5. The nuclear confrontation in South Asia

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I. Introduction

The 1998 nuclear tests by India and Pakistan dramatically worsened the security situation for over a billion people in the subcontinent.¹ Since then the two countries have continued to engage in a slow but steady arms race involving qualitative and quantitative developments and a gradual consolidation of nuclear weapon infrastructure. Nuclear use doctrines are taking shape. There have also been two major military crises, both prominently featuring nuclear threats.

Section II of this chapter presents an overview of Indian and Pakistani relations since the 1998 nuclear tests. Section III discusses the crisis of 2002. Section IV describes the nuclear doctrines of India and Pakistan and nuclear force developments are covered in section V. Section VI examines the role of nuclear weapons, and section VII presents the conclusions.

II. Overview: 1998–2002

The Lahore Declaration

Once the incendiary rhetoric characterizing the immediate aftermath of the nuclear tests had subsided, India and Pakistan appeared to take their first steps towards arms control and détente, partly in order to assuage domestic and international fears. As with the superpowers during the cold war, India and Pakistan sought to move the terms of the nuclear debate away from disarmament and towards managing the nuclear threat. The culmination of this process was the Lahore summit meeting in February 1999 between Indian Prime Minister A. B. Vajpayee and Pakistani Prime Minister Nawaz Sharif. The Lahore Declaration committed both countries to 'take immediate steps for reducing the risk of accidental or unauthorized use of nuclear weapons and discuss concepts and doctrines with a view to elaborating measures for confidence building in the nuclear and conventional fields, aimed at prevention of conflict'.² The accompanying Memorandum of Understanding signed by the foreign secretaries of the two countries called for limited transparency meas-

¹ On 11 and 13 May 1998 India carried out a series of 5 nuclear explosions. Pakistan conducted its own series of 6 explosions on 28 and 30 May 1998. Both states declared a moratorium on further testing shortly afterwards. Independent seismologists have challenged official claims about the number and yields of these nuclear tests.

 $^{^2}$ The Lahore Declaration is available at URL <http://www.indianembassy.org/South_Asia/Pakistan/lahoredeclaration.html>.

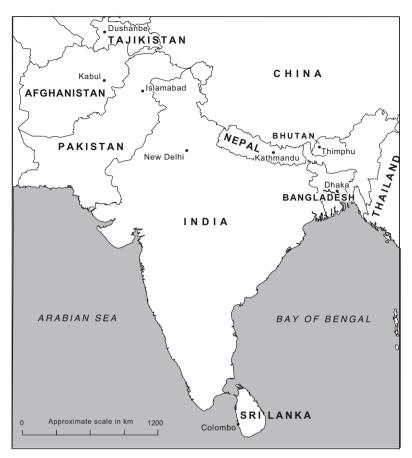


Figure 5. Map of South Asia

ures.³ Unfortunately, even these steps were not implemented. Nevertheless, the Lahore Declaration offers a possible basis for limiting the threat of nuclear weapons in the region and initiating nuclear disarmament, should the two countries reach a period of better diplomatic relations.⁴

The Kargil War

The slight hopes that the Lahore meeting offered for restraint in South Asia were dashed within a few months. In May 1999, just one year after the nuclear tests, two months of bitter fighting broke out when Pakistani soldiers and Islamic militants crossed the Line of Control (LOC) dividing Pakistani Kashmir from Indian Kashmir and occupied a mountain ledge near the town of

³ The Lahore Memorandum of Understanding, 21 Feb. 1999, United States Institute of Peace library, Peace agreements digital collection, URL http://www.usip.org/library/pa/ip/ip_lahore19990221.html.

⁴ For arms control measures building on the Lahore Declaration see Mian, Z. and Ramana, M. V., 'Beyond Lahore: from transparency to arms control', *Economic and Political Weekly*, 17 Apr. 1999, pp. 938–42.

Kargil. To dislodge them, the Indian Army both literally and figuratively had to fight an uphill battle, taking heavy casualties in the process. Estimates of the total number of casualties sustained by both sides vary from 1200 to 2000.

For the first time since the 1971 war that led to the independence of East Pakistan and the creation of Bangladesh, India used its air force to launch attacks. In response Pakistan put its air force on 'red alert', scrambled its own fighters and tested air raid sirens in its capital city, Islamabad.⁵ Both countries conducted army exercises at various points along the borders and both navies were put on alert.

Political leaders, strategic analysts and sections of the media in both countries called for a more aggressive war and the opening of new fronts. There were calls in India for the bombardment of Pakistani supply routes to Kargil.⁶ Some went even further. Kushabhau Thakre, then national president of the ruling Bharatiya Janata Party (BJP), suggested that the ultimate aim, after evicting infiltrators from the Kargil region, should be to take back the part of Kashmir held by Pakistan.⁷

Pakistan denied that its armed forces were involved and claimed that the fighters were Kashmiris fighting for independence, but the international community was not convinced and demanded that Pakistan order the fighters to withdraw. As Indian troops gained ground and Pakistan stood isolated diplomatically, Nawaz Sharif flew to Washington, where President Bill Clinton bluntly told him he should withdraw Pakistani forces or be prepared for full-scale war with India. Based on information from intelligence sources, Clinton informed Nawaz Sharif that the Pakistani Army had mobilized its nuclear-tipped missiles. Unnerved by this disclosure (Sharif reportedly seemed 'taken aback' when confronted with this fact)⁸ and the resulting potential for disaster, Nawaz Sharif agreed to immediate withdrawal, shedding all earlier pretensions that Pakistan had no control over the attacks.

There are also reports suggesting that nuclear weapons were kept ready on the Indian side. The most credible of these reports claimed that India 'activated all its three types of nuclear delivery vehicles and kept them at what is known as "Readiness State 3"—meaning that some nuclear bombs would be ready to be mated with their delivery vehicles at short notice'.⁹ These temporary deployments may well become regular practice, driven by the belief

⁵ 'Pakistan air force is on red alert', Rediff on the Net, 26 May 1999, URL http://www.rediff.com/news/1999/may/26kash9.htm>.

⁶ See, e.g., 'Take the fight to Pakistan, exhorts retired general', Rediff on the Net, 5 July 1999, URL <<u>http://www.rediff.com/news/1999/jul/05kash12.htm</u>>. The argument is based in part on the assessment that Pakistan's nuclear arsenal is too limited to undertake anything more than a limited deterrence strategy.

⁷ 'BJP chief wants capture of Azad Kashmir', *The News*, 4 July 1999.

