- limiting development and deployment of weapons of mass destruction (WMD) delivery vehicles;
- implementing strict export controls on sensitive WMD materials and technologies; and
- establishing bilateral dialogue between India and Pakistan to discuss their mutual differences.

Progress in each of these areas has been limited. Neither India nor Pakistan has signed the CTBT, and both appear to be continuing their production of weapons-grade fissile materials. The status of weaponization and deployment is unclear, but there are indications that this is occurring at a more or less steady pace. A brighter area is that of export controls. Fears that these countries, especially Pakistan, might seek to export nuclear materials and/or technologies have proven unfounded thus far. While there has been no repeat of the intense military clashes of summer 1999, tensions in Kashmir remain high, and bilateral dialogue is not occurring.

India and Pakistan have generally had very different priorities in their dealings with the United States: New Delhi tends to seek greater recognition as a major power, while Islamabad desires recognition commensurate with that of India (Rauf 1999). Yet both countries place a high value on friendly relations with Washington, especially in the area of military-to-military contacts. New Delhi has long been a strident critic of U.S. nonproliferation policy, identifying the creation of nuclear "apartheid" in the alleged US/Western disregard for Article VI of the Non-Proliferation Treaty (NPT), which calls for "good faith" negotiations aimed at achieving global nuclear disarmament (Perkovich 1998). Islamabad, too, has criticized perceived inconsistencies in U.S. policy, particularly in Washington's relative silence on nuclear weapons proliferation in Israel ("Worrying" 2000).

Actions of the U.S. Government

After the May 1998 nuclear tests, President Clinton imposed sanctions on both India and Pakistan under Section 102(b) of the Arms Export Control Act. The U.S. Congress has since granted the President authority, in the national security interest, to extend waivers on these sanctions for an indefinite period. Thus far, the President has exercised his authority to restore certain key forms of financial support for both India and Pakistan, and there have been congressional efforts to suspend sanctions entirely. Military sales to both countries continue to be banned, though the President has authority to change this.

President Clinton traveled to South Asia in March 2000, visiting numerous sites in India over a period of six days, but spending only six hours in Pakistan. Though economic issues topped the list of priorities, nuclear proliferation and regional stability were also covered, with the President urging both countries to adhere to the nonproliferation benchmarks and exercise mutual restraint. The visit produced a joint statement by President Clinton and Indian Prime Minister Vajpayee reaffirming their commitment to voluntary nuclear testing moratoria, and pledging India's continued work toward stricter export controls and negotiation on the FMCT. Other than this, no concrete progress on the nonproliferation benchmarks was made during the trip.

The President's itinerary did, however, cause many to identify a strategic U.S. shift, with the Indian Ambassador to the United States seeing "a gradual shift towards India which has been unfolding ever since Kargil and even earlier" (Shanker 2000). The Clinton Administration has taken pains to assure Islamabad that improved U.S.-India relations will not come at the expense of U.S.-Pakistan ties, and that "an enhanced relationship with India will serve Pakistan's long-term interests as well" (Inderfurth 2000b). There is as yet no consensus on whether a U.S. shift toward India is a positive or negative development in terms of regional stability, and the South Asia policies of the incoming Bush administration have yet to be enunciated.

Debate Over a Regional Nuclear and/or Missile Race

Both Indian and Pakistani government officials express a desire to avoid engaging in a costly and potentially disastrous arms race. Yet George Tenet, Director of the Central Intelligence Agency (CIA), has stated that "both India and Pakistan are developing more advanced nuclear weapons and moving towards deployment of significant nuclear arsenals" (Tenet 2000). Similarly, the Assistant Secretary of State for South Asia has expressed concern that "we are seeing the dawn of a dangerous and expensive arms race" in the region (Inderfurth 2000a). A recent Defense Department report claims that there is a "slow-speed" arms race going on in South Asia, and that tensions in the region are likely to remain high in the foreseeable future (Office 2001). The leadership of both Pakistan and especially India are reported to be under intense pressure from their respective nuclear establishments to conduct additional nuclear tests ("Pressure" 2000).

Apparent tit-for-tat ballistic missile tests in April 1999 have been viewed as evidence that an action-reaction dynamic is at work, and some believe a slow-motion and possibly accelerating arms race is underway

(Mecham 1999; Jones 1998). Others, however, think it unlikely that a nuclear arms race will occur in South Asia, especially taking note of Islamabad's repeated statements that Pakistan means only to maintain a deterrent capability and will not seek to match India in missile production (Sawhney 2000). In either case, overt nuclear weaponization by either side—most especially of their short-range ballistic missiles (SRBMs)—could be highly destabilizing, especially if significant nuclear missile forces are deployed in the absence of secure command-and-control (C2) structures. If these forces are perceived as being vulnerable to attack then one or both sides might adopt a launch-on-warning status (Joeck 1997).

One of the more dangerous scenarios is that in which India actively seeks to gain nuclear parity with China by building a larger nuclear arsenal and long-range delivery force. Moreover, some observers suggest that United States deployment of theater missile defense (TMD) systems in Asia—or a national system covering U.S. territory (NMD)—could spur ballistic missile proliferation in South Asia (see, for example, Gordon and Myers 2000; Kampani 2000; Cirincione 2000; Koblentz 1997). Another potential source of instability is the possibility that, though they may decrease the likelihood of all-out war, the possession of nuclear weapons can actually increase a country's willingness to engage in limited hostilities (see, for example, Arquella 1997). Both India and Pakistan have held military exercises which emphasize offensive, tri-service operations, and India's February 2000 "Vijay Chakra" exercises—in simulating a limited, short-duration war—caused concerns in Islamabad (Bedi 1998; "Exercises" 2000). Cross-border artillery and small-arms firing between Indian and Pakistani forces occurs on an almost daily basis along the Line of Control (LOC) in Kashmir. India views warily any Pakistani support for the Kashmiri separatist movement in India's Jammu and Kashmir state, and both sides allege occasional armed incursions across the LOC.

Current Weapons and Delivery Capabilities, and Strategic Doctrines

South Asia's condition of "existential deterrence" based on implicit (opaque) nuclear capabilities was transformed by the May 1998 tests. Since that time, security relations between India and Pakistan have to a large degree been based upon the knowledge of actual mutual capabilities. Yet both countries face internal security problems that may in some ways be more threatening to regional stability than are bilateral animosities. Such regional instability could itself increase the chances of nuclear war. Moreover, some analysts assert that an externally-oriented explanation of

nuclear weapons proliferation overlooks more fundamental political and nationalist motivators "that make attaining such weapons seem a short cut to great status for otherwise struggling states" (Perkovich 1998). As such, arsenal size and doctrinal intent are shaped by internal as well as external considerations.

