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# The Case against Nuclearization of South Asia

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Research of the Program in Arms Control,
Disarmament, and International Security

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Professor Huque is currently a visiting scholar at ACDIS on a Senior Fulbright research award, working on a book project that examines the topic, "The Growth of the US-India Strategic Partnership: Implications for Regional Conflicts and Security."

Being affiliated with ACDIS as a Visiting Fulbright Fellow is an experience of immense satisfaction for me. I express my deep sense of gratitude to the Bureau of Education and Cultural Affairs, US Department of State, for awarding me a Fellowship; to the University of Chittagong for granting me paid study-leave for six months to carry on my post-doctoral research; and to Professor Colin Flint, Director of ACDIS, for giving me affiliation with this renowned institution and providing all necessary facilities for my studies and research.

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MAHMUDUL HUQUE
Champaign, Illinois
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## PART ONE
## Introduction

With the May 1998 explosions of multiple atomic devices first by India and then by Pakistan, both countries became overtly nuclear after many years of ambiguity. This action on the part of both countries shocked the international community, but it was not altogether unexpected given their not-so-secret efforts at nuclearization over the preceding few decades. India had already successfully tested its first atomic device in May 1974. Although New Delhi termed the test a peaceful nuclear explosion (PNE), it demonstrated India's ability to build the bomb. Pakistan embarked upon its clandestine nuclear program after its defeat in the Bangladesh war of 1971. While India's declaratory goal in achieving nuclear capability was mainly aimed at deterring China, Pakistan's was to make up for its inferiority vis-à-vis India in conventional forces. Indians saw the bomb as a means of security against two hostile neighbors on two sides who established an entente cordiale between them. Pakistanis, on the other hand, considered nuclear weapons as a great equalizer against India's superiority in conventional arms, which they could never match, given Pakistan's smaller size, population, and economy. In India's case nuclear weapons also have been viewed as a means to attain the status of foremost Asian power in competition with China and a major global power. Pakistan's position has been simpler, centering on the issue of achieving strategic parity with India as best as it can.

The nuclearization of India and Pakistan has had both global and regional implications. Both countries were holdouts from the existing global nonproliferation regime, as they did not sign the Nuclear Non-Proliferation Treaty (NPT) and the Comprehensive Test Ban Treaty (CTBT). Their eventual nuclearization gave them the de facto, if not de jure, status of nuclear weapons states, which constituted a significant erosion of the nonproliferation norms as stipulated by both these treaties aimed at nuclear disarmament. Pakistan's position in this regard was quite straightforward: it offered to sign the treaties if India did the same. New Delhi, however, looked upon the NPT regime as discriminatory, since it formalized two categories of states in the world: the legitimate nuclear weapons states (NWS) and the non-nuclear weapons states (NNWS). India considers the NPT regime as a "thinly disguised form of 'nuclear apartheid', intended to ensure the dominance of the few over the many in the international system."[1] India also considered Pakistan's offer to sign the NPT a bluff. But, according to the Asia Society Study Group Report, "it is a bluff New Delhi has been unwilling to call."[2]

The aim of this paper is limited to exploring the regional implications of nuclearized India and Pakistan. It posits that nuclearization aggravates India-Pakistan hostilities and undermines mutual security by opening up the possibility of a nuclear exchange between them, posing a grave threat to peace, human security, and the natural environment of the entire region.

[1] Report of the Study Group sponsored by the Asia Society (Rapporteur Devin T. Hagerty), *Preventing Nuclear Proliferation in South Asia* (New York, 1995), n. 2, p.7.

[2] *Ibid*., n. 2, p. 8.

## PART TWO
## The India-Pakistan Rivalry Goes Nuclear

The perennial India-Pakistan hostility over Kashmir is one of the major reasons for the India-Pakistan arms race—whether conventional or nuclear. India's enmity with China, especially after its defeat in the 1962 Sino-Indian War, is also a great security concern for New Delhi. But one thing this paper wants to make clear at the onset is that India's nuclear weaponization was mainly motivated by a desire to deter Pakistan's ambition regarding Kashmir, and matching India was the only motivation behind the Pakistani bomb. No wonder that Indian and Pakistani bombs are sometimes called "Hindu" and "Islamic" bombs respectively. Both countries consider each other the ultimate enemy and designed their weaponization and military doctrines—both conventional and nuclear—accordingly. On the other hand, Sino-Indian relations improved slowly after the 1962 war even though border problems, which led them to war at the time, have not been completely solved yet. It is true that competition with China, which emerged as a nuclear state in 1964, spurred India's nuclear weapons program. But a large-scale war between the two biggest Asian countries seems remote. On the other hand, India-Pakistan hostility is primordial, rooted in history. The two countries were the culmination of divided nationalism that emerged during the colonial rule, and the division was mainly along religious lines. As an Indian scholar writes, "the construction of Indian nationalism by locating Pakistan as the 'other' began even before 15 August 1947."[1] Similarly, Muslim nationalism that culminated in the creation of Pakistan was based on the premise that Hindus and Muslims of British India constituted two separate, and by implication hostile, nations. This nationalist divide continued in the form of interstate conflict between the two countries after their simultaneous independence from the British rule in August 1947.

In fact, India's and Pakistan's history is continuously tailored to suit this culture of conflict: Pakistan tries to obliterate its non-Muslim past while Hindu communalist forces led by the Bharatiya Janata Party (BJP) look upon the Muslim rulers of medieval India as plunderers. So Indian Muslims at the present day, according to Hindu chauvinists, must conform to a resurgent Hindu nationalist view that India is a Hindu state. Curiously, this distorted identity of India fits quite well with the goal of a majority of the Pakistani ruling elite who are eager to portray India as a Hindu country, although India has about as many Muslims as Pakistan. There is a peculiar coalescence of views among the ruling classes of both countries in their very parochial and communalist approaches to the past and present that help them depict each other as an unmitigated enemy.[2] Even the names of Indian and Pakistani missiles have been given to resurrect historical memories: the Indian missile Prithvi is named after the twelfth century Hindu ruler of northern India, Prithviraj, while Pakistan's Ghauri is intended to celebrate the Afghan conqueror Muhammad Ghauri who defeated Prithviraj and laid the foundation of Turco-Afghan rule in northern India from the early thirteenth century.

Nationalist resurgence based on a communalist interpretation of the past and religious bigotry, therefore, accounts more than anything else for why India-Pakistan hostility is so intense and why the communalist forces were at the vanguard of nuclearization in India and Pakistan. This also explains why the majority of people in both countries seem to enthusiastically support the attainment of nuclear capability by their respective country. Support for the bomb is looked upon as patriotism, and opposition as betrayal. There is a strange parallelism between pro-bomb forces in India and Pakistan—the so-called champions of Hindutva and Islam respectively.

Nuclearization should also be seen as the expression of the mindset of rulers in both countries to consider the other as *the* enemy, a mindset that led to four major wars between India and Pakistan from 1947 to 1999. Viewed from this perspective, the Kashmir problem appears to be a symptom of deep malaise as well as the prime cause of conflict between the two countries. It is this problem that provided the rationale for the arms they have been procuring, security apparatuses they have been putting in place, military doctrines they have been formulating, war-games they have been planning, and alliances they have been forming with major outside powers over the decades since their independence. If the Kashmir problem were solved by some miracles, all these would lose their raison d'être overnight. Zia Mian, a renowned Pakistani nuclear scientist, has termed this

[1] Krishna Ananth, "The Politics of the Bomb: Some Observations on the Political Discourse in India in the Context of Pokhran II," in M.V. Ramana and Rammanohar Reddy, eds., *Prisoners of the Nuclear Dream* (New Delhi: Orient Longman, 2003), 317.

[2] For details, see Navnita Chadda Behera, "Perpetuating the Divide: Political Abuse of History in South Asia," *Contemporary South Asia* 5: 2 (July 1996), 191-205.

as the "process of maintaining and shaping, if not manufacturing, enmity" by the powerful vested interests in India and Pakistan.[3]

India's and Pakistan's going nuclear does not solve the Kashmir problem but aggravates it further, as had been amply demonstrated by frequent clashes between them after their overt nuclearization in May 1998. Before we look into the ostensible reason behind Indian and Pakistani bombs—security through deterrence—we should underline the fact that nuclearization was used by both New Delhi and Islamabad as a panacea for domestic political crises. Domestic considerations were paramount both in 1974 and 1998. In 1974, Indira Gandhi's popularity declined as a result of internal political and economic problems. She was accused by the opposition of rigging the elections and there was a nationwide railway strike that almost paralyzed the country. The opposition demanded her resignation.[4] In 1998 the BJP-led coalition government's decision was also largely influenced by internal political calculations, as it "stemmed from both an assessment of long-term Indian security concerns and immediate domestic political pressures."[5] However, the BJP and its precursor Jana Sangh had declared their intention to nuclearize long before coming to power. The BJP's failure to gain an adequate majority and the formation of a weak coalition explain the urgency with which the government of Prime Minister Atal Behari Vajpayee took up the issue so shortly after forming the government, because it needed to "consolidate the disparate coalition that it had put together."[6] In both instances, popular support for the explosions helped the government tide over the short-term internal political problems.

