INDO-RUSSIAN MILITARY AND NUCLEAR COOPERATION: IMPLICATIONS FOR U.S. SECURITY INTERESTS

INTRODUCTION

> It is a strategic goal of the United States, rooted in the strategic self-interest of the United States, to see a secure India; a more economically vibrant India; and, of course, a better relationship between India and the United States. The nuclear issue is a complicating factor but not necessarily a contradictory one (and I insist on that distinction).
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> -U.S. Deputy Secretary of State Strobe Talbott[1]

On 17 August 1999, India's National Security Advisory Board (NSAB) released a draft copy of its long awaited nuclear doctrine.[2] Arriving fifteen months after the May 1998 Pokhran II nuclear tests,[3] the draft document refueled the debate within the United States over the future course of American policy towards India. But while the U.S. State Department was warning, "We think it would be unwise [for India] to move in the direction of developing a nuclear deterrent" due to the potential "action-reaction cycle" for a South Asian arms race,[4] the Russian response was diametric. Rather than aligning Russia's reaction with that of the other global powers, Grigory Karasin, the Russian Deputy Minister in charge of relations with India, stated, "We shall carefully study this draft and in due time clearly state our opinion."[5] More telling is the fact that as the Clinton Administration pushed for a continuation of sanctions against India,[6] Russia was negotiating with India for the sale of TU-22 BM strike-bombers.[7] This contrast in American and Russian approaches to Indian "security needs," and the legacy created by these polar approaches, typifies Indo-

Russian and Indo-American relationships over the last five decades and is the focus of this paper.

Moreover, this paper is based in the proposition that the history of Indian procurement of Soviet/Russian military hardware provides a framework for understanding Indian strategic culture and its influence on past, present and future development of military and nuclear forces. Intertwined in the history of Indo-Russian military cooperation, one can also find the roots of the Indo-American diplomatic divide that continues to separate the world's two largest democracies. This divide, and the numerous factors that may prevent it from being completely bridged, is also discussed in this paper.

Finally, this paper examines the implications of the fact that India does not pose a direct military threat to the United States homeland. Any possibility for future strife between these two states, while remote, would most likely emerge from an area denial scenario in which the United States attempted to project military power into the Asian subcontinent or its surrounding waters. In this aspect, any possibility for military conflict between India and the United States would be, from an Indian perspective, the product of American aggression and Indian defense.

When the draft nuclear doctrine was released in August 1999, American policy goals in South Asia consisted of five short-term "steps" and one long-term goal. The short-term steps entailed: the signing and ratification of the Comprehensive Test Ban Treaty (CTBT); a cessation of the production of fissile material by both states; a limitation on the development and deployment of ballistic missiles and nuclear capable aircraft; tightening the export controls in both India and Pakistan for nuclear technology; and the expansion of Confidence Building Measures (CBMs) between India and Pakistan. The long-

term objective of American policy in South Asia was "universal adherence to the Nuclear Non-Proliferation Treaty."[8] To promote these "steps" and the end-state goal, the United States utilized a broad application of economic sanctions. American policy in South Asia during the fifteen months following Pokhran II can therefore be viewed as strictly nuclear-centric. Choosing a dialogue based on nonproliferation, the United States was certain to meet with eventual failure. As a proud nation and emerging power, India would not allow a foreign power, especially the United States, to dictate "internal" decisions, particularly with regard to national security and international status.

Contrary to America's nuclear-focused approach to India, Russia adopted a more balanced approach to India in the period following Pokhran II. While the reaction of Russia's political leadership to India's proliferation was mixed, the signing of a ten-year treaty of military and technological cooperation in December 1998 sent a clear signal that Russia would neither condemn India nor would it support American nonproliferation efforts in South Asia. Claiming that it would continue to honor the historically "special" relationship, Russia would solidify the Indo-Russian military bond during this period.

The crux of the "Indian problem" for American policy makers, therefore, is twofold. The first issue is the need to realize that *India is not a problem*. India is not a rogue state. Having based its post-Cold War policy objectives in India on the issue of nonproliferation, the United States allowed no flexibility in the Indo-American dialogue. While the Indian decision to overtly weaponize its nuclear program may have been a slap in the face of American preferences, the catalysts for the tests ran much deeper than simple anti-American sentiments.

There is a need, therefore, for American policy-makers to understand the role of Indian strategic culture as the medium through which Indian military and nuclear procurement decisions are made. An underlying theme of this paper, therefore, is to draw out the essence of India's strategic culture and to demonstrate how Russia has historically catered to this aspect of Indian thought while America has remained impervious to its influence.

As defined by Ken Booth, strategic culture is the product of a nation's "history, geography and political culture," and it helps to "shape behavior on such issues as the use of force in international politics, sensitivity to external dangers, civil-military relations and strategic doctrine."[9] As shown below, the value of this definition when applied to an analysis of India's nuclear weapons program is that it embraces three core theoretical models normally attributed to nuclear proliferation: the "security," "domestic politics" and "norms" models.[10]

From an American policy perspective, an understanding of Indian nuclear proliferation must embrace a broad spectrum of proliferation incentives and the reality that "security," "domestic politics," and perceived international "norms" have all been instrumental at various times during the evolution of India's nuclear weapons program. As the status of India in the international arena has changed, Indian perceptions of international "norms" have also changed. Changes in India's domestic politics have sharply changed the role and influence of nuclear weapons as a symbol of national self-esteem and power. Furthermore, changes in the military and nuclear capabilities of Pakistan and China have reduced the geographic security of India and have provided nuclear proponents a rhetorical foundation, if not a fully credible military-technical foundation, for pursuing nuclear security. While the confines of this paper do not allow a

detailed discussion of Indian strategic culture,[11] critical junctures in Indian history, geographic security and political culture that influenced the evolution of India's nuclear program are highlighted below.

The second aspect of the American approach to the "Indian problem" is a failure to understand the dynamics of the "special" Indo-Russian relationship. The continued references by Indian and Russian officials to the unique quality of their bipolar relations imply a certain resilience and common perspective in Indian and Russian strategic, diplomatic and economic interests. This paper argues, however, that the Indo-Russian relationship is not "special" when placed in a vacuum, devoid of outside influences. While India and Russia have had, and will continue to have, common interests that are *necessary* for the development of a resilient bond, said commonality has not been in and of itself *sufficient* to solidify their relationship. The glue in the Indo-Soviet/Russian "special" relationship, therefore, has been and continues to be American ambivalence towards India and Indian military needs. If American ambivalence dissipates and India's military-industrial complex achieves a high-level of self-reliance, the Indo-Russian bond will fragment.

India's Cold War military procurement decisions are summarized briefly here. Central to this period was an Indian desire for diplomatic independence and military self-reliance. Indeed, the Cold War Indo-Soviet relationship was created by Indian needs, Soviet opportunism, and American ambivalence. While not intended as a critique of American Cold War policies in South Asia, the pivotal decisions made by the United States in South Asia had significant short-term consequences on Indian military procurement, and a legacy of mistrust and suspicion was created towards the United States. This

legacy continues to influence Indo-American and Indo-Russian relations today.

The paper focuses in detail on the period from the end of the Cold War up through the Pokhran tests of 1998. This period is defined by a shift in Indo-Russian relations as Russian economic needs became a dominating factor for continued military cooperation with India. While an Indian attempt to severe the umbilical cord to the Russian military- industrial complex would fall short, India would take advantage of Russian cooperation to expand its military base. Furthermore, a rigid American approach to India, centered on nonproliferation concerns, would permeate all aspects of Indo-American relations. This period represents an opportunity lost for American security interests in South Asia as Russian influence was allowed to remain and American influence was not properly developed.

Finally, the paper examines Indo-Russian and Indo-American relations in the post-Pokhran II era. The legacy of the Cold War will continue to influence bilateral interactions. Additionally, the ability of the United States to influence Indian nuclear expansion will be limited. With Russian assistance, India will pursue a nuclear triad and develop its "minimal" nuclear deterrent. The primary option available to the United States, therefore, will be to endeavor to ensure that Indian nuclear expansion is conducted in a controlled, safe, and limited manner, and to promote an improvement and redefining of the Indo-American dialogue. The future policy options of the United States will be weighed against Indian economic, political, and military needs, American strategic interests, and Russian influence. While no "silver bullet" for Indo-American bilateral bliss is evident, the need and the means to improve a teetering strategic situation are elucidated. This

paper concludes that India does matter to future American security interests, and that future American policy must be scripted accordingly.

THE COLD WAR YEARS: 1947-1991

> The real reason why there is now an increasingly open conflict between Western and Indian policy and attitudes on so many issues is, quite simply, almost tautologically, that the West and India are running an increasing risk of pursuing policies which cut severely across each other's interests. The Russians have done no more than act as a catalyst….The real symbol of what has happened is not the welcoming millions who cheered Messrs. Bulganin and Khruschchev in Calcutta, but the grim sharpness of the reaction which met Mr. Dulles's description of Goa as a "Province of Portugal."[12]
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> –*The Round Table*, 1956

This section only briefly summarizes Indo-Soviet and Indo-American diplomatic, economic, and military relations during the Cold War years from 1947 to 1991.[*] This summary can only highlight an historical pattern in the Indo-Soviet relationship that supported India's quest for regional security and independent global stature, and an oscillating Soviet vision of India based upon India's changing geo-strategic and diplomatic significance. As a result, far from being an enduring and close "special relationship,"[13] the historical foundations of the Indo-Soviet relationship reveal an opportunistic relationship in which "India's needs are a match for Soviet capabilities, and Soviet needs are a match for India's strengths."[14] Moreover, the strength of the Indo-Soviet relationship depended upon the short-term impact of

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[*] The full Naval Postgraduate School thesis includes an extensive discussion of the Cold-War history of Indian security development and India's relations with Russia and the United States. That section of the thesis was reduced to only a brief summary for length management in this occasional paper.

Indo-American interactions. Additionally, major South Asian policy decisions made by the United States during the Cold War show that the cementing of the "special" Indo-Soviet relationship was a product of American inattention as much as Soviet perseverance.

The pattern of Indian military procurement during the period 1947 to 1990 highlights three central themes of this study. The first is the fragile nature of the Indo-Soviet "special" relationship. The second theme is the emergence and growth of the Indo-American divide. The final theme is the evolution of India's strategic culture and its role in procurement decisions. A summary of these three topics is provided below.