Indian Nuclear Weapons. Estimates are that India possesses 25-100 nuclear bombs, with the majority of reports placing the number between 60 and 90. The report of a U.S. military-affiliated think-tank claims the arsenal amounts to a "handful" ("India's" 2000), but this estimate is viewed by most observers as too low (the great majority of estimates place the number at 25 or more (see, for example, Albright 2000; "Nuclear" 2000; Jones 2000).

It remains unclear whether any of these bombs have been deployed. While it was reported that India did deploy five nuclear-tipped missiles during the 1999 Kargil conflict (Badri-Maharaj 2000), there is no independent confirmation of this. Some sources speculate that long-term warhead miniaturization projects are probably underway, but that—in the absence of growing tensions with China and/or Pakistan—India's nuclear force will not be strengthened in the short term, and that India has not made significant movement toward fielding nuclear weapons ("India's" 2000; "Pakistan" 2000). Yet a May 2000 report from the Indian Department of Atomic Energy claims that "implementation" of a policy of nuclear deterrence "is being pursued," and the recent split of the Bhabha Atomic Research Center from the Atomic Energy Regulatory Board is seen by some as further indication that nuclear warheads for India's armed forces are currently in production (Department 2000; "Nuclear" 2000). Production of weapons-grade uranium and plutonium continues apace (see Albright 2000).

Indian Delivery Systems. India's Integrated Guided Missile Development Program (IGMDP) oversees the development of one intermediate-range and two medium-range ballistic missiles, along with short-range ballistic missile (SRBM) programs. A strategic orientation focused on China contributes to the fact that India's missile program concentrates on longer-ranged missiles than that of Pakistan. Yet a fairly extensive fleet of liquid-fueled Prithvi-I/II SRBMs is often labeled "Pakistan-specific," as the range of these missiles is only 150-250 km. India's ballistic missile efforts have been described as both more advanced and more diversified than Pakistan's (Ahmedullah 1999; Herrmann 2000).

A partially successful test of a naval version of the Prithvi took place in April 2000. India has long sought to develop a nuclear-powered subma-

rine capable of carrying submarine-launched ballistic missiles (SLBMs) and is continuing to work on miniaturizing a nuclear reactor for use at sea. One report indicates that "Russia is helping the Indian [missile] program by providing technology to fire a ballistic missile from underwater as well as giving assistance in building [a nuclear submarine]" (Koch 1999). New Delhi has also closed a deal with Moscow for the purchase of the cruiser-carrier Admiral Gorshkov and a complement of some 18 MiG-29 aircraft modified for carrier service. When deployed, the package could provide India with a future ability to execute nuclear bombing missions using sea-launched aircraft.

Despite a robust missile R&D program, India continues to rely on aircraft as potential nuclear weapon delivery platforms. The Indian Air Force (IAF) operates eighteen ground attack squadrons totaling 250-300 aircraft that would require only modest modification to deliver nuclear weapons (most air fleet data come from International 2000). The IAF's French-built Jaguar can carry a 1,000-kg weapon up to 1,400 km, allowing for coverage of most Pakistani (but not PRC) targets. In addition, the IAF operates six Il-78 tanker aircraft that might enable deep-strike bombing missions. Finally, India has negotiated the leasing of four Tu-22 long-range bombers from Russia (Programme 2000; Saradzhyan 1999).

Indian Nuclear Doctrine. Some analysts have argued that the political ascension of the BJP brought a new and more expansive security conception to New Delhi (Joeck 1999). In August 1999, some fourteen months after the Pokhran II nuclear tests and while the BJP was still overseeing a caretaker government, India's quasi-governmental National Security Advisory Board made public a Draft Nuclear Doctrine (DND) for India. The document makes the following points:

- "India shall pursue a doctrine of credible minimum nuclear deterrence."
- "India's nuclear forces . . . will be based on a triad of aircraft, mobile land-based missiles and sea-based assets . . ."
- "India will not be the first to initiate a nuclear strike . . ."
- "While India is committed to maintain the deployment of a deterrent which is both minimum and credible, it will not accept any restraints on building its R&D capability" ("Draft" 1999).

The DND has been neither approved nor rejected by the Indian government. The document may be a politically-motivated end in itself; some analysts even view it as a wish list of the more hardline factions of India's political elite (Nayar 2000; Hoyt 2000). In some ways, the Indian government seems to have "dissociated" itself from the document (Sawhney 2000). Yet its very existence as a public declaration has caused much debate, particularly on its no-first-use pledge, the claim that India will build a nuclear triad, and the envisaging of a retaliatory capability of potentially massive proportions. Moreover, the DND has done much to erode hopes that South Asian deterrence might remain in a non-weaponized form (Walker 1999; Hoyt 2000).

Both before and immediately after India's 1998 tests, senior Indian government officials made direct reference to China as the country's primary strategic adversary, and China likely will continue to be the most important factor in India's nuclear calculations (Malik 1999). India's pursuit of naval delivery capabilities, in particular the ability to tube launch nuclear-armed missiles from submarines, suggests plans to deploy a survivable retaliatory force (Gupta 1999b). This pursuit, combined with New Delhi's "blue-water" naval ambitions, indicates that China, rather than Pakistan, may be the central object of concern. India's continued development of missiles with ranges in excess of 2,500 km—far more than needed to strike any Pakistani targets—can be viewed as an effort to match PRC counter-value capabilities. (Currently, India does not have the ability to target China's eastern population centers with nuclear weapons. In contrast, China's DF-series missiles can target the entire Indian subcontinent).

Pakistani Nuclear Weapons. Pakistan is widely believed to possess 10-50 nuclear bombs. A June 2000 news report cites unnamed U.S. intelligence sources in suggesting that the Pakistani stockpile might number up to 100 bombs (and thus be larger than India's) (Windrem and Kupperman 2000), but most observers consider it unlikely that the Pakistani program has created such a large arsenal (the great majority of estimates place the number at 50 or less; see, for example, Albright 2000; "Nuclear" 2000; Jones 2000).

As with India, it is not clear whether Pakistan's nuclear weapons are deployed. Many observers view Pakistani moves in this area as minimal and say it is not likely that Pakistan has the ability to fit nuclear warheads on either its short-range M-11 or its medium-range Ghauri missiles (Baruah 2000; Cloughley 2000). One source predicts that—barring further Indian nuclear tests or growing tensions with New Delhi—Islamabad will not expand its nuclear capability ("Pakistan's" 2000).

Others believe it likely that Pakistan already has the capability to mate nuclear warheads with the short-range Hatf-1 missile, and there are reports that Pakistan fitted the medium-range Ghauri missile with a nuclear warhead as early as 1998 (Cloughley 2000; Programme 1998). At least one recent report describes Pakistan's delivery systems more broadly as "fully capable of nuclear exchange" (Windrem and Kupperman 2000). Islamabad's nuclear weapons program has long relied on stocks of highly-enriched uranium (HEU), but Pakistan also has the capacity to produce weapons-grade plutonium at its Khushab processing facility (Baruah 2000; see also Albright 2000).