Pakistan's policy was mostly reactive to India's, yet placating internal anti-Indian belligerence figured prominently in the decision to go nuclear. After the Indian explosions, no government in Islamabad could stay in power without reciprocal measures. The fact that both New Delhi and Islamabad felt it imperative to play to the tune of domestic constituencies underscores the pervasive character of the hostilities between the two countries. With increasing India-Pakistan tensions and low-intensity war after the 1998 explosions, the initial euphoria seems to be giving way to introspection among informed circles and civil societies in both countries as to the efficacy of these weapons as deterrent. As an Indian scientist has written, "The immediate reaction of many Indian scientists and technologists in the aftermath of the May 1998 explosions was a sense of elation. They felt that they could obtain notable successes wherever the government supported them politically and financially. But introspection in a somewhat detached manner raised many serious doubts about these developments, given India's historical background and potential future consequences."[7]

[3] Zia Mian, "The Politics of South Asia's Nuclear Crisis," *Medicine and Global Survival* 5:2 (October 1996), http://www.ippnw.org/Resources?MGS/V5NN2Mian.html, 1 of 9.

[4] Raju G.C. Thomas, "Whither Nuclear India?" in D.R. SarDesai and Raju G.C. Thomas, eds., *Nuclear India in the Twenty-first Century* (New York: Palgrave-Macmillan, 2002), 6-7.

[5] *Ibid*, 7.

[6] *Ibid*.

[7] S.R. Valluri, "Lest We Forget: The Futility and Irrelevance of Nuclear Weapons in India," in Raju G.C. Thomas and Amit Gupta, eds., *India's Nuclear Security* (Boulder, CO: Lynne Rienner Publishers, 2000), 263.

## PART THREE
## The Fallacies of Nuclear Deterrence

### The Motive: Security through Deterrence

Both New Delhi and Islamabad justified nuclearization mainly on security needs against potential enemies. As is usual with nuclear weapons, security through deterrence is the moot point in South Asia as well. The concept of nuclear deterrence was a very controversial issue even in the context of superpower conflict during the Cold War. Proponents of deterrence theory argue that it was because of the possession of nuclear weapons by both camps in the Cold War that a direct superpower confrontation could be prevented, because the alternative was mutually assured destruction (MAD). As one analyst writes, "nuclear deterrence, especially the situation of MAD, greatly reduced the chance of war between the United States and the Soviet Union."[1] Kenneth Waltz is among the most renowned theorists who credits nuclear weapons for the preservation of peace and stability. "We may be grateful for decades of nuclear peace," writes Waltz, "and for the discouragement of conventional war among those who have nuclear weapons."[2] Therefore, Waltz formulates that more of such weapons may be better for peace and security. Scott Sagan posits the contrary by pointing to the flaws of deterrence theory. He maintains that deterrence may fail for three specific reasons: i) the probability of preventive war, ii) second-strike survivability of nuclear forces of the attacked state, and iii) nuclear accidents.[3] In fact, no clear consensus has emerged on the issue as to whether nuclear deterrence saved the world from a Third World War. The only thing that can be safely affirmed is that these weapons prevented a large-scale conventional war that might have escalated into a nuclear exchange between the Cold War adversaries. How far this limited deterrence capability of nuclear weapons is or will be applicable in the South Asian context has been a very highly contested issue. But an answer to this question is of paramount significance in order to see whether nuclearization will enhance or pose a threat to security, peace, and stability in the South Asian region. It appears that in the South Asian milieu Scott Sagan's doubts about the breakdown of deterrence are more relevant than Waltz's optimism.

Scholars subscribing to the viability of deterrence in South Asia posit that Pakistan's nuclear capability has made up for its inferiority in conventional forces vis-à-vis India and discourages a large-scale conventional attack by India. Pakistan's doctrine of being prepared to use nuclear weapons in response to an Indian conventional attack is considered adequate to deter India. They posit that it was because of the effective nuclear deterrence that successive India-Pakistan crises from the late 1980s onwards did not escalate into major wars.[4] Like the superpower deterrence in the Cold War, the India-Pakistan equation is also characterized by endless debates, as some analysts express their reservations about the efficacy of deterrence in South Asia. According to Stephen Cohen, a leading authority on South Asia, "The [nuclear] tests certainly made South Asia a more dangerous place and possibly a less stable one….A 'small' nuclear war would be an unprecedented catastrophe for the region, and a major one would have global physical, environmental, and biological repercussions."[5]

### The Nuclear Standoff in South Asia: Deterrence or Prelude to Catastrophe?

At issue is, therefore, the probability of a nuclear exchange between the two South Asian adversaries, which appeared to loom large after the late 1980s when the two countries became nuclear capable. The then CIA Director James Woolsey, while testifying before a Senate Committee on February 24, 1993 said: "The arms race between India and Pakistan poses perhaps the most probable prospect for future use of weapons of mass

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[1] James J. Wirtz, "Beyond Bipolarity: Prospects for Nuclear Stability after the Cold War," in T.V. Paul, Richard J. Harknett, and James J. Wirtz, eds., *The Absolute Weapon Revisited: Nuclear Arms and the Emerging International Order* (Ann Arbor: The University of Michigan Press, 1998), 138.

[2] Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate* (New York: W.W. Norton and Co., 1995), 33-34.

[3] *Ibid*, 51.

[4] For such arguments, see Sumit Ganguly and Devin T. Hagerty, *Fearful Symmetry: India-Pakistan Crises in the Shadow of Nuclear Weapons* (New Delhi: Oxford University Press, 2005).

[5] Stephen P. Cohen, "Why Did India 'Go Nuclear'?" in Raju G. C. Thomas and Amit Gupta, eds., *India's Nuclear Security*, 13.

destruction including nuclear weapons."[6] The reasons for such pessimistic opinion could be found in the high state of alert between India and Pakistan in 1986-87 involving the Indian Brasstacks military exercise and the Kashmir crisis of 1990, when it was believed that the two countries came very close to nuclear conflicts.

India's very high-profile military exercise code-named Brasstacks produced expected reactions from Pakistan as Islamabad ordered deployment of forces along the borders. This led to war-hysteria on both sides. And, as analysts opined subsequently, Brasstacks was not a purely military exercise. "Fully aware of Islamabad's nuclear weapons program," wrote Stephen Cohen, "Delhi may have contemplated direct action against Pakistan's nuclear weapons facility, Kahuta, in the mid-1980s, and it is very likely that the Brasstacks crisis was conceived in part to provide cover for an attack on Pakistan before its nuclear program reached fruition."[7] Indeed, there were rumors in the 1980s about Indian bombing of Kahuta as Israel had bombed Iraq's Osirak facility in 1981. In other words, Pakistan's perceived nuclear capability at times inspired consideration of a preventive strike by India which, if materialized, could have thrown deterrence to the winds at the outset. However, this crisis did not escalate, as both sides showed restraint and resorted to diplomatic solution of the problem.