Indo-Soviet Military Cooperation

The history of Indo-Soviet military cooperation can be summarized as a relationship determined by Indian needs, Soviet opportunism, and Western ambivalence. When India commenced the rapid modernization of its armed forces following the 1962 Sino-Indian conflict, its initial objective was to continue and expand upon its historical Western supply-line. After failing to secure arms transfer agreements with the West, India turned to the Soviet Union out of "dire necessity." For India, the agreement was a commercial one based on economics. Soviet military contracts usually had favorable financial terms and included provisions for production licensing. But in the long-run, these deals became a burden as India failed to secure a reliable supply of spare parts and also experienced a drop in operational readiness due to a void in indigenous maintenance capabilities.

When India made a concerted effort in the 1980s to diversify its procurement portfolio, it found itself returning to the Soviet Union to satisfy its short-term military needs. With a long-term goal of self-reliance in military procurement, India would continue to use Soviet

arms as a stepping stone between the bygone era of the British Raj and future Indian procurement autonomy. While Soviet arms would be used to offset American influence in South Asia, they did not pose a direct military threat to American forces during this period.

The Indo-American Rift

Central to the discussion of Indo-American relations during the Cold War is the fact that India did not play a vital role in American geo-strategic thinking during this period. The ideological significance of India as the world's largest democracy was negated by India's unwillingness to align itself with the West in the pivotal East-West struggle. From the American perspective, a lack of Indian support versus the "communist threat" equated to Indian hostility. India's quest for diplomatic independence and self-reliance did not fit into the American paradigm for a bipolar world.

From the Indian perspective, the confrontational American style threatened a return to colonial methods and subservience. In Indian eyes, America's willingness to engage Pakistan and China, and thereby impair India's regional security, illuminated American hegemonic aspirations and American indifference towards less developed countries. The unwillingness of the United States to provide arms to a fellow democracy when needed seemed hypocritical and incredible. The essence of the Indo-American "problem" was quite clear. Both states were acting in the same manner and securing their own national needs, with little regard for what other states might desire. The United States believed that as a superpower it had the right to take a superior position. India felt that as the world's largest democracy, and a victim of centuries of repression, it had the right to demand equality. With both states proceeding forward and neither willing to give way to the other, a collision was imminent.

Indian Strategic Culture

History, geography, and political culture all played crucial roles in the development of India's conventional forces and nuclear capabilities during the Cold War. India's sudden emancipation in 1947 after centuries of subservience created "a fierce determination to preserve Indian independence no matter what the cost—an attitude often bordering on paranoia."[15] Any attempt by outside powers, whether Soviet or Western, to exert influence upon India was often met with open defiance. While the Soviet Union, especially under Khrushchev, would be more understanding of India's "paranoia" and would treat India with respect, the United States often presented India with demands, even when providing food aid. Furthermore, the United States would exacerbate India's geographic isolation by providing arms and technical data to both Pakistan and China, thus adding fuel to Indian militarism.

Finally, India's political and bureaucratic leaders were crucial in determining the course that India would take in weapons development and procurement. Nehru neglected the country's military forces until it was too late to recover. Shastri provided the green signal to Bhabha, who manipulated the emerging Chinese threat skillfully. When Sarabhai replaced Bhabha in crucial posts within India's atomic energy program, pursuit of the nuclear option was neglected. Indira Gandhi preferred cooperation with the Soviet Union during her first premiership (1966-1977), then became more pro-Western during her second term (1980-1984). Desai understood the limitations of a single-track procurement source and set the course for diversified procurement. While all these individuals had the will to shape and direct India's weapons programs, their hands were often tied by financial, technical and diplomatic constraints. When these bonds

began to loosen in the post-Cold War era, the influence and role of India's political culture would become even more decisive.

NEW DYNAMICS AND CONTINUITIES: THE POST-COLD WAR ERA

> India is becoming a harder, more selfish and pragmatic entity. No longer encumbered by leaders besotted by larger-than-life images of themselves on the international stage, the new India is inclined to look at the world in terms of its own interests.[16]

The Soviet pullout from Afghanistan in 1989 and the end of the Cold War brought about a drastic change in India's geo-strategic and diplomatic importance. At the same time, India experienced internal economic turmoil and an increase in domestic instability due to numerous insurgency movements. These factors contributed to a sharp decrease in Indian military expenditures and arms importation. Furthermore, a rigid American approach to India, centered on nonproliferation concerns, would permeate all aspects of Indo-American relations and prevent a broadening of these relations. Finally, the foundations of the Indo-Soviet/Russian military relationship would shift from Indian needs and Soviet opportunism to Russian economic needs and Indian military needs and opportunism. This section encompasses the period from the end of the Cold War up through the Pokhran tests of 1998. This period represents a lost opportunity for American security interests in South Asia as Russian influence was allowed to remain while Indian suspicions of American intentions were continually validated.

INDIA'S POST-COLD WAR IDENTITY

Having defined its identity and prestige in international politics as the leader of the Non-Aligned Movement, India's raison d'être and identity in international relations became uncertain with the collapse of the

Soviet Union in 1991. "The pursuit of autonomy without power was premised, first, on a balanced stalemate between the Atlantic and Soviet blocs...."[17] The removal of the "Soviet bloc" from the "stalemate" effectively ended the stalemate and, consequently, the rationale for the non-aligned movement. Indians also came to realize that the absence of a bilateral competition between the two superpowers meant that India's geo-strategic role as a "counter-weight" no longer existed. "When the Cold War ended and the Soviet Union collapsed, India found that few people outside the region cared much about the country. India neither had economic influence nor risked becoming a major source of instability—the two most important criteria for earning foreign attention."[18] Furthermore, the rise of secessionist movements throughout India, South Asia and Central Asia shifted Indian defense concerns back to the issue of internal stability. Finally, after three decades of protectionist economic policies, India was forced to abandon its Soviet-supported "fortress mentality" and turn to the World Bank and the International Monetary Fund for economic rejuvenation.[19]

Aiding the collapse of the Indian "fortress" was a realization among Indian elites that other Asian countries were experiencing rapid economic growth via the global market.[20] It was during this transition period of the early 1990s that India emerged from centuries of subservience to (or, during the Cold War, dependence on) external powers to begin defining a global role for itself that was solely egocentric and not centered on India's reliance on other states. On the strategic level, to rephrase Ashley Tellis' Cold War depiction of India, the post-Cold War era became a time of transition as India evolved from being a *consumer* of security to being a *producer* of its own security.[21]

INDO-AMERICAN RELATIONS IN THE POST-COLD WAR ERA

In the early 1990s, economic reforms in India and the end of the East-West competition of the Cold War provided an opportunity for improved Indo-American relations. Many observers hoped that the continued growth in Indo-American trade relations would provide a "cornerstone" for improved relations.[22] As a result of India's Economic Reform Programme, foreign investment in India had risen sharply, with the United States taking the lead as India's largest foreign investor.[23] Additionally, the United States became a major source of technology for India.[24]

Against this backdrop of opportunity, however, the legacy of the Cold War Indo-American rift persisted. During the 1990-91 Gulf War, India had silently allowed American cargo aircraft transiting from the Philippines to the Gulf States to refuel at several airports. When an Indian press photographer happened upon an American aircraft in Bombay that was delayed due to maintenance problems, the story exploded into the Indian press.[25] Domestic politics elevated the refueling operations into a breech of India's nonalignment policies, and the new Indian Prime Minister, Chandra Shekhar, was forced to halt the operations.

Following the Gulf War, however, Indo-American military cooperation improved as the two nations conducted a joint naval exercise in 1992 and signed a pact on military cooperation in 1995.[26] Additionally, the United States continued to provide technical support to India's Light Combat Aircraft (LCA) program and also authorized the transfer of 315 Texas Instruments Paveway bomb-guidance kits to the Indian Air Force.[27] Despite these efforts, Indo-American relations continued to flounder.

During the first term of the Clinton Administration, the United States adopted foreign policy goals in South Asia based upon human rights issues, the desire to resolve tensions in Kashmir, and the need to "cap, roll-back and eliminate" nuclear weapons in the region.[28] As the Clinton Administration continued into its second term, there appeared to be no attempt to readdress Indo-American relations. "One third of the Clinton Administration saw India in terms of arms control, one third saw it as an economic opportunity and one third saw it as a possible strategic partner. There was no policy review, no attempt to bring all this together."[29] Additionally, in 1995, the U.S. Congress passed the Brown Amendment, which lifted most of the sanctions dictated by the Pressler Amendment and allowed the sale of $658 million worth of military equipment to Pakistan.[30] Finally, the United States chose not to impose sanctions on China for the transfer to Pakistan of M-11 missiles and parts and 5,000 ring magnets for Pakistan's unsafeguarded centrifuges.[31] From the Indian perspective, in the early post-Cold War years, the United States continued to show a preference towards Pakistan and China while simultaneously infringing upon Indian sovereignty.

RUSSIA'S POST-COLD WAR VIEW OF INDIA

Unable to stabilize its own domestic environment, Russia's leadership, specifically President Boris Yeltsin, emphasized a need for the "'de-ideologization' of its foreign policy."[32] This "de-ideologization" policy resulted in Russia adopting a "wait and see" policy towards India.[33] "The main thing was that Moscow wanted its policy towards India to be pragmatic and flexible."[34] Perhaps the greatest source of Russian neutrality towards India during the transition period of the early 1990s was a Russian political leadership that was "dominated by 'Westerners' and the 'Atlanticists.'"[35] Mikhail Gorbachev and Boris Yeltsin both

appeared to rest their hopes for a rejuvenation of the Russian economy on some variant of the Marshall Plan.[36] Both men failed to understand that a Marshall Plan scenario—at least in the variation pursued in West Germany—required not only defeat but also an occupation of the targeted state to ensure that the required infrastructure and "rule of law" were in place. As is well documented, the tremendous amount of corruption and disorganization within Russia's bureaucracy curtailed the potential effectiveness of Western financial assistance.