⁸ Riedel, B. (a former Senior Director for Near East and South Asian Affairs at the US National Security Council), *American Diplomacy and the 1999 Kargil Summit at Blair House*, policy paper, Center for the Advanced Study of India: (University of Pennsylvania: Philadelphia, Pa., 2002), available at URL http://www.sas.upenn.edu/casi/reports/Riedelpaper051302.htm>.

⁹ Chengappa, R. (a senior journalist with *India Today* who has extensive contacts with defence personnel), *Weapons of Peace: The Secret Story of India's Quest to be a Nuclear Power* (Harper Collins: New Delhi, 2000), p. 437.

attributed to Indian policy makers that 'Pakistan's willingness to exploit its nuclear weaponry for even the most mundane ends might require India to consider developing at least a small set of rapid-response capabilities'.¹⁰

While some have tried to underplay the seriousness of the Kargil War—to the extent of not even classifyng it as a war—it was the first large-scale military engagement between two states with nuclear weapons. Kargil therefore represents a failure of deterrence, at least as defined by nuclear advocates in South Asia who promoted nuclear weapons in the two countries with the promise of lasting peace.

Pakistan's nuclear tests may even have provoked this war. Benazir Bhutto, a former Prime Minister of Pakistan, has stated that in 1996 Pakistani military officers had presented her with plans for a Kargil-style operation, which she vetoed.¹¹ It would therefore seem that the nuclear weapon tests convinced Pakistan's political and military leaders that the operation might be feasible with a nuclear shield to restrict any possible Indian response.

As a consequence, the lessons taken from the war by leaders in the two countries have been very different. For Pakistan, Kargil represented proof that its nuclear weapons would prevent India from launching a massive military attack. For India, Kargil meant that India would have to find ways of waging limited war that would not lead to the eventual use of nuclear weapons.

The 1999 military coup

The coup in Pakistan in October 1999 led by General Pervez Musharraf was a key development. Musharraf was seen in India as the architect of the Kargil War and relations between the two countries deteriorated sharply. The only major meeting between the leaders of the two countries' governments, the Agra Summit of 14–16 July 2001, produced no agreement.

The coup has also allowed India to portray differences between itself and Pakistan as a conflict between a democratic nation and a dictatorship—with mixed success. This is encapsulated in the argument, put forward by some Indian leaders, that India and the United States have a special relationship as 'the largest democracy and the oldest democracy'—an argument that has, at best, received a lukewarm reception in the USA.

III. The crisis in 2002

On 13 December 2001, Islamic militants attacked the Indian Parliament in Delhi. Fourteen people were killed, including five of the assailants. Claiming that the Islamic militant group Lashkar-e-Taiba was responsible for the attack, Indian leaders issued an ultimatum warning of dire consequences if Pakistan

¹⁰ Tellis, A. J., Fair, C. C. and Medby, J. J., *Limited Conflict Under the Nuclear Umbrella: Indian and Pakistani Lessons from the Kargil Crisis*, RAND Report MR-1450-USCA (RAND Corporation, Santa Monica, Calif., 2001), p. 57.

¹¹ 'Benazir vetoed Kargil-style operation in '96', *Indian Express*, 8 Feb. 2000, available at URL http://www.indianexpress.com/ie/daily/20000209/ifr09020.html.

failed to close down the offices of the Lashkar-e-Taiba and those of another militant group, the Jaish-e-Mohammed.¹² Although Musharraf probably did not order or authorize the attack, India cut off communications with Pakistan. The Indian ambassador in Islamabad was recalled to Delhi, road and rail links were closed, and Pakistani airlines were banned from using Indian airspace.

At the height of the ensuing crisis, over half a million troops, about twothirds of them Indian, were moved to the border. According to Indian Defence Minister George Fernandes, the Indian military was 'raring to go'. He also warned Pakistan not to consider using nuclear weapons, saying: 'We could take a strike, survive, and then hit back . . . Pakistan would be finished'.¹³ Pakistan Foreign Minister Abdul Sattar was quoted as saying that his anxieties were 'mounting not only by the day but by the hour'.¹⁴ Perhaps because of concerns about the possibility of an Indian strike on Pakistani airbases, the Pakistani Air Force practiced landing and taking off from the Islamabad– Lahore highway.¹⁵ Fortunately, the Indian Government did not launch an attack, in part because of General Musharraf's statement on 12 January 2002 that he was banning the Lashkar-e-Taiba and the Jaish-e-Mohammed, and the situation settled down somewhat.

In May 2002 two attacks were carried out in Kashmir within two weeks, the first of which was on the wives and children of Indian soldiers posted in the region. Once again India claimed that the attacks were perpetrated by gunmen who had crossed from Pakistan 'three or four days' before. As proof, it claimed that a chocolate bar made in Pakistan was found in a pocket of one of the attackers.¹⁶

India moved five warships from its east coast to the Arabian Sea.¹⁷ On 22 May, Prime Minister Vajpayee told front-line troops in Kashmir that the time had come for a 'decisive fight', adding 'we will win again'.¹⁸ Soon after, an Indian Army officer briefed a senior journalist about plans for a quick attack that would set back 'Pakistan's military capability by at least 30 years, pushing it into the military "dark ages", adding that 'casualties in men and machines in such an operation will be high and the military has firmly told the politicians to prepare the nation for losses and delayed results, as fighting will be fierce'.¹⁹ Details of the plans for attack, with a 'D-day' of 15 June 2002,

¹² Sultan Shahin, 'On the brink of war', *Asia Times*, 19 Dec. 2001, available at URL http://www.atimes.com/ind-pak/CL19Df01.html.

¹³ 'Interview with George Fernandes', *Hindustan Times*, 30 Dec. 2001, available at URL http://www.hvk.org/articles/1201/149.html.

¹⁴ Beeston, R. and Zahid Hussain, 'We will win nuclear war, says India,' *The Times* (London), 31 Dec. 2001.

¹⁵ Sawant, G. C., 'PAF hits the road to send IAF a message', *Indian Express*, 29 Jan. 2002, URL <http://www.indianexpress.com/ie20020129/top3.html>.

¹⁶ Harding, L., 'Claim, counter-claim and half fact in bloodied Kashmir', Guardian Unlimited, 16 May 2002, URL http://www.guardian.co.uk/elsewhere/journalist/story/0,7792,716854,00.html>.

¹⁷ 'India leader: prepare for war', CBSNews.com, 23 May 2002, URL http://www.cbsnews.com/stories/2002/05/23/world/main509928.shtml.

¹⁸ 'Time for a decisive battle has come: Vajpayee', Rediff on the Net, 22 May 2002, URL http://www.rediff.com/news/2002/may/22warl.htm>.