The 1990 crisis was, however, more complex and was believed to bring India and Pakistan to the nuclear brink. Like many India-Pakistan conflicts before and after, this one was also triggered by another bout of anti-Indian insurgency in Kashmir starting in late 1989. Some observers saw a real danger of nuclear exchange during this crisis.[8] However, a different interpretation of this crisis appeared later on that ruled out the brinkmanship thesis.[9] Of course, in this crisis the defusing of tension should be attributed to the diplomatic efforts of the then US Deputy National Security Adviser Robert Gates in both New Delhi and Islamabad. But, as a Pakistani scholar has argued, "the truth of the matter is of secondary importance; perceptions are more important here, and the facts may never really become known. Enshrined as an article of faith is that Pakistan's threat of nuclear devastation stopped Indian aggression dead in its tracks."[10] The 1990 crisis left a lingering fear of a nuclear confrontation between India and Pakistan, given Pakistan's declared readiness to use whatever nuclear weapons it had at the time. According to some analysts, Pakistan "reportedly placed its nuclear weapons arsenal on alert, which,…included moving nuclear weapons from a storage facility in Baluchistan to a Pakistan air force base and placing nuclear-armed F-16s on immediate alert with their pilots in the cockpits."[11]

However, more serious India-Pakistan face-offs took place *after* both countries became overt nuclear states in 1998. These were the Kargil war of the summer of 1999, and a general military mobilization called Operation Parakram during 2001-2. As mentioned before, to some analysts these crises, by not escalating into full-scale war, proved that mutual deterrence worked between India and Pakistan. Actually they proved to the contrary. Pakistan's capture of the Kargil heights on the Indian side of the Kashmir Line of Control (LoC) should be attributed to the new self-confidence that nuclear weapons had given its rulers. They thought, and it is still an article of faith with strategic analysts, that the Kargil war remained a limited, though intense, conflict along the LoC because of India's inability to mount a large-scale conventional attack on Pakistan along the international border (as it did in 1965) for fear of Pakistan's nuclear reprisal. Even if this argument is valid to some extent, the fact remains that the Kargil war was the direct and immediate effect of Pakistan's possession of the bomb. In fact, Kargil occurred only a few months after the prime ministers of both countries had met in February 1999 and signed the Lahore Declaration, which envisaged that the two countries "would discuss nuclear-related confidence-building measures and crisis management structures."[12] Kargil should be seen as a direct challenge

[6] As quoted in K. Subrahmanyam, "Capping, Managing, or Eliminating Nuclear Weapons?" in Kanti Bajpai and Stephen P. Cohen, eds., *South Asia after the Cold War: International Perspectives* (Boulder, CO: Westview Press, 1993), 180.

[7] Cohen, "Why Did India 'Go Nuclear'?," in Thomas and Gupta, *India's Nuclear Security*, 21.

[8] Pervez Hoodbhoy, *Nuclear Issues between India and Pakistan: Myths and Realities* (Washington, D.C.: The Henry L. Stimson Center, Occasional Paper No. 18, June 1994), 2-3.

[9] For details, see Michael Krepon and Mishi Faruqee, eds., *Conflict Prevention and Confidence-Building Measures in South Asia: The 1990 Crisis* (Washington, D.C.: The Henry L. Stimson Center, April 1994).

[10] Hoodbhoy, *Nuclear Issues between India and Pakistan*, 2.

[11] Kanti Bajpai, P.R. Chari, Pervaiz Iqbal Cheema, Stephen P. Cohen, and Sumit Ganguly, *Brasstacks and Beyond: Perception and Management of Crisis in South Asia* (New Delhi: Manohar Publishers, 1995), 11.

[12] Kanti Bajpai, "Bombs, Wars, Coups, and Hijacks," in Kanti Bajpai, Afsir Karim, and Amitabh Mattoo, eds., *Kargil and After: Challenges for Indian Policy* (New Delhi: Har-Anand Publications, 2001), 19.

to the idea that nuclear weapons would make India-Pakistan relations more peaceful and stable. Like many earlier crises, including that of 1990, the Kargil war also had "its genesis in the nuclear equation and Pakistan's interest in testing the limits of this relationship."[13] The lesson of Kargil was that low-intensity war may be possible even under the shadow of nuclear weapons. That was why the Pakistani prime minister, Nawaz Sharif, declared at the height of the conflict that "there will be more Kargil-like situations" in future.[14] But it was a mistake on Pakistan's part to think that India would show restraint in all such future scenarios. As was the case with Kargil and other earlier conflicts, any similar future situation may be fraught with the danger of a nuclear exchange, because such conflict would remain "below the nuclear threshold, only if both sides tacitly agree to limit the conflict either in terms of area or weapon."[15] As to whether nuclear weaponization on both sides prevented an escalation of the conflict, the Kargil Review Committee answered in an ambiguous manner: "Possibly not; but only up to a given threshold, which margin was exploited by Pakistan."[16]

On the whole, Indians reflect quite a different perspective on Kargil than their Pakistani counterparts. They rule out the theory that nuclear weapons made India-Pakistan conventional war improbable. In fact, India considers the Pakistan-backed insurgencies in Kashmir as low-intensity war at sub-conventional level, which India is well-placed to escalate into conventional warfare without risking the crossing of a nuclear threshold. As General V.P. Malik, the Indian Army Chief during the Kargil crisis, observed, "though India and Pakistan are nuclear nations, it is not true to say there cannot be a conventional war between them. Kargil proved that. There is a threshold under which a conventional war is possible." His successor as Indian Army Chief General S. Padmanavan echoed a similar opinion.[17]

The next India-Pakistan crisis was caused by a terrorist attack on the Indian Parliament on December 13, 2001. In response to the attack, which India alleged was carried out by Pakistan-supported militants, India ordered a heavy military mobilization along the Pakistan border that lasted for ten months from January through November 2002. The mobilization was code-named Operation Parakram (Valour) and generated considerably more tension and war-hysteria than before. The goal of Parakram was to send the message to Pakistan that unless it desisted from terrorist activities, India was ready to fight a conventional war despite Pakistan's nuclear deterrence. In response Pakistan also mobilized it own forces and the two armies were face to face for ten months. During this crisis, according to Indian Prime Minister A.B. Vajpayee himself, war became a real possibility on at least two occasions: after the December 13, 2001 terrorist attack on the Indian Parliament, and after the May 14, 2002 attack on the families of soldiers in Kaluchak in Jammu. Later on the prime minister "publicly regretted not going to war with Pakistan after December 13, admitting that it was a mistake."[18] In the words of Lt. Gen. (Retd) Sood of the Indian army, it was "absolutely evident…that India was closest to a war—just a few hours away—in the beginning of January, probably around January 5 or 6." But in the next few days the Indian political leadership changed its mind.[19] Also, this time, as on many earlier occasions, American mediation was instrumental in defusing the situation.

Do these crises underline the effectiveness of deterrence in South Asia or, rather, point to the danger of nuclear war-fighting at some future time, as long as both India and Pakistan remain in possession of these weapons of mass destruction? The answer, as indicated earlier, would be different depending upon whether one is a nuclear optimist or pessimist. However, a closer look at the respective nuclear doctrines and strategies of the adversaries would yield better perspectives on this most important issue.

**Doctrinal Factors**

Neither India nor Pakistan had anything close to what could be termed as a nuclear doctrine when they made their 1998 explosions. Once they became nuclear states, the need for doctrines became apparent in the absence of which neither would have a correct perception of the other's policy and strategy in the changed security

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[13] Waheguru Pal Singh Sidhu, "Of Myths and Realities: The Kargil Experience," in *ibid*., 112.

[14] As quoted in *ibid*., 114.

[15] *Ibid*.

[16] Michael Krepon, "The Stability-Instability Paradox, Misperception, and Escalation-Control in South Asia," in Rafiq Dossani and Henry S. Rowen, eds., *Prospects for Peace in South Asia* (Stanford, CA: Stanford University Press, 2005), 262.

[17] *Ibid*.

[18] Lt. Gen. V.K. Sood, *Operation Parakram: The War Unfinished* (New Delhi: Sage Publications, 2003), 60.

[19] *Ibid*.

environment. Both New Delhi and Islamabad appeared to realize this and made an effort toward some confidence-building measures through the Lahore Declaration of February 1999. But this Declaration was buried under the debris of the Kargil war before it could make any impact on the emerging strategies of the two countries.