The foreign policy struggle between the "Westerners" and "Asia first" groups in the new Russian state placed Indo-Russian relations in a precarious position. Two schools of thought concerning India existed within Russia in the early 1990s. The first school was composed of academics, members of the Duma and the defense industry who believed that Russia should maintain its "special" relationship with India.[37] A strong India, they argued, could help fight the wave of Islamic fundamentalism that was sweeping across the Central Asian region between Russia and India. Additionally, this group believed that a strong India could offset the hegemonic status of the United States. If Russia promoted areas of regional strength throughout the globe, this school believed, the United States' ability to rest upon its post-Cold War laurels would be short-lived.[38] Finally, India was the top importer of Soviet armaments during the final years of the Cold War, and many experts in Russia believed that this income source was crucial in Russia's transition to a free-market economy.[39]

The second Russian school of thought concerning future relations with India was headed by Russian Foreign Minister Andrei Kozyrev. This group believed that Pakistani relations were more valuable in fulfilling Russia's immediate foreign policy and security concerns. The southern periphery of Russia was a hotbed for Islamic

fundamentalism and Pakistan held the necessary credentials to be an effective middleman for Russia. This view obviously countered the pro-India school that believed the solution to the growing Islamic threat was a strong Indian counter-balance. Finally, the Russian Foreign Ministry considered Pakistan, Iran, and Turkey as having a higher priority than India due to their geographic proximity to Russia.[40]

As the transition from Soviet to Russian rule took place, the anti-India school of thought dominated Russian foreign policy-making. This domination resulted in a major shift in Soviet/Russian policy towards South Asia. "In November 1991, when the Soviet Union was breathing its last, in a dramatic change of policy, Moscow suddenly supported the Pakistan-sponsored UN Resolution calling for the establishment of a nuclear-free zone in South Asia to the great consternation of New Delhi."[41] A nuclear-free zone would mean that both India and Pakistan would discontinue their nuclear programs and become "equals" as non-nuclear states. The signal sent by the collapsing Soviet regime, with many of its leaders taking positions in the new Russian government, was that it sided with the West and Pakistan against India's ambitions for regional leadership and security.

A second impetus for Soviet/Russian support of the Pakistani-sponsored resolution may have been the strong desire to put closure to the war in Afghanistan. To accomplish this, the Soviet/Russian leadership wanted to "secure the release of their prisoners of war who were in the custody of the Pakistan-backed Mujahideen factions."[42] In January 1992, one month after a delegation of Afghan Mujahideen traveled to Russia, Moscow severed all "military supplies, ordnance and fuel for military transport" that were sustaining the Najib government's war effort against the Mujihadeen. This decision effectively negated the airpower advantage that the Najib government

had held over the Mujihadeen and tilted the conflict back in favor of the insurgents. New Delhi felt a certain sense of betrayal because of the reversal in Soviet policy since the Indian government had worked with the Soviet Union in supporting the nationalist and secular Najib government.[43]

STRAINED INDO-RUSSIAN RELATIONS

It was in this atmosphere of uncertain Russian foreign policy objectives that the post-Cold War relations between Russia and India were further strained by two events. The first of these destabilizing events centered around a contract dispute between the Russian space directorate "Glavkosmos" and the government of India for the purchase of cryogenic engines and the related technology. The contract, signed on 18 January 1991, stemmed from India's desire to gain knowledge of the liquid oxygen propulsion system of Russian cryogenic engines in order to advance India's geo-synchronous satellite launch vehicle (GSLV) program. If produced indigenously and without Russian assistance, the project was forecast to require fifteen years until it would be operational.[44] For Glavkosmos, the $350 million deal would provide crucial funds during a period of tremendous reductions in Russian defense expenditures.[45]

Over the next two years, the United States protested the proposed transfer of missiles and technology to India on the grounds that the sale would violate the April 1987 Missile Technology Control Regime (MTCR). The growing threat of missile proliferation became well known to the United States following the Iraqi Scud missile attacks during the Gulf War[46] and the testing of India's Agni IRBM missile in 1989. However, the ability of the United States to coherently protest the sale was hampered by the changing of governments in Moscow as the Soviet Union collapsed and as the U.S. Executive

Branch changed administrations from President Bush to President Clinton.[47]

From the Indian and Russian perspectives, the cryogenic engine deal was legal under the MTCR on the grounds that the treaty did not block the support of "peaceful space ventures."[48] Furthermore, India asserted that U.S. attempts to block the sale were financially motivated since General Dynamics and the French space-booster manufacturer Arianespace had both been outbid by Glavkosmos.[49]

The new Russian government under Boris Yeltsin promised India's leadership that it would not give in to U.S. diplomatic pressure. This promise was compromised, however, after the United States applied sanctions in May 1992,[50] and threatened further economic measures. On 16 July 1993, Boris Yeltsin agreed to suspend the transaction and to alter the nature of the transfer to the sale of only the cryogenic engines and not the technology.[51] In exchange, Glavkosmos was given bidding rights on over $950 million worth of future U.S. space projects.[52]

While the ability of India to indigenously produce GSLVs and ICBMs was delayed by several years due to the cancellation of the original cryogenic engine deal, the main concern in New Delhi was that the Yeltsin government had given in to Western pressure. "The conclusion they drew was that Russia's overriding need for American economic aid would make it susceptible to American pressure. In Indian eyes, Russia is unreliable, and it has also lost its international stature."[53] As Indo-Russian relations appeared to weaken under Western pressure, direct bilateral interactions between the two states also revealed tensions.

During the same time frame as the cryogenic engine fiasco, the "rupee versus ruble" debate flared up in Indo-Russian relations. As

the Cold War concluded, India had an amassed debt of $12-16 billion owed to the Soviet Union for arms purchases. While India proved willing to pay off its debt, a dispute emerged between the two states over the nature of the currency and the exchange rate that would be used. As noted earlier, the Soviet Union had been willing to accept rupee-for-arms arrangements since the initial Soviet intent in the military cooperation was to use India as a strategic counter-balance, not a financial pool. Since there was not a huge demand for Indian imports in the Soviet Union, almost half of the rupee-based debt remained in Indian banks uncollected.[54] When the new and financially strapped Russian state took over the old Soviet trade books, the vast Indian debt became an issue of concern. "Goodwill alone cannot forge mutually advantageous economic ties. Trade between Russia and India almost collapsed in 1991-92 because of arguments over the rupee-ruble exchange rate and the amount India owed Russia as the successor state to the USSR."[55] After much domestic squabbling in each country, a resolution was reached in January 1993 that called for India to repay Russia $1 billion a year in Indian goods until 2005, after which the remaining thirty-seven percent of the debt would be repaid, interest free, over forty-five years.[56]

Although a repayment schedule was established, controversy over distribution of the "Rupee Fund" continued. Russia had originally agreed to establish a three-year import schedule with India which would allow Indian exporters to forecast the amount of products needed in advance. In September 1994, the Russian government reversed this decision out of fear that long-term financial commitments would be too constricting. The new plan offered by Moscow provided a 180-day export forecast to Indian producers.[57]

To further stimulate investor interest in India's currency, the Russian government began to auction off vast sums of the Indian currency to Russian importers at discounted rates. The average discount of fifteen percent during the auctions led to rampant corruption and manipulation of the rupee fund, especially among Russia's banking oligarchy.[58] Meanwhile, the Indian government continued to petition Russia to accelerate the repayment schedule while it simultaneously maintained its protectionist import-export policies.[59] By 1993, the level of bilateral trade between India and Russia had dropped to one-fifth of the 1990 level of $5.5 billion.[60]

India was finally revived in the Russian strategic focus in January 1996, when Yevgeny Primakov replaced the pro-Western Andrei Kozyrev as Russia's Foreign Minister.[61] The result was an immediate swing in Russia's foreign policy focus that included considerations for both the Western and Eastern Hemispheres. A clear signal was sent by Moscow to New Delhi, and the rest of the world, one year later when an agreement was reached to build two Russian light-water nuclear reactors (LWR) in India in defiance of a Nuclear Suppliers Group ban.[62] "The two countries signed an accord paving the way for the construction of two 1,000 MW light water nuclear reactors at Kudankalam in Tamil Nadu. Hence it seems that Russia would not succumb to external pressure this time."[63] Diplomatically, Russia appeared to no longer look strictly westwards.

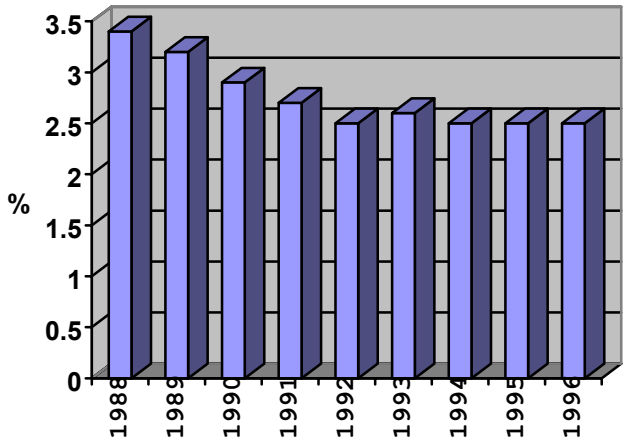
INDIA'S MILITARY NEEDS AND RUSSIA'S SUPPLIER-DEPENDENCY

The primary short-term military concern for India in the early 1990s was its limited supply of spare parts and supplies for its Soviet-produced armaments.[64] After three decades of reliance on Soviet-produced hardware, India was in a position in 1991 in which seventy

percent of Army armaments, eighty percent of Air Force armaments, and eight-five percent of Navy armaments were of Soviet origin.[65] Lacking the indigenous capability to produce spare parts and supplies for these systems, India's military faced an immediate crisis. The break-up of the Soviet Union had caused a fracture in the Soviet-Indian military supply-line as the administrative control and actual locations of the Soviet defense industries were situated throughout the newly independent states. "As Air Vice-Marshall S. Krishnaswamy noted with some understatement, there was a 'hiccup' in supply relations during 1991-92."[66] Over-reliance on Soviet military hardware had allowed India to postpone developing a self-reliant indigenous defense industry. More to the point, "the dependence on Russian weapons over 30 years was a serious strategic defect."[67]

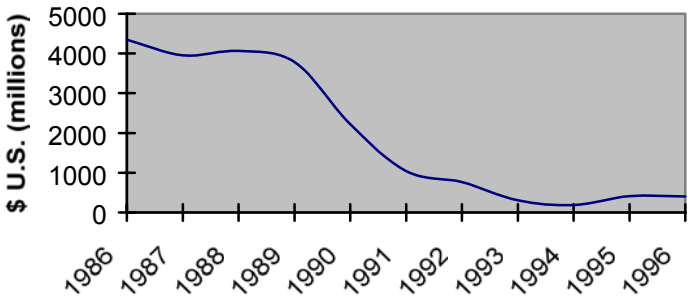
In response to its economic crisis in 1990-91 and the temporary loss of its primary foreign arms supplier, India imposed a reduction in defense expenditures and a sharp reduction in arms importation (see Figures 1 and 2 below). After having been the top importer of conventional weapons in the world during the period from 1988 to 1992,[68] India was ranked as the twenty-third largest importer of conventional arms by 1996.[69] Meanwhile, Russia's share of the global arms market dropped from thirty-two percent in 1989 to eight percent in 1994.[70] The inability of Russia to continue the Soviet flow of military hardware, coupled with the sharp reduction in Indian military expenditures, weakened the primary bond that had united India and the Soviet Union during the Cold War (see Figure 3).