Pakistani Delivery Systems. Islamabad oversees an extensive ballistic missile program that includes current development of at least three medium-range platforms and possibly an intermediate-range missile capable of traveling up to 3,500 km. Currently deployed conventionally-armed, short-range missiles are said to be more advanced than those of India, with the Pakistani missile force being described as both faster and more accurate (Cloughley 2000). Pakistan's SRBM force employs a solid propellant, making it more mobile and more quickly configured for launch than India's liquid-fueled Prithvi force. There are currently no indications that Pakistan is developing SLBM or anti-missile capabilities.

Assistance from foreign countries has played a key role in the ongoing success of Pakistan's missile programs. A September 1999 National Intelligence Estimate publicly confirmed what had long been suspected: that Pakistan is in possession of both PRC-supplied M-11 SRBMs and North Korean-supplied Ghauri MRBMs (National 1999) (the Ghauri is believed to be based on technology used in North Korea's Nodong missile). Another source indicates that virtually all of Pakistan's liquid-fueled missiles have their technological origins in North Korea, and that all solid-fueled missiles can be traced to Chinese technology (Sawhney 2000). The Pakistani government has denied receiving any recent Chinese aid, but its foreign minister recently admitted that China had supplied "a limited number" of SRBMs, adding that because Pakistan is not a member of the Missile Technology Control Regime (MTCR), it "doesn't have to answer to anyone" ("Pakistan rejects" 2000; Rashid 2000).

Pakistan, like India, must rely on aircraft as potential non-conventional delivery platforms. The Pakistani Air Force operates seven ground attack squadrons and at least 200 military aircraft with the potential to deliver nuclear weapons (most air fleet data come from International 2000). Their F-16s can carry a 1,000-kg nuclear payload up to 1,250 km, allowing fairly deep strikes into Indian territory. It has been reported that several jets may

already be equipped to carry a nuclear payload, and that F-16 pilots may have practiced the "toss-bombing" technique that would be used for such purposes ("Nuclear Forces" 1998).

Pakistan's ability to deliver non-conventional weapons does not currently extend beyond aircraft and possibly land-based missiles. With French assistance, Pakistan is building Agosta 90B submarines, and a recent report claims that—in response to India's submarine program—a secret Pakistani program is underway to develop a nuclear reactor suitable for this platform (R. Ahmed 2000). If true, this would indicate that Islamabad may intend to deploy a nuclear-powered and potentially nuclear-armed submarine force at some time in the future.

Pakistani Nuclear Doctrine. The Pakistani government has produced no document comparable to India's Draft Nuclear Doctrine, and it provides only ambiguous statements regarding its own nuclear weapons policies. Thus far, these have tended to be ad hoc responses to Indian actions (Zhara 1999). A hint of this reactive position can be found in the words of Chief Executive Gen. Musharraf:

> The rationale behind our nuclear policy is purely security and we only want to retain a *minimum credible deterrence* to deter any aggression against our homeland. Pakistan, unlike India, does not harbor any ambitions for regional or global status. We would not enter into a nuclear arms race with India and would never subject our people to economic deprivation [italics added] (quoted in Hashmi 2000).

This statement reflects Islamabad's key concern with deterring a full-scale Indian attack or, if this fails, to use nuclear weapons to offset India's conventional force advantage.

Pakistani leaders consider their country to face substantial military threats—potentially to its very existence—and planners are not fully confident that, despite Pakistan's impressive forces, a full-scale conventional war could be survived (Jones 1998). Thus, whereas India's nuclear program has been driven largely by scientific and political factors, Pakistan's progress has been spurred most centrally by military-security concerns, especially after its conventional capabilities declined in the wake of 1990 U.S. sanctions (see Arnett 1999). Pakistan's civilian political leaders have traditionally played only a marginal role in the country's nuclear decision making (S. Ahmed 1999).

The Pakistani leadership—both civilian and military—has emphatically rejected a no-first-use pledge and suggest that Pakistan would

consider using nuclear weapons first if attacked by conventional forces (Tanner 2000; Arnett 1999). This is not unexpected from the party seen to be at a numerical disadvantage in conventional forces (U.S./NATO nuclear policy similarly avoids such a pledge). Because Pakistan has fears about losing air superiority quickly in a war, ballistic missiles—potentially nuclear-armed—may have greater appeal in Islamabad than in New Delhi, and so considerable resources have been devoted to the creation of a robust missile force.

Deterrence Models

Debate over the proliferation of nuclear weapons is generally divided into two camps: "optimists" and "pessimists" (for overviews of this debate, see Sagan and Waltz 1995; Karl 1996/97). *Proliferation optimists* operate under the logic of deterrence, wherein the possession of nuclear weapons by both sides of an adversarial interstate relationship can be expected to produce stability. Put simply, mutual deterrence occurs when both sides believe that the costs of aggression or escalation are likely to outweigh the potential benefits of such action. In the Indo-Pakistani case, these analysts identify the stabilizing effects of opaque deterrence in the 1987 "Brasstacks" and 1990 Kashmir crises, claiming that these disputes would otherwise have escalated into full-scale warfare between the two countries if not for uncertainties regarding nuclear retaliation (see, for example, Hagerty 1998). Likewise, it is argued that the Kargil crisis stopped short of full-scale war due to the moderating effects of nuclear deterrence.

Proliferation pessimists, however, take the view that the spread of nuclear weapons is inherently destabilizing and dangerous, and that—even if assuming that the US-Soviet experience confirmed the logic of deterrence—nuclear dynamics in the developing world are unlikely to re-create the cold war pattern. Political and technological factors in conflict-prone areas are seen to create conditions where nuclear weapons will not produce stability and the introduction of more nuclear weapons will significantly increase the likelihood that these weapons will be used (see Sagan 1995). Regarding South Asia, these analysts point to geographic proximity, Pakistan's lack of strategic depth, short warning times, poor command-and-control structures, and historic animosity as reasons to vigorously oppose nuclear weapons and missile proliferation.

It appears that India's strategic decision making is a key factor is shaping stability in South Asia. China seems content with its existing deterrent against India, and Pakistan's limited resources constrain its ability to initiate an Indo-Pakistani arms race (Sheppard 1999). Thus, one of the

most important variables in the future evolution of South Asian nuclear proliferation is India's strategic intention in relation to China. India's defeat in a 1962 border war and China's first nuclear test two years later were central motivators for the accelerated development of India's own nuclear capability (Perkovich 1999). Today, the key question is whether India will seek to more closely match PRC capabilities or, short of that, to develop the ability to target nuclear weapons on China's eastern population centers as a way of ensuring that any Chinese conventional incursion would be "painful" for Beijing. Indeed, a strategic rivalry between India and China may well be the primary focus of Asian security analysts in the new century (Malik 1999; see also U.S. 1999).