However, in August 1999, in the wake of Kargil, India's National Security Advisory Board (NSAB) released the Draft Nuclear Doctrine (DND), which, as of now, is the most elaborate doctrinal formulation by New Delhi. The salient points of the DND are:

- India's strategic interests require effective, credible nuclear deterrence and adequate retaliatory capability should deterrence fail.
- The requirements of deterrence should be carefully weighed in the design of Indian nuclear forces and in the strategy to provide for a level of capability consistent with maximum credibility, survivability, effectiveness, safety and security.
- India shall pursue a doctrine of credible minimum nuclear deterrence.
- Any nuclear threat against India shall invoke counter measures and any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.
- India will not be the first to initiate a nuclear strike, but will respond with punitive retaliation should deterrence fail.
- India will not use or threaten to use nuclear weapons against a non-nuclear state.[20]

Obviously, the DND did not deal with the size of India's nuclear arsenal, nor define what constituted "credible minimum nuclear deterrence" or how to relate it with "maximum credibility, survivability, effectiveness, safety and security." As far it concerns Pakistan, emphasis is on the assertions regarding punitive retaliation and inflicting unacceptable damage to the potential aggressor. As Pakistan always tried to match India militarily, Indian doctrine leaves much scope for a nuclear arms race in the region. Another important feature of the DND is the no-first-use policy. This principle is directly related to the assertion of second-strike retaliatory capacity. "The most remarkable thing about the draft doctrine," writes an Indian strategic expert, "was that it was ever written at all in a country notorious for opaque policies and declaratory rhetoric."[21]

Pakistan has no formal nuclear doctrine. It also prefers to keep its nuclear strategy somewhat ambiguous, as was the case with its nuclear capability until the early 1990s. Its doctrinal formulations need to be gleaned from the occasional enunciations and remarks of Pakistani leaders and senior civil and military officials. In fact, the word "doctrine" rarely occurs in such statements; rather, these reflect the scenarios of nuclear use by Pakistan. Thus, the sheet-anchor of Pakistan's nuclear doctrine is to deter a large conventional attack from India that may jeopardize the country's political sovereignty and territorial integrity. To make its nuclear deterrent credible, Pakistan rejected the no-first-use concept. In fact, the Pakistani policymakers do not think much of this concept as a viable doctrine. That is why Pakistan rejected the Indian suggestion of a bilateral no-first-use pledge and considered nuclear weapons integral to its defense and deterrence. Pakistanis believe that adherence to the no-first-use principle would undermine their country's deterrent credibility. They also harbor distrust in India's no-first-use pledge and look upon it to be "more declaratory posturing than actual policy. They believe there is no way to verify India's no-first-use pledge."[22] However, Pakistan declares its "intent of using nuclear weapons as a weapon of last resort."[23] In some salient aspects, Pakistan's posture runs parallel to India's. Islamabad also emphasizes minimum credible deterrence, while keeping the concept undefined for tactical reasons.[24] As to the

[20] Full text in Appendix XV in Kamal Matinuddin, *The Nuclearization of South Asia* (Karachi: Oxford University Press, 2002, 340-44 [see http://www.fas.org/nuke/guide/india/doctrine/990817_indnucld.htm]

[21] Raja Menon, "Nuclear Doctrine in South Asia," in P.R. Chari, Sonika Gupta, and Arpit Rajain, eds., *Nuclear Stability in Southern Asia* (New Delhi: Manohar Publishers, 2003), 109.

[31] Zafar Iqbal Cheema, "Pakistan's Nuclear Use Doctrine and Command and Control," in Peter R. Lavoy, Scott D. Sagan, and James J. Wirtz, eds., *Planning the Unthinkable: How New Powers Will Use Nuclear, Biological, and Chemical Weapons* (Ithaca, NY: Cornell U. Press, 200), 176.

[23] Shireen M. Mazari, "Understanding Pakistan's Nuclear Doctrine," *Military Technology* 11(2006), 29.

[24] *Ibid*.

occasions that would prompt nuclear retaliation by Pakistan, Lieutenant-General Khalid Kidwai, the Director-General of the Strategic Plans Division of the Army, reportedly told two Italian researchers sometime in 2001 that nuclear arms would be used if India i) attacks Pakistan and conquers a large part of its territory; ii) destroys a large part either of its land or air forces; iii) proceeds to the economic strangling of Pakistan; and iv) pushes Pakistan into political destabilization or creates large-scale internal subversion.[25] But these thresholds are also quite vague. As Michael Krepon has observed, "How Indian authorities might translate these markers into war-fighting guidelines…is anything but obvious."[26]

Pakistanis believe that their nuclear posture against Indian conventional attack has similarities with NATO doctrine during the Cold War. NATO declared the use of nuclear weapons to deter Soviet conventional attack on Western Europe. But some Indian strategists do not think this comparison to be appropriate. As one analyst has written, "this Pakistani belief is seriously flawed because, in Europe, NATO was the status quo power and threatened nuclear use very early if the Warsaw pact upset the status quo. In South Asia, Pakistan is the revisionist power and would start the conflict to upset the status quo."[27] This analyst points out a very potent flaw in Pakistan's drawing the red line at which India should stop or otherwise be prepared for Pakistan's nuclear reprisal. As he mentions, "India does not know really where this mythical line called the nuclear threshold is situated and would disbelieve any 'early' attempt by Pakistan to declare that the threshold has been reached. This is exactly what happened during the Kargil crisis, when junior ministers in Pakistan were obviously primed to say that the threshold had been reached."[28]

Apart from the mutual doctrinal ambiguities that may lead to misperceptions of each other's intentions in a crisis situation, the viability of declared doctrines is not very strong either. India's no-first-use pledge is a case in point. Pakistan's reservations on the issue have been mentioned above. Some Indian strategists also severely criticized this concept in the wake of the Kargil crisis, believing that the no-first-use policy would leave the "full initiative to Pakistan to undertake conventional offensive" against India. In fact, in December 2003, the National Security Advisory Board (NSAB) of India recommended abandoning this pledge, as other NWS have not adhered to such a policy. The Indian government, however, rejected this recommendation stating that a "policy could not be changed overnight unless there was an extraordinary situation."[29] Instead, India adopted a new military doctrine in April 2004 known as "Cold Start," which emphasized the factor of compellence along with deterrence. This doctrine envisaged the stationing of Indian troops closer to the Pakistani border in order to cut short the time for mobilization so that India could strike back with conventional arms in response to Pakistani aggression. Such a tactical maneuver would prevent third-party intervention as well as Pakistan's use of nuclear weapons for fear of India's nuclear retaliation.[30] But critics think that "this strategy is not all that credible and may cause nuclear war in the region." They argue that in the face of Pakistan's potential nuclear attack, India would feel compelled to abandon its no-first-use policy and make a preemptive nuclear strike.[31] Even if Pakistan refrains from a nuclear strike for fear of retaliation, "the question arises as to what happens if a terrorist group based in Pakistan or Afghanistan acquires such weapons." Such a group will not feel itself bound by the no-first-use tradition. Indeed, the only motive behind terrorists' acquiring such weapons is to use them against putative enemies. Therefore, Pakistan could be "dragged into a nuclear war due to behavior of terrorist groups operating from its territory, although its leaders may not wish one."[32]

**Deterrence May Fail**

Therefore, based on the experiences of the India-Pakistan conflicts and wars that occurred after the two countries became nuclear capable, one cannot rule out the possibility of a nuclear exchange between the two countries. Their doctrinal preferences, which might engender mutual miscalculations, reinforce this danger. Moreover, deterrence is far from foolproof in South Asia. Particularly, Pakistan's reliance on preventing an Indian conventional attack with nuclear deterrence may prove dangerous. If India crosses the Pakistani

[25] Michael Krepon, "The Stability-Instability Paradox," 275.
[26] *Ibid*., 276.
[27] Raja Menon, "Nuclear Doctrine in South Asia", 110.
[28] *Ibid*.
[29] T.V. Paul, *The Tradition of Non-Use of Nuclear Weapons* (Stanford, CA: Stanford University Press, 2009), 134.
[30] *Ibid*., 135-36.
[31] *Ibid*., 136.
[32] *Ibid*., 139.

thresholds, even unintentionally, and Pakistan uses nuclear weapons, the latter is certain to retaliate in kind and inflict unacceptable damage on Pakistan. Indian doctrine incorporates retaliatory strike against any nuclear attack. Such a situation will jeopardize Pakistan's physical existence given its size and lack of strategic depth. Precisely that was the message the then Indian Defense Minister George Fernandes conveyed at the onset of the 2001-2 crisis. Warning Pakistan not to consider the use of nuclear weapons, he said: "We could take a strike, survive, and then hit back…. Pakistan would be finished."[33] It may be conceded that despite its doctrine of nuclear first-strike, Pakistan may not resort to the use of nuclear weapons even if India crossed the thresholds for fear of Indian punitive retaliation. But Indian decision-makers may not find their nuclear edge over the adversary a cause for rejoicing; for they are aware that only one nuclear bomb thrown on the population centers of Delhi or Mumbai—the so-called value targets, in strategic parlance—will cause unimaginable catastrophe. Therefore, the whole idea of security through nuclear deterrence is untenable for both India and Pakistan. Even if a deliberate India-Pakistan nuclear war is averted, the danger of mutual misperceptions or sheer accidents will be very much real. In the ultimate analysis, therefore, the most optimistic view of the South Asian scene is that their possession of nuclear weapons may, with a lot of good luck, prevent a nuclear war between India and Pakistan. But is that sufficient reason to have these weapons at such tremendous costs and terrible risks?