Figure 1: Indian Military Expenditures as a Percentage of GNP, 1988-96



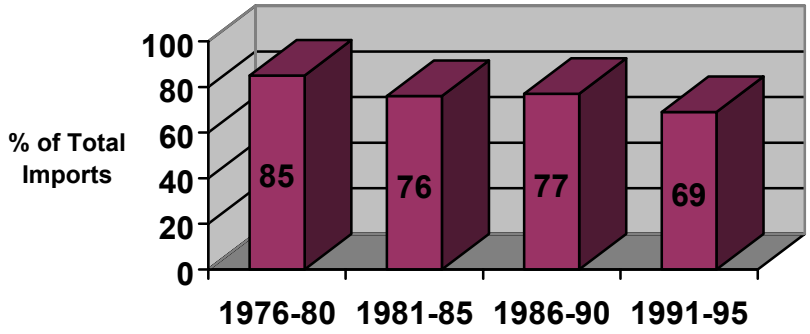
Source: *Armaments, Disarmament and International Security, SIPRI Yearbook 1998* (New York: Oxford University Press, 1998), 230.

Figure 2: Indian Arms Imports in Constant 1996 U.S. dollars



Source: Data obtained from, *World Military Expenditures and Arms Transfers, 1997* (Washington, D.C.: Arms Control and Disarmament Agency, 1998), Table II. Available online: <http://dosfan.lib.uic.edu/acda/wmeat97/wmeat97.pdf>.

Figure 3: Percentage of Indian Arms Imported from the Soviet Union/Russia



Source: *Armaments, Disarmament and International Security: SIPRI Yearbook 1996* (New York: Oxford University Press, 1996), 482. Table 11.8.

THE ROLE OF RUSSIAN INTEREST GROUPS

> Until the communist collapse, the Indo-Soviet relationship prospered because of the need for a balance against the West, and shared security and geopolitical concerns. The new Indo-Russian relationship will have to be based primarily on business interests, and colored only marginally by geopolitics and security.[71]

By the mid-1990s, however, the recovery of the Indian econ

complex quickly mended the temporary "hiccup" in Indo-Russian military cooperation. In 1995, the sale of Russian arms on the international market increased by sixty percent over the previous year's total as the state shifted from "an ideological to a market-driven approach to selling its military hardware."[72] Along with this shift in Russian arms sales practices came the decisive influence of Russian

interest groups.[73] During the Cold War, decisions to sell Soviet weaponry abroad had been made by the Politburo. But in the post-Cold War era, the choice of where and when to sell Russian arms rested with the power-brokers of the Russian military-industrial complex.[74] As Vitaly Kataev, the General Director of Russia's Center of Military Industrial Complex, remarked, "Economics dictate the routes of trade."[75]

The likelihood of Russian interest groups dictating future military cooperation with India appears high. India buys more hardware from the Russian defense industry than Russia's own military forces.[76] Estimates show that about eight hundred Russian defense production facilities are kept in operation by Indian defense contracts.[77] Russian exports to China and India amount to about forty-one percent of the total revenue brought in by Russia's defense industry.[78] The signing of a ten-year Indo-Russian agreement on military-technical cooperation, worth $15 billion, in the aftermath of the Pokhran II tests is an example of this trend.[79] "In this sense it can be assumed that at the very least up to 2010, when aging begins of the most advanced Russian models already existing (SU-30MK and SU-35/37, T-90S tank, Mi-28 and Ka-50/52 attack helicopters), Russia can count on preserving a stable Indian demand for relatively large lots of arms and for their manufacturing technology."[80]

Outside the paradigm of arms sales, several trends are emerging that may promote strong Indo-Russia cooperation. The first is a common security interest as both countries have strong concerns about the spread of Islamic fundamentalism, the potential Chinese threat, and the prospect of U.S. world hegemony.[81] "In private discussions Russian and Indian diplomats willingly open the cards: both Moscow and New Delhi see a threat in the excessive strengthening

of China and the Islamic extremists."[82] Furthermore, by promoting the rise of Indian power, Russia may be able to offset the "heat of NATO's eastward extension."[83] There also remains a school of thought that Russia may be able to learn from India some lessons for sustaining a multi-ethnic, multi-linguistic democratic state. Finally, both states face an increasing criminal threat centered around narcotics and illegal arms smuggling.[84]

11 MAY 1998: POKHRAN II

> The current disharmony, therefore, between India and the rest of the globe is that India has moved from being totally moralistic to being a little more realistic, while the rest of the nuclear world has arrived at all its nuclear conclusions entirely realistically. With a surplus of nuclear weapons and the technology for fourth-generation weapons, the other nuclear powers are now beginning to move towards a moralistic position. Here is the cradle of lack of understanding about the Indian stand.
>
> -Jaswant Singh[85]

A decisive turn was made along the historical path of India's nuclear program when the Rajastan desert was rocked by three nuclear explosions on 11 May 1998. This decision to overtly weaponize after twenty-four years of "restraint" has been the subject of much scrutiny in nonproliferation studies. The reasons normally highlighted as possible catalysts include: *technological considerations*, in that India needed to update the limited test data acquired in the 1974 test to allow supercomputer simulations for designing future warheads; *security concerns*, in that the recent testing of Pakistan's IRBM Ghauri missile and increasing Sino-Pakistani military cooperation reduced India's geo-strategic buffer zone; *normative factors*; in that nuclear weapons remain a symbol of international power;[86] and *domestic politics*, in that the Bharatiya Janata Party (BJP) had recently become the major party

in the ruling Indian coalition after an election campaign which included an open promise to make India a nuclear power.[87] Of these four rationales for India's 1998 tests, the normative and domestic politics motivations appear most salient when subjected to close scrutiny.[88]

POST-COLD WAR TRENDS: A BALANCE SHEET

In the post-Cold War era, several definitive trends have emerged that do not bode well for American security interests in South Asia. India and the United States have allowed Cold War differences to persist untreated. These differences have consequently festered into a "we-versus-they" dialogue that promotes conflict rather than cooperation. While the decision to conduct the Pokhran II tests was motivated only partially by sentiments against American unilateralism, the effect has been a widening gap in Indo-American ties.

Furthermore, the revival of Indo-Russian military ties, driven by economic factors, has placed the United States in a quandary in which the Indo-Russian connection can only be severed by counter-offers of third-party arms[89] or the slow but eventual emergence of Indian self-sufficiency. These options are long-term in nature and cannot offset India's short-term dependence on its Soviet-era military systems. Moreover, the likelihood of the United States authorizing the sale of high-technology arms to India after years of nonproliferation-centric diplomacy is minimal.

Finally, the most recent developments in Indian strategic culture have rejuvenated India's quest for global status and equity. The rise of the BJP has resulted in a new approach to international nuclear politics in New Delhi. India has played its nuclear card in the hope of receiving international power status. Having based Indian nationalism on the image of nuclear strength, it is unlikely that India will unilaterally rollback its program.

CONCLUSION: IMPLICATIONS FOR U.S. SECURITY INTERESTS

> Civilization clash is not so much over Jesus Christ, Confucius, or the Prophet Mohammed as it is over the unequal distribution of world power, wealth and influence, and the perceived lack of respect accorded to small states and peoples by larger ones. Culture is the vehicle for expression of conflict, not its cause.[90] Although it has become fashionable to argue that economic strength, not military might, is now the international currency of power, neither the patterns of post-cold war military expenditure and arms development nor the primacy of muscle and force in international relations supports that thesis…India has learned the hard way that a unilateral desire for peace cannot bring about peace. A country can enjoy peace only if it can defend peace.[91]

The above statements highlight the crucial contradiction that currently exists between Western nonproliferation goals in South Asia and Indian nuclear aspirations. While foreign and domestic critics of India's nuclear program have argued that the direct costs and opportunity costs associated with developing a nuclear deterrent are too high for an economically strapped nation such as India to undertake,[92] the statement by Brahma Chellaney, one of the creators of India's new draft nuclear doctrine, asserts that economic concerns are secondary to the strategic and normative advantages afforded to India by the acquisition of nuclear arms. These polar views result in a "chicken or the egg scenario" in which one side argues that economic strength and stability are a prerequisite to modern global power and the other side argues that modern global power, symbolized by nuclear strength, provides security and can open the door to future economic growth. In this scenario, the resilience of the Indian view is amplified by a strategic culture that exudes suspicion towards Western motives as well as a deep drive towards decision-making free from external pressures.

This section explores three crucial topics surrounding the current nonproliferation standoff between the United States and India. The first is an analysis of the most likely path that India will pursue in the development of its nuclear deterrent. Enmeshed in this discussion is the role of Russia, and other foreign suppliers, in assisting the creation of a "credible" Indian nuclear triad. The second topic discusses the extent to which India's nuclear program is a direct threat to American security interests. This discussion includes both the global implications for American nonproliferation efforts and the hypothetical existence of a direct military threat to American power projection in the Indian Ocean. Finally, the third topic explores future policy options for the United States in India specifically, and South Asia in general.

INDIAN STRATEGIC CULTURE AND FUTURE NUCLEAR EXPANSION

In the preceding discussion of the parallels between India's strategic culture and the development of its nuclear weapons program, the key aspect of the "green signals" of 1948, 1964, 1974 and 1998 is that they all symbolize an Indian stair-stepping approach to the creation of a nuclear arsenal.* From the Indian perspective, which is crucial to understand in a nonproliferation framework, the Indian nuclear weapons program has demonstrated fifty-one years of "restraint."[93] This Indian perspective is well encapsulated by a policy paper delivered by Indian Prime Minister Vajpayee two weeks after the Pokhran III tests.

> Our nuclear policy has been marked by restraint and openness. Restraint, however, has to arise from strength. It cannot be based upon indecision or doubt. Restraint is valid only when doubts are

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* The 1948, 1964, and 1974 "green signals" are fully developed in the Naval Postgraduate School thesis.