¹⁹ Bedi, R., 'India plans war within two weeks', *Daily Telegraph* (London), 6 June 2002, available at URL http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2002/06/06/wkash06.xml.

have since been confirmed by the current Indian Army chief.²⁰ Leaders on both sides made a number of nuclear threats. Fortunately, the situation cooled down within weeks.

In a parallel with the 1962 Cuban missile crisis, there were also incidents that could have accidentally led to war. In March 2002, a senior Indian Air Force officer flew a transport plane across the LOC and spent 11 minutes in Pakistan's airspace, during which time a surface-to-air missile was fired by Pakistan, damaging his aircraft.²¹ The Indian officer then tried to hide his mistake by reporting to the chief of the air force that the incident was minor and had created no problems. It was only when the Indian Army forward posts filed their reports, which were eventually passed on by the chief of the army to the air force, that the magnitude of the incident became clear.

Although it did not develop into war, there are a number of factors that make the 2002 crisis more dangerous than the Kargil War—especially in its implications for India–Pakistan relations in the future. Unlike Kargil, where Pakistan is clearly seen to have lost—especially politically—the 2002 crisis is claimed as a victory by both sides. On the Indian side, General Musharraf's January 2002 promise that he would rein in Pakistan-based militant organizations is seen as proof that India's 'coercive diplomacy' worked.²² Indian leaders also emphasize that the military crisis forced the international community to recognize Pakistan's support for terrorism.

Pakistan claims the opposite. Despite the huge build-up of forces by the Indian side, and much talk of attacking so-called terrorist camps within Pakistan, India did not actually conduct any military attacks. That a massive military confrontation with strong nuclear overtones is seen as a victory for one side is dangerous enough, but both sides viewing it the same way increases the likelihood that similar incidents will occur in the near future.

There are also those in India who see General Musharraf's concessions as not being particularly effective in controlling the militancy in Kashmir. However, the conclusion drawn from this is not to seek a different political strategy but instead to call for a more aggressive military response, including strikes into Pakistan. This again makes the situation very unstable.

The changed international climate after 11 September 2001

The international context for the South Asian military confrontation in 2002 was set by the terrorist attacks on the USA of 11 September 2001. Indian leaders used the opportunity to portray the Kashmir issue as primarily one of terrorism and India as its victim. It was quick to offer airbases and other logistical support to the US military with the aim of isolating Pakistan. The USA, on the other hand, wanted to exploit Pakistan's geographical advantage and its

²⁰ Mehta, A. K., 'India was on brink of war twice', Rediff on the Net, 2 Jan. 2003, URL http://www.rediff.com/news/2003/jan/02ashok.htm>.

²¹ 'Chink in the armour', Asian Age, 12 May 2002.

²² Raja Mohan, C., 'Coercive diplomacy: change the tactics', *The Hindu*, 31 Jan. 2002, URL http://www.hinduonnet.com/thehindu/2002/01/31/stories/2002013100100800.htm.

close ties to the Taliban. Realizing the dangers of civil instability that could arise from allying with the USA, Pakistani leaders hesitated but, in the end, agreed to provide support for the USA's military campaign in Afghanistan.²³

The key impact on the 2002 crisis came from the decision by the USA to unilaterally bomb Afghanistan without a UN Security Council resolution. Immediately, several Indian politicians, media commentators and military personnel called publicly for India to follow the USA's lead and attack facilities in the part of Kashmir held by Pakistan. In November 2001, for example, even before the attack on the Indian Parliament, a meeting of high-level Indian army officers recommended "hot pursuit" of terrorists in Pakistan-occupied Kashmir and destroy[ing] their training camps'.²⁴

These sentiments may have been accentuated by the response of US leaders to the 13 December attack. Both President George W. Bush and Secretary of State Colin Powell were reported to have said that India had the right to self-defence. Many media commentators interpreted this to mean that the USA wanted India to destroy purported terrorist camps in Pakistan, as was done in Afghanistan.²⁵

The trend has continued. Soon after the crisis subsided, Indian Foreign Minister Jaswant Singh claimed that every nation had the right of pre-emption, adding, 'It is not the prerogative of any one country'.²⁶ While India has not so far attacked across the border, this opinion is now an accepted part of the political and strategic discourse within India.

The role of the international community

India and Pakistan have been among the largest importers of conventional arms for many years. After 11 September, traditional suppliers continued to sell weapons, in some cases to both countries.²⁷ However the USA, which had previously followed a highly restrictive approach regarding arms exports and military assistance to India and Pakistan, became more active in selling weapons and offering military assistance to India and Pakistan as part of its efforts to influence policy in the region.

The arms race is unequal. Pakistan has a smaller economy and lower rate of economic growth. Seeking to persuade the USA to increase military aid to Pakistan, Pakistani leaders have argued that peace in the region can be neither guaranteed nor durable because of the growing disparity in conventional weaponry.²⁸ It is ironic that the same argument was used to advocate nuclear

²³ See, e.g., Jones, O. B., *Pakistan: Eye of the Storm* (Yale University Press: New Haven, Conn., 2002).

²⁴ 'Possibility of war cannot be ruled out', *Times of India*, 12 Dec. 2001.

²⁵ Sultan Shahin (note 12).

²⁶ Krishnaswami, S., 'Every country has the right to pre-emption: Jaswant', *The Hindu*, 1 Oct. 2002, URL http://www.hinduonnet.com/thehindu/2002/10/01/stories/2002100103650100.htm>.

²⁷ For details of arms transfers to India and Pakistan in 2002 see chapter 13 in this volume.

²⁸ 'No large scale deportation of Pakistanis from US', *The News*, 11 Feb. 2003, URL http://www.jang-group.com/thenews/feb2003-daily/11-02-2003/main/main6.htm>.

weapons prior to the 1998 tests.²⁹ General Musharraf has claimed that Pakistan's conventional deterrence prevented the war.³⁰

The role of the USA

With India and Pakistan vying for US support, it is not surprising that US diplomacy was able to play a role in the de-escalation of tensions. Anxious not to have India and Pakistan get in the way of the prosecution of its war in Afghanistan, US leaders made a number of promises to both sides. In particular, sanctions imposed after the nuclear tests of 1998 were lifted and Indo–US military ties increased to a level described as 'unprecedented' by General Richard B. Myers, Chairman of the US Joint Chiefs of Staff.³¹ Several highlevel officials made visits to the region and the crisis received the personal attention of President Bush and others. This balancing act paid off. However, in the event of other militant attacks, or similar triggers, in the future it is not certain that the situation could be resolved in a similar way.