Many analysts believe that effective nuclear deterrence—or "crisis stability"—requires the existence of a credible retaliatory capability: the ability to withstand a full-scale conventional or nuclear attack and respond with massive force. The most dangerous situation is that in which one side believes it can attack and destroy the other's nuclear forces. Thus, so long as India and Pakistan appear to be engaged in counter-value rather than counter-force targeting, nuclear dynamics should remain relatively stable. If either side fears that its nuclear forces could be lost in a preemptive attack, crisis instability could become alarmingly high.

"Strategic stability"—a condition in which day-to-day expectations of war are low—cannot be said to exist between India and Pakistan, although it does between India and China. Some analysts doubt that the Indo-Pakistani relationship will attain crisis stability in the near-term (G. Jones 2000; Ganguly 1999). Other observers claim that a limited form of deterrence—such as that currently practiced by China—can be effective even without a completely reliable and prompt retaliatory capability (Ahrari 1998). This view rests on the assumption that "bolt from the blue" counter-force strikes are extremely unlikely, and that even limited nuclear forces can create sufficient uncertainty to deter a would-be aggressor.

Most Indian planners have conceived of *minimum credible deterrence* (MCD) as a significantly scaled-down form of the massive urban/industrial retaliation envisaged under the U.S. nuclear doctrine of the 1950s, based on the ability to launch a retaliatory strike that would inflict "unacceptable damage" upon an adversary (Giles and Doyle 1996). Some independent military analysts believe India can accomplish MCD with 30-50 warheads and without arming Prithvi SRBMs. One senior Indian analyst contends that an effective nuclear triad could be constructed with only a "modest" arsenal of 150 weapons. A high-end estimate claims that, even in a "low risk" situation such as currently exists, an Indian deterrent

will require 400-500 warheads (Arnett 1999; Subrahmanyam 1999; Ramana 1999).

At the time of Pakistan's nuclear tests, that country's leading scientists were reported to believe that a credible nuclear deterrent capability against India could be achieved with 60-70 warheads. Others claim that a viable Pakistani nuclear posture could employ as few as 20 warheads (Farooq 1998; Gupta 1999a). Pakistan's military leaders are likely aware that the country lacks the economic and technological resources required for full-scale nuclear weaponization and deployment, especially if in direct competition with India (Ahmed 1999). Given that Pakistani nuclear strategy is made solely in relation to India, continued reliance on aircraft as delivery systems can serve the purpose of deterrence. While all of Pakistan's major cities are within range of Indian short-range missiles, the Pakistani SRBM force cannot target most of India's population centers ("Pakistan's" 2000; Ahrari 1998). However, one Pakistani military analyst asserts that, because nuclear weapons are "absolute" weapons, Pakistan need not match India bomb for bomb and missile for missile, but rather can take a posture based on the assumption of a "one-rung" escalation ladder (Mazari 2000). Pakistan's perceived conventional disadvantage causes its strategists to both reject a no-first-use pledge and to consider the use of tactical nuclear weapons to repulse a hypothetical Indian armored thrust, perhaps even by detonating such weapons over Pakistani territory (Ismat 2000).

Some analysts believe it unlikely that India and Pakistan will settle for postures of minimum deterrence in the middle- and long-term (Bhimaya 1994). If the two countries do choose to deploy more sophisticated forms of deterrence than they currently possess, they will have to consider maintaining high-alert status for their nuclear forces and developing more powerful, mobile launchers or hardened silos for their land-based missiles, and more reliable and technologically advanced command-and-control structures (G. Jones 2000). Reproducing U.S.-Soviet nuclear relations would almost certainly require that India and Pakistan both develop a nuclear triad, but such forces are quite expensive to deploy and neither country is likely to have the resources to do so for the foreseeable future. Moreover, advanced Western nuclear doctrines based on war-fighting or mutually assured destruction are widely discredited in South Asia and especially in India (Giles and Doyle 1996). Thus, in the near- and middle-term, both countries are likely to settle for minimum credible deterrent nuclear forces.

India is currently in pursuit of "eye in the sky" intelligence that could allow New Delhi to keep closer tabs on Pakistan's nuclear facilities and

even the movement of its strategic forces (Jayaraman 2000; Datta 2000). Such capabilities, if unmatched by Pakistan, could engender a "use it or lose it" mentality in Islamabad during a crisis. Perhaps even more destabilizing are India's ongoing efforts to deploy a working ABM system. A deal to purchase Russia's S-300 surface-to-air missile system (touted as similar to the U.S. Patriot system) is in the works, and Israel may agree to provide a sophisticated radar that might complement an Indian ABM system (Odnokolenko 2000; Sharma 2000). A viable Indian theater missile defense would almost certainly cause the Pakistanis to doubt the credibility of its nuclear deterrent and perhaps respond with a major effort to bolster its missile forces.

While it is commonly assumed that the nuclear doctrines of the United States, Soviet Union, and other nuclear weapons states were conceived in advance of procurement decisions, this was not always the case. More often, doctrine derived from rather than determined capabilities, and it is claimed that, "Although both [India and Pakistan] seek to give a different impression, they still give the appearance of countries stumbling into futures that they do not know and may be unable to control" (Walker 1999). This view suggests that the future evolution of nuclear forces and doctrines in South Asia will continue to be driven in large part by political concerns rather than by military-security assessments of need. When economic and technological constraints are factored in, it is unlikely that South Asian nuclear forces will grow at anything more than a limited pace in the foreseeable future. Thus, despite apparent efforts to develop nuclear weapons, both countries seem to be seeking only moderate nuclear forces.

US Policy Options

As noted above, U.S. security interests in South Asia focus on preserving the nuclear nonproliferation regime, maintaining regional stability, and improving relations between India and Pakistan. As indications of possible nuclear deployments arise, hopes that South Asian proliferation might be "capped" or even "rolled back" correspondingly fade. Each of the key international nonproliferation regimes and efforts—the Nonproliferation Treaty, Comprehensive Test Ban Treaty, Missile Technology Control Regime, and a possible Fissile Materials Cutoff Treaty—is endangered by increased nuclearization in South Asia. India and Pakistan are not signatories to the NPT, and under that treaty's stipulations cannot be recognized as official nuclear weapons states. Neither country has signed the CTBT, and it is possible that one or both will conduct further nuclear tests. Their missile programs violate the intent of the MTCR,

which is to halt the proliferation of WMD-capable delivery vehicles. Finally, the ongoing production of weapons-grade fissile material in both India and Pakistan is contrary to the purposes of the FMCT negotiations.