> removed. The series of tests undertaken by India have led to the removal of doubts.[94]

The argument about a "restrained" Indian nuclear weapons program is not meant to discount the motives of many members of the Indian "bomb-lobby." As mentioned above, strategic concerns, domestic politics, and international norms have all played crucial roles in the growth of the Indian bomb program. Homi Bhabha utilized the strategic fears created by the Chinese nuclear test in 1964 to obtain authorization to develop the nuclear option.[95] Despite these strategic "fears," Prime Minister Shastri authorized the pursuit of the nuclear *option*, but did not authorize the actual building of a *weapon*. While this may seem to be a simple case of semantics, from the viewpoint of Indian strategic culture and nonproliferation analysis, a nuclear *option* and a nuclear *weapon* are two diametric concepts. One represents strength and the other represents *restrained strength*. It was quite fitting, therefore, that when "India…moved from being totally moralistic to being a little more realistic"[96] and conducted the Pokhran II tests, the operation would be codenamed "Operation *Shakti*" (Strength). The most recent step up the ladder of Indian nuclear restraint was the release of India's draft "minimal deterrent doctrine." If one were to project the next rung up the ladder, the signing of a Fissile Material Cut-off Treaty (FMCT) or a Comprehensive Test Ban Treaty (CTBT) would still allow India to develop its arsenal while restraining the size of the arsenal. As India views most arms control treaties as discriminatory in nature, these treaty options would only come to fruition if the original P-5 states also became signatories and ratified the treaties.

Before projecting what step, or series of steps, India might take next in the development of its nuclear arsenal, it is necessary to

evaluate the strength of current strategic, normative and political incentives for further proliferation. As the above discussion highlighted, domestic politics have always been a necessary catalyst for any major progression in India's program. The obvious difficulty with basing a projection on proliferation on the domestic politics of another country is that politics can be very difficult to predict and, from a policy standpoint, the ability to influence domestic politics within another country may be nearly nonexistent.

Despite this obstacle, certain trends in Indian politics can be tracked, especially in light of recent Indian national elections.[97] Since the initial euphoria that swept India following the Pokhran tests of 1998,[98] domestic politics have returned to the normal subjects of infrastructure improvements, overpopulation, insurgencies, illiteracy, and poverty. Unable to deliver in these key areas, the BJP lost a significant segment of its voter base early in 1999 and subsequently lost cohesion within the ruling coalition with a resulting fall from political power. While serving as a caretaker and awaiting elections in the fall, Prime Minister Vajpayee returned the nation's focus to the same issue that was central to his election victory in 1998, nationalism based on Indian military strength. In the three months leading up to the fall 1999 elections, three events signaled that the BJP would indeed continue to use the nuclear issue as a tool in domestic politics.

The first was the BJP's use of the fighting in Kargil between Indian armed forces and Islamic insurgents and Pakistani armed forces. The BJP successfully packaged the military operation as a "victory" for India.[99] Adding to Indian nationalism was the outrage caused by the torture and execution of captured Indian pilots and soldiers.[100] Kargil also fueled the nuclear issue in India due to BJP claims that the fighting in Kashmir validated the decision to go nuclear in 1998 since the

overall threat of nuclear retaliation prevented Pakistan from escalating the conflict. This last view has been sharply contested by critics who hold that the Kargil crisis would not have even started without Pakistan having been afforded strategic parity with India after testing its own nuclear weapons in response to the Indian nuclear tests.[101]

The second recent signal of a BJP-driven resurgence of nuclear politics came in August 1999 during several Independence Day speeches in which Prime Minister Vajpayee and other BJP leaders declared that India would induct its new Agni II IRBM missile into the operational inventory.[102] Coming one month before the commencement of national elections, this declaration that India would pursue the deployment of a missile that has been specifically advertised as a deterrent asset against China[103] has again shown the willingness of the BJP to utilize the "Chinese threat" as a tool in domestic politics.

The final example of the BJP's willingness to utilize India's nuclear weapons for the garnering of votes can be seen in the decision to release the draft of India's nuclear doctrine. Despite the fact that the draft had been approved for release for over two months, the BJP-led government did not publish the document until weeks before the commencement of national elections.[104] What this incident and the Kargil and Agni II examples have demonstrated is that the BJP, unable to resolve the true domestic concerns of poverty, overpopulation and infrastructure bottlenecks, has continued to show a willingness to engage in nuclear gestures to secure its political power base.

While domestic politics may be pushing India's nuclear program towards expansion, the primary obstacles to the growth of India's nuclear program are financial and technological. The greatest criticism of the draft nuclear doctrine is that it does not specify the actual size of India's "minimal deterrent." The absence of size

projections and deployment timelines has led to greater ambiguity over how much India's nuclear deterrent will cost.[105] What seems to be a common opinion is that the decision to pursue a nuclear triad is not, from an economic viewpoint, "minimal."

One study projects a nuclear arsenal of 328 warheads with a nuclear triad and the required command and control structure costing $14.2 billion over thirty years. The study goes on to highlight an opportunity cost of over $48 billion due to "sanctions, lost business, trade and investment,"[106] bringing the total cost of the arsenal to approximately $62 billion over a thirty year period (in 1998 prices). This equates to 2.38 percent of India's GDP annually.[107] Not included in this estimate, however, are the vast costs associated with training personnel and deploying and maintaining equipment. According to one study, "building bombs consumed just seven percent of the total cost of the U.S. nuclear weapons program."[108]

The lost opportunity costs associated with India's nuclear weapons program are particularly difficult to predict, but also crucial to understand, in light of India's domestic needs. Dr. Peter Lavoy, who is currently the Director of Counterproliferation Policy in the Office of the Secretary of Defense, cites one study that concludes that "a single Agni missile costs as much as the annual operation of 13,000 health care centers."[109] Additionally, numerous studies have shown that crucial foreign investments have dropped in India due to loss of confidence in India's economic future.[110] While the BJP remains adamant that sanctions and the costs associated with building a credible deterrent are only short-term in nature, one can argue otherwise.

India's ability to develop a credible nuclear deterrent also centers on its ability to produce, procure, and maintain the delivery vehicles and warheads associated with a "minimal deterrent." At the

time of its tests in May 1998, India was believed to have twenty to thirty nuclear warheads in its arsenal.[111] If Indian designs require five kilograms of weapons-grade plutonium per bomb, and India has an on-hand store of approximately 400 kilograms and a production capacity of 20 kilograms (four bombs) of weapons-grade plutonium a year,[112] India can reach a level of just under 200 warheads by 2020.

The greatest obstacle to the deployment of a nuclear triad by India, however, lies in the issue of delivery vehicles. While continuing to emphasize the need to develop self-reliance in the procurement of its military hardware, India has been unable to surmount many of the technological, bureaucratic, and financial obstacles to self-sufficiency.

RUSSIA'S SUPPORT OF INDIAN EXPANSION

While India continues to invest in the development of its indigenous aviation, naval, and tank programs, notably the Light Combat Aircraft (LCA) and Arjun tank, it has been forced to continue to rely upon imports to meet its requirements for modernization of its conventional forces and the development of a nuclear triad. For strike aircraft, India is acquiring forty SU-30MKIs aircraft, plus IL-78 refuelers and IL-76 airborne early warning aircraft for strike support.[113] Additionally the purchase of four Russian TU-22Ms strike aircraft and 16 to 18 French 2000 D Mirage fighter aircraft "soft wired for carrying nuclear missiles" is also being negotiated.[114] To compensate for the high cost associated with the direct purchase of these systems, Russia has even offered to "lease" IL-76s and Tu-22s to India.[115]

The most controversial area, however, where India is reported to be receiving military assistance is in the development of its "indigenous" nuclear-powered submarine and submarine-launched ballistic missile (SLBM). India's Advanced Technological Vessel (ATV) program dates back to 1988 when India leased a Soviet Charlie-

I Class SSN for three years.[116] The knowledge shared and relationships established with the Soviet Navy during this period are reported to continue today as India struggles with the design of its propulsion plant and the installation of the reactor in the submarine hull.[117] Additional reports indicate that the hull design and reactor design of the two unfinished ATVs are based on the new Russian Project 885 Severodvinsk Class and its 190MW pressurized water reactor.[118] Additionally, the former "apprentices" of the Indian Navy during the three-year period of the submarine lease "have taken key posts in Indian design offices developing nuclear submarines."[119] Finally, an entire Indian submarine crew is reported to have spent at least six months during 1999 "on an official mission" in the closed northern Russian city of Severodvinsk.[120]

The U.S. Department of State reported during 1998 that Russia was helping India develop the "Sagarika," a submarine-launched ballistic missile.[121] The Sagarika has caused Indian scientists difficulty, especially with its guidance systems, and many foreign observers state that the system is a "far cry" from being operational.[122] Again, Russian scientists are reported to be supporting this "indigenous" project.[123]

While the transfer of nuclear technology for military purposes is in violation of numerous international treaties, it is difficult to determine whether "Russian support" of the ATV and Sagarika projects is state-sponsored or a product of individual scientists left unemployed and unaccounted for after the collapse of the Soviet Union. "No one knows where all the weapons scientists have gone."[124] However, if one considers the role of Russian interest groups in influencing Russian policy decisions, it is worth noting that the Rubin design bureau of St.

Petersburg, one of Russia's two major submarine design bureaus, designed and developed the Severodvinsk-class submarine.

AREA DENIAL AND THE INDIAN "THREAT"

The current inability of the United States to exert successful unilateral diplomatic or economic pressure on India highlights a pattern of waning U.S. prestige and diplomatic power toward India since the end of the Cold War.[125] Because America is unable to achieve its ends through economic and diplomatic means alone, some Indian observers have speculated, the United States may decide to utilize "the military option" to influence India during future regional crises. Reviving Indian images of the show of force by the *U.S.S. Enterprise* in 1971, this U.S. military "influence" would most likely be naval in nature and would entail power projection. From the viewpoint of Indian analysts, the United States is already preparing for this inevitability by conducting war-game simulations of such a scenario.[126]

To counter American intervention, India's military establishment has advocated the procurement of "sea-denial assets," such as the ATV project.[127] "The Indian Navy would need to possess the ability to raise the costs of American military and naval intervention against India…. The development of even limited 'sea denial' capabilities against US military forces at sea could assist an attempt to deter an attack of this nature in the first place."[128] Since it is unlikely that the Indian government would attempt to engage the United States in a full-blown war, India's strategy would center on making the cost of any U.S. intervention too high. As an internal Indian Navy study, dated one week after the Pokhran II tests, states: "Should it be possible for the target nation to be able to retaliate to cause significant losses, casualties or *embarrassment*, the strategy of intervention is not normally resorted to."[129] While the possibility of a direct military

confrontation between India and the United States may seem remote, this possibility has evidently been considered in New Delhi.