IV. Doctrines

Indian doctrines

In August 1999, shortly after the Kargil War, the Indian National Security Advisory Board released its draft report on Indian nuclear doctrine (Draft Nuclear Doctrine, DND).³² Although the board's recommendations have not been accorded the status of official policy, the DND remains the most comprehensive view of India's emerging nuclear posture. Largely modelled on the doctrines and deployment postures of the nuclear weapon states, the DND states that 'India shall pursue a doctrine of credible minimum nuclear deterrence'. According to the DND, this requires: (*a*) sufficient, survivable and operationally prepared nuclear forces; (*b*) a robust command and control system; (*c*) effective intelligence and early-warning capabilities; (*d*) planning and training for nuclear operations; and (*e*) the will to employ nuclear weapons.³³ The requirement for India to have 'operationally prepared' nuclear forces is usually interpreted to mean deployment of nuclear weapons on delivery vehicles. Deployment of India's nuclear weapons would, according to the DND, involve a 'triad of aircraft, mobile land-based missiles and sea-based

²⁹ Mian, Z., 'Renouncing the nuclear option', eds D. Cortright and S. Ahmed, *Pakistan and the Bomb: Public Opinion and Nuclear Options* (University of Notre Dame Press: Ind., 1998), pp. 47–68.

³⁰ 'Pak's conventional deterrence averted war: Musharraf,' Rediff on the Net, 22 June 2002, URL http://www.rediff.com/news/2002/jun/22war3.htm>.

³¹ 'Indo-US military ties must: USA', *The Tribune*, 17 Feb. 2002, URL <http://www.tribuneindia. com/2002/20020218/main4.htm>.

³² 'Draft report of National Security Advisory Board on Indian nuclear doctrine', 17 Aug. 1999, available at URL http://www.indianembassy.org/policy/CTBT/nuclear_doctrine_aug_17_1999.html>.

³³ The contradictions in the notion of a credible minimum nuclear deterrent are elaborated in Ramana, M. V., 'A recipe for disaster', *The Hindu*, 9 Sep. 1999, available at URL http://www.geocities.com/m_v_ramana/hindu_doctrine.htm. For broader critiques of the notion of deterrence, especially within a South Asian context, see Bidwai, P. and Vanaik, A., *South Asia on a Short Fuse: Nuclear Politics and the Future of Global Disarmament* (Oxford University Press: New Delhi, 1999).

assets' structured for 'punitive retaliation' so as to 'inflict damage unacceptable to the aggressor'. The DND envisaged an 'assured capability to shift from peacetime deployment to fully employable forces *in the shortest possible time*'.³⁴

In January 2003, the Indian Government published a brief official nuclear doctrine.³⁵ This reiterated some of the elements of the DND, including the plan to build and maintain a 'credible minimum deterrent' and the statement that 'nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage'. In common with the DND, the official statement does not define 'minimum', leaving open the possibility of a constantly expanding arsenal. Although it claimed to have a posture of no-first-use, wherein 'nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere', it went on to significantly weaken the policy by claiming the right to nuclear retaliation if India was attacked using chemical and biological weapons (CBW). In this it appears to be following the lead of the USA, which had also announced that it would consider responding to a CBW attack with nuclear weapons.³⁶ The policy may also reflect the advice of the National Security Board, which had recently argued that India should drop the no-first-use policy.³⁷ The caveat about CBW attacks may well be the first step in completely repudiating the no-first-use policy.

Parts of the military and the more hawkish sections of the strategic community are the main players pushing for the development of a larger and more usable nuclear force. The triad structure recommended by the DND is an example of their influence. The armed services support this structure because each service would like to have nuclear weapons of its own. They have also been involved in a struggle over who would control the nuclear arsenal. The growing role of the military is also likely to generate pressures for a launchon-warning posture for the nuclear arsenal that brings with it a grave risk of accidental nuclear war.³⁸

Pakistani doctrines

In Pakistan, the overwhelming dominance of the army has left no scope for other political and bureaucratic players and institutions.

There has been no official pronouncement on nuclear weapons use or deployment doctrines in Pakistan. A newspaper article by Agha Shahi, Zulfiqar Ali Khan and Abdul Sattar, former Foreign Secretary, Air Marshall and Foreign Minister, respectively, may illuminate the typical thinking of

³⁴ Draft report (note 32), emphasis added.

³⁵ 'Cabinet committee on security reviews progress in operationalizing India's nuclear doctrine', Press Release, Prime Minister's Office, 4 Jan. 2003, available at URL http://pib.nic.in/archieve/lreleng/lyr2003/rjan2003/04012003.html.

³⁶ For a discussion of US nuclear doctrines, see chapter 15 in this volume

³⁷ 'Abandon no-first-use policy, Security Board tells govt.,' Rediff on the Net, 9 Jan. 2003, URL http://www.rediff.com/news/2003/jan/09ia.htm>.

³⁸ Ramana, M. V., 'Risks of a LOW [launch-on-warning] doctrine', *Economic and Political Weekly*, 1 Mar. 2003, pp. 860–64.

Pakistani policy makers.³⁹ The article stressed survivability of the arsenal and the necessity for it 'to be upgraded in proportion to the heightened threat of pre-emption and interception... In the absence of an agreement on mutual restraints, the size of Pakistan's arsenal and its deployment pattern have to be adjusted to ward off dangers of pre-emption and interception'. The authors also suggest that: 'A high state of alert will become more necessary as India proceeds with deployment of nuclear weapons'.

With regard to the use of weapons, the article argued in favour of following NATO's flexible response strategy of using nuclear weapons *even* in response to a conventional attack. 'The assumption [is] that if the enemy launches a general war and undertakes a piercing attack threatening to occupy large territory or communication junctions, the "weapon of last resort" would have to be invoked.'

Another account, based on comments by General Khalid Kidwai, Director of the Pakistani Army Strategic Plan Division, states that nuclear weapons will be used only 'if the very existence of Pakistan as a state is at stake'.⁴⁰ This would include situations where: (*a*) India attacks Pakistan and takes a large part of its territory; (*b*) India destroys a large part of Pakistan's armed forces; (*c*) India imposes an economic blockade on Pakistan;⁴¹ or (*d*) India creates political destabilization or large-scale internal subversion in Pakistan. Finally, it has also been suggested that, if India were to penetrate to a line joining Gujranwala, Multan, Sukkur and Hyderabad, then 'it is likely Pakistan would have to accept defeat or employ nuclear weapons'.⁴²

It seems fairly clear that Pakistan's policy makers envisage the use of nuclear weapons in a variety of contingencies, although these contingencies are perhaps delineated in the hope that they may never come to pass.