In pursuit of it goals, U.S. government policy toward the region can move along four broadly conceived avenues: 1) *increased pressure* on the Indian and Pakistani governments, mainly in the form of economic sanctions; 2) a *continuation* of the current approach based on the five benchmarks; 3) *increased incentives* for India and Pakistan; or 4) the provision of various forms of *technological assistance* in the area of nuclear safety and/or strategy in exchange for increased stability and perhaps greater cooperation in nonproliferation efforts. U.S. policy also could combine the aspects of two or more of these approaches.

Increased Pressure. A senior State Department official stated in June 2000 that there has been little progress on nonproliferation since the May 1998 tests, noting that current efforts to have Pakistan sign the CTBT are stalled, and that movement on other benchmark issues has been "limited." This seems to bear out predictions that the post-Kargil political and security environment would preclude the establishment of any sort of strategic restraint regime for South Asia (Inderfurth 2000a; Zhara 1999).

Given this lack of progress toward stated U.S. goals, there are those who recommend restoring or even strengthening economic sanctions aimed at India and Pakistan in an effort to compel the cooperation of their governments. India's self-sufficient economy is less vulnerable to economic sanctions than that of Pakistan, but the Indian economy was measurably and adversely affected by U.S. sanctions in the wake of the 1998 tests. More significant were the effects on Pakistan, where the economy is heavily dependent on the International Monetary Fund (IMF) and other international financial institutions. The effectiveness or ineffectiveness of U.S. economic sanctions is closely related to the expectation that they will be enforced. In this respect, reimposition and strict enforcement of some or all of those sanctions applied in 1998 would raise the cost to India and Pakistan of further proliferation activities. Some believe a targeted sanctions policy could be especially effective (Morrow and Carriere 1999; Cortright and Ahmed 1998; Graham 1998).

Weighing against such a course are U.S. national economic interests (especially in agricultural exports), considerations about "freeing the hand" of the President in negotiations with India and Pakistan, and the conclusion among some that economic sanctions in general rarely produce the desired results (and may even be counterproductive). The U.S. Congress has been hesitant to maintain sanctions as means of either

punishing or coercing India and Pakistan, or even as a way to send a more general message about proliferation. There are also fears that a punitive approach toward Pakistan may push that country toward Islamic radicalism, a development that could have "calamitous" consequences. During the period that sanctions were in place, there was little evidence that they altered the proliferation behavior of either country, and few analysts make the claim that Washington's nuclear-related sanctions have worked (Hathaway 2000; Hoodbhoy and Mian 1998). One opinion offers that no amount of U.S. pressure is likely to alter the Pakistani government's present course (Naqvi 2000). Moreover, and in India especially, U.S. efforts perceived as punishment of India and Pakistan and seeking to discourage the establishment of South Asian nuclear deterrence forces are often attributed to racism (Giles and Doyle 1996). Regardless, under current U.S. law any further nuclear tests by either India or Pakistan will require that the President impose new sanctions unless Congress passes a joint resolution allowing him to selectively withdraw from such action.

Continuity. The United States remains categorically opposed to nuclear status for India or Pakistan and will allow no provisions in the NPT for new nuclear weapons states. On a recent trip to South Asia, a senior U.S. diplomat stated that the commitments of both India and Pakistan to refrain from testing should remain in place, and he encouraged both countries to sign the CTBT ("US Rules" 2000; Pickering 2000). Many analysts believe that continuation of current U.S. policy based on steady diplomatic pressure for adherence to the five benchmarks is the most pragmatic means of forwarding U.S. interests, and that India and Pakistan will respond incrementally over time (Gupta 1999a; Sawhney 2000). While U.S. policy may not have prevented the introduction of nuclear weapons on the subcontinent, it is seen by some to have significantly slowed the pace of Indian and Pakistani nuclear programs (Hathaway 2000).

Most reports indicate that both India and Pakistan have, in the main, upheld their respective commitments to control the export of WMD technologies. Further, there are indications that one or both may accede to the CTBT in the near future, with the Indian Prime Minister predicting imminent national consensus and the Pakistani Foreign Minister pledging that Pakistan will not test in the absence of further Indian action ("Signing" 2000; "India test" 2000; Mukherjee 2000; Suryanarayana 2000). Such accession, especially by both South Asian parties, would be widely regarded as a validation of current U.S. policy. By the same token, a resumption of testing, and/or continued fissile material production or missile proliferation would erode confidence in the present U.S. course.

Others see reason to be pessimistic regarding Indian and Pakistani accession to the CTBT any time soon. A Pentagon official predicts that both India and Pakistan are likely to conduct one more round of nuclear tests each before signing the treaty. The Senate's 1999 rejection of the CTBT has led many in New Delhi to label the treaty a dead issue, and India's opposition Congress Party may withhold support for that country's accession. In Islamabad, government officials indicate that Pakistan will not sign the CTBT unilaterally, and that the treaty is "not an urgent issue" (Ricks 2000; "Congress" 2000; "Musharraf" 2000; Akhtar 2000).

With regard to nonproliferation in its broader conception, many Western and South Asian analysts identify inconsistencies in U.S. policy—including maintenance of a large nuclear arsenal and development of NMD—as key obstacles to progress in this realm. In the words of a former Indian Foreign Secretary, "It is impossible to prevent proliferation in any discriminatory way, without eliminating the weapons of all nuclear powers" (Dubey 2000; see also Sechser; "Nuclear Fix" 2000; Singh 1998). So long as the United States is perceived as relying on nuclear weapons for its own security, encouraging India and Pakistan to forsake their own nuclear capabilities may continue to engender limited progress. U.S. demands on nonproliferation are also criticized for failing to address the legitimate security needs of both countries (Katsouris and Goure 1999).

Increased Incentives. Deputy Secretary of State Strobe Talbott has remarked that, "A durable peace [in South Asia] will require the emergence of inclusive regional mechanisms to promote economic integration and political reconciliation and, conversely, the emergence of such mechanisms will require more willingness by the parties to engage constructively than exists today." U.S. Ambassador to India Richard Celeste told reporters that the United States will do everything it can "to encourage Pakistan to help create an environment in which dialogue could take place" with India, and a joint statement of leaders at a July 2000 G-8 summit urged renewed dialogue in the spirit of the Lahore Declaration. Many analysts see the concept of deterrence itself as including a combination of reassurance and accommodation, and so should perhaps not focus exclusively on nuclear capabilities (Talbott 2000; "U.S. to Help" 2000; "India, Pak." 2000; Howard 1982/1983).

These ideas suggest that a U.S. focus on encouraging improvements in South Asian political and economic conditions could indirectly, but substantially, serve the goals of nonproliferation. First among these might be efforts to ameliorate the territorial dispute in Kashmir, either by gaining Indian acquiescence for direct U.S. diplomatic intervention, or by sup-

porting Track Two (less formal, non-governmental) efforts at reconciliation (Hoodbhoy and Mian 1998). Deals involving economic benefits might also be considered, such as pledges of economic aid to both India and Pakistan in return for those two countries reviving the Lahore reconciliation process and making concrete progress on nonproliferation.