POLICY OPTIONS FOR THE UNITED STATES

> In 1998, both India and Pakistan tested nuclear weapons. Neither country has real-time surveillance capability; reliable command, control and communications; or early warning systems. This vulnerability could lead to a launch on warning posture, further aggravating the subcontinent's already serious instability. Moreover, this rivalry increases the possibility of Chinese and Russian involvement and more explicit missile and nuclear assistance.[130]
>
> -The Deutsch Report, 1999

> The nuclear tests by India and Pakistan in May 1998 awoke the world to the reality that the spread of nuclear weapons had reached a dangerous new phase. Two regional powers with unresolved antagonisms had made their nuclear ambitions overt. The tests reflected the failure of global non-proliferation norms to prevail over regional security imperatives, and increased fears that regional conflicts could turn into real nuclear wars.[131]
>
> -The Tokyo Forum, 1999

Having reviewed the historical motivations for nuclear proliferation in India and the current prospects for India to continue to expand its nuclear weapons capabilities, policy options for the United States must be discussed. Pokhran II has taught the United States several lessons concerning its nonproliferation policies that can be applied in South Asia and, to some extent, globally. While some observers cite the inability of the United States to prevent India's overt testing in May 1998 as a failure in American efforts, the analysis in this thesis of India's strategic culture suggests that India's decision to test was driven primarily by domestic politics, and was therefore beyond the reach of American nonproliferation efforts.

The ability of the United States to rollback and eliminate India's nuclear arsenal hinges on the willingness of the other P-5 states to pursue this objective,[132] and this is unlikely in the foreseeable future. As early as 1965, a National Security Council report to President Johnson noted that "lessened emphasis by the United States and the Soviet Union on nuclear weapons and agreements on broader arms control measures must be recognized as important components on the overall program to prevent nuclear proliferation."[133] The statement by Brahma Chellaney, quoted in the beginning of this chapter, expresses the Indian belief that nuclear weapons remain a symbol of global power. If the United States and the other members of the P-5 opt to retain nuclear weapons, Indians argue, they cannot realistically expect India to abandon its arsenal; and they should therefore abandon such foreign policy goals.

Additional South Asian foreign policy objectives of the United States that require review are the goals of obtaining accession to the CTBT and the projected FMCT by India and Pakistan and a bilateral no-first-use agreement. Until the United States Senate ratifies the CTBT, or another treaty regime with significant testing restrictions, India's leadership will continue to view its stance on the treaty as "vindicated."[134] Pakistan in turn has linked its accession to the CTBT with India's; and Islamabad also appears unlikely to adhere to the projected FMCT due to a perception of strategic inferiority, in view of India's superior air force and air defense systems.[135] Moreover, the likelihood of securing a Pakistani promise for no-first-use of nuclear weapons is minimal as this strategic inferiority feeds Pakistan's sense of vulnerability.

American foreign policy in South Asia should recognize that India and Pakistan *will* expand their nuclear arsenals. It is incumbent

upon the United States to ensure that said expansion is conducted in a limited and safe manner. The concerns highlighted above by the Deutsch Report and the Tokyo Forum for Nuclear Non-Proliferation and Disarmament are real. While both India and Pakistan claim that their nuclear arsenals are stable and safe due to their limited size, factors other than "size" can trigger nuclear release.[136] Included in these factors are the lacunae of "real-time surveillance capability; reliable command, control and communications; or early warning systems."[137]

According to some interpretations of the NPT, the United States cannot provide India and Pakistan with nuclear-related command and control systems.[138] However, transparency can be created with the sharing of American-provided intelligence and monitoring data with both states.[139] The possibility of a border conflict escalating into a nuclear exchange should be weighed against the limited real-time intelligence capabilities of both states. During the Kargil crisis of 1999, a recurring complaint was that India's satellites and airborne reconnaissance assets did not provide adequate early-warning and imagery quality.[140] A Pakistani P-3 maritime surveillance aircraft was shot down during the waning days of the conflict while it performed a reconnaissance mission.[141] Lacking the technical capability for transparency during regional conflicts, India and Pakistan may fall victim to misperceptions.[142]

The benefit of American-provided technical transparency is it would take the orchestration of confidence-building measures out of the hands of India and Pakistan and *direct* it equitably to both states. While this may appear to be a case of American intervention in the internal matters of the subcontinent, India and Pakistan both proved willing to accept American-supplied intelligence as a de-escalatory

mechanism during the 1990 Kashmir crisis.[143] Left to their own devices, India and Pakistan have not historically taken confidence-building measures seriously enough. Providing the rhetoric but not the action, neither state's leadership has viewed CBMs for what they are: potentially useful instruments of national security, at least in some circumstances.[144]

Additionally, the United States should actively educate India and Pakistan about the vast hidden costs associated with deploying and maintaining a nuclear triad.[145] While such information may not sway deployment decisions, a foundation of nuclear knowledge can influence the deployment levels selected.

Another area of potential U.S. engagement in India concerns its vulnerable and crucial domestic economy and infrastructure projects. Measures to encourage U.S. investment in India will not only improve diplomatic ties between the countries, but will also greatly reduce anti-American sentiment among the Indian populace.[146] Additionally, the arena of joint oil exploration projects holds promise:[147] "By the early part of the next century, India would become the third largest consumer of petroleum products in the world, after the People's Republic of China (PRC) and Russia."[148] In 1996-97, India imported approximately fifty percent of its crude oil demand, and by 2010, this import-to-domestic-demand percentage is expected to increase to seventy-three percent.[149]

Finally, the United States must address the role of Russia in South Asia. While there is no reason to recreate the Cold War competition, the willingness of Russia to undermine U.S. nonproliferation and security policies in South Asia raises serious questions. The difficulty arises, however, when American policy must cater to and "buy-out" Russian interest groups. While the United States

may have been successful in such an endeavor with the cryogenic engine deal, the recent failure to block the sale of two light-water reactors to India shows the limits of American diplomatic and financial weight. The United States does, however, continue to hold considerable influence in the World Bank and the IMF and can affect investor confidence in Russia through these institutions.

The history of Indo-Russian military cooperation provides a foundation for understanding the current rift in Indo-American relations and the ability and willingness of India to defy American nonproliferation goals. Moreover, Indian strategic culture highlights the likely course of military and nuclear expansion in India and how said course may cross the path of American forces and interests. While India is not a rogue state, future policy and doctrinal decisions by its leadership could result in the first bilateral nuclear exchange in history (with Pakistan or China) or lead to direct conflict with the United States. It is imperative that future American policy be designed to avoid such events.

ENDNOTES

[1] Strobe Talbott, address at the India International Center, New Delhi, India, 30 January 1999. Available online: <http://www.state.gov/www/policy_Remarks/1999/990130_ talbott_india.html> [25 July 1999].

[2] "India Spells Out Draft N-doctrine." *The Hindustan Times* (18 August 1999). Available online:<http:www.hindustantimes.com> [19 August 1999]. "India Reserves Right To Retaliatory N-strikes." *The Times of India* (18 August 1999). Available online: <http://www.timesofindia.com > [19 August 1999].

[3] Pokhran II is the name normally attributed to the testing of three nuclear weapons by India on 11 May 1998 at the Pokhran test range in India's Rajasthan desert. Pokhran I was the execution of a single Peaceful Nuclear Explosion (PNE) by India on 14 May 1974. The Pokhran III tests followed Pokhran II by two days and encompassed the

testing of two additional nuclear weapons. In the months leading up to the execution of Pokhran II, the overall series of tests were code named "Operation Shakti." The word S*hakti* translates into "strength" or "power."

[4] Barry Bearak, "An Indian Call for a Nuclear Arsenal." *The New York Times* (22 August 1999): A16.

[5] Vladimit Radyuhin, "Russia Refuses to Join India Bashing." *The Hindu* (22 August 1999). Available online: <http://www.indiaserver.com/thehindu/1999/08/22/stories/03220001.htm> [22 August 1999].

[6] "N-doctrine Invites G-8 Wrath, Sanctions to Stay." *The Times of India* (20 August 1999). Available online: <http://www.timesofindia.com/200899/20home1.htm> [20 August 1999].

[7] "Russia May Sell Four Bombers To India," *The Economic Times Online* (28 August 1999).

[8] Strobe Talbott, "U.S. Diplomacy in South Asia: A Progress Report" (speech delivered at The Brookings Institute, Washington, D.C., 12 November 1998). Available online: <http://www.brook.edu/comm/transcripts/19981112a.htm> [25 July 1999].

[9] Ken Booth, "The Concept of Strategic Culture Affirmed," in Carl G. Jacobsen, ed., *Strategic Power: USA/USSR* (London: Macmillan, 1990), 121.

[10] The *security model* claims that "states build nuclear weapons to increase national security against foreign threats, especially nuclear threats." The *domestic politics model* "envisions nuclear weapons as political tools used to advance parochial domestic and bureaucratic interests." The *norms model* highlights the acquisition or restraint from acquisition of nuclear weapons as a "symbol of a state's modernity and identity." See Scott D. Sagan, "Why Do States Build Nuclear Weapons?" *International Security* 21, no. 3 (Winter 1996/97), 55.

[11] For a discussion of India's strategic culture, see George Tanham, "Indian Strategic Culture," *The Washington Quarterly* 15, no. 1

(Winter 1992), and Jerry Conley, "Indian Strategic Culture: A Past, Present and Future Analysis," unpublished paper, The Naval Postgraduate School, Monterey, CA (19 March 1999).

[12] "Tovarishchi Errant," *The Round Table*, no. 182 (March 1956): 117.

[13] The term "special relationship" has often used by Indian and Russian officials to describe the Indo-Soviet/Russian bond. The implication of this term is that the bilateral ties go beyond Indian and Russian self-serving interests and serve a greater good. This chapter will argue otherwise.

[14] Peter Zwick, *Soviet Foreign Relations: Process and Policy* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc, 1990), 317.

[15] Ashley J. Tellis, *India: Assessing Strategy and Military Capabilities in the Year 2000* (Santa Monica, CA.: The Rand Corporation, 1996), 12.

[16] Shekhar Gupta, *India Redefines its Role*. Adelphi Paper 293 (London: Oxford University Press, 1995), 66.

[17] Gopal Krishna, "India and the International Order—Retreat From Idealism," in, Hedley Bull and Adam Watson, ed., *The Expansion of International Society* (Oxford: Clarendon Press, 1984), 283.

[18] James Manor and Gerald Segal, "Taking India Seriously," *Survival* 40, no. 2 (Summer 1998): 63.

[19] Bhabani Sen Gupta, "India in the Twenty-First Century," *International Affairs* 73, no. 2 (April 1997): 301-02.

[20] James Manor and Gerald Segal, 63.

[21]Ashley J. Tellis, 2.

[22] M. J. Vinod, "India-United States Relations in a Changing World: Challenges and Opportunites," *Strategic Analysis* 20, no. 3 (July 1997): 442.

