

The India-Pakistan Conflict - Towards The Failure Of Nuclear Deterrence

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By Pervez Hoodbhoy and Zia Mian

I. Introduction

This essay by Pervez Hoodbhoy and Zia Mian, Pakistan's leading physicists and anti-nuclear activists, note the fundamental connection between crisis and nuclear weapons in South Asia. They argue that deterrence "presupposes a rational calculus, as well as actors who, at the height of tension, will put logic before emotion. Recent events in South Asia have put all these into question."

II. Essay By Pervez Hoodbhoy and Zia Mian

The India-Pakistan Conflict - Towards The Failure Of Nuclear Deterrence

by Pervez Hoodbhoy (Quaid-e-Azam University) and Zia Mian (Princeton University)

These are dismal times for peace. Since the tests of May 1998 and their overt nuclearization, Pakistan-India relations have visibly deteriorated. Crisis has followed crisis and nuclear weapons have played an increasingly prominent role. The massive military mobilisation and threat of war in spring of 2002 exposed several important features of the dynamics shaping nuclear South Asia, especially the repeated use of nuclear threats and the apparent fearlessness of policy makers and the public when faced with the prospect of nuclear war.

The context for these developments is a growing unwillingness among political and military leaders in South Asia to confront changed realities (but as Einstein famously remarked, the bomb has changed everything except our way of thinking). An arms race is growing, in fits and starts, as best as the two states can manage. Military doctrines are inter-linked in ways that lead inexorably to nuclear war. The poor are uneducated, uninformed and powerless. The well-to-do are uninformed or possessed by the religious fundamentalism - Islamic and Hindu - that is rapidly changing both

countries. These forces are now being wedded to nationalism in ways that suggest restraints that were at work in previous India-Pakistan wars and crises may increasingly be over-ridden or suppressed. We are moving down a steep slippery slope whose bottom we have yet to see.

The efficacy of nuclear deterrence is predicated on the ability of these weapons to induce terror. It presupposes a rational calculus, as well as actors who, at the height of tension, will put logic before emotion. Recent events in South Asia have put all these into question. We therefore fear that perhaps a new chapter may someday have to be written in textbooks dealing with the theory of nuclear deterrence.

Time is short. The role of the United States is key. It has begun to worry more about the spectre of nuclear armed Islamic terrorism than the prospect of a South Asian nuclear war. But the Bush administration's unconstrained, unilateral, imperial vision has little space for restraint, treaties, and undermines the possibility of peace and disarmament for all.

There are a few steps that may begin to take us down the path to safety.

Crisis after Crisis

There is a fundamental link between crises and nuclear weapons in South Asia. Soon after the defeat of Pakistan by India in the 1971 war, Prime Minister Zulfikar Ali Bhutto called a meeting of Pakistani nuclear scientists in the city of Multan to map out a nuclear weapons program. Pakistan was pushed further into the nuclear arena by the Indian test of May 1974, seen as a means to further consolidate Indian power in South Asia.

Challenged again in May 1998 by a series of 5 Indian nuclear tests, Pakistan was initially reluctant to test its own weapons out of fear of international sanctions. Belligerent statements by Indian leaders after the tests succeeded in forcing it over the hill. But success brought change. Pakistan saw nuclear weapons as a talisman, able to ward off all dangers. Countering India's nuclear weapons became secondary. Instead, Pakistani nuclear weapons became the means for neutralizing India's far larger conventional land, air, and sea forces.

In the minds of Pakistani generals, nuclear weapons now became tools for achieving foreign policy objectives. The notion of a nuclear shield led them to breath-taking adventurism in Kashmir. Led by Chief of Army Staff General Pervez Musharraf, Pakistan sent troops out of uniform along with Islamist militant fighters across the Line of Control to seize strategic positions in the high mountains of the Kargil area. The subsequent Kargil war of 1999 may be recorded by historians as the first actually caused by nuclear weapons.