Formal incentives to India and Pakistan may encourage those countries to increase their commitment to nuclear arms control regimes and norms. In this vein, there have variously been calls for the United States to lift all remaining sanctions against India and Pakistan except those relating to the transfer of WMD and ballistic missiles, rebuild political and military ties with both countries, and take action to strengthen democracy in the region (Rauf 1999; Sechser 2000b; Carranza 1999). Efforts to encourage bilateral dialogue may help build confidence in New Delhi and Islamabad. Developments might include mutual inspections of nuclear facilities and other forms of technical cooperation, and the creation of a joint Indian-Pakistani committee to discuss nuclear issues (Dalton 1998). Because India's nuclear strategy can be seen as pivotal to the region's strategic evolution, efforts to reassure India in relation to China might ease New Delhi's security concerns. One possible step that has been suggested for the United States would be to support creation of a permanent seat for India on the UN Security Council, although some analysts maintain that such a move would almost certainly require a corresponding gesture toward Pakistan (Ayoob 1999). Certainly U.S. ratification of the CTBT would do much to encourage the countries of South Asia to follow suit.

As with previously discussed options, there are doubts that Indian and Pakistani proliferation behavior is substantively affected by external considerations other than those deriving from their bilateral relations. The two countries have proven resistant to the desires of outsiders when it comes to issues of national security. Moreover, so long as the United States and other nuclear weapons states deploy large nuclear arsenals of their own, India and Pakistan are likely to discount calls to curtail their own efforts in this regard. There have been calls for concrete movement toward global nuclear disarmament, with many believing that the nuclear weapons states must halt modernization programs and reduce their arsenals as a means of demonstrating sincerity on nonproliferation (Shuja 1999). Recently, 18 senior retired U.S. military officers, including a former CIA director and the commander of Operation Desert Storm's air operations, gathered to call for worldwide nuclear disarmament, and the most recent NPT conference ended with a pledge by the nuclear weapons states to follow this course ("Military" 2000). Yet such a development is considered

highly unlikely to occur in the present international environment, and so any U.S. policy based on incentives may continue to be perceived as hypocritical in New Delhi and Islamabad.

Technological Assistance. There have been recommendations that the United States might increase nuclear stability in South Asia by recognizing India and Pakistan as legitimate nuclear states and providing them with technical means for management of their arsenals. This is seen as especially important for Pakistan, where civilian control of the military is weak or nonexistent (Rosenwasser 2000; Sechser 1999). Such efforts could include the provision of command-and-control expertise, Permissive Action Link (PAL) technology, early-warning assistance or systems, and perhaps even theater missile defense capabilities. Proponents of such policies also claim that U.S. influence in the region would be enhanced by these actions. It has been reported that Pakistan has already asked for U.S. assistance in creating a limited command, control, communications, computers, information, and intelligence (C4I2) system, and has no objections if the US does the same for India (Rashid 2000).

As noted above, secure retaliatory capabilities are viewed as an essential aspect of any credible nuclear deterrent. The provision of command-and-control expertise to both India and Pakistan could enhance the credibility of each side's deterrent. Likewise, if the United States were to share early-warning data with both India and Pakistan, this might also serve to reassure the two countries in times of crisis. Too, the United States has had legitimate concerns about the possibility of an accidental or unauthorized nuclear launch in South Asia. If employed by the region's armed forces, PAL technology could go far in reducing the likelihood of such an occurrence.

Furthermore, because crisis instability is exacerbated if one side believes it can launch a successful first strike against the other's nuclear forces, there are those who have suggested that the United States deploy or share TMD systems in the region if and when these become technologically feasible. With India reportedly pursuing such capabilities on its own, this might entail that the United States provide Pakistan in particular with such technology. Some believe it would be sufficient for the United States to deploy rather than provide such capabilities, with a former Assistant Secretary of State suggesting that U.S. naval boost-phase TMD capabilities, if deployed in the Arabian Sea, could be a highly stabilizing factor in any future South Asian crisis (Perle 2000; see also Katsouris and Goure 1999; Mearscheimer 2000).

Criticism of this tack falls into three general categories. The first, made in response to any provision of nuclear-related expertise to India and

Pakistan, is that a signal of acceptance of South Asia's nuclear status—implicit or otherwise—would be seen to undercut three decades of U.S. nonproliferation policy and so do irreparable damage to those international regimes designed to halt proliferation. With this view, the potential benefits of providing India and Pakistan with technical assistance would not outweigh the probable costs of such damage. The second criticism contends that such policy would only serve to strengthen Indian and Pakistani nuclear capabilities, and perhaps even encourage these countries to deploy larger nuclear forces. Finally, some analysts respond more specifically to the idea of deploying missile defenses in the region, viewing such a step as likely to spark an Asian ballistic missile race as countries seek to ensure the viability of their nuclear deterrents (Cirincione 2000; Koblentz 1997).

It may be possible to combine aspects of two or more of these general approaches. For instance, a "carrots and sticks" policy might include promises of future aid and/or technical assistance along with the imposition of new sanctions in the absence of cooperation on nonproliferation issues. A crucial decision facing United States policy makers at this time is whether to maintain the more or less strict nonproliferation policies now in place or, alternatively, to either implicitly or explicitly accept the nuclear status of India and Pakistan and so shape a policy that seeks to manage rather than to counter proliferation in South Asia.

The new U.S. administration has shown signs of a near-total focus on East Asian (China, Taiwan, Korea) security, and has yet to make clear how it will deal with the nuclearization of South Asia, the "other" Asian security issue. It would be a mistake for U.S. policy makers to underestimate the importance of political-military decisions made in Islamabad and especially in New Delhi. The security orientations of South Asia's two major powers are certain to play a central role in 21st century Asian stability or its absence, and so have implications for the security of peoples and states everywhere.

References

Ahmed, Riaz. 2000. Pakistan's Defense Industry Part 3. *Pakistan* (Lahore in Urdu). 9 June: 12, via Foreign Broadcast Information Service (FBIS).

Ahmed, Samina. 1999. Pakistan's Nuclear Weapons Program. *International Security* 24 (Spring).

Ahmedullah, Mohammed. 1999. Prithvi and Beyond. *Military Technology* 4.

Ahrari, Ehsan. 1998. South Asia Faces the Future With a Clean Strategic Slate. *Jane's Intelligence Review* (December).

Akhtar, Hasan. 2000. No Consensus on CTBT Yet, Says Sattar. *Dawn* (Karachi). 4 July.

Albright, David. 2000. *India and Pakistan's Fissile Material and Nuclear Weapons Inventory, End of 1999.* Institute for Science and International Security. 11 October.

Arquella, John. 1997. Nuclear Weapons in South Asia: More May Be Manageable. *Comparative Strategy* 16 (January).