It is of course pertinent to ask as to why the crises mentioned above did not escalate into a large-scale conventional war. Nuclear optimists argued that it was because deterrence worked and restrained India from mounting an all-out assault on Pakistan. Analyzing the Kargil war, which drew much scholarly attention, Sumit Ganguly and Devin T. Hagerty strongly supported this theory, asserting that Kargil did not lead to a general conflagration because India "studiously avoided expanding its military operations beyond the Kargil area, due to its fear that escalation might ultimately create a situation in which nuclear weapons could be used."[34] Reiterating this point they wrote*, "Despite severe provocation, India limited its war-fighting operations not only to the disputed territory of Kashmir, but to its own side of the LoC in Kashmir.*"[35] They admitted, however, that Pakistan would probably not have embarked upon the Kargil adventure in the absence of nuclear weapons. Some other scholars—the nuclear pessimists, so to speak—posited a contrary perspective, emphasizing that these crises, including Kargil, stemmed from the nuclear weapons-induced aggressiveness and confidence on the part of Pakistan. According to one analyst, Kargil—the first such intense conflict in twenty-eight years—occurred "because the overt acquisition of nuclear weapons increased Pakistani leaders' confidence in their ability to alter the territorial status quo in Kashmir through conventional adventurism without fear of large-scale Indian retaliation."[36] This analyst also attributed the Pakistani adventurism to its expectation that the conflict between two nuclear states would lead to outside attention, internationalization of the Kashmir issue, third party mediation, and a settlement to its liking.[37] In fact, too much emphasis on Pakistan's nuclear deterrent, as optimists tend to put, flies in the face of India's nuclear edge over its adversary. Indian leaders and senior army officials made no secret of their intention to retaliate with nuclear weapons should Pakistan used the bomb against India's conventional attack. They expressed this resolve quite often during the Kargil and Parakram crises and afterwards. As the Indian defense minister George Fernandes said, if a Pakistani nuclear strike was costly for India, it would be fatal for Pakistan: "We may have lost a part of our population," but after the Indian retaliatory nuclear strike, "Pakistan may have been completely wiped out."[38]

It is generally asserted, and for good reasons, that the Cold War experiences of the superpowers cannot be considered analogous to the South Asian scene, in order that the mutual nuclear deterrence between India and Pakistan may appear viable; but there are some points of similarities as well. The Cuban missile crisis of 1962 is thought to constitute an example par excellence of effective deterrence, bringing the world back from the precipice of a US-Soviet nuclear confrontation that would have led to the Third World War and to the end of civilization. In eulogizing the deterrent capability of nuclear weapons and the statesmanship and restraint of the

[33] Interview with George Fernandes, *Hindustan Times*, December 30, 2001; as quoted in Zia Mian, A.H. Nayyar, and M.V. Ramana, "Making Weapons, Talking Peace: Resolving the Dilemma of Nuclear Negotiations in South Asia," *Information Bulletin* (International Network of Engineers and Scientists Against Proliferation) 25 (April 2005), 27.

[34] Sumit Ganguly and Devin T. Hagerty, *Fearful Symmetry: India-Pakistan Crises in the Shadow of Nuclear Weapons* (New Delhi: University of Oxford Press, 2005), 191.

[35] *Ibid*, emphasis original.

[36] S. Paul Kapur, *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia* (Stanford, CA: Stanford University Press, 2007), 115.

[37] *Ibid.*

[38] As quoted in *ibid*, 133.

principal actors—John F. Kennedy and Nikita Khrushchev—one tends to overlook the cardinal fact that the crisis itself originated in the deployment of Soviet nuclear missiles on the island of Cuba, just ninety miles away from the American shores. Without this dangerous nuclear gambit of the Soviet leader, the crisis would not have occurred in the first place. Also, much of the Cold War tensions between the two superpowers should be attributed to their possession of nuclear weapons. Crediting the nuclear weapons for the "Long Peace" during the Cold War is questionable, for the period was not very peaceful or stable. There were many wars, some involving the superpowers, even though a direct US-Soviet clash did not occur. To quote the 1995 Nobel Peace Laureate Joseph Rotblat, "As for the assertion that nuclear weapons prevent wars, how many more wars are needed to refute this argument? Tens of millions have died in the many wars that have taken place since 1945. In a number of them nuclear states were directly involved. In two they were actually defeated. Having nuclear weapons was of no use to them."[39] Similarly, most of the recent India-Pakistan wars, even though limited or billed as low-intensity conflicts, resulted from the tensions generated by their simultaneous and explicit nuclearization. It is quite doubtful whether the two South Asian adversaries will be able to step back from the brink in future.

[39] Joseph Rotblat, "Remember Your Humanity,"[Nobel Lecture] *Bulletin of the Atomic Scientists* 52:2 (March-April 1996), 27.

## PART FOUR
## The Costs of Nuclearization

Nuclear weapons entail huge financial burden. In the case of two South Asian countries the burden is heavier, given their poverty and economic under-development. Yet, the governments and supporters of nuclearization in both India and Pakistan insist that no cost is too much for the need to ensure national security. This is the case despite the fact that nuclear arms do not guarantee security but threaten it, as we have seen. As a result, the heavy financial expenditure incurred by both countries to maintain a minimum nuclear deterrent only aggravates their socio-economic deprivation. It is very difficult to give a systematic account of the financial cost involved in the manufacturing and maintenance of nuclear weapons in India and Pakistan because of the utmost secrecy surrounding their nuclear programs. Still, whatever facts and figures are available from different sources reflect the tremendous financial burden of nuclearization.

In 1966, the first Director of New Delhi's government-supported think tank Institute of Defence Studies and Analyses (IDSA), Major-General Som Dutt, calculated that a minimum deterrent against China (which nuclearized two years earlier) would cost India at least $220 million per year over ten years.[1] It was a 20 percent increase in India's defense budget, which at that time consumed one-third of total government expenditure. It was considered too expensive to pursue. Later on, nuclear hawks became stronger in the policymaking organs, including the IDSA. Its new Director, K. Subrahmanyam, a known nuclear advocate, gave another estimate which would cost more but, as he argued, "the benefit outweighed the expense." In 1968, Subrahmanyam put the cost at $10-15 billion over ten years. In 1985, amid mounting concerns about Pakistan's nuclear program, New Delhi took the issue more seriously and the then Chairman of the Joint Chiefs of Staff Committee formed a small task group to make an estimate. According to the report of this group, "a force of warheads 'in low three-digit figures' with aircraft and Agni and Prithvi missile delivery system would cost 70 billion rupees (180 billion in 1999 rupees, or $5 billion)."[2] The then Indian Prime Minister Rajiv Gandhi "reportedly rejected the nuclear option because of the high expense."[3] As things turned out subsequently, though, the high cost did not prevent Indian's nuclear weapons program.

According to one estimate in 1999, India possessed an arsenal of 400 nuclear weapons, the estimated cost of which was $20 billion.[4] But this figure, given by Muhammad Akram Zaki, the then Chairman of Pakistan's Senate Standing Committee on Foreign Affairs, may be exaggerated in order to justify Pakistan's expenditures. An Indian analyst thinks that India spent around Rs 34,000 crore which was equal to roughly $8 billion in the existing exchange rate (1 crore = 10 million) over the decade ending in 1999. Over the next decade (1999-2009) the total cost of India's nuclear weaponization has been projected by this same analyst to be around $16-19 billion.[5] The annual expense on its nuclear program was 0.5 percent of India's GDP, which was "equivalent to introducing universal elementary education in India. This 'burden' of 0.5 per cent of GDP was for years cited as one of the reasons for not universalizing elementary education in India."[6]

It is more difficult to come by an estimate of Pakistan's expenditures on its nuclear weapons program from the beginning till now. One observer mentions $12 billion as the amount spent during two decades (1978-98).[7] One can only guess how much Pakistan had to spend on nuclear weapons during the subsequent decade (1998-2008) in view of the fact that it had become a virtual nuclear weapons state after 1998. In this decade Pakistan must have spent considerably more than the previous one to build the bombs and missiles and put in place the

[1] Peter Lavoy, "The Cost of Nuclear Weapons in South Asia," in SarDesai and Thomas, *Nuclear India in the Twenty-first Century*, 265.