India, reflecting its conventional military superiority over Pakistan, has claimed that it has a no-first-use policy, although, as noted above, this policy has been weakened somewhat in the recent nuclear doctrine. In response, Pakistan has asked India to sign a no-war pact. Since India has refused to sign such a pact, there has been an impasse.⁴³

³⁹ Shahi, A., Ali Khan, Z. and Sattar, A., 'Securing nuclear peace', *News Intenational*, 5 Oct. 1999. It is important to remember, however, that military planning and policy making in Pakistan are dominated by the army and not by the foreign office or the air force.

⁴⁰ Martellini, M. and Cotta-Ramusino, P., 'Nuclear safety, nuclear stability and nuclear strategy in Pakistan: a concise report of a visit by Landau Network–Centro Volta', available at URL <http://lxmi. mi.infn.it/~landnet/Doc/pakistan.pdf.>. These conditions resemble those identified by Israel for its use of its 'weapons of last resort'. See Cohen, A., *Israel and the Bomb* (Columbia University Press: New York, 1998), p. 237.

⁴¹ This may include either a naval blockade or a denial of access to Indus River waters.

⁴² Cloughley, B., A History of the Pakistan Army: Wars and Insurrections (Oxford University Press: Karachi, 1999), pp. 340–41.

⁴³ For an argument about how these 2 offers could be usefully linked see Haider, E., 'Managing nuclear weapons in South Asia: in search of a model', eds M. V. Ramana and C. Rammanohar Reddy, *Prisoners of the Nuclear Dream* (Orient Longman: New Delhi, 2003).

V. Nuclear force developments

India and Pakistan continue to produce fissile materials and develop missiles.⁴⁴ There have been no official statements regarding plans for the eventual size of nuclear arsenals from either side. While it is possible to find semi-official arguments for arsenals involving anywhere from 100 to over 400 nuclear weapons, the size of the nuclear forces are currently, and will remain, limited by the constraints of their fissile material and missile inventories. Pakistan's nuclear arsenal is smaller and will almost certainly remain so.

Currently, neither country is believed to keep its nuclear weapons mounted on missiles and ready for launch. However, they would be able to prepare their nuclear weapons for launch within a fairly short period of time—possibly within a few hours. This time period could be significantly shorter if the weapons were fully integrated into the armed forces. India has been gradually moving towards this position. Should India continue along this path, Pakistan is certain to follow.

In the midst of the 2002 crisis, both India and Pakistan tested new nuclearcapable missiles. India began in January 2002 with a test of a 700-km version of the Agni—clearly specific to Pakistan since it is not capable of reaching any significant targets in China.⁴⁵ Pakistan responded by testing three missiles (the 1500 km Ghauri, the 300 km Ghaznavi and the 180 KM Abdali) later in the year. In December 2001, India moved the short-range, nuclear-capable Prithvi missile to locations close to the border, bringing major Pakistani cities such as Islamabad, Rawalpindi, Lahore and Faisalabad within striking range.⁴⁶ The following month, it was reported that Prime Minister Vajpayee had granted authorization for the armed forces to use the missile at their discretion.⁴⁷

Indian nuclear force developments

In March 2002 the Indian Government announced its decision to induct the 2000-km range Agni-II missile, capable of delivering a nuclear warhead, into the military.⁴⁸ Unlike the prototypes developed in the 1980s, the newer versions of the Agni missile are solid-fuelled, enabling them to be fired rapidly. A special missile regiment has been formed to operate the missile.⁴⁹

⁴⁴ For details see chapter 15 and appendix 15A in this volume.

⁴⁵ See, e.g., Sawant, G. C., 'R-Day march gets a 700-km missile salute', *Indian Express*, 26 Jan. 2002, available at URL http://www.indianexpress.com/ie20020126/top1.html>.

⁴⁶ Thapar, V., 'Prithvi missiles moved near the border in Punjab', *Hindustan Times*, 25 Dec. 2001. The Prithvi missile is not believed to be armed with nuclear warheads. However, it has the capability and there are no guarantees that it will not be, especially during a military crisis—as Chengappa's account of deployment during the Kargil War suggests (note 9).

⁴⁷ Bidwai, P., 'Our mutual nuclear death wish', News International, 7 Feb. 2002.

⁴⁸ Government of India, 'Induction of missiles', Press Information Bureau, 14 Mar. 2002, available at URL http://pib.nic.in/archieve/Ireleng/lyr2002/rmar2002/14032002/r1403/r1403

⁴⁹ 'Agni missile group for army cleared', *The Hindu*, 16 May 2002, available at URL http://www.hinduonnet.com/2002/05/16/stories/2002051603191200.htm.

There have been other, less publicized, signs of the imminent military deployment of nuclear weapons. Military officers have reportedly been undergoing training in the handling of nuclear devices at the Bhabha Atomic Research Centre.⁵⁰ India conducted large-scale military exercises in May 2001, during which Indian President Abdul Kalam—the 'father' of the Indian missile programme—revealed that the armed forces were training to use nuclear weapons.⁵¹

It is known that the Indian armed forces have been making detailed plans for operations involving nuclear weapons. Following the publication of the DND in 1999, the three armed service headquarters were reportedly 'involved in drawing up detailed schemes for inducting a variety of nuclear armaments and ancillary and support equipment in their orders-of-battle . . . [and] appropriate command and control frameworks'.⁵² Subsequently, the air force publicly announced that it had decided on its operational plans.⁵³ There may, of course, be other more secret preparations.

In January 2003, the Indian Government announced that it had set up a twolayered structure called the Nuclear Command Authority (NCA) to manage its nuclear and missile arsenals. The NCA is comprised of the Political Council, chaired by the prime minister, and the Executive Council, chaired by the national security adviser to the prime minister. According to the announcement, the Political Council is the sole body able to authorize the use of nuclear weapons. However, 'arrangements for alternate chains of command for retaliatory nuclear strikes in all eventualities' are also mentioned, that is, it anticipates contingencies in which someone other than the prime minister may have to, and will be able to, order the use of nuclear weapons.

Pakistani nuclear force developments

On 9 January 2003, the Ghauri (sometimes called the Hatf V) missile was inducted into the army. Receiving it, President Musharraf, who is also the army chief-of-staff, stated that it was 'a proud day' for him 'to accept the Ghauri on behalf of the army's Strategic Forces Command' and expressed the hope that the induction would 'radiate the necessary effects of deterrence'.⁵⁴ The 750 km-range Shaheen-I was handed over to the military in March.⁵⁵

53 'IAF draws up nuclear strategy', Times of India, 8 Oct. 2000.