As India counter-attacked and Pakistan stood diplomatically isolated, a deeply worried Prime Minister Nawaz Sharif flew to Washington on 4 July 1999, where he was bluntly told to withdraw Pakistani forces or be prepared for full-scale war with India. Bruce Reidel, Special Assistant to President Clinton, writes that he was present in person when Clinton informed Nawaz Sharif that the Pakistan Army had mobilized its nuclear-tipped missile fleet. ¹ (If this is true, then the preparations for nuclear deployment and possible use could only have been ordered by General Pervez Musharraf at either his own initiative or in consultation with the army leadership.) Unnerved by this revelation and the closeness to disaster, Nawaz Sharif agreed to immediate withdrawal, shedding all earlier pretensions that Pakistan's army had no control over the attackers.

Despite the defeat in the Kargil War, Pakistan political and military leaders insisted that Pakistan had prevailed in the conflict and that its nuclear weapons had deterred India from crossing the Line of Control or the international border. This belief may be especially strong in the military, who would

otherwise have to accept that their prized weapons were of no military utility.

Back to the Brink

On 13 December 2001, Islamic militants struck at the Indian parliament in Delhi sparking off a crisis that has yet to end. Indian Prime Minister Atal Bihari Vajpayee exhorted his troops in Kashmir to prepare for sacrifices and "decisive victory," setting off widespread alarm. It seemed plausible that India was preparing for a "limited war" to flush out Islamic militant camps in Pakistan administered Kashmir.

Sensing a global climate now deeply hostile to Islamic militancy, India's ruling BJP have sought to echo the U.S. "war on terror" slogan as a way to garner international support for their military campaign in Kashmir. Although an embattled Musharraf probably had little to do with the attack on the Indian Parliament, India cut off communications with Pakistan. The Indian ambassador in Islamabad was recalled to Delhi, road and rail links were broken off, and flights by Pakistani airlines over Indian territory were disallowed.

Such Indian reactions have played into the hands of jihadists in Kashmir who now operate as a third force almost autonomous of the Pakistani state (this operational autonomy is typical of such large scale covert operations, where there is a political need for the state patron to be able to plausibly deny responsibility for any particular action taken by such forces - the U.S. support for the Contras in Nicaragua and the Mujahideen in Afghanistan in the 1980s were classic examples of this relationship). There is a real possibility that jihadists will commit some huge atrocity - such as a mass murder of Indian civilians. Indeed, their goal is to provoke full-scale war between India and Pakistan, destabilize Musharraf, and settle scores with America.

Nuclear threats started flying in all directions. In May 2002, as fighter aircraft circled Islamabad, in a public debate with one of us (PH), General Mirza Aslam Beg, the former chief of Pakistan's army, declared: "We can make a first strike, and a second strike, or even a third." The lethality of nuclear war left him unmoved. "You can die crossing the street," he observed, "or you could die in a nuclear war. You've got to die some day anyway." Pakistan's ambassador to the UN in Geneva, Munir Akram, reiterated Pakistan's refusal of a no-first-use policy.

Across the border, India's Defence Minister George Fernandes told the International Herald Tribune "India can survive a nuclear attack, but Pakistan cannot."² Indian Defence Secretary Yogendra Narain took things a step further in an interview with Outlook Magazine: "A surgical strike is the answer," adding that if this failed to resolve things, "We must be prepared for total mutual destruction."³ Indian security analyst, Brahma Chellaney, claimed "India can hit any nook and corner of Pakistan and is fully prepared to call Pakistan's nuclear bluff."⁴

Nuclear Denial

As India began to seriously consider cross-border strikes on militant camps on the Pakistani side of the Line of Control, it became convenient for those urging action to deny Pakistan's nuclear weapons by challenging its willingness and ability to use them. This is not the first time this notion has been exercised, but it has now gained astonishingly wide currency in Indian ruling circles and carries increasingly grave risks of a misjudgment that could lead to nuclear war.

Two months before the May 1998 nuclear tests by India and Pakistan, a delegation from Pugwash met in Delhi with Prime Minister Inder Kumar Gujral. As a member of the delegation, one of us (PH) expressed worries about a nuclear catastrophe on the Subcontinent. Gujral repeatedly assured PH - both in public and in private - that Pakistan was not capable of making atomic bombs. The Prime

Minister was not alone. Senior Indian defense analysts like P. R. Chari had also published articles before May 1998 arguing this point, as had the former head of the Indian Atomic Energy Agency, Dr. Raja Ramana.