[2] *Ibid*.

[3] *Ibid*.

[4] Wendy Lehman, "The Current Situation in South Asia," *Washington Report on Middle East Affairs* 18: 8 (December 1999), 108.

[5] C. Rammanohar Reddy, "Nuclear Weapons versus Schools for Children: An Estimate of the Cost of the Indian Nuclear Weapons Programme," in M.V. Ramana and C. Rammanohar Reddy, eds., *Prisoners of the Nuclear Dream* (New Delhi: Orient Longman, 2003), 390-92.

[6] *Ibid*, 394-95.

[7] Hari Sud, "Cost Pakistan incurred to Build the Nuclear Bomb," http://www.ivarta.com/ columns/OL_040417.htm/, 4 of 6.

command and control system.

These high amounts of money spent by both countries also have their corresponding opportunity costs in the form of social and economic deprivation of the common people, a substantial number of whom live in abject poverty in both countries. To cite some of such opportunity costs, for example: one Indian Agni missile costs $15 million, which is the operation cost of 15,000 primary healthcare centers; and one nuclear powered submarine costs $1,000 million, which could be used instead to provide a 1,000 megawatt power plant.[8] Even though Pakistan spends less than India because it is smaller and poorer, its percentage of GDP for overall arms buildup is much higher and as such its "opportunity costs are likely to be much higher."[9]

In 1999, the overall military spending in India and Pakistan (both on conventional and nuclear weapons) was $10,482 million and $2,858 million respectively, accounting for 2.3 percent of India's GDP and 4.6 percent of Pakistan's GDP.[10] The resultant social and economic deprivation in both countries has been described by Zaheda Hina, a Pakistani short-story writer in Urdu, in the following words: "The month of May 1998 has now become a 'historic chapter' of the victory of the warmongers in the history of the subcontinent. During those days the rulers of India and Pakistan forgot that they were ruling over the poorest of the world. In their countries, 400 million persons go to bed hungry. The count of child labour goes up to 32 million, 260 million have no access to basic health facilities and 830 million have no sanitation system."[11] The enormous expenses on nuclear weapons by India and Pakistan look even more untenable when compared against South Asia's position in the Human Development Index (HDI) of the United Nations. Initiated by the late Pakistani economist Dr. Mahbubul Haq in the 1990s, HDI goes beyond the GDP and includes such indices as life expectancy, education, health, and adjusted real income to determine the population's standard of living and well-being. The position of South Asia has consistently been in the lower strata in relation to other regions of the world. In recent years it has slipped further down. In the HDI Report of 2009, India's place is 134 and Pakistan's 141 in a count of the development indices of 182 countries.[12]

[8] Susan Willett, *Costs of Disarmament—Mortgaging the Future: The South Asian Arms Dynamic* (Geneva: United Nations Institute for Disarmament Research, 2003), table, 37.

[9] *Ibid*, 40.

[10] C. Rammanohar Reddy, "Indo-Pak Defence Spending," *South Asian Journal* 3 (January-March 2004), see the tables, 1-2.

[11] Zaheda Hina, "Pakistan-India Nuclear Weapons in utter contempt of the poor," excerpts translated by Yousuf Shahid, SAAN (South Asians Against Nukes) *Newsletter*, December 29, 2003, http://groups.yahoo.com/group/SAAN_/message/681/, 1 of 5.

[12] Riaz Haq, *South Asia Investor Review*, October 7, 2009, http://southasianinvestor.blogspot.com/2009/10/, 1 of 9.

## PART FIVE
## The Consequences of Nuclearization

As has been seen, nuclearization has intensified India-Pakistan hostility and increased the risks of war between them. Moreover, it has had serious negative impacts upon global nonproliferation norms and disarmament. Both South Asian countries played a significant role in bringing about the second nuclear age in the post-Cold War years, thus casting a shadow on the prospect of peace and security in the South Asian region. The Board of Directors of the *Bulletin of the Atomic Scientists* considered the 1998 nuclear explosions by India and Pakistan so dangerous that they decided to move the minute hand of the "Doomsday Clock" (a symbol of nuclear peril) five minutes closer to midnight; they moved it from 14 minutes to midnight to nine.[1] According to the editorialist of the Bulletin, "the heightened sense of peril has roots that extend far beyond the Indian and Pakistani tests. The tests are a symptom of the failure of the international community to fully commit itself to control the spread of nuclear weapons and to work toward substantial reductions in the numbers of these weapons."[2]

It is true that global nonproliferation and disarmament encountered great hurdles by the policies of the five recognized nuclear states, which failed to fulfill their commitment to gradually reduce and ultimately eliminate their nuclear arsenals—as enshrined in article VI of the NPT. In the words of Professor Rotblat, "It is a legal commitment by the five official nuclear states, entered into when they signed they signed the Nuclear Non-Proliferation Treaty (NPT). Only a few months ago, when the indefinite extension of the treaty was agreed, the nuclear powers committed themselves again to complete nuclear disarmament. This is still their declared goal. But the declarations are not matched by their policies, and this divergence seems to be intrinsic."[3] The 1995 extension of the NPT indefinitely has, however, been viewed by the two South Asian countries as the perpetuation of the discrimination between nuclear haves and have-nots. But the point to be made here is that the actions of both India and Pakistan have hindered the cause of global nonproliferation to a great extent. India, which used to talk loudly and frequently in favor nuclear disarmament globally has lost the moral high ground that it used to hold. Pakistan had gained some international sympathy in the 1970s by espousing the idea of a South Asian Nuclear Weapons Free Zone, which did not materialize due to Indian opposition. Islamabad also had offered to sign the NPT and the CTBT if India did so, but India would not. The result is that both countries are trapped in a nuclear standoff that may prove the embrace of death in the long run. However much the pro-nuclear strategists and pundits might expound on the prospect of peace and stability that nuclear weapons have supposedly ushered in, the South Asian situation has already proved to the contrary. Nor has nuclearization reduced the conventional arms race between the two countries, as has been predicted by the votaries of the bomb.

Thinking people, however, have been trying to gauge the catastrophe that will be wrought by an India-Pakistan nuclear exchange. Indian novelist and peace activist Arundhati Roy described such a scenario thus: "Our cities and forests, our fields and villages will burn for days. Rivers will turn to poison. The air will become fire. The wind will spread the flames. When everything there is to burn has burned and the fires die, smoke will rise and shut out the sun."[4]

Nuclear war has no precedent, thankfully, except the tragic bombings of Hiroshima and Nagasaki. Scientists, therefore, tried to extrapolate from the destruction of these two cities to make predictions of the consequences of a nuclear holocaust. But nuclear weapons became thousands of times more numerous and powerful than the two dropped on these Japanese cities. As a result, a nuclear war was considered unthinkable. Yet people were compelled to think about the unthinkable. Jonathan Schell, while trying to come up with an "account" of the consequences of a general nuclear holocaust during the Cold War, has written: "Such an account, which in its nature must be both technical and gruesome, cannot be other than hateful to dwell on, yet it may be only by descending into this hell in imagination now that we can hope to escape descending into it in

[1] *The Bulletin of the Atomic Scientists* 54:5 (September /October 1998), 4.

[2] *Ibid*.

[3] Rotblat, "Remember Your Humanity," 26.