⁵⁰ Thapar, V., 'Navy, IAF train in handling nukes', *Hindustan Times*, 15 Feb. 2002.

⁵¹ Bagla, P., 'Purna Vijay is with nuclear weapons: Kalam', *Indian Express*, 10 May 2001, available at URL <http://www.indianexpress.com/ie20010511/nat20.html>; and Fakir Chand, 'Use of N-arms only for training purposes: Dr. Kalam', Rediff on the Net, 12 May 2001, URL <http://www.rediff.com/ news/2001/may/12kalam.htm>.

⁵² Karnad, B., 'India's force planning imperative: the thermonuclear option', eds D. R. SarDesai and Raju G. C. Thomas, *Nuclear India in the Twenty-First Century* (Palgrave: New York, 2002), pp. 105–138.

⁵⁴ Qaisar, R., 'Pakistan army gets Hatf-V missiles', *Daily Times*, 9 Jan. 2003, available at URL <http://www.dailytimes.com.pk/default.asp?page=story_9-1-2003_pg7_1>.

⁵⁵ 'Pakistan delivers Shaheen-I ballistic missile to military', Voice of America, 6 Mar. 2003, URL <http://www.voanews.com/article.cfm?objectID=FDAA758E-9131-4F1C-B8BD237FEE1B81DE>.

These ceremonies were largely formalities—in reality the Pakistani Army has always controlled the nuclear and missile programmes.

The domination by the armed forces is also reflected in the organization responsible for formulating policy and exercising control over the development and employment of Pakistan's strategic nuclear forces—the National Command Authority, created in February 2000.⁵⁶ Pakistan's National Command Authority has three components: the Employment Control Committee, the Development Control Committee and the Strategic Plans Division. The military's representatives are in a majority in all of them.

The Employment Control Committee is chaired by the head of the government and includes the cabinet ministers of foreign affairs, defence and the interior; the chairman of the Joint Chiefs of Staff Committee (CJCSC); the military service chiefs; the director-general of the Strategic Plans Division (a senior army officer), who acts as secretary; and technical advisers. This committee is thought to have been charged with making nuclear weapon policy, including the formulation of policy on the decision to use nuclear weapons.

The Development Control Committee manages the nuclear weapon complex and the development of nuclear weapon systems. It has the same military and technical members as the Employment Control Committee but lacks the cabinet ministers that represent the other parts of government. The Development Control Committee is chaired by the head of the government and includes the CJCSC (as its deputy chairman), the military service chiefs, the director-general of the Strategic Plans Division and representatives of the weapon research, development and production organizations. These organizations include the A.Q. Khan Research Laboratory in Kahuta; the national development complex; and the Pakistan Atomic Energy Commission.⁵⁷ The committee also includes the newly created National Engineering and Scientific Commission, headed by Samar Mubarikmand, who was formerly the head of technical development at the Pakistan Atomic Energy Commission and led the team that conducted the nuclear weapon tests.⁵⁸

The Strategic Plans Division is located in the Joint Services Headquarters under the CJCSC and is led by a senior army officer. This division acts as the secretariat for the NCA and has responsibility for planning and coordination and, in particular, for establishing the lower tiers of the command-and-control system and its physical infrastructure.

⁵⁶ 'National Command Authority formed', Dawn (Internet edn), 3 Feb. 2000, URL http://www.dawn.com/2000/02/03/top7.htm>.

⁵⁷ Sheikh, S., 'Strategic organizations put under NCA control', *The News*, 28 Nov. 2000.

⁵⁸ 'Pakistan: Mubarakmand to Chair NESCOM', Nucleonics Week, 25 Jan. 2001, p. 14.

VI. The role of nuclear weapons

Threats and nuclear brinkmanship

One of the recurring themes in recent South Asian military crises has been the threatened use of nuclear weapons by leaders in India and Pakistan, following the practices of Soviet and US leaders during the cold war. These tactics predate the 1998 nuclear tests. While formally denying that they possessed nuclear weapons, Pakistan's leaders at times played on the widely held belief in the international community that Pakistan did have a nuclear weapon capability. Although the facts remain controversial, it is widely believed, especially in Pakistan, that Pakistani leaders resorted to nuclear threats during the military crises in 1987 and 1990 as a way of signalling their determination to forestall potential Indian attacks or invasions. During the Kargil War, Indian and Pakistani officials and ministers delivered indirect and direct nuclear threats no fewer than 13 times.⁵⁹

The 2002 crisis was no exception to this pattern. Jana Krishnamoorthy, president of the ruling BJP, set the tone when he warned in December 2001 that, if a nuclear weapon is used by Pakistan, 'its existence itself would be wiped out of the world map'.⁶⁰ For his part, Prime Minister Vajpayee warned that 'no weapon would be spared in self-defence. Whatever weapon was available, it would be used no matter how it wounded the enemy'.⁶¹ Indian Army Chief General Sundararajan Padmanabhan claimed that if Islamabad dared use its nuclear weapons: 'The perpetrator of that particular outrage shall be punished, shall be punished so severely that the continuation of any form of fray will be doubtful', and expressed his readiness 'for a second strike' since he felt that India had 'enough' nuclear arms.⁶²

In Pakistan, former Chief of the Army General Mirza Aslam Beg declared: 'We can make a first strike, and a second strike or even a third'.⁶³ In December 2002, General Musharraf disclosed that he had planned for an 'unconventional response' to a possible Indian attack across the border. The subsequent explanation that he meant 'people rising against the Indian armed forces' left most observers unconvinced.

Unofficial discourse

Hindu nationalist groups in India and Islamic fundamentalist groups in Pakistan have also indulged in nuclear threats. Of these, the statements made by

⁵⁹ Bidwai and Vanaik (note 33), p. vii.

⁶⁰ 'Pak would be wiped out if it uses nuclear bomb: BJP', *Times of India*, 25 Dec. 2001.

⁶¹ Shukla, J. P., 'No weapon will be spared for self-defence', *The Hindu*, available at URL http://www.hinduonnet.com/thehindu/2002/01/03/stories/2002010303010100.htm.

⁶² Roche, E., 'India: war may be on the horizon', *SpaceDaily*, 11 Jan 2002, available at URL https://www.spacedaily.com/news/nuclear-india-pakistan-02a.html.

⁶³ Hoodbhoy, P., 'What, us worry'?, *Los Angeles Times*, 9 June 2002, available at URL http://www.zmag.org/content/showarticle.cfm?SectionID=40&ItemID=1927>. To put this in perspective, General Beg's view of nuclear war is that: 'you can die crossing the street or you could die in a nuclear war. You've got to die some day anyway'.

the Rashtriya Swayamsevak Sangh (RSS), the backbone of the Sangh Parivar 'family' of Hindu nationalist organizations, of which the ruling BJP is the parliamentary wing, are noteworthy.