[23]P.R. Rajeswari, "From Geo-Politics to Geo-Economics: Indo-US Experience," *Strategic Analysis* 21, no. 8 (November 1997). Available online: <http://www.idsa-india.org/an-nov-4.html>.

[24]Ibid., page 6 of 11.

[25] Dennis Kux, 440.

[26] John F. Burns, "U.S.-India Pact on Military Cooperation," *The New York Times* (13 January 1995): A12.

[27] Eric Arnett, "Nuclear Stability and Arms Sales to India: Implications for U.S. Policy," *Arms Control Today* 27, no. 5 (August 1997): 9.

[28] "U.S. Policy Toward South Asia," *Dispatch* 6, no. 13 (27 March 1995). Published by the Bureau of Public Affairs of the U.S. Department of State. P. M. Kamath, "Indo-US Relations During the Clinton Administration: Upward Trends and Uphill Tasks Ahead," *Strategic Analysis* 21, no. 11 (February 1998): 1604.

[29] Ainslie Embree and Stephen P. Cohen cited in Barbara Crossette, "From Guru to Rogue: American Re-examines India," *The New York Times* (17 May 1998): A4.

[30] Virginia Foran, "The Case for Indo-US High-Technology Cooperation," *Survival* 40, no. 2 (Summer, 1998): 84.

[31] Virginia Foran, 84.

[32]Anita Inder Singh, "A New Indo-Russian Connection," *International Affairs* 71, no. 1 (January 1995): 70.

[33]Ibid.

[34]Jyotsna Bakshi, "India in Russia's Strategic Thinking," page 4 of 18.

[35]Ibid., page 1 of 18.

[36]Ibid.

[37] The crucial role of Russian interest groups is discussed below.

[38]Jyotsna Bakshi, "India in Russia's Strategic Thinking," page 2-3 of 18.

[39] Ibid. Yuri Maslyukov, "Russia's Future Lies With The Defense Industry," *Military Parade* (July-August 1998).

[40] Shubha Singh, "There Has Been An Improvement in Indo-Russian Bilateral Trade in The Past Year," *The Pioneer* (24 December 1998): 9. FBIS Document ID: FTS19981224000277. Jyotsna Bakshi, "India in Russia's Strategic Thinking," page 2 of 18.

[41] Jyotsna Bakshi, "Russia's Post-Pokhran Dilemma," *Strategic Analysis* 22, no. 5 (August 1998): 721. Available online: <http://www.idsa-india.org/an-aug8-4.html>.

[42]Jyotsna Bakshi, "India in Russia's Strategic Thinking," page 3 of 18.

[43]Ibid., 3-4 of 18.

[44]Alexander A. Pikayeo, et al., *Russia, the US and the Missile Technology Control Regime,* Adelphi Paper 317, International Institute for Strategic Studies (Oxford: Oxford University Press, 1998), 21.

[45]Ibid., 22.

[46]Ibid., 12.

[47]Ibid., 26-35.

[48]Anita Inder Singh, 73.

[49]Alexander A. Pikayev, et al. 22-23.

[50] The authority for the United States to apply sanctions was vested in the 1991 Missile Technology Control Act (MTCA). See Eric Arnett, "Military Technology: The Case of India," in *Armaments, Disarmament and International Security: SIPRI Yearbook 1994* (New York: Oxford University Press, 1996): 358.

[51] Despite this pledge not to transfer technology, fifteen Indian scientists continued to train at Glavkosmos through 1994. See Eric Arnett, "Military Technology: The Case of India," 359. Moreover, by

the time that Yeltsin "corrected" the cryogenic contract with India, 85% of all the technological documents had already been transferred to India. See Gennadiy Khromov, "A View of India's Policy on Missile and Nuclear Nonproliferation," *Yadernyy Kontrol* 41, no. 5 (Sep-Oct 1998). Translated by FBIS. Document ID: FTS19990127001680.

[52]Alexander A. Pikayev, 55.

[53]Anita Inder Singh, 74.

[54]Ibid., 75.

[55]Anita Inder Singh.

[56]Ibid., 76. "Interfax Financial Report For 26 November 1998," *Moscow Interfax* (26 November 1998). Available from FBIS. Document ID: FTS19981126001140. "India, Russia To Sign Seven Accords," *The Hindu* (20 December 1998).

[57]Anita Inder Singh, 76

[58]Arun Mohanty, "Russia Allots Rs 28,000 Core in Rupee Funds for Indian Imports," *The Times of India* (23 March 1999).

[59]Ibid.

[60] Sujata Rao, "India, Russia Repair Trade Ties," *The Moscow Times* (12 February 1997).

[61]Alexander Golz, "Primakov's Realpolitik," *The Moscow Times* (11 April 1996). Jyotsna Bakshi, "India in Russia's Strategic Thinking," page 13 of 18.

[62] Dmitry Zaks, "Moscow Courts Eastern Giants," *The Moscow Times* (26 March 1997). The Nuclear Suppliers Group ban forbids all nuclear-related sales to states that do not subject all of their nuclear facilities to full IAEA safeguards. See "Non-Proliferation Fact Sheet," Carnegie Endowment for International Peace (19 August 1998). Available online: <http://www.ceip.org/programs/npp/factsheet2.htm>.

[63]R. Adam Moody, "The Indian-Russian Light Water Reactor Deal," *The Nonproliferation Review* (Fall 1997): 112. Nirmala Joshi,

"Towards Strategic Partnership," *The Pioneer* (10 September 1998): 10. FBIS Document Number: FBIS-NES-98-253. Russia was most likely motivated also by a desire to "secure resources to pay the salaries of MINATOM employees, maintain work at the nuclear design bureaus and production facilities, and provide fresh momentum to the development of the domestic nuclear industry in general." Igor Khripunov and Anupam Srivastava, 249-50.

[64]Anita Inder Singh, 74.

[65]Yuriy Golotyuk, "Russia and India are experiencing a 'Military-Technical Renaissance,'" *Segodnya* (27 March 1996): 2. Translated by FBIS. Document Number: FBIS-UMA-9-080-S.

[66]As quoted in Eric Arnett, ed., *Military Capacity and the Risk of War: China, India, Pakistan and Iran* (Oxford: Oxford University Press for SIPRI, 1997), 294.

[67]Yuriy Golotyuk, 2.

[68] *Armaments, Disarmament and International Security: SIPRI Yearbook 1994* (New York: Oxford University Press, 1996): 344.

[69] *World Military Expenditures and Arms Transfers, 1997* (Washington, D.C.: Arms Control and Disarmament Agency, 1998), 100.

[70] Deepa M. Ollapally, "India and the New 'Asian' Balance of Power," *Strategic Analysis* 22, no. 4 (July 1998): 516.

[71] Shekhar Gupta, *India Redefines its Role*. Adelphi Paper 293 (London: Oxford University Press, 1995), 62.

[72] Anton Zhigulsky, "Russia's Arms Sales Rose 60% in 1995," *The Moscow Times* (05 January 1996).

[73] A detailed analysis of the influence of Russian interest groups has been conducted by Stephen De Spiegeleire of the Rand Corporation. These papers can be accessed at: <http://ourworld.compuserve.com/homepages/sdspieg. Of particular relevance to this study are the findings that rank Russia's military-

industrial complex as the second most influential interest group in Russia after the gas-oil industry.

[74] Pavel Felgenhauer, "Profits Driving Arms Trade," *The Moscow Times* (16 January 1997). Igor Khripunov and Anupam Srivastava, 239.

[75] Vitaly Kataev, MIIS lecture, 13 October 1999.

[76] Yevgenia Borisova, "St. Pete Shipyard Turns to State for Loan Bailout," *The Moscow Times* (02 February 1999).

[77] Igor Khripunov and Anupam Srivastava, 246.

[78] Ibid., 244.

[79] "India to Buy Russian Arms Worth $15 billion in 10 Years." *The Indian Express* (12 November 1998): 12.

[80]Konstantin Makiyenko, "Prospects for Russian Presence in South Asian Arms and Military Market," *Yadernyy Kontrol* 38, no. 2 (March-April 1998): 64-73. Translated by FBIS. Document Number: FBIS-SOV-98-167.

[81]Aleksandr Shumilin, "Russia Will Help India Become A Power," *Kommersant-Daily* (10 October 1997): 5. As cited in *The Current Digest of the Post-Soviet Press* 44, no. 41 (12 November 1997): 20.

[82]Jyotsna Bakshi, "Russia's Post-Pokhran Dilemma," *Strategic Analysis* 22, no. 5 (August 1998): 721. Available online: <http://www.idsa-india.org/an-aug8-4.html>.

[83]Jyotsna Bakshi, "India in Russia's Strategic Thinking," page 15 of 18.

[84]Lowell Bezanis, "An Enlarged Golden Crescent," *Transitions* 2, no. 19 (20 September 1996). Aleksandr Shumilin; and Jyotsna Bakshi, "India in Russia's Strategic Thinking," p. 12 of 18.

[85]Jaswant Singh, "Against Nuclear Apartheid," *Foreign Affairs* 77, no. 5 (September/October 1998): 47. The term "shakti" can be translated to "strength," "force," or "power." It is quite revealing that the code

name assigned to India's nuclear tests in May, 1998, was *Operation Shakti*.

[86]Russia had increased its reliance on nuclear deterrence to compensate for crumbling conventional forces. Additionally, Gen. Sundarji, the former Indian army chief of staff, pointed at the recent defeat of Iraq in the Gulf War and stated that the true lesson of the war was that one should not fight the United States unless one possessed nuclear weapons. See Mario E. Carranza, "An Impossible Game: Stable Nuclear Deterrence After the Indian And Pakistani Tests," *The Nonproliferation Review* (Spring-Summer 1999): 14.

[87] "The nuclearization of India has been an article of faith for the BJP." Manoj Joshi, "Nuclear Shock Wave," *India Today* (25 May 1998). Available on-line: http://www. india-today.com/itoday/25051998/cover.html.

[88] While it has been reported that India retrieved no data from the 1974 PNE due to the destruction of all the test gear in the shaft, the sudden decision to acquire new data after twenty-four years is not in and of itself sufficient to explain the test. Concerning a "strategic" incentive, Pakistan's testing of a Ghauri missile does not address why the BJP initially gave authorization to test in 1996, but was removed from power within thirteen days. Additionally, the fact that the Defense Minister was not informed of the impending Pokhran II tests until two days prior, while the service chiefs were not informed until one day prior, suggests that the May 1998 tests were conducted outside of a civil-military strategic dialogue. See Manoj Joshi, 2. The "strategic" argument should also be examined closely in light of the fact that the decision to test was made *prior* to India performing a much-heralded Strategic Defense Review. See George Perkovich, "India Errs," *Newsday* (15 May 1998): A57.