[4] Arundhati Roy, "Introduction: The End of Imagination," in Praful Bidwai and Achin Vanaik, *New Nukes: India, Pakistan and Global Nuclear Disarmament* (Oxford: Signal Books, 2000), xx.

reality at some later time."[5]

What will be the consequences of a single blast over a densely populated South Asian city like Mumbai? Indian physicist M.V. Ramana has the following answer: "Any person or object exposed to the explosion would first experience an extremely intense flash of heat and light, brighter than a thousand suns. Even looking at the flash could cause blindness. From 1.6-3.2 km around the point of explosion (the epicenter or ground zero), everything that could burn—wood, paper, clothes, vegetation, and all other combustible materials—would catch fire."[6] Then there will be the effects of radiation that could continue for years and cause terrible health hazards, including leukemia, various types of cancer as well as non-fatal diseases like birth defects, cataracts, mental retardation in children, etc.[7] The blast will destroy everything within a circle with a radius of 1.1 km. Houses except those built with concrete will be destroyed within 1.7 km of the epicenter. Even concrete houses in Mumbai (or many other South Asian cities) are weak, badly designed or built with poor quality materials, resulting in far greater damage within a wider distance than projected.[8] Since the population density in present-day South Asian cities is much higher than Hiroshima and Nagasaki of 1945, instant deaths will be higher than in the Japanese cities. According to the 1991 census, the population of greater Mumbai is 9,910,000, with the average population per square kilometer being 23,000. There are regions with population density of more than 100,000 per square kilometer.[9]

Apart from instant casualties there will be deaths and physical deformation from the delayed effects of the bomb blast, namely firestorm and fallout. The firestorm will raise the temperature within a 2 km radius of the epicenter to several hundred degrees, "making it almost certain that there would be no survivors."[10] Like Hiroshima and Nagasaki, the explosion will be followed by black rain carrying radioactive fallout that will be fatal to an area of about 25-100 square kilometers, and the "regions subject to high levels of fallout would have high levels of casualties and radiation sickness."[11] A 15-kiloton bomb attack on such populous cities of India or Pakistan would kill 150,000 to 800,000 people within a few weeks.[12] All these casualties will be the result of a Hiroshima-type explosion. If the weapon is of 150-kiloton yield, the number of deaths will be about 2,000,000 to 6,000,000.[13] The long-term casualties, likewise, will be many times more than the Japanese cities, given population density of Mumbai as well as the concentration of a large number of industries in the city.[14] As per another estimate, also based on the record of Hiroshima, the immediate casualties in ten large Indian and Pakistani cities would be three million deaths and 1.5 million severely injured. Also, "the consequences of the destruction of the fragile social and physical networks that make daily life possible in large South Asian cities, the loss of electricity, water, hospitals, transportation and other services would be enormous."[15]

The damage to other South Asian countries should also be given due emphasis, although this has so far been a relatively neglected aspect in the South Asian nuclear discourse. Because of geographical contiguity, all these countries—Bangladesh, Nepal, Sri Lanka, Bhutan, Maldives, and Afghanistan—will be severely affected by a nuclear war between India and Pakistan. In fact, according to one observer, these countries will face unprecedented disasters like immediate deaths from exposure to radiation and long-term fallout in the form cancer risk, the disruption of cross-border trade and commerce in critical products like food, and floods from destroyed dams and movement of refugees across borders. As this scholar writes, "Bangladesh would be particularly vulnerable to the consequences of a nuclear attack on Calcutta, and Nepal would suffer from attacks on northern Indian coastal [sic] cities."[16] So, in the event of an India-Pakistan nuclear exchange, Bangladesh

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[5] Jonathan Schell, *The Fate of the Earth* (Stanford, CA: Stanford University Press, 2000), 5.

[6] M.V. Ramana, "Effects of Nuclear Blast over Bombay," *Medicine and Global Survival* 5:2 (October 1998), http://www.ippnw.org/Resources/MGS/V5N2Ramana.html/, 1of 5.

[7] *Ibid*.

[8] *Ibid*.

[9] *Ibid*, 2 of 5.

[10] *Ibid*, 2 of 5.

[11] *Ibid*.

[12] *Ibid*, 3 of 5.

[13] *Ibid*, 3 of 5.

[14] *Ibid*.

[15] Zia Mian, "A Nuclear Tiger by the Tail: Problems of Command and Control in South Asia," in Ramana and Reddy, *Prisoners of the Nuclear Dream*, 102.

[16] Nicholas Wilson, "Regional Nuclear War in South Asia: Effects on Surrounding Countries," *Medicine and Global*

will not be the "safest country to live in, in the subcontinent," as Nobel Laureate Amartya Sen tended to believe.[17] All of this death and destruction would occur in the name of protecting the security of India and Pakistan.

If only one Hiroshima-like bomb can do such disaster, what will be the effects of an India-Pakistan nuclear exchange when numerous and much higher-yield bombs will be dropped on so many populous cities like Mumbai in both countries? This should make one alive to the fact that Hiroshima and Nagasaki "can provide us with no more than a hint of what would happen in the event of nuclear war."[18] When strategists and analysts write their doctrines and war-fighting tactics, and calculate the possible gains and losses of a nuclear exchange in South Asia, they seem to forget the by-now well-known truism that in a nuclear war none will be the winner.

*Survival* 6:1 (August 1999), http://ippnw.org/Resources/MGS/V6N1Wilson.html/, 2-3 of 6.

[17] Amartya Sen, "India and the Bomb," in Ramana and Reddy, *Prisoners of the Nuclear Dream*, 176.

[18] Robert J. Lifton and Richard Falk, *Indefensible Weapons: The Political and Psychological Case Against Nuclearism* (New York: Basic Books, 1982), 276.

## PART SIX
## Moral and Ethical Issues

Weapons of mass destruction have always raised moral questions for their capacity to kill large numbers of non-combatants and innocent people. The United Nations tried the rid the world of the nuclear bomb through its first resolution in 1946 calling for the elimination of nuclear weapons. Subsequently, the U.N. General Assembly adopted a series of resolutions prohibiting the use or threat of use of nuclear weapons, pending complete nuclear disarmament. But the global Cold War killed such pious hopes. Yet, the concerns of the world community with WMD continued to keep alive the moral and ethical objections against them. However, while other weapons of this category (such as biological and chemical) were considered loathsome and not only their use, but also their development and stockpiling, were banned by international agreements, nuclear weapons are still looked upon as the ultimate weapon of national security and defense. As two noted Indian anti-bomb analysts have affirmed, "Morally, it is simply impermissible to use weapons that are so destructive. If the world could outlaw chemical and biological weapons, and even agree to an anti-personnel landmine ban, then surely the case for eliminating nuclear weapons, which are considerably more destructive and more indiscriminate in the damage they cause, is even stronger."[1] Recently the moral and ethical issues associated with nuclear weapons have been raised by small groups of scientists, journalists, and intellectuals of South Asia, as they are highlighting the potentially fatal effects of nuclear weapons on millions of innocent people in India and Pakistan as well as people of neighboring countries who have no stakes in the conflict between the two countries.

Besides human lives, nuclear war will destroy the ecology of the affected area to such an extent that no civilized life will be able to flourish. As Jonathan Schell writes, a nuclear holocaust is a threat of "human extinction, which exists not because every single person would be killed by the immediate explosive and radioactive effects of a holocaust…but because a holocaust might render the biosphere unfit for human survival" and thus constitutes "an *ecological* peril."[2] Now, what rights do the leaders of any country or countries have to pursue policies that portend such horrific consequences? Such policies are immoral by any standard. As George F. Kennan wrote in the context of the US-Soviet antagonism during the Cold War, "utterly unacceptable from the Christian standpoint, as I see it, is the holding of innocent people hostage to the policies of their government, and the readiness, or the threat, to punish them as a means of punishing their government. Yet how many times—how many times just in the recent years—have we seen that possibility reflected in the deliberations of those who speculate and calculate about the possible uses of nuclear weapons?"[3] In the nuclearized South Asia, the same scenes are re-enacted in the frequent threats New Delhi and Islamabad hurl at each other. Apart from the strategic fallacies of nuclear deterrence, the idea also rests on a very unsound moral foundation, as it threatens to inflict unacceptable punishment to the opponent, which actually means the promise to kill millions of innocent people in the enemy country. In other words, it is the innocent people who will pay the price for the follies of their leaders if deterrence fails or something goes wrong in a situation of intense conflict. This is a totally unacceptable strategy from the moral and ethical point of view. In this context, one may recall the famous anti-nuclear declaration of the US Catholic Bishops entitled *The Challenge of Peace: God's Promise and Our Response* (1983): "The whole world must summon the moral courage and technical means to say 'no' to nuclear conflict and 'no' to the moral danger of a nuclear age which places before humankind indefensible choices of constant terror or surrender."[4] The Anglican Church also expressed its strong disapproval of nuclear weapons. In 1982 the Church of England brought out a report titled *The Church and the Bomb*, according to which "even the defensive use of nuclear weapons" is immoral.[5]

Other major religions of the world reject WMD on moral and ethical grounds. Since the majority of people in South Asia are Hindus and Muslims, the perspectives of Hinduism and Islam on the bomb are most relevant.

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[1] Bidwai and Vanaik, *New Nukes*, 119.

[2] Jonathan Schell, *The Fate of the Earth,* 111, emphasis in original.

[3] George F. Kennan, "A Christian's View of the Arms Race," in James P. Sterba, ed., *The Ethics of War and Nuclear Deterrence* (Belmont, CA: Wadsworth Publishing Company, 1985), 124.