During the Kargil War, the RSS newspaper Panchjanya put out this call:

The time has come again for India's Bheema to tear open the breasts of these infidels and purify the soiled tresses of Draupadi with blood. Pakistan will not listen just like that. We have a centuries-old debt to settle with this mindset. It is the same demon that has been throwing a challenge at Durga since the time of Mohammad Bin Qasim. Arise Atal Behari! Who knows if fate has destined you to be the author of the final chapter of this long story? For what have we manufactured bombs? For what have we exercised the nuclear option?⁶⁴

During the Kargil War, another RSS newspaper, *The Organiser*, wrote that Pakistan's 'very existence has become inimical not only for India but for the entire civilized world. Pakistan deserves to be punished for all its errors of commission and omission . . . [The] time has come to solve the problem of Pakistan forever and for all'.⁶⁵ Similarly, the head of the Vishwa Hindu Parishad, another member of the Sangh Parivar family of Hindu nationalist organizations, stated that Prime Minister Vajpayee 'should break Pakistan into 40 parts'.⁶⁶

These statements are significant because there has been a gradual shift within the ruling BJP towards a more militant attitude towards relations with Pakistan. Hardliners have found it useful to take advantage of events such as the attack on the Indian Parliament to expand their power base within the BJP and further their agenda. This shift has accelerated since the anti-Muslim pogrom in Gujarat in March–May 2002.⁶⁷ The Gujarat Chief Minister, Narendra Modi, is considered by many to be a future challenger to Vajpayee. In the November 2002 state elections in Gujarat, he deftly brought foreign policy, especially Pakistan's purported support for terrorism, into the campaign. The strategy had resonance with the voters, in part because of the attack on a Hindu temple in Akshardam, Gujarat, by Islamic militants in September 2002. One of Modi's campaign slogans was that a victory for the Congress Party (the main opposition party) would result in celebrations in Islamabad. While campaigning for Modi in the elections, L. K. Advani, Deputy Prime

⁶⁴ Panchjanya, 20 June 1999, cited in Praveen Swami, *The Kargil War* (LeftWord Books: New Delhi, 1999), p. 100.

⁶⁵ Editorial, *The Organiser*, 30 Dec. 2001.

⁶⁶ 'Open season in the Sangh: VHP twists the knife too', *Indian Express*, 3 Oct. 2002, available at URL http://www.indianexpress.com/archive_full_story.php?content_id=10602.

⁶⁷ Following an arson attack on a train carrying Hindu activists, in the town of Godhra, Gujarat, in which 58 people were killed, gangs associated with the Sangh Parivar group of Hindu nationalist organizations killed over 2000 people, most of them Muslims. According to India's National Human Rights Commission, Gujarat Chief Minister Narinder Modi is said to have instructed his police force not to intervene as Hindu mobs killed Muslims and burned their property. The few police officers who tried to intervene were removed from their jobs. "We have no orders to save you": state participation and complicity in communal violence in Gujarat, Human Rights Watch, vol. 14, no. 3 (Apr. 2002), available at URL http://www.hrw.org/reports/2002/india/India0402-03.htm For some distinctive aspects of the pogrom see Ramana, M. V., 'Gujarat and the politics of hate,' *Daily Times*, 2 May 2002, available at URL http://www.geocitics.com/m v raman/gujarat.htm>.

Minister and a prominent BJP hard-liner, challenged Pakistan to a fourth war.⁶⁸

Pakistani religious groups are not as close to power as their Indian counterparts. However, their views are important because of their extensive involvement in the militancy in Kashmir and their ideas about jihad (holy war). As Qazi Hussain Ahmad of the Jamaat I-Islam, one of the largest Islamic groups, declared in 1993: 'Let us wage Jihad for Kashmir. A nuclear-armed Pakistan would deter India from a wider conflict'.⁶⁹

Shortly after the attack on the Indian Parliament, a radical Islamist group, the Jamiat-ul-Mujahideen, faxed a statement to a news agency in Srinagar in the Indian part of Kashmir with the message that the jihad in Kashmir was launched with the sole aim of starting a war between India and Pakistan.⁷⁰ This, the statement predicted, would ultimately result in a resolution of the Kashmir issue. However, there is little evidence of widespread support for radical Islamic ideologies in the Pakistani military or security services.

Perceptions of nuclear deterrence

Leaders in both India and Pakistan see the 2002 crisis as having been resolved in their favour—at least partially. Since India had a greater military presence on the border and was threatening to attack, albeit in a limited fashion, it should not be surprising that Pakistani leaders have credited their nuclear weapons with having deterred India.

Indian leaders have also asserted the efficacy of nuclear deterrence and the power of their nuclear weapons. However, 'they cannot agree on what this power is or does, and even contradict each other on its role and function'.⁷¹ First, Prime Minister Vajpayee claimed that the recent crisis showed that India had, in effect, successfully called Pakistan's nuclear bluff. Next, President Abdul Kalam claimed that nuclear weapons had averted any kind of war. (Embarrassingly, this was in essence the same claim as that made by President Musharraf and contrary to what Prime Minister Vajpayee was saying). Finally, General V. P. Malik, former Chief of Army Staff, stated that nuclear weapons were largely irrelevant for conventional warfare and played no deterrent role during the Kargil War or in the 2002 crisis.

Indian views on the role of Pakistani nuclear weapons are even more puzzling. A section of the Indian nuclear policy-making community has had a ten-

⁶⁸ 'Advani dares Pakistan to fourth war', Rediff on the Net, 30 Nov. 2002, URL http://www.rediff.com/election/2002/nov/30guj5.htm.

⁶⁹ Ramana, M. V. and Nayyar, A. H., 'India, Pakistan and the bomb', *Scientific American*, 16 Dec. 2001, available at URL http://www.sciam.com/article.cfm?articleID=00087D79-AA4B-1C6E-84A980 9EC588EF21>.

⁷⁰ 'Jehad in Kashmir to start war between India, Pak,' *Times of India*, 25 Dec. 2001, available at <http://timesofindia.indiatimes.com/cms.dll/html/uncomp/articleshow?art_ID=1123978408>.