Although Pakistan's nuclear tests had dispelled this scepticism, senior Indian military and political leaders continue to express doubts on the operational capability and usability of the Pakistani arsenal. Still more seriously, many Indians believe that, as a client state of the US, Pakistan's nuclear weapons are under the control of the US. The assumption is that, in case of extreme crisis, the US would either restrain their use by Pakistan or, if need be, destroy them. At a meeting in Dubai this year in January, senior Indian analysts said they were "bored" with Pakistan's nuclear threats and no longer believed them. K. Subrahmanyam, an influential Indian hawk who has advocated overt Indian nuclearization for more than a decade, believes that India can "sleep in peace."

To fearlessly challenge a nuclear Pakistan requires a denial of reality, which some Indians seem prepared to make. It is an enormous leap of faith to presume that the United States would have either the intention - or the capability - to destroy Pakistani nukes. Tracking and destroying even a handful of mobile nuclear-armed missiles would be no easy feat. During the Cuban missile crisis, the U.S. Air Force had aerial photos of the Soviet missile locations and its planes were only minutes away, yet it would not assure that a surprise attack would be more than 90 percent effective. More recently, in Iraq, U.S. efforts to destroy Iraqi Scuds had limited success. No country has ever tried to take out another's nuclear bombs. It would be fantastically dangerous because one needs 100 percent success. Nonetheless, there are signs that India is boosting its military capability to where it might feel able to overwhelm Pakistan.

Pushing The Arms Race

Since the 1998 nuclear tests, there have been very large increases in Indian military spending. The Indian defence budget for 2001-2002 was set at 630 billion rupees (\$13 billion). This is nearly three times Pakistan's and follows an earlier increase of 28%, which was larger than Pakistan's entire military budget. A further increase of 4.8% is intended for purchases of fighter planes, submarines, advanced surveillance systems (including Phalcon airborne early warning systems from Israel), and a second aircraft carrier.

In a paper entitled "Vision 2020", the Indian Air Force has laid out its requirements - it proposes increasing the number of squadrons from 39 to 60 by 2020 and replacing the aged MiG-21 planes with more modern fighters, such as the Russian Sukhoi-30s, or the Mirage-2000 or Rafael fighters from France.⁵ This Indian air force internal document is reported also to advocate the creation of a first-strike capability.

A missile regiment to handle the nuclear-capable Agni missile is being raised.⁶ Military officers are being trained to handle nuclear weapons and there have been statements by senior officials about Agni being mated with nuclear warheads.⁷ All of this is consistent with eventual deployment.

Pakistan's generals would like to keep up with India in this effort but the economy is faltering and cannot stand the strain. A recent World Bank report is worth quoting at length:⁸

"The 1990s were a decade of lost opportunities for Pakistan. From independence to the late 1980s, Pakistan outperformed the rest of South Asia. Then in the 1990s progress ground to a halt. Poverty remained stuck at high levels, economic growth slowed, institutions functioned badly, and a serious macroeconomic crisis erupted."

As and when the economy begins to revive, Pakistan's military leaders will no doubt resume the race.

Towards War

Pakistani generals know why they want nuclear weapons. They anticipate that in the event of hostilities, India is likely to take losses in a terrain unsuitable for heavy armour or strike aircraft. So it could shift the theatre of war - escalating horizontally but without attacking nuclear facilities. Thereafter India would have several options available to it:

Push into lower Punjab or Upper Sindh to sever Pakistan's vital road and rail links.

Destroy the infrastructure of the Pakistan military (communication networks, oil supplies, army bases, railway yards, air bases through the use of runway busting bombs).

Blockade Karachi, and perhaps also Gwadur, Pakistan's other port, currently under construction.