[4] As quoted in Nancy Small, "Is Nuclear Deterrence Still Moral?" *America* 189:9 (September 2003), 14.

[5] Nigel Biggar, "Christianity and Weapons of Mass Destruction," in Sohail H. Hashmi and Steven P. Lee, eds., *Ethics and Weapons of Mass Destruction: Religious and Secular Perspectives* (Cambridge, UK: Cambridge University Press, 2004), 180.

Things, however, have been complicated by the fact that the Hindu chauvinists and Islamic extremists are the most vocal supporters of the bomb in India and Pakistan respectively. In other words, political Hinduism in India and political Islam in Pakistan have been championing the bomb; the epithets "Hindu Bomb" and "Islamic Bomb" are often used in the two countries respectively to designate their nuclear weapons—by way of both approbation and opprobrium. Hindu Holy Scriptures have the concepts of *Dharma-yuddha*, which corresponds to the idea of just war, and *Brahmastra*, which means weapons of Brahma, one of the principal Hindu gods. *Brahmastra*, by which gods destroyed demons, does not connote weapons of mass destruction. But these concepts have been subjected to different interpretations. In the words of one scholar, "On the basis of their sources and ethical principles, Hindus could argue that the use of WMD of the modern and human-made variety is never permissible or that it is permissible under certain circumstances."[6] The attitudes of the majority of Indians towards the bomb, therefore, depend on their political views rather than their religion. As an Indian analyst has written, "Pacifist Gandhians deplore nuclear weapons. Prudential existentialists ruefully accept them. Political Hinduism embraces them."[7]

Islam's position against WMD is more unequivocal, despite the championing of the bomb by the Islamists in Pakistan. The numerous wars that the Prophet and his followers fought in the early days of Islam stand as precedents regarding what was permissible and what was not. The Prophet was on record ordering his troops not to kill women, children, peasants, the old and the handicapped, that is, all those who were not able to fight the Muslim forces.[8] Also, even though these wars involved the destruction of property, "no precedents may be found in the Prophet's campaigns of large-scale killing of animals."[9] Abu Bakr, the first Caliph, instructed the Muslim army in the following words: "You shall not fell palm trees or burn them; you shall not cut down [any] fruit-bearing tree; you shall not slaughter a sheep or a cow or a camel except for food."[10] The frequent calls to establish justice and not to transgress limits enjoined in the Quran along with these prohibitions against indiscriminate killings point to the firm conclusion that Islamic ethics cannot consider nuclear weapons permissible. "If Muslims are to act on the basis of Islamic ethics," writes one scholar, "then they cannot, I believe, contemplate any use of weapons of mass destruction. If WMD are not to be used in war, then their development for deterrence (or worse yet, for national prestige) alone is morally, economically, and militarily unjustifiable."[11]

Thus, moral and ethical values—both secular and religious—categorically posit against WMD. Major religions of the world aim at spiritual and temporal betterment of mankind and cannot support anything as awfully dangerous as nuclear weapons. Although pro-bomb forces in South Asia invoke religion to justify their cause, the basic tenets of their faiths undoubtedly go against the bomb.

**Public Opinion Analyzed**

Why does the nuclearization of India and Pakistan seem to be endorsed by public opinion in both countries? The easy answer to this question is the absence of debates on nuclear issues and the resulting lack of popular awareness of the terrible consequences. In neither country has there been a nation-wide debate on the bomb, nor does this issue figure prominently during elections in India or in Pakistan whenever elections take place there. The deep suspicion, mistrust, and threatening posture that each country inspires in the other explain the emotion and support for the bomb in both. Religious sentiment was also at work, as in both countries extreme religious-nationalist and fundamentalist parties, like the Bharatiya Janata Party (BJP) and its allies in India and the Jamaat-i-Islami and its cohorts in Pakistan, are the most vocal and conspicuous supporters of the bomb. Also, an overwhelming majority of elites in both countries support nuclearization, even though they must be aware of the catastrophe that would befall their countries in the event of a nuclear war.

However, this apparent public support for the bomb in India and Pakistan is problematic and needs to be further probed and analyzed. The pro-bomb enthusiasm would pass were the common people in both countries

[6] Katherine K. Young, "Hinduism and the Ethics of Weapons of Mass Destruction," in *ibid.*, 292.

[7] Kanti Bajpai, "Hinduism and Weapons of Mass Destruction: Pacifist, Prudential, and Political," in *ibid.*, 318.

[8] Sohail H. Hashmi, "Islamic Ethics and Weapons of Mass Destruction: An Argument for Nonproliferation," in *ibid.*, 326.

[9] *Ibid.*, 329.

[10] As quoted in *ibid.*, 329-30.

[11] *Ibid.*, 346.

informed through debate and discourse about the costs incurred for the bomb and the mortal threat it poses to their existence. As Amartya Sen has put it, the celebrations for the bomb on the Indian streets and the television pictures of the euphoria immediately after the Indian blasts of 1998 were "accompanied by doubts and reproach of a great many people who took no part in the festivities, who did not figure in the early television pictures, and whose doubts and opposition found increasingly vocal expression over time."[12] Even elites in either country do not evince sufficient awareness of the intricacies of the nuclear issues while endorsing the government policies. This support is demonstrated in the surveys of elite opinion in both countries in the 1990s. On the issue of the actual use of the bomb, however, opinions widely varied in India and Pakistan. Asked when India could use the bomb, one-third of those favoring weaponization "cited *never* as the appropriate answer."[13] On the other hand, Pakistani elite respondents overwhelmingly support the government policy regarding the possible use of the bomb. Ninety-eight percent of all Pakistani respondents thought that nuclear weapons could be used if India attacked their country across the international border. Seventy-seven percent opined that these weapons could be used if India militarily intervenes across the LoC in Kashmir.[14] Endorsement of the government policy was also more pronounced in Pakistan, where the elite respondents seemed to have a cavalier attitude about the actual use of nuclear weapons. Only a widespread national debate with sufficient anti-nuclear discourse and propaganda to match the pro-nuclear ones can remedy this situation. A Pakistani physicist at Princeton, Zia Mian, however, considers any such debate as "immoral" because, as he writes, "no society should even be willing to discuss something as clearly immoral as nuclear weapons. They should be rejected out of hand as evil."[15] But given the actual situation in Pakistan, national debates are essential to motivate the people about the immorality of nuclear weapons and the danger they potentially pose to their very existence.

[12] Sen, "India and the Bomb," 173.

[13] Kanti Bajpai, "Abstaining: The Nuclear Option," in David Cortright and Amitabh Mattoo, eds., *India and the Bomb* (South Bend, IN: University of Notre Dame Press, 1996), 23.

[14] Samina Ahmed and David Cortright, "Pakistani Public Opinion and Nuclear Weapons Policy," in Samina Ahmed and David Cortright, eds., *Pakistan and the Bomb* (South Bend, IN: University of Notre Dame Press, 1998), 22.

[15] Zia Mian, "Why Pakistan Should Renounce the Nuclear Option," in Zia Mian and Ashis Nandy, *The Nuclear Debate: Ironies and Immoralities* (Colombo, Sri Lanka: Regional Centre for Strategic Studies, 1998), 23.

## PART SEVEN

## Conclusion

"To write about nuclear weapons is inevitably to adopt a cause," says Robert J. Lifton.[1] In fact, any pretension to scholarly detachment on this issue is beside the point. The foregoing discussion points to the obvious conclusion that nuclearization is fraught with unimaginable disaster for South Asia. It aggravates India-Pakistan tensions and may pave the way for a nuclear exchange between them, either intentionally or accidentally. Even though an overnight roll-back of their nuclear weapons programs is impossible, both countries should proceed toward a phased elimination of the bombs. They should try to solve their problems and, until that is done, should manage their conflicting relations without recourse to the bomb. Otherwise, the possibility will always loom large that nuclear weapons may ultimately spell their doom. To conclude in the words of Arundhati Roy: "The nuclear bomb is the most anti-democratic, anti-national, anti-human, outright evil thing that man has ever made. If you are religious, then remember that this bomb is Man's challenge to God. It's worded quite simply: We have the power to destroy everything that You have created. If you are not religious, then look at it this way. This world of ours is four billion, six hundred million years old.

It could end in an afternoon."[2]

[1] Lifton and Falk, *The Indefensible Weapons*, 128.
[2] Roy, "The End of Imagination," xxix.