Ayoob, Mohammed. 1999. Nuclear India and Indian-American Relations. *Orbis* 43 (Winter).

Badri-Maharaj, Sanjay. 2000. Nuclear India's Status: Examination of Claims in the NBC Report. *Indian Defence Review* 15 (Spring): 125.

Baruah, Amit. 2000. Pak. May Have 25 N-Weapons. *Hindu* (Madras). 5 June.

Bedi, Rahul. 1998. India, Pakistan Adopt Offensive Training Tactics. *Jane's Defence Weekly.* 11 November.

Bhimaya, Kotera. 1994. Nuclear Deterrence in South Asia. *Asian Survey* 34 (July).

Carranza, Mario. 1999. Indo-Pakistani Nuclear Relations: Can the Genie Be Put Back in the Bottle? *International Politics* 36 (December).

Cirincione, Joseph. 2000. The Asian Nuclear Reaction Chain. *Foreign Policy.* Spring.

Cloughley, Brian. 2000. Transition Time in Pakistan's Army. *Jane's Intelligence Review* (April): 29.

Congress to Say No to Signing of CTBT. 2000. *Economic Times* (Delhi). 11 July.

Cortright, David, and Samina Ahmed. 1998. Sanctions: Modify 'Em. *Bulletin of the Atomic Scientists,* 55 (September/October).

Dalton, Toby. 1998. Toward Nuclear Rollback in South Asia. *Current History* 97 (December).

Datta, Rahul. 2000. India Developing Own Military Satellite to Watch Line of Control. *Pioneer* (New Delhi). 17 July, via Foreign Broadcast Information Service (FBIS).

Department of Atomic Energy. 2000. Government of India, *Annual Report 1999-2000.* May.

Draft Report of the National Security Advisory Board on Indian Nuclear Doctrine. 1999. Indian Embassy, Washington, D.C.

Dubey, Muchkund. 2000. Congress and Indian's N-Policy-II. *Hindu* (Madras). 20 June.

Exercises 'Vijay Chakra' and 'Springex 2000'. 2000. Virtual Information Center, U.S. Pacific Command. 6 March.

Farooq, Umer. 1998. Pakistan Needs Up to 70 Nuclear Warheads. *Jane's Defence Weekly* 10 June.

Ganguly, Sumit. 1999. India's Pathway to Pokhran II: Prospects and Sources of New Delhi's Nuclear Weapons Program. *International Security* 23 (Spring).

Giles, Gregory, and James Doyle. 1996. Indian and Pakistani Views on Nuclear Deterrence. *Comparative Strategy* 15.

Gordon, Michael, and Steven Lee Myers. 2000. Risk of Arms Race Seen in U.S. Design of Missile Defense. *New York Times*. 28 May.

Graham, Thomas, Jr. 1998. Sanctions: Hang Tough. *Bulletin of the Atomic Scientists*, 55 (September/October).

Gupta, Amit. 1999a. After the Bomb: U.S. Policy Toward a Nuclear South Asia. *Mediterranean Quarterly* 10 (Spring).

_____. 1999b. Nuclear Forces in South Asia: Prospects for Arms Control. *Security Dialogue* 30 (September).

Hagerty, Devin . 1998. *The Consequences of Nuclear Proliferation: Lessons from South Asia* (Cambridge).

Hashmi, Faraz. 2000. Deterrence Main Aim of Nuclear Policy: CE. *Dawn* (Karachi). 27 June.

Hathaway, Robert. 2000. Confrontation and Retreat: The U.S. Congress and the South Asian Nuclear Tests. *Arms Control Today* (January/February).

Herrmann, Wilfried. 2000. Missile Proliferation in Asia. *Military Technology* 3.

Hoodbhoy, Pervez, and Zia Mian. 1998. Sanctions: Lift 'Em. *Bulletin of the Atomic Scientists*, 55 (September/October).

Howard, Michael. 1982/1983. Deterrence and Reassurance. *Foreign Affairs* 61 (Winter).

Hoyt, Timothy. 2000. Nuclear Weapons in the New Century. *Bharat Rakshak Monitor* 2 (Bombay). January/February.

Inderfurth, Karl. 2000a. Text: Remarks by State's Inderfurth to the Pakistani American Congress. *USIS Washington File*. 7 June.

_____. 2000b. Transcript: [Assistant Secretary] Inderfurth's Remarks on U.S.-India Relations July 1. *USIS Washington File*. 3 July.

India, Pak. Urged to Talk. 2000. *Hindu* (Madras). 23 July.

India Test Ban Consensus Expected. 2000. Associated Press. 30 June.

India's Nuclear Doctrine. 2000. Virtual Information Center, U.S. Pacific Command. 17 May (prepared 23 November, 1999).

International Institute for Strategic Studies. 2000. *The Military Balance, 2000-2001* (London).

Ismat, Saeed. 2000. A Conceptual Nuclear Doctrine. *Defence Journal* (Karachi). March.

Jayaraman, K.S. 2000. India, U.S. Firm Agree to Sale of One-Meter Imagery. *Defense News*. 24 July.

Joeck, Neil . 1997. *Maintaining Nuclear Stability in South Asia*. Adelphi Paper 312.

_____. 1999. Nuclear Developments in India and Pakistan. *Access Asia Review* 2. July.

Jones, Gregory. 2000. From Testing to Deploying Nuclear Forces: The Hard Choices Facing India and Pakistan. RAND Issue Paper 192. March.

Jones, Rodney. 1998. Pakistan's Nuclear Posture: Arms Race Instabilities in South Asia. *Asian Affairs, An American Review*. Summer.

Kampani, Gaurav. 2000. How a U.S. National Missile Defense will Affect South Asia. Center for Nonproliferation Studies Report. May.

Karl, David. 1996/1997. Proliferation Pessimism and Emerging Nuclear Powers. *International Security* 21 (Winter).

Katsouris, Andreas, and Daniel Goure. 1999. Strategic Crossroads in South Asia. *Comparative Strategy* 18 (April).

Koblentz, Gary. 1997. Viewpoint: Theater Missile Defense and South Asia: A Volatile Mix. *Nonproliferation Review* 4 (Spring/Summer).

Koch, Andrew. 1999. South Asian Rivals Keep Test Score Even. *Jane's Intelligence Review*. August.

Malik, J. Mohan. 1998. India Goes Nuclear. *Contemporary Southeast Asia* 20 (August).

_____. 1999. Nuclear Proliferation in Asia: The China Factor. *Australian Journal of International Affairs*, 53 (April).

Mazari, Shireen. 2000. The Case of South Asia. *Defence Journal* (Karachi). March.

Mearscheimer, John. 2000. India Needs the Bomb. *New York Times*. 24 March.