Pakistan's generals have sought to make it impossible for India to achieve these goals. They have articulated a set of conditions under which they will use their nuclear weapons. Pakistani nuclear weapons will be used, according to General Kidwai of Pakistan's Strategic Planning Division, only "if the very existence of Pakistan as a state is at stake" and this, he specified, meant:[9](#)

1. India attacks Pakistan and takes a large part of its territory
2. India destroys a large part of Pakistan armed forces
3. India imposes an economic blockade on Pakistan
4. India creates political destabilization or large scale internal subversion in Pakistan India, in turn, has started to prepare its military to be attacked by nuclear weapons on the battlefield and to continue the war. The major Indian war game Poorna Vijay (Complete Victory) in May 2001, the biggest in over a decade, was reported to center on training the army and airforce to fight in a nuclear conflict.[10](#) Taken together, Indian military options and Pakistani planning would seem to ensure that that any major India-Pakistan conflict would lead inexorably to the use of nuclear weapons.

Fearless Nuclear Gambling

In early 2002, with a million troops mobilised and leaders in both India and Pakistan threatening nuclear war, world opinion responded fearfully, seeing a fierce and possibly suicidal struggle up ahead. Foreign nationals streamed out of both countries, and many are yet to return. But even at the peak of the crisis, few Indians or Pakistanis lost much sleep. Stock markets flickered, but there was no run on the banks or panic buying. Schools and colleges, which generally close at the first hint of crisis, functioned normally. What explains the astonishing indifference to nuclear annihilation?

In part, the answer has to do with the fact that India and Pakistan are still largely traditional, rural societies, albeit going through a great economic and social transformation at a furious pace. The fundamental belief structures of such societies (which may well be the last things to change), reflecting the realities of agriculture dependent on rains and good weather, encourage a surrender to larger forces. Conversations and discussions often end with the remark that "what will be, will be," after which people shrug their shoulders and move on to something else. Because they feel they are at the mercy of unseen forces, the level of risk-taking is extraordinary. But other reasons may be more important.

In India and Pakistan, most people lack basic information about nuclear dangers. A 1996 poll of elite opinion showed that about 80% of those wanting to supporting Pakistan acquiring ready-to-use nuclear weapons found it "difficult" or "almost impossible" to get information, while about 25% of those opposed to nuclear weapons had the same concern.¹¹ In India, a November 1999 post-election national opinion poll survey found just over half of the population had not even heard of the May 1998 nuclear tests.¹² In the middle of the spring 2002 crisis, the BBC reported the level of awareness of the nuclear risk among the Pakistani public was "abysmally low".¹³ In India, it found "for many, the terror of a nuclear conflict is hard to imagine."¹⁴

First hand evidence bears out these judgments. Even educated people seem unable to grasp basic nuclear realities. Some students at the university in Islamabad where one of us teaches (PH), when asked, believed that a nuclear war would be the end of the world. Others thought of nuclear weapons as just bigger bombs. Many said it was not their concern, but the army's. Almost none knew about the possibility of a nuclear firestorm, about residual radioactivity, or damage to the gene pool. In Pakistan's public squares and at crossroads stand missiles and fiberglass replicas of the nuclear test site. For the masses, they are symbols of national glory and achievement, not of death and destruction.

Previous crises have also seen such lack of fear about the threat and use of nuclear weapons. With each crisis, there seems to be a lessening of political restraints and greater nuclear brinkmanship. A key factor is the absence of an informed and organized public opinion able to keep political and military leaders in check and restrain them from brandishing nuclear weapons. Close government control over national television, especially in Pakistan, has ensured that critical discussion of nuclear weapons and nuclear war is not aired. It is harder to understand the absence of such critical debate in India.

Because nuclear war is considered a distant abstraction, civil defense in both countries is non-existent.¹⁵ As India's Admiral Ramu Ramdas, now retired and a leading peace activist, caustically remarked, "There are no air raid shelters in this city of Delhi, because in this country people are considered expendable." Islamabad's civil defense budget is a laughable \$40,000 and the current year's allocation has yet to be disbursed. No serious contingency plans have been devised--plans that might save millions of lives by providing timely information about escape routes, sources of non-radioactive food and drinking water.

It is unimaginable to think of providing adequate protection against nuclear attack to the many millions in South Asia's mega-cities. We have not been able to provide homes, food, water and health care to so many even in peace time. There is, nonetheless, something to be said for having credible plans to save as many as possible from the folly of their leaders. The development of and debate over such plans, in itself, may serve to convince some people of the horrors of what may be in store and motivate them to protest to survive.