⁷¹ Vanaik, A., 'Deterrence or a deadly game? nuclear propaganda and reality in South Asia', *Disarmament Diplomacy*, no. 66 (Sep. 2002), available at URL http://www.acronym.org.uk/dd/dd66/66 op3.htm>.

dency to belittle Pakistan's nuclear capability.⁷² In the past, for example, leading scientists have declared that Pakistan could not have enriched uranium to the levels required to make a bomb. The nuclear tests by Pakistan ended such speculation.⁷³ However, the idea reappeared in a different guise during the 2002 crisis. K. Subrahmanyam, an influential Indian strategist, suggested that, in the aftermath of 11 September, and with the increased US presence in Pakistan, if Pakistan were to deploy any nuclear missiles the USA would destroy them.⁷⁴ Pakistan would not therefore be able to use its nuclear weapons—a comforting, if fallacious, idea.

The most important lesson of the Kargil War for Indian leaders was that India would have to find ways of waging limited war without provoking Pakistan to cross the nuclear threshold. In other words, India has embarked upon a search for strategic space in which to act. In January 2000 Defence Minister George Fernandes, once a trade union leader and one of the few prominent political leaders to oppose the 1974 nuclear test,⁷⁵ declared that the Kargil War had shown that the nuclearization of India and Pakistan had not made conventional wars obsolete.⁷⁶ Instead, it 'simply imposed another dimension on the way warfare could be conducted'. More recently, Fernandes warned that if Pakistan launched a nuclear attack, it would be 'wiped out'.⁷⁷ This should be seen in conjunction with his stated desire to find the strategic space in which a limited war could be waged. By promising massive retaliation, rather than flexible response, there is an expectation that limited war will stay at the conventional level.

Reflecting the thinking popularized by US nuclear strategists such as Herman Kahn in the 1950s,⁷⁸ Malik elaborated on his concept of limited war: 'The escalation ladder would be carefully climbed in a carefully controlled ascent by both protagonists'.⁷⁹ An indication of the initial step in such a ladder comes from Malik's statement that the decision not to cross the LOC 'may not be applicable to the next war'.⁸⁰ This emphasis on crossing the border, despite the fact that it would be into a nuclear-armed Pakistan, shows the persistence

⁷² Hoodbhoy, P. and Mian, Z., 'The India–Pakistan conflict—towards the failure of nuclear deterrence', Nautilus Institute, Policy Forum Online, Special forum 48 (13 Nov. 2002), URL http://www.nautilus.org/fora/Special-Policy-Forum/48_Pervez_Zia.html#sect2.

⁷³ To save face, many went on to claim that Pakistan had stolen its technology from other countries.

⁷⁴ 'Dicing with Armageddon', The Economist, 18 May 2002, p. 59.

⁷⁵ India conducted its first nuclear explosion, described as a 'peaceful nuclear explosion', on 18 May 1974. 'Nuclear-weapon proliferation', *World Armaments and Disarmament: SIPRI Yearbook 1975* (Almqvist & Wiksell International: Stockholm, 1975), pp. 16–21.

⁷⁶ Jayaram, P., 'George warns Pak of retaliation', India Abroad News Service, 23 Aug 2001.

⁷⁷ 'India warning over nuclear war,' BBC News, 7 Jan. 2003, URL <http://news.bbc.co.uk/2/hi/ south_asia/2636157.stm>.

⁷⁸ Kahn, H., *On Thermonuclear War* (Princeton University Press: Princeton, N.J., 1961), discussed the constellation of nuclear forces that result in the smallest risk of being used; and *On Escalation: Metaphors and Scenarios* (Frederick A. Praeger: New York and London, 1965), addresses the issue of the use of nuclear weapons during war.

⁷⁹ Desai, G., 'Limited war can erupt anytime: Gen. Malik', *Times of India*, 7 Jan. 2000, available at URL http://www.media-watch.org/articles/0100/50.html.

⁸⁰ Dugger, C. W. and Bearak, B., 'You've got the bomb: so do I: now I dare you to fight.', *New York Times* (Internet edn), 16 Jan. 2000, URL http://www.nytimes.com/library/review/011600india-pakistan-review.html>.

of institutional practices within the Indian military. As General V. R. Raghavan—former Director General of Military Operations for the Indian Army—observes, offence has been 'the defining emphasis' in wars between India and Pakistan and 'this pattern is unlikely to change in a future war. Indian plans are firmly based on taking a future war into all Pakistani territory, even if the conflict commences in Jammu and Kashmir'.⁸¹

The view, held in Pakistan, that Pakistan's nuclear weapons protected it during the Kargil War and prevented the war from escalating is open to question. Riedel suggests that, during the meeting at Blair House between Clinton and Nawaz Sharif, Pakistan was looking for US support to ward off an Indian attack.⁸² Moreover, as argued above, the Kargil War was actually *caused* by nuclear weapons because their possession by Pakistan emboldened its army to carry out the plan.⁸³

VII. Conclusions

Following the Indian nuclear tests of May 1998, L. K. Advani claimed that 'India's decisive step to become a nuclear weapon state has brought about a qualitatively new state in India–Pakistan relations, particularly in finding a lasting solution to the Kashmir problem'. In the intervening period, there has been no evidence of any solution to the Kashmir problem, but it is clear that there is now a qualitatively new state of relations between the two countries—an altogether more dangerous one.

This new relationship is more belligerent and aggressive and nuclear threats play a prominent role. There have also been major military crises and small wars, and there is a likelihood of similar occurrences in the future. The military on both sides, but especially in India, have been making plans to deal with such contingencies, including the use of nuclear weapons. The situation is likely to become worse with the further nuclear deployments by both India and Pakistan.

The one redeeming feature, in the aftermath of the nuclear tests, has been the emergence of an active peace movement in South Asia. Both India and Pakistan now have national coalitions of civil society groups working for nuclear disarmament and peace. Over and above the desire to avoid war and potential nuclear catastrophe, the large costs imposed by nuclear armaments on the already poor economies and the environmental impacts of the process of manufacturing and testing these weapons have been major motivating factors.⁸⁴ The success of this movement may be the best hope for true and sustained peace in the region.

⁸¹ Raghavan, V. R., 'Limited war and nuclear escalation in South Asia', *Nonproliferation Review* vol. 8, no. 3 (fall/winter 2001), pp. 82–98, p. 90.

⁸² Riedel (note 8).

⁸³ See, e.g., Hoodbhoy (note 63).

⁸⁴ See Reddy, C. Rammanohar, 'Nuclear weapons versus schools for children: an estimate of the cost of the Indian nuclear weapons programme'; and Ramana, M. V. and Gadekar, S., 'The price we pay: from uranium to weapons', eds M. V. Ramana and C. Rammanohar Reddy, *Prisoners of the Nuclear Dream* (Orient Longman: New Delhi, 2003).