Mecham, Michael. 1999. India Test Fires Agni Missile; Pakistan Responds With Ghauri. *Aviation Week and Space Technology*. 19 April.

Military Figures to Call for Disarmament. *Washington Post*. 21 June.

Mishra, Brajesh. 2000. Global Security: An Indian Perspective. Presentation at the National Defence Institute, Lisbon, Portugal. April.

Morrow, Daniel, and Michael Carriere. 1999. The Economic Impacts of the 1998 Sanctions on India and Pakistan. *Nonproliferation Review* 6 (Fall).

Mukherjee, Alok. 2000. India Committed to Signing CTBT After Consensus: PM. *Hindu* (Madras). 29 June.

Musharraf: Pakistan Not to Sign CTBT 'Unilaterally. 2000. *Radio Pakistan* (Islamabad). 2 July, via Foreign Broadcast Information service (FBIS).

Naqvi, M.B. 2000. Non-Proliferation Pressures Are Still There. *Defence Journal* (Karachi). May.

National Intelligence Council. 1999. *Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015*. September.

Nayar, K.P. 2000. Disarmingly Nonprolific. *Telegraph* (Calcutta). 28 June 28, 2000: 12 via Foreign Broadcast Information Service (FBIS).

Nuclear Fix. 2000. *Times of India* (Bombay). 24 May.

Nuclear Forces Guide. 2000. Federation of American Scientists.

Nuclear Warhead Production Maybe [sic] Underway in India. 2000. *Aviation Week and Space Technology*. 19 June: 26.

Odnokolenko, Oleg. 2000. All the Best to India. *Segodnya* (Moscow in Russian). 30 June, via Foreign Broadcast Information Service (FBIS).

Office of the Secretary of Defense. 2001. *Proliferation: Threat and Response*. U.S. Department of Defense. Washington, D.C. January.

Pakistan, India 'Have Not Moved Very Far' to Field Nukes: Cohen. *News* (Islamabad). 13 May.

Pakistan Rejects Reports of Chinese Missile Plant. *Dawn* (Karachi). 29 June.

Pakistan's Nuclear Doctrine. 2000. Virtual Information Center, U.S. Pacific Command. 17 May (prepared November 9, 1999).

Perkovich, George. 1998. Nuclear Proliferation. *Foreign Policy*, Fall 1998.

_____. 1999. *India's Nuclear Bomb* (Berkeley).

Perle, Richard. 2000. A Better Way to Build a Missile Defense. *New York Times*. 13 July.

Pickering, Thomas. 2000. Transcript: Pickering Press Conference in New Delhi on S. Asia Visit. *USIS Washington File*. 26 May.

Pressure for More Weapon Tests Great in Both India, Pakistan. 2000. *Nucleonics Week*. 8 June.

Programme for Promoting Nuclear Non-Proliferation. 1998. *PPNN Newsbrief* No. 42 (Insert) (2nd Quarter): 5.

_____. 2000. *PPNN Newsbrief* No. 49 (1st Quarter): 15.

Ramana, D. 1999. What Next? Way to a Credible Deterrent. *Rakshak Monitor* 2 (Bombay) (November/December).

Rashid, Ahmed. 2000. Islamabad Cool. *Far Eastern Economic Review*. 13 July.

Rauf, Tariq. 1999. Learning to Live with the Bomb in South Asia: Accommodation Not Confrontation. Center for Nonproliferation Studies Report. January.

Ricks, Thomas. 2000. Taking the Air Force to the Next Level. *Washington Post*. 27 June.

Rosenwasser, Jon. 2000. Calming South Asia's Nuclear Threat. *Defense News*. 15 May.

Sagan, Scott. 1995. More Will Be Worse. In Scott Sagan and Kenneth Waltz, *The Spread of Nuclear Weapons: A Debate* (New York).

Sagan, Scott, and Kenneth Waltz. 1995. *The Spread of Nuclear Weapons: A Debate* (New York).

Saradzhyan, Simon. 1999. India Seeks Long-Range Bombers, Radar from Russia. *Defense News*. 15 October: 12.

Sawhney, Pravin. 2000. How Inevitable is an Asian 'Missile Race'? *Jane's Intelligence Review*. January.

Sechser, Todd. 1999. Pakistan Coup Underscores Nuclear Dimension. *Defense News*. 11 November: 37.

_____. 2000a. The Grand Nuclear Bargain. Carnegie Endowment for International Peace Proliferation Brief. 11 May.

_____. 2000b. Nuclear Stalemate in South Asia. *Boston Globe*. 23 March.

Shanker, Kalyani. 2000. U.S. Tilting Towards India: Envoy. *Hindustan Times* (Delhi). 29 March.

Sharma, Pranay. 2000. India, Israel Finalizing Radar Deal Despite U.S. Opposition. *Telegraph* (Calcutta). 3 July, via Foreign Broadcast Information Service (FBIS).

Sheppard, Ben. 1999. South Asia Nears Nuclear Boiling Point. *Jane's Intelligence Review*. April.

Shuja, Sharif. 1999. Nuclear Proliferation in South Asia. *Contemporary Review* (June).

Signing of CTBT Not Linked to Curbs: Jaswant. 2000. *Hindustan Times* (Delhi). 5 July.

Singh, Jaswant. 1998. Against Nuclear Apartheid. *Foreign Affairs* (September/October).

Subrahmanyam, K. 1999. A Credible Deterrent. *Times of India* (Bombay). 4 October.

Suryanarayana, P.S. 2000. Pak. Will Not Be the First to Resume N-Tests: Sattar. *Hindu* (Madras). 29 June.

Talbott, Strobe. 2000. The Architecture of Peace in Africa and the World. Address at Witwatersrand University, Johannesburg, South Africa. 9 May.

Tanner, Adam. 2000. Pakistan to Consider Using Nukes If Attacked. Reuters Newswire. 20 July.

Tenet, George. 2000. Statement by Director of Central Intelligence George Tenet Before the Senate Foreign Relations Committee on The Worldwide Threat in 2000: Global Realities of Our National Security. 21 March.

U.S. Department of Defense. 1999. *Asia 2025*. 1999 Summer Study Final Report. Washington, D.C. 4 August.

US Rules Out Nuclear Status for Pakistan, India. *News* (Islamabad). April.

U.S. to Help Pakistan, India Hold Talks. 2000. *Dawn* (Karachi). 8 July.

Walker, William. 1999. The Risks of Further Nuclear Testing in South Asia. *Arms Control Today* 29 (September/October).

Windrem, Robert, and Tammy Kupperman. 2000. Pakistan Nukes Outstrip India's, Officials Say. MSNBC. 6 June.

A Worrying Nuclear Nexus. 2000. *News* (Islamabad). 16 July.

Zhara, Farah. 1999. Pakistan's Road to a Minimum Nuclear Deterrent. *Arms Control Today* 29 (July/August).