The US and South Asian Nuclear Weapons

During the Cold War, to all intents and purposes, the super-powers were able to ignore the rest of the world. The fears and entreaties of other countries counted for little in super power strategic planning and policy. In South Asia, the United States and to a lesser extent the international community loom large. This is an important difference and as the Kargil war and the 2001-2002 crisis showed, it can be crucial.

Following India's 1974 nuclear test, perceiving the threat of proliferation and the consequences of India-Pakistan nuclear rivalry, the United States tried unsuccessfully to block the development of a Pakistani nuclear weapons capability through the use of sanctions of various kinds. By the early

1990s, President Bill Clinton was fruitlessly engaged in a campaign to persuade both countries to cap, and then ultimately roll-back their programs.

After the 1998 nuclear tests, the hope was that the two states could be made to sign the Comprehensive Test Ban Treaty. In early 2000, this was on the verge of being signed by Pakistan and India. However, Clinton's efforts were undermined by the refusal of the Republican controlled Senate to ratify the Treaty. The treaty died, leaving open the possibility of a resumption of nuclear testing by the U.S. and inevitably by the other nuclear weapons states, including in South Asia. This possibility has grown because of the policies of the Bush Administration.

Under President George. W. Bush, the U.S. seems set to undo any and all arms control treaties, except those that clearly favor the US. The CTBT was the first victim. The Biological Weapons Convention followed. The U.S. withdrawal from the Anti-Ballistic Missile Treaty is the first withdrawal from any arms control treaty by a state, creating a possibly terrible precedent. These steps have cleared the way for a more aggressive set of nuclear policies.

The Bush Administration's January 2002 Nuclear Posture Review (NPR) calls for development of operational strategies that would allow use of nuclear weapons by the US even against those states that do not possess nuclear, chemical, biological or other weapons of mass destruction; it proposes that U.S. military forces, including nuclear forces, will be used to "dissuade adversaries from undertaking military programs or operations that could threaten U.S. interests or those of allies and friends." [emphasis added].¹⁶ New special-purpose nuclear weapons such as deep penetration weapons (bunker busters) are already being developed.

As the U.S. has focused on further developing its military capacity to achieve its goals in the post-Cold War world, it has worried less about what India and Pakistan may do to each other. With both India and Pakistan seeking to woo the United States over to their side, the U.S. has little to fear from either. Although it seems to have taken out insurance. The Nuclear Posture Review recommends "requirements for nuclear strike capabilities" might include "a sudden regime change by which an existing nuclear arsenal comes into the hands of a new, hostile leadership group."¹⁷ Events since the terrorist attacks on the United States on September 11 suggest Pakistan may be a particular concern for the U.S. in this regard.

Pakistan's Loose Nukes

Immediately after the September 11 attack, although Pakistan's military government insisted that there was no danger of any of its 25-40 nuclear weapons being taken for a ride, it wasn't taking any chances. Several weapons were reportedly airlifted to various safer, isolated, locations within the country.¹⁸ This nervousness was not unjustified - two strongly Islamist generals of the Pakistan Army (the head of Pakistan's ISI intelligence agency, Lt. General Mehmood Ahmed, and Deputy Chief of Army Staff, General Muzaffar Hussain Usmani), close associates of General Musharraf, had just been removed.¹⁹ Dissatisfaction within the army on Pakistan's betrayal of the Taliban was (and is) deep - almost overnight, under intense American pressure, the Pakistan government had disowned its progeny.

Fears about Pakistan's nukes were subsequently compounded by revelations that two highly placed members of the nuclear establishment, Syed Bashiruddin Mahmood and Chaudhry Majid, had journeyed several times into Afghanistan during the last year.²⁰ Both scientists are well known to espouse radical Islamic views.