[89] India has in fact turned to France and other states to purchase aircraft and military hardware. These acquisitions, however, will only partially offset the dominance of Russian arms sales. See, Rahul Bedi: "India Seeks Mirage 2000 Nuclear Squadron," *The Asian Age* (29 Aug 99), Atul Aneja, "Arms Purchases Being Finalised," *The Hindu* (04 September 1999).

[90] Graham Fuller, "The Next Ideology," *Foreign Policy*, no. 98 (Spring 1995): 153-54, cited in, Satish Kumar, "The Post-Cold War

International Perspective: An Indian Perspective," *Strategic Analysis* 21, no. 6 (September 1997). Available online: <http://www.idsa-india.org/an-sep-2.html>.

[91] Brahma Chellaney, "The Defence of India," *The Hindustan Times* (20 October 1999). Available Online: http://www.hindustantimes.com>.

[92] See Peter R. Lavoy, "The Costs of Nuclear Weapons in South Asia." U.S. Information Agency (September 1999). Available online: <http://www.usia.gov/journals/itps/0999/ ijpe/pj29lavo.htm>, and M. V. Ramana, "A Recipe For Disaster," *The Hindu* (09 September 1999). Available online: <http://www.indiaserver.com/thehindu/1999/09/09/ stories/05092523.htm>.

[93] While a non-Indian perspective could highlight economic and technological restraints in the early decades of the Indian program and U.S.-imposed restraints placed on planned tests in 1982-83 and 1995, the key aspect of this discussion is that from the Indian perspective, India has shown moral restraint in its nuclear weapons program for over half a century.

[94] "Evolution of India's Nuclear Policy." Paper laid on the table of the Lok Sabha on 27 May 1998 by Indian Prime Minister Vajpayee.

[95] Peter R. Lavoy, "Nuclear Myths and Causes of Nuclear Proliferation," *Security Studies* 2, no. 3&4 (Spring/Summer 1993): 201-202.

[96] Jaswant Singh, 47.

[97] These elections were especially crucial as the BJP is trying to reform the coalition government that lost its majority votes and power in March 1999.

[98] A poll taken two weeks after the Pokhran II test showed an 87% approval of the testing and an 86% approval for weaponizing. See, "Solid Support," *India Today* (25 May 1998). Available on-line:<http://www.india-today.com/itoday/25051998/poll.html>.

[99] An opinion poll taken at the beginning of August 1999 showed that 81% of those polled believed that Kargil was a "decisive victory for

India." "BJP on Track for Landslide Victory," *Economic Times Online* (14 August 1999). Available on-line: <http://www.economictimes.com>.

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[101] W. P. Singh Sidhu, "Nuclearization of South Asia: The Kargil Experience," Presented at the Eighth International Castiglioncello Conference. "Nuke Weaponisation Limited Our Options in Kargil: Cong," *The Hindustan Times Online* (26 August 1999). Available online: http://www.hindustantimes.com. P.R. Chari, "Kargil and BJP's Nuclear Agenda," *Nuclear & Disarmament Issues*, Institute for Peace and Conflict Studies. Article No.202(11 June 1999). Available Online: http//:www.ipcs.org/issues/articles/202-ndi-chari.htm. Stephen P. Cohen, "India's Strategic Misstep," *Nuclear & Disarmament Issues*, Institute for Peace and Conflict Studies. Article No. 110 (08 June 1998). Available online: http//:www.ipcs.org/issues/articles/110-ndi-cohen.htm.

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[104] "BJP plays nuclear politics on poll eve," *Asian Age Online* (18 August 1999). Available online: http://www.asianage.com. "Opposition Sees a Design in Release of N-doctrine," *The Economic Times Online* (18 August 1999). Available online: htto://www.economictimes.com.

[105] Ninad D. Sheth, "Flaws Dog Nuclear Doctrine Draft," *The Hindustan Times Online* (18 August 1999). Available online: http://www.hindustantimes.com. "Deterrence and Debate," *The Times of India* (18 August 1999). Available online: http://www.timesofindia.com.

[106] Bharat Karnad, "Going Thermonuclear: Why, With What Forces, At What Cost." *Journal of the United Service Institution of India* 128, no. 533 (July-September 1998): 310-336. Karnard projects a force of 4 SSBNs, 70 SU-30MKIs and 25 ICBMs, 40 IRBMs, 25 tactical missiles, and 48 SLBMs.

[107] Ibid. In India's 1999 military budget, 2.5 percent of its GDP was designated for its conventional armed forces, which, by most accounts, were already severely under-funded. See Sudha Passi, "Give Defence More Funds, say Experts." *Economic Times Online* (03 August 1999). Available online: http://www.economictimes.com. "Defence Budget as Effective Regional CBM?" *The Hindustan Times Online* (1 March 1999). Available online: http://hindustantimes.com. Mahendra Ved, "In Real terms, Defence Gets Less." *The Times of India* (28 February 1999). Available online: http://www.timesofindia.com.

[108] Peter R. Lavoy, "The Costs of Nuclear Weapons in South Asia." U.S. Information Agency (September 1999). Available online: http://www.usia.gov/journals/itps/0999/ ijpe/pj29lavo.htm.

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[113] Thomas W. Zarzecki, "Arming China or Arming India: Future Russian Dilemmas." *Comparative Strategy* 18 (August 1999): 262-265.

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[117] Mark Gorwitz, "The Indian Strategic Nuclear Submarine Project: An Open Literature Analysis." (December 1996). Available online: http://www.fas.org/nuke/guide/india/ sub/ssn/part01.htm

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[119] Dmitry Litovkin, 48.

[120] Sergey Golotyuk, 1.

[121] Steven Lee Myers, "Russia is Helping India Extend Range of Missiles, U.S. Aides Say," *The New York Times* (27 April 1998): A1. Some news reports have also referred to this system as a submarine-launched cruise missile. Its range is reported to be 250-350 km.

[122] Dmitry Litovkin, 46.

[123] Srinjoy Chowdhury, "Work on Indian Missile Program Reported." *The Telegraph* (14 Apr 98); 6. "US misses target, say Congressmen on Ghauri." *The Hindu* (May 6,1998). N.C. Menon, "Subtleties of Sagarika." *The Hindu* (11 May 1998).

[124] David Hoffman, "Idled Russian Arms Experts Find Takers For Their Nuclear Know-How," *International Herald Tribune* (29 December 1998): 7.

[125] Chintamani Mahapatra, "Pokhran II and After: Dark Clouds Over Indo-US Relations," *Strategic Analysis* vol. 22, no. 5 (August 1998). Available online: <http://www.idsa-india.org/an-aug8-3.html> [6 January 1999].

[126] W. P. Singh Sindu, 20-21.

[127] Eric Arnett, "Military Technology: The Case of India," 362, footnote 105. Vice Admiral S. P. Govil (Retd), "Indian Navy - Its Shape and Size," *Indian Defense Review*, 1997.

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[129] Cited in Ibid. Emphasis added.

[130] *Combating the Proliferation of Weapons of Mass Destruction*. "The Deutsch Report." (14 July 1999), 15.

[131] "Facing Nuclear Dangers: An Action Plan for the 21st Century," The Report of the Tokyo Forum for Nuclear Non-Proliferation and Disarmament (25 July 1999): 10.

[132] George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley: University of California Press, 1999), 455-56.

[133] "A Report to the President by the Committee on Nuclear Proliferation," Secret (21 January 1965): 5. Digital National Security Archives, Non-Proliferation Collection. Item Number: NP01104.

[134] "Senate Debate on CTBT Vindicates India's Stand," *The Hindustan Times* (15 October 1999).

[135] This sense of inferiority has only been escalated by the recent negotiations between India and Russia for the sale of Tu-22 strike-bombers and S-300V air defense systems. See Aroosa Alam, "India to Acquire Capability to Counter Pakistani Missiles," *Pakistan Observer* (29 June 1999): 1.

[136] Neil Joeck, *Maintaining Nuclear Stability in South Asia*. Adelphi Paper 312 (New York: Oxford University Press, 1997).

[137] *Combating the Proliferation of Weapons of Mass Destruction*. "The Deutsch Report." (14 July 1999), 15.

[138] An AP report in December 1998 stated that the United States did in fact provide a tour of an American command and control facility to a visiting Indian delegation. See "US Helps India Manage Nukes," (17 December 1998).

[139] India and Pakistan, however, would have to gain confidence in the reliability of American-supplied data, and the U.S. government may prove reluctant to compromise intelligence collection capabilities. Conversation with George Perkovich, 18 November 1999. Any sharing of American satellite imagery should also be weighed against the recent case of Iraq taking shared American imagery acquired during the Iran-Iraq War and using it to analyze and counter the ability of the United States to detect Iraq's nuclear weapons program. See Richard Kokoski, *Technology and the Proliferation of Nuclear Weapons* (New York: Oxford University Press, 1995), 221-22.

[140] Chandan Nandy, "Kargil Panel Quizzes Ex-RAW Chief," *The Telegraph* (28 OCT 99). "ISRO Plans Satellite with Surveillance Capability," *The Economic Times Online* (02 August 1999).

[141] Indrani Bagchi, "India Guns Down Pak Aircraft Near Kutch Border," *The Economic Times Online* (11 August 1999).

[142] Mario E. Carranza, 18.

[143] Sumit Ganguly, NPS presentation.

[144] The process of injecting American-proposed CBMs into the subcontinent, albeit delicate, can be performed if the United States addresses Indian sensitivities by conferring with New Delhi first at each stage of the process. Additionally, Pakistani compliance must not be secured via the habitual American method (a promise of arms sales) as this would cause a loss of Indian support. Conversation with George Perkovich, 18 November 1999.

[145]Lavoy, 205.

[146] One of the high points of American popularity in India during the Cold War was during the shipments of grain relief in the 1960s.

[147] Russia is already conducting joint oil exploration ventures with India. See Madhumita Chakraborty, "India's ONGC to Explore Oil In

Caspian Sea," *Delhi Financial Express* (4 January 1999); and Atul Aneja, "India, Russia to Tap Oil In Iraq," *The Hindu* (23 December 1998).

[148] Rahul Roy-Chaudhury, "An Energy Security Policy for India: The Case of Oil and Natural Gas," *Strategic Analysis* 21, no. 11 (February 1998): 1675. This representation of the situation appears to omit U.S. consumption of petroleum products.

[149] Ibid., 1676.