It is not impossible that the two Pakistanis could have provided significant nuclear information or materials potentially useful to Al-Qaeda's allies and subsidiaries in other parts of the world. If it

turns so out, this will scarcely be the first instance of nuclear leakage. In 1966, sympathizers of Israel working in the U.S. Nuclear Materials and Equipment Corporation were instrumental in diverting more than 100 kilograms of highly enriched uranium for the Israeli nuclear weapons program, material which was reported by the CIA to most likely have "been used by the Israelis in fabricating weapons."[21](#)

Pakistan's loose nuke problem underscores a global danger that may already be out of control. The fissile materials present in the thousands of ex-Soviet bombs marked for disassembly, the vast amounts of radioactive materials present in nuclear reactors and storage sites the world over, and the abundance of nuclear knowledge, make it only a matter of time before some catastrophic use is made of them.

The Way Ahead - Necessary Shifts

Those who profit from war are in the driving seat in Washington, Delhi and Islamabad. If South Asia is to hope for better times, then fundamental shifts in all three countries will be absolutely necessary: -

Pakistan: For five decades school children have been taught that Kashmir is the "jugular vein" of Pakistan, the unfinished business of Partition without which the country will remain incomplete. This national obsession must be dropped; it has supported three wars and is an invitation to unending conflict and ultimate disaster. As a first step, Pakistan must visibly demonstrate that it has severed all links with the militant groups it formerly supported and shut down all the militant camps it set up for them. Pakistan must find more positive ways to show its solidarity with the Kashmiri struggle for self-determination.

India: New Delhi's sustained subversion of the democratic process and iron fist policy in Kashmir has produced a moral isolation of India from the Kashmiri people that may be total and irreversible.[22](#) The brutality of Indian forces, typical of state counter-insurgency efforts to deal with separatists and independence movements, is well-documented by human rights groups. India's rigid refusal to deal with Kashmir's reality must go. A first step would be to withdraw Indian troops and allow democracy and normal economic life to resume and for Kashmiri civil society to begin to repair the profound damage done to that community. This could be done by restoring to Kashmir the autonomy granted it under Article 370 of the Indian constitution pending a permanent solution.[23](#)

United States: Indian and Pakistani leaders seem to have abdicated their own responsibility and have entrusted disaster prevention to US diplomats and officials, as well occasionally to those from Britain. There is no doubt that the US is interested in preventing a South Asian nuclear disaster. But this is only a peripheral interest, the United States main interest in South Asian nuclear issues is now driven largely by fear of Al-Qaida, or affiliated groups, and a possible nuclear connection. This is a valid concern, and as a first step tight policing and monitoring of nuclear materials and knowledge is essential. But this is far from sufficient. If nuclear weapons continue to be accepted by nuclear weapon states as legitimate, for either deterrence or war, their global proliferation - whether by other states or non-state actors - can only be slowed down at best. By what moral argument can others be persuaded not to follow suit? Humanity's best chance of survival lies in moving rapidly toward the global elimination of nuclear weapons. The US, as the world's only superpower, must take the lead.

Reducing Nuclear Risks in South Asia

The gravity of the situation in South Asia is such that commonsense dictates the need for urgent transitional measures to reduce the nuclear risks while seeking a path to nuclear disarmament. An

important set of proposals for nuclear risk reduction measures between India and Pakistan was released by the Movement in India for Nuclear Disarmament (MIND) in Delhi on June 18, 2002.²⁴

There are many technical steps that can quickly be taken in South Asia, including ensuring that nuclear weapons are not kept assembled or mated with their delivery systems, ending production of fissile material for nuclear weapons, and closing down nuclear tests sites.²⁵ Again, none of these is a substitute for nuclear disarmament.

There also steps that might be helpful at the level of nuclear diplomacy, education, policy and doctrine, for example:

Establish India-Pakistan nuclear risk reduction dialogues. Such dialogues need to be completely separated from the Kashmir issue, a point of view that Pakistan must be brought around to. Shared understandings are vital to underpin nuclear crisis management by adversaries. There are interdependent expectations - I act in a manner that depends on what I expect you to do, which in turn depends on what you think I plan to do.

Commission nuclear weapons use and consequences studies. There is a need to increase understanding among policy makers and the public of nuclear weapons effects through commissioning public and private studies that will assess impacts of nuclear attacks made by the other on city centers, military bases, nuclear reactors, dams, targets of economic value etc. ²⁶ This will help in making clear the catastrophe that would be caused by a nuclear war and create stronger restraints against the use of nuclear weapons, as well as removing the commonly held, but false, belief that nuclear war is as an apocalypse after which neither country will exist. This quintessential feature of nuclear war was best captured by Soviet Premier Nikita Khrushchev when he said that "In the event of a nuclear war, the living will envy the dead."

Arrive at a mutual understanding that it is not in either state's interest to target and destroy the leadership of the other and to keep nuclear weapons command centers from urban centers. Attacking political and military leadership with a view to destroying nuclear command and control is likely to be a strong incentive in early use of nuclear weapons. Given the likelihood of pre-delegation of authority to retaliate, it is most probable that such an attack will not succeed in preventing a return strike. Attacks on leadership also make it very difficult to negotiate and institute an early end to nuclear war after it has started (it might end only when all functional weapons have been used by both sides). Therefore, nuclear command centers should not only be far from civilian populations but also from nuclear weapons storage or deployment sites.

Declare a policy of not targeting cities. Nothing can ever justify the deliberate targeting of a civilian population, especially with a nuclear weapon. The population densities of the mega-cities of India and Pakistan ensure that any nuclear attack would lead to hundreds of thousands of immediate fatalities. ²⁷ It should be avoided at all costs.

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- 15 Recently the Indian Defence Research and Development Organization claims to have developed an integrated field shelter to protect personnel from nuclear, biological and chemical agents in a nuclear war scenario. The shelter is said to be capable of accommodating 30 people and of giving protection for 96 hours. It is not known whether there are plans for mass production. "DRDO Develops Foolproof Field Shelters," Indian Express, May 24, 2002.
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- 17 Nuclear Posture Review, <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm> 18 Molly Moore and Kamran Khan, "Pakistan Moves Nuclear Weapons," Washington Post, November 11, 2001.
- 19 Luke Harding, "Attack on Afghanistan," The Guardian (London), October 9, 2001
- 20 Kamran Khan and Molly Moore, "2 Nuclear Experts Briefed Bin Laden, Pakistanis Say," Washington Post, December 12, 2001.
- 21 Leonard Spector, Nuclear Proliferation Today (New York, Vintage Books, 1984), p.124.
- 22 While a detailed review of events related to Kashmir, and possible solutions, would be out of place here, the reader is urged to evaluate the situation based upon a recent review by an independent Indian scholar Akhila Raman, Understanding Kashmir - A Chronology Of The Conflict, <http://www.indiatogether.org/peace/kashmir/intro.htm>

23 Article 370, adopted in 1949, specifically refers to Kashmir and grants it special status and internal autonomy with New Delhi have authority only over defense, foreign affairs and communications.

24 <http://www.mnet.fr/aiindex/nrrmMIND2002.html>

25 Zia Mian and M.V. Ramana, "Beyond Lahore: From Transparency to Arms Control", *Economic and Political Weekly*, April 17-24, 1999.

26 Public studies by independent scientists play a role in informing public debates and building support for peace movements, see e.g. M.V. Ramana, "Bombing Bombay," <http://www.ipnw.org/bombay.pdf>, and the earlier cited study by McKinzie, Mian, Nayyar and Ramana. Classic examples are Sidney Drell and Frank von Hippel, "Limited Nuclear War," *Scientific American*, November 1976, pp.27-37; Kevin N. Lewis "The Prompt and Delayed Effects of Nuclear War," *Scientific American*, July 1979, pp. 35-47; Richard P. Turco, Owen B. Toon, Thomas P. Ackerman, James B. Pollack and Carl Sagan, "The Climatic Effects of Nuclear War," *Scientific American*, August 1984, pp. 33-43.

27 For an example of the effects see Matthew McKinzie, Zia Mian, A H Nayyar and M V Ramana, 'The Risks and Consequences of Nuclear War in South Asia' in Smitu Kothari and Zia Mian (eds), *Out of the Nuclear Shadow*, (New Delhi: Lokayan and Rainbow Publishers, and London: Zed Books, 2001) pp. 185-